0404

INTERNATIONAL MONETARY FUND

Minutes of Executive Board Meeting 88/157

10:00 a.m., October 24, 1988

M. Camdessus, Chairman
R. D. Erb, Deputy Managing Director

Executive Directors	Alternate Executive Directors
	E. T. El Kogali
F. Cassell	C. Enoch
Dai Q.	
	D. C. Templeman, Temporary
J. de Groote	J. Prader
A. Donoso	
	M. B. Chatah, Temporary
G. Grosche	B. Goos
J. E. Ismael	J. Reddy
A. Kafka	
M. Massé	C. L. Haynes, Temporary
	N. Toé, Temporary
	I. A. Al-Assaf
G. Ortiz	L. Filardo
J. Ovi	M. Fogelholm
H. Ploix	D. Marcel
	G. P. J. Hogeweg
C. R. Rye	C.-Y. Lim
G. Salehkhou	O. Kabbaj
A. K. Sengupta	L. E. N. Fernando
K. Yamazaki	S. Yoshikuni
S. Zecchini	N. Kyriazidis

L. Van Houtven, Secretary and Counsellor
R. Gaster, Assistant

Also Present

Exchange and Trade Relations Department: L. A. Whittome, Counsellor and Director; H. B. Junz, Deputy Director; M. A. El-Erian, R. G. Kincaid, L. W. Pauly, M. H. Rodlauer. External Relations Department: A. F. Mohammed, Director. IMF Institute: O. B. Makalou. Legal Department: T. M. C. Asser, A. O. Liuksila. Research Department: J. A. Frenkel, Economic Counsellor and Director; A. D. Crockett, Deputy Director; M. Goldstein, Deputy Director; M. P. Dooley, D. Folkerts-Landau, T. D. Lane, D. J. Mathieson, E. Rojas-Suarez, I. Zaidi. Secretary's Department: C. Brachet, Deputy Secretary. Treasurer's Department: R. N. Chrimes, P. B. Clark. Personal Assistant to the Managing Director: H. G. O. Simpson. Advisors to Executive Directors: N. Adachi, A. A. Agah, M. Al-Jasser, E. Ayales, S. M. Hassan, P. D. Péroz, M. Pétursson, G. Pineau, A. Vasudevan, J. E. Zeas. Assistants to Executive Directors: F. E. R. Alfiler, S. Appetiti, R. Comotto, V. J. Fernández, B. R. Fuleihan, P. Gorjestani, M. Hepp, J. Heywood, L. Hubloue, P. Kapetanović, K. Kpetigo, V. K. Malhotra, T. Morita, S. Rebecchini, J.-P. Schoder, Shao Z., C. C. A. van den Berg, R. Wenzel.

1. FINANCIAL RISK MANAGEMENT IN INDEBTED DEVELOPING COUNTRIES

The Executive Directors considered a staff paper on managing financial risks in indebted developing countries (SM/88/233, 9/26/88; and Sup. 1, 9/27/88).

Mr. de Groote made the following statement:

The continuous anxiety produced by the debt problem is worsened by the time that it takes to find workable solutions to the problem, and prolongation of the adjustment burden for the debtor countries creates adjustment fatigue. The management of financial risks in developing countries is therefore an important and topical item for Board discussions--as shown by the recent U.S. decision to offer a short-term bridge loan of up to $3.5 billion to Mexico, to cushion the effects on its foreign debt of the drop in oil prices and the rise in interest rates.

I feel quite comfortable with the staff's analysis on the costs and merits of market-based instruments used to hedge against financial risks, and with its conclusion that these operations must be regarded as complementing, but not replacing, appropriate adjustment policies. Such policies are part of a macroeconomic context greatly influenced by the economic strategies pursued by the major industrial countries. A special responsibility thus falls on the latter countries for creating a world economic environment favorable to the internal and external adjustment efforts of the indebted world. At stake here is not only their responsibility to halt and reverse the proliferation of protectionism and other measures distorting the operation of the world trade system, but even more important, their responsibility for pursuing sound, sustainable, consistent, and stable economic policies. At the level of the industrial countries, inappropriate policies and policy combinations cause increased adjustment costs for the country adopting them; they also directly affect, through their interest and exchange rate effects, the economic and financial environment surrounding the indebted countries. Since these swings in interest and exchange rates are one of the main topics before us today, neither their principal causes nor such important curative means as the need for better policy coordination should be excluded from the discussion. This is especially true since policy coordination is directly linked to the predictability of the costs of foreign borrowing.

The staff paper contains two implicit assumptions which we should not too easily accept. The first is that commercial bank lending will continue to use a floating rate basis, and that it is therefore up to the capital-importing countries to hedge their interest rate risks. The recent impressive proliferation of hedging instruments permits risk-averse lenders or borrowers

to protect themselves against unforeseen interest or exchange rate changes. But this arsenal of hedging instruments merely offsets the effects of the uncertainties of the system's operation, without fundamentally changing the system: these innovations compensate for, but do nothing to eliminate, volatility. They operate by shifting the effects of the uncertainties to risk takers who, in the last analysis, function like insurance companies.

As the staff points out, the management of hedging operations is an extremely complex matter requiring continuous monitoring and readjustment: underwriting any form of insurance against financial risk is thus itself a risky undertaking. But it is not self-evident that the whole burden of insurance against financial risks must be borne by the capital-importing countries, as the staff assumes. The international banking system, which has the best comparative advantage when it comes to dealing with the technical problems involved in hedging operations, might for that reason be willing and able to provide at least some funds on fixed terms. In their own self-interest, banks might themselves find it ultimately more profitable to carry the burden of hedging against volatility, instead of transferring the risk to their overindebted customers, who thus become particularly vulnerable to even minor changes in interest and exchange rates.

Let me remind skeptics on this issue of the lesson of an earlier financial innovation, namely, floating interest rates themselves. These were conceived as a technique for protecting the banks' interest margins, which the rising interest rates of the early 1980s would otherwise have squeezed mercilessly. This burden was not eliminated, however, but transferred to the borrowers, who could not fully perceive the magnitude of the risks that they were incurring as insurers. The banks' interest rate risk was thus transformed into a credit risk, and their profit margins had to reflect the cost of provisioning against the increasing inability of the debtors to service their debt under conditions of high interest rates and exchange rate volatility. It is thus open to discussion whether the benefit to the banks from protecting their margins through the floating rate system is outweighed by the cost of increased credit risks. In our view, banks would have been better off if they had shared, with the borrowers, the burden of the risks resulting from external shocks, by adopting--in their contracts with developing countries--contingency clauses making the rhythm of reimbursements dependent on the effect of external contingencies--such as the unit price of these countries' main export commodities--on export proceeds.

The second implicit assumption in the staff paper concerns the swap market: because, until now, indebted developing

countries with debt-servicing difficulties have been excluded from this market by creditworthiness considerations, it is assumed that these countries will be unable to use these hedging instruments in the future. In fact, however, the swap market has grown substantially in recent years, and has acquired such institutional subdivisions as the interdealer market and secondary swap markets. This deepening and widening of the swap market should enable it to expand the coverage of its operations to additional participants, including the indebted developing countries. Of course, creditworthiness considerations will still be relevant, and ways of reducing this counterparty risk must be explored, through, for example, pledging a portion of the proceeds of external borrowings to cover several years' interest payments. In any event, the exclusion of these debt-ridden countries from the swap market should not be accepted without thorough exploration of ways around the obstacles, including how some of that market's very large and active institutional investors, such as the World Bank, might help to break the ice for these members.

The two points mentioned above are not explicitly dealt with by the staff, who took the world as it is today, and have done a commendable job of drawing our attention to the potential usefulness of the various financial hedging techniques developed in recent years. Their efficient use to preserve the results of adjustment can help to avert the development and spread of adjustment fatigue, the greatest threat to the growth-oriented adjustment approach on which so much has been staked. I therefore suggest that these instruments and techniques be made an integral part of the market-based menu approach, and that we resolve to gain experience with them as rapidly as possible, consistent with a case-by-case approach, and initially on a very cautious basis. And as the necessary further exploration of the utilization of these hedging instruments goes forward, we might also wish to consider whether the new compensatory and contingency financing facility, which is intended to protect the results of adjustment, could cover some part of the utilization costs.

Mr. Ortiz made the following statement:

I have mixed feelings in commenting on this paper. On the one hand, I found the subject interesting and the staff's approach quite detailed, well developed, and clear for a paper that involves some complex technical and operational issues. I learned something about the operational details of future and forward markets and the design of hedging instruments, not to mention an ample terminology of the concepts and buzz words utilized in the trading profession. All this could prove extremely useful to me in the future. Indeed, these papers

would have been very appropriate for an Institute seminar for central bank managers; but as papers prepared for a Board discussion on issues related to the debt strategy, they are largely irrelevant.

This is not to say that the staff has focused on this subject inappropriately or that the authors of the paper have done a bad job. On the contrary, the papers have been thoroughly researched and are written well. The point is that one should question whether it is worthwhile to spend scarce staff resources and Board time on the discussion of a subject which is only marginally relevant to the whole question of the debt strategy. The main conclusions of the paper, as sensible as they are, do not advance us much further in the development of the menu approach. If we are going to devote time and resources to every dish or every possible addition to the menu, this Board will find itself with a mouthful, while indebted countries continue to go hungry.

On the subject itself, the paper examines whether it would be advantageous for indebted countries to buy insurance against the downside risks implied by volatile markets, and whether the available instruments could provide adequate coverage. As in any discussion involving the purchase of insurance, the relevant consideration is whether the benefits associated with the reduction of uncertainty outweigh the costs of the premiums that must be paid to purchase hedging instruments. An additional consideration is the existence of market breadth and liquidity for hedging contracts, in view of the potential scale of operations involved. As the paper points out, given the size of external debts, even modest hedging operations would exceed those normally undertaken by private agents.

Not surprisingly, the main conclusions of the paper are that the usefulness of hedging operations can only be established on a case-by-case basis; that the main limits or restrictions to an active and widespread use of these techniques are the substantial costs involved, the need to engage well-trained technical staff familiar with market operations, and the general unavailability of adequate hedging instruments that could be used on a large scale in the medium term. One can hardly dispute these conclusions--which, presumably, could have been reached with considerably less effort on the part of the staff--nor the more commonplace warnings such as that included on page 31: "hedging operations must be seen as a complement to--not a substitute for--an appropriate set of adjustment policies." Frankly, I do not think that many would view hedging operations as a possible substitute for adjustment policies

Potentially, one of the most useful instruments--in terms of both cost-effectiveness and the breadth of the market--is

interest rate swaps. However, creditworthiness considerations place direct limits on the utilization of such instruments to the extent that swaps redistribute instruments within the same risk class. It is, of course, possible to design techniques for dealing with credit risk in the swap markets, through guarantees or collateralization, but this would certainly add to the costs of future hedging. In fact, these costs will be directly related to the perceived degree of credit risk. Other hedging instruments--such as futures contracts in the Eurodollar market--are expensive, and liquid markets in these contracts only exist for relatively short maturities.

In conclusion, while hedging can be useful for short-term reserve management, and could serve as a helpful addition to the menu approach--perhaps through the provision of interest rate caps in financing packages--hedging is clearly not going to make a significant dent in the management of the debt situation.

Mr. Hogeweg made the following statement:

We have been looking forward for a long time to this opportunity to discuss the possibilities for indebted developing countries to use the financial markets to hedge against their financial risks. We would have welcomed discussion of this subject prior to the decision on the compensatory and contingency financing facility.

Today's paper is mainly technical in nature, and seems to serve mostly educational purposes. Maybe at this stage that is justified, as the rapid development of the financial markets necessitates permanent education for everyone, including officials of the Fund and of governments and central banks of member countries. It also took time for managers of large industrial corporations to learn enough about these markets to use them advantageously. Clearly, many government officials are lagging behind in this area.

I conclude from the staff paper that today's financial markets could indeed provide indebted developing countries with opportunities to hedge their financial obligations. This is a highly reassuring and positive conclusion. In this connection, one should realize that financial markets are innovative, and highly responsive to the needs of market participants. Therefore, I expect markets to develop further in directions which will allow even greater opportunities in this respect, once more players realize and appreciate what can be achieved.

There can be little disagreement as to the desirability of hedging a far greater share of variable rate developing country obligations against interest rate rises. For the countries

concerned, it would mean less chance of their economic policy efforts being thrown off track by exogenous developments, and less chance that they would be forced to accept additional debts--incurred in order to remain current on existing debts. By the same token, it would imply less risk for the commercial banks that they will be forced to provide additional funds. For the Fund itself, greater hedging activity by members with programs is extremely important. It would increase the chance of the programs being successful, thereby enhancing the Fund's credibility.

From this perspective, the use of hedging instruments might indeed be a useful addition to the market-based menu approach to dealing with external debt problems. Of course, the use of these instruments is not free. An upward-sloping yield curve reflects the fact that locking in a certain interest rate level for longer periods normally entails costs. In the case of hedging instruments, the costs also reflect the market's view of the likelihood that rates will exceed certain levels. Operating in these markets also requires specialized and highly qualified people, able to speak on equal terms with investment bankers. However, a country with a large interest rate exposure--and that naturally holds equally for large exposures in other markets--simply cannot afford to do without the expertise needed for managing this exposure in modern financial markets. One might also seriously question whether leaving large positions unhedged is responsible behavior.

I conclude, then, that the Fund could and should play an important role in encouraging its members to hedge part of their financial risks. Regrettably, the compensatory and contingency financing facility may work as a disincentive. It provides a subsidized, administrative--that is, not market based--albeit limited and partial hedge against some external shocks, including interest rates, and only for members with Fund-supported programs. It may also stimulate the belief that official institutions will rescue countries with large unhedged positions when the need arises. Thus, the compensatory and contingency financing facility does not encourage countries to enter the financial markets to hedge their risks.

A most important reason why the Fund should encourage member countries to use hedging possibilities in the markets--and thereby encourage the markets to develop further--is that the magnitude of unhedged positions is such that sufficient hedges can never be provided outside these markets, and because the markets provide these services in a most efficient manner. I would like to encourage the staff to do further work in this field. One area of possible research is the development of criteria on the share of floating rate debt which should be hedged to keep the risk of a program being thrown off track

within acceptable limits. Such criteria might also play a role in the design of programs, and in forming judgments on requests to draw on the compensatory and contingency financing facility. In sum, I am looking forward to further Board discussions on this very important issue.

Mrs. Ploix made the following statement:

The staff has prepared two excellent papers that give a clear picture of the various hedging techniques presently available in the market. The purpose of today's discussion should not be to examine the comparative advantages of those instruments, but rather to assess their potential usefulness for developing countries. Although commodity price volatility is a major source of uncertainty for most developing countries, I will focus my remarks on external debt-related financial risks.

The staff reminds us of the increased volatility that has prevailed in capital markets since the early 1970s. This trend is the main rationale behind the growing use of hedging techniques. These techniques have proved very useful in cushioning the world against the disruptive impact of sharp fluctuations in major financial variables.

However, the promotion of a more stable international setting remains of the utmost importance, and major industrial countries have a special responsibility for that. In particular, even if it seems advisable for indebted developing countries to seek better protection against exchange and interest rate volatility, this should not distract the G-7 countries from enhancing their coordination efforts.

The main constraints that indebted countries could face in using hedging instruments are well described in the staff papers. I will comment only on the choice of a specific instrument, on the cost involved, on the implications for the implementation of the menu approach and the compensatory and contingency financing facility, and on the need for technical assistance.

In general, futures contracts seem better suited to indebted countries' needs than are interest rate options, if one considers that the main objective for the authorities should be to lock in a given level of interest rates, and not so much to be in a position to benefit from any favorable development. Moreover, cost and market access considerations also favor the choice of futures contracts.

The fact that Chile is using only futures contracts in partially hedging its debt service payments reinforces these

arguments. I would be interested in hearing from the staff whether the approach followed by Chile is likely to meet the needs of most indebted countries in a comparable situation.

Given the indebted developing countries' tight liquidity position, the costs associated with these operations may well be too high. Creditor banks, which have an obvious interest in the steady implementation of rescheduling arrangements, should therefore consider extending specific financing designed to meet the cash flow requirements associated with the use of hedging instruments. A new broadening of the menu of options in this direction would certainly be advisable.

If debtor countries were to engage in hedging operations, using their own resources or with the financial support of private creditors, the rules governing the activation of the compensatory and contingency financing facility should take that into account. Obviously, use of a hedging technique by a member country should not deter the country from using the compensatory and contingency financing facility. However, in determining the amount of Fund financing available under the facility, an allowance will have to be made for the risk partially covered through hedging operations. This is bound to further complicate the working of the facility, but it does not seem reasonable simply to ignore the problems that may arise from this situation, or to penalize a country which has managed its debt well.

Finally, expertise is needed to manage these financial instruments. It may be difficult for the Fund to tap scarce in-house staff resources to help member countries. However, the staff must continue to monitor closely any new development in the market, so as to provide assistance if and when the need arises. Moreover, if the use of hedging techniques were to spread significantly among the membership, and depending on the future use of the compensatory and contingency financing facility, the Fund might have to provide technical assistance in this area more regularly.

Mr. Lim made the following statement:

The staff paper correctly notes that the high volatility of international interest rates, primary commodity prices, and major currency exchange rates in the 1970s and 1980s have constrained the smooth formulation and implementation of adjustment programs for indebted developing countries.

The charts showing the fluctuations in nominal and real interest rates and in exchange rates give an indication of the difficulty of keeping, for example, budgetary expenditures for debt servicing on track. Equally illustrative would have been a

table showing how the value of the external debts of high debt countries has increased as a result of the currency realignment between 1985 to 1987, and the domestic currency equivalents of these increases. It could have indicated how these countries have had to run just to stay in place.

The chart showing fluctuations in commodity prices can also partly explain how projections of trade performances can be subject to large errors which may have had implications for the misallocation of resources among different sectors of the developing economies.

Not surprisingly, the paper noted that a review of 125 Fund-supported adjustment programs between 1982 and 1987 showed that none of the programs was spared substantial deviations from anticipated external developments, although more than half had mutually offsetting deviations, leading to an insignificant effect on the overall outcome. The failure to meet original performance criteria was dealt with through waivers and modifications. Unfortunately, there is no way of quantifying the effects of these substantial deviations on the credibility of the authorities and future Fund-supported programs.

The responses of authorities have varied; they have included self-insurance or export diversification, exchange and trade restrictions, matching of the currency composition and maturity of foreign asset and liability structures to multilateral agreements and assistance, and, to a limited extent, the use of market-related hedging instruments.

The paper raises the question of whether highly indebted developing countries could and should make greater use of market-related hedging instruments. It is not clear whether the paper means central banks or monetary authorities when it refers to countries, or whether it refers to investors and traders in the private sector in these countries. In any event, monetary authorities of high debt countries, even if they are able to do so, should be cautious in taking risks in hedging instruments for the very reasons enumerated in pages 10 and 30 of the staff paper. The market is quite limited for high debt countries, hedging could be too expensive, and recent experience in some financial firms has shown that potentially large trading losses are possible if internal controls are not adequate. As for the private sector in highly indebted countries, those that are liquid and creditworthy should be encouraged to hedge and to develop imaginative approaches to hedging on their own initiatives.

Creditworthiness of the hedging counterparty is clearly one of the major constraints, if not the key consideration in a

hedging operation. Obviously, very few high debt developing countries can have access to the market on this basis. I would therefore favor the less risky and more fundamental and sustainable approach to insulating open and highly indebted developing economies from external shocks: export diversification and more prudent debt management. In the end, probably the best hedge is to establish mechanisms to make sure that, for those countries still having access to the market, foreign debt should be directed toward productive activities that can generate the necessary foreign exchange to service that debt.

High debt countries can also benefit from multilateral agreements and assistance. That is why the compensatory and contingency financing facility is a welcome development in this regard, and the role of the Fund should be predominantly to offer the type of assistance available through the compensatory and contingency financing facility. However, we would not support use of any Fund resources to finance hedging operations. The interest rate and compensatory financing elements of the compensatory and contingency financing facility already offer a similar, although much more limited, coverage. Beyond this, perhaps the Fund can in a limited way--through technical assistance--explore fine-tuning methods of managing financial risks with the authorities of indebted developing countries.

Mr. Yamazaki made the following statement:

The staff paper provides a valuable and comprehensive survey of market-related hedging instruments. This is a useful exercise, and should be followed by further studies, although I am not quite sure whether the Fund is well placed or equipped to undertake firsthand studies in this respect. Nonetheless, it is no doubt important at least to keep up with outside studies.

Today, in accordance with the staff's suggestion, I would like to center my intervention on three topics: the usefulness of market-related hedging in the context of adjustment, the menu approach, and the compensatory and contingency financing facility. However, before discussing those topics, I would like to touch upon the variability of interest rates, exchange rates, and commodity prices.

The staff paper verifies that both interest rate and exchange rate variability have been historically large during most of the 1970s and 1980s. In line with these movements, the floating rate price structure of banking credit has prevailed since the early 1970s. Such floating rate pricing has shifted the risk from the banking institutions to borrowers. At the same time, such a change in the financial markets made the responsibility of monetary authorities to borrowers more

important. In this respect, I would like to emphasize the importance of intensified policy coordination in moving toward stable macroeconomic conditions, especially stable exchange rates and prices.

While policy coordination among major industrial countries initially aimed at the adjustment of exchange rates, the intensified policy coordination currently aims at stable exchange rates and prices. The effectiveness of policy coordination--widely endorsed in Berlin--should be stressed as an important background for today's discussion.

I have no difficulty in endorsing the staff's view that: "Obtaining some degree of insurance before the fact against certain types of external shocks through the use of market-related hedging instruments can make an important contribution to the continuity of the adjustment effort." I also agree that "hedging operations must be seen as a complement to--not a substitute for--an appropriate set of adjustment policies."

Moreover, I attach particular importance to the need to judge the usefulness of hedging operations on a case-by-case basis. The need for risk aversion varies from one country to another, and depends on the adjustment path pursued by each country. Given the difficulties in eliminating all risks involved in the real world, as well as in assessing the utility function of each country, I would welcome further comments from the staff on the relationship between adjustment and the need for risk aversion.

The use of hedging instruments constitutes an important part of the menu approach, and I would support Fund provision of appropriate assistance to a member country in making use of hedging instruments, if requested.

Finally, I attach particular importance to discussing the usefulness of hedging instruments in the context of the compensatory and contingency financing facility. Any member country which makes use of the external contingency mechanism should make every effort to hedge its own risks. However, as the staff rightly points out, use of hedging operations entails a great deal of expertise, as well as costs to indebted countries. In this respect, use of a hedging instrument should not hinder or delay use of external contingency financing.

Mr. Grosche said that he was in broad agreement with the staff paper. He had particularly enjoyed reading the clear and vivid description of past fluctuations in exchange and interest rates, and in commodity prices. That part of the paper served as a useful reminder of one of the roots of the widespread debt problem--namely, the accumulation of external debt at

maturities that were too short and at floating interest rates. Furthermore, it underscored the need for ambitious and strong diversification efforts in primary commodity exporting countries, and, of course, the need for international policy coordination aimed at fostering a stable exchange rate system.

In the light of recent experience, measures to protect countries against high variability in certain key prices were indeed desirable, particularly considering the potential dangers of short-term variations for adjustment programs, Mr. Grosche continued. The hedging instruments described in the paper appeared, in principle, quite suitable for protecting debtors against external shocks. However, it was also quite clear that the techniques were costly, and their use thus had to be decided according to the potential benefits occurring in each case.

In addition to the direct costs of hedging operations, a country would have to face the cost of employing highly qualified personnel for the trading operations, Mr. Grosche remarked. He therefore welcomed the World Bank's intended expansion of its efforts in providing technical assistance for establishing the necessary institutional arrangements for the management of hedging operations. In general, one could conclude that the costs of hedging operations should not be underestimated, but that they were not so high as to prohibit an expanded use of such instruments.

During the Board discussions on the compensatory and contingency financing facility, his chair had stated that official hedging mechanisms should indeed be coordinated with, and complemented by, appropriate efforts by the country itself, Mr. Grosche recalled. Therefore, the newly established official hedging mechanism should not induce the debtor country to forgo the appropriate use of market-based hedging instruments, and the Board should indeed encourage debtor countries to protect at least a part of their foreign debt against unforeseen interest rate fluctuations through hedging operations on the international financial markets. That idea was also appropriately reflected in the establishment of a threshold for triggering the contingency mechanism.

Mr. Zecchini made the following statement:

> The two papers before us today offer a very useful and comprehensive analysis of all the relevant technicalities of risk hedging, and at the same time indicate realistically the conditions under which financial risk management can find effective application at a country level.
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> I can agree with the basic conclusion in SM/88/233 that the potential usefulness of a hedging strategy would have to be evaluated on a case-by-case basis, and would involve considerations of the costs and benefits associated with it. However, hedging techniques can by no means substitute, in the present debt strategy, for sound financial management, structural adjustment--for instance, in the field of export

diversification--or correcting fundamental external disequilibria. In spite of their usefulness, at this juncture in the evolution of debt and of the external difficulties of developing countries, hedging techniques can only make a limited contribution to the debt strategy. There are two major factors limiting the scope and applicability of these techniques.

First, there is the sheer magnitude of external debt, and the exogenous variability which can affect the performance and external adjustment of these economies. Given the size of the external financial exposure that developing countries face, and given the volume of activity in the markets for hedging instruments: futures, forward contracts, and options, it is conceivable that only a modest portion of the financial risks for the whole group of indebted countries can be hedged. As an illustration, full coverage against the interest rate risk on $9 billion of Chile's external debt carrying a 12-month interest period, some 36,000 contracts on three-month Eurodollar rates would be necessary. The 36,000 contracts would represent over 20 percent of all such contracts outstanding on the Chicago Mercantile Exchange in early September. In contrast, the $9 billion constitute less than 50 percent of Chile's total debt, and less than 2 percent of the total outstanding debt of the heavily indebted countries.

Second, there are three orders of costs which should be taken into consideration when assessing the desirability of a hedging strategy. There are outright expenditures such as fees, premiums, or outlays for putting in place the necessary complex management structure and the control mechanisms. Just to quantify one of these expenditure items, the fees for hedging Chile's $9 billion exposure could amount to about $1 million--36,000 contracts multiplied by $30 per contract--and this also represents a balance of payments outflow, since it will be paid to brokers in Chicago. These costs must be incurred in an environment of already heavy debt servicing obligations.

Then there are the opportunity costs of the resources that are tied up in meeting margin requirements. Again, taking the case of Chile's $9 billion hedging operation, the initial margin requirement could amount to $54 million--$1,500 times 36,000 contracts--equivalent to 2 percent of Chile's foreign currency reserves. Before such a large amount of scarce financial resources is tied to hedging against risk, alternative investment opportunities--which could expand the debt-servicing capacity for the country--are available and should be carefully assessed.

Finally, there are the costs associated with gains forgone owing to possible favorable price changes. By locking itself in a fixed price through hedging, the country concerned is giving

up not only the possibility of substantial losses, but also of substantial gains. In the case of Chile's operation, the paper indicates that an effective interest rate of 7.3 percent was locked in, thereby eliminating interest rate uncertainty for the hedging period. Paradoxically, the interest rate that actually occurred at the reset dates was substantially lower--6.8 percent. This indicates the necessity of incorporating in costs some measure of the probability of price movements in the assessment of costs, in order to maximize the ex post rate of return on the resources utilized for hedging.

Notwithstanding the above limitations, risk management techniques can, under some circumstances, constitute a useful addendum to the existing market-based menu approach, provided that these techniques are applied on a case-by-case basis, and that their broad cost-benefit effects are carefully appraised. They could also be usefully inserted in Fund-supported programs as a complement to the contingency financing provision. However, I do not see strong reasons for the Fund to provide financial assistance for the specific purpose of hedging, apart from resources available through the compensatory and contingency financing facility. As a general guideline, hedging in Fund-supported adjustment programs should be left to the responsibility of the country and its willingness to cover risks arising from unforeseen and temporary economic shocks in the marketplace, or to gain time before the required fundamental adjustments are carried out.

As for the Fund, it can play a significant role in strengthening member countries' abilities to manage risk. Through its technical assistance function, the Fund could help to enhance members' awareness of hedging mechanisms, and could help in assessing the relevant exposure risk and the most appropriate strategy. To this end, I welcome the publication of today's papers after suitable editorial adjustments. Moreover, a seminar for officials of member countries could be organized.

On a more general level, it is clear that the Fund must continue to pursue its mandate of helping to reduce uncertainty and instability in the economic and financial system at large, through its surveillance function and its crucial role in the policy coordination exercise among major industrial countries. Hedging techniques, or an insurance policy, do not in general reduce the global risk in the system; they only contribute to a redistribution of such a risk. The main objective of the Fund should, therefore, be to address the fundamental causes of uncertainty both at the country and the systemic level, so as to bring about a more stable and less risky environment that is conducive to investment and growth in the world economy.

Mr. Salehkhou made the following statement:

Let me thank the staff for the quality of the papers and for proposing solutions to indebted developing countries' management of financial risks associated with the variability of international interest rates, commodity prices, and the exchange rate. Before commenting on the issues raised by the staff, I would like to make a few general remarks.

First, in addressing the issue of financial risks, the staff has rightly identified interest rate, exchange rate, and commodity price fluctuations as the main exogenous factors seriously affecting the economies of indebted developing countries. Such factors--which are clearly beyond the control of the national authorities--are indeed relevant in considering the issue. However, these factors are also further aggravated by the sizable devaluations undertaken by many developing countries in the context of adjustment programs that they have implemented since the onset of the debt crisis. These exchange rate corrections have further increased the already severe losses incurred by holders of foreign liabilities, and have contributed to the emergence, on a larger scale, of the problem of financial risks in many developing countries.

Second, in an attempt to isolate economic agents from the effects of exchange and interest rate fluctuations, some developing countries have created special funds or have initiated other mechanisms to cover the associated financial risks. Although such funds have helped to protect final borrowers against exchange and interest rate losses, they have also caused sizable budgetary shortfalls and have created financial imbalances. Furthermore, such funds have impaired the ability of foreign exchange borrowers to take into consideration the effective cost of their borrowing and have, therefore, hindered them from passing through the related cost to the economy.

Third, although many developing countries are working to ease controls and restrictions over foreign exchange transactions and capital movements, the prevailing institutional framework will continue to prevent market-based instruments from emerging.

Fourth, in proposing market-based methods of achieving an active debt management policy, the staff seems to ignore the fact that in many developing countries, external debt is often managed separately by various agents including the ministry of finance, the central bank, financial institutions, as well as public and private enterprises. Such a situation can result in a deficient or nonexistent centralization of information on the stock, composition, and maturity of external debt, as well as on debt servicing obligations.

Last, but not least, is the uncertainty resulting from the blockage of members' foreign assets by other members invoking the Executive Board decision on payments restrictions for security reasons (Decision No. 144-(52/51), 8/14/52). I will not elaborate on this issue or identify specific cases. I would only urge the review of this controversial and outdated decision, which is one of the most destabilizing factors in the international financial system and in the management of financial risks by debtor and other countries, developing and industrial alike. That call has been both echoed by developing and industrial countries, most recently by the Ministers of the Group of Twenty-Four in their latest communiqué during the Annual Meetings.

I agree with the staff proposals regarding the introduction of market-based instruments to help developing countries to deal with financial risks. However, if these hedging facilities are to be efficient, certain conditions have to prevail so as to limit the size of financial risks, on the one hand, and to pave the way for the introduction of appropriate market-related hedging instruments, on the other.

In order to limit the size of financial risks, developing countries should be in a position to pursue a flexible exchange rate policy without sizable appreciation or depreciation of their currencies. Perseverance in the implementation of adjustment programs, and, most important, early reactions to exogenous developments are important factors in reducing the size of the exchange rate corrections needed. Furthermore, the Fund should help developing members in finding ways to gradually reduce the role of exchange rate guarantee funds or other similar mechanisms. This would allow financial institutions to pass through--to the final borrower--the cost of financial risks. However, implementation of this approach could prove difficult in many developing countries, given the heavy size of exchange rate losses already accumulated by such funds and the fragile situation of many enterprises, which will continue to hamper their recourse to market-based financing and instruments.

In this regard, the experience of some members in my constituency indicates a continued trend toward currency devaluation, especially after the establishment of a foreign exchange auction market. Ghana is one important example, as the country is considered to have one of the most successful Fund-supported adjustment programs. The uncertainties arising from the absence of any sign that this undesirable trend is being reversed is indeed worrisome and could hamper future adjustment efforts. I would appreciate staff comments on this disturbing phenomenon, and any suggestion of ways to halt the trend.

In order to pave the way for the introduction of market-related hedging instruments, a gradual reduction of controls on foreign exchange transactions and restrictions on capital movements is also required. Most importantly, the implementation of any active debt management policy requires institutional changes in many developing countries so as to facilitate the creation of a monitoring unit with the competence to centralize information on external liabilities, and to exploit opportunities in capital markets.

Those are the prerequisites for introducing appropriate market-based hedging instruments for alleviating financial risks in indebted developing countries. As the staff has rightly pointed out, only some of the developing countries could benefit from this approach. In fact, considerations like creditworthiness, the cost of hedging instruments, the high quality of the required technical staff, as well as the sizable level of external debt, will continue to hamper the use of market-based instruments in many developing countries.

Hedging instruments could be useful in insuring against external shocks provided that their introduction is preceded by the fulfillment of the prerequisite conditions--namely, implementation of a flexible exchange rate policy, gradual reduction of controls on foreign transactions, and centralization of information on external debt. Most importantly, if one has to evaluate the benefits and costs associated with these instruments, such an evaluation should be made by the final user of foreign borrowing and also by the holder of foreign assets. To this end, one way of alleviating the potential cost of hedging instruments is to allow national entities to manage their foreign assets so as to minimize the cost of their foreign liabilities. The introduction of hedging instruments should also be part of an appropriate set of adjustment policies--including market liberalization--with the objective of allowing all participants to evaluate correctly the costs and benefits of foreign transactions.

Hedging instruments have a relatively limited scope as a potential addition to the market-based menu approach in dealing with external debt problems. Such instruments are limited to those countries that maintain access to international capital markets, and although some access could be restored to these markets, the cost of doing so would be relatively high. Furthermore, such instruments would not directly increase the scale of financing available to indebted developing countries, and would not reduce the stock of external debt.

The staff has made a compelling case for exchange rate coverage by the compensatory and contingency financing facility--in line with the consistent position taken by this

chair. Since two out of three exogenous factors confronting indebted developing countries--interest rate and commodity price fluctuations--are covered by the compensatory and contingency financing facility, I continue to see no justification for the absence of exchange rate coverage by this facility.

To conclude, I commend the staff's efforts. However, many structural and institutional constraints still persist in many developing countries, and these will continue to hinder the use of market-based hedging instruments. Nonetheless, some developing countries which are in an advanced stage of adjustment and which maintain access to capital markets could benefit from the use of these instruments. In those cases, the central bank could play a leading role, given its regular contact with financial markets and its relatively skilled staff. Furthermore, given the fact that in many developing countries it is within the competence of the central bank to manage foreign assets, management of foreign liabilities by the central bank could also help to minimize the associated costs. After a transitional period, the central bank could gradually allow financial institutions to intervene directly in the management of financial risks.

Mr. Haynes made the following statement:

We welcome today's discussion on managing financial risks as part of the general approach to tackling the debt problem. We find the main paper--and its supplement--useful for the description it provides of the existing techniques in risk management. Clearly, however, the paper is exploratory only and we look forward to further work by the staff.

The staff has pointed out correctly that the adjustment process could be derailed as financing gaps emerge from unanticipated changes in commodity and asset prices. The Fund's recognition of this possibility led us to broaden the base for which countries can be compensated for external shocks by establishing the compensatory and contingency financing facility. We believe that use of hedging techniques could make a valuable, complementary contribution to these efforts.

In terms of the Fund's facility and market-based hedging schemes, two points which enhance the appeal of such schemes should be made. First, as Mr. Hogeweg stated, the contingency element of our new facility applies only when a country is in an adjustment program supported by the Fund. Clearly, there remain some members without Fund-supported programs whose adjustment efforts also could be adversely affected by external shocks and which could benefit from such schemes. Second, under a Fund-supported program, a country which does not hedge its risks and

faces offsetting external shocks would be ineligible for any compensation under the Fund facility. However, if that country had hedged it could derive an immediate improvement in its current account balance, perhaps permitting a strengthening of its adjustment efforts.

Despite the apparent benefits, however, we share the staff's assessment that not all countries should pursue an active hedging program. Countries with low reserve levels may find their own liquidity needs acting as a binding constraint in a market in which they are essentially price takers. We might add that in some situations where exposure is relatively low--for instance, for small, middle-income countries--the costs of hedging might appear prohibitive. In addition, I note that the staff paper emphasizes that the size of the external debts of individual countries might be too large for the market. I think we should recognize also the problem that smaller countries face, of exposure that may be too small for the market. Perhaps the staff can comment on whether the market has facilities which would enable these countries to pool their risks.

We note the staff's reference to the need to building up technical competence in this area in developing countries. We would agree that hedging, where it is appropriate, is a crucial first step in enhancing the country's ability to make effective use of the flexibility and diversity of available approaches. Given that many countries do not yet appear to be actively engaged in these practices, I would be interested to find out what role, if any, the Fund envisages for itself in this effort, since hedging arrangements could easily dovetail with Fund arrangements.

While market-related hedging instruments appear attractive, in the final analysis, financial discipline in developed and developing nations will remain important keys in efforts to resolve the debt problem. In industrial countries, a reduction in inflationary pressures--and economic imbalances in general--that places downward pressure on interest rates could have a greater impact on reducing interest costs of debt servicing and enhance the prospect of renewed access to credit markets for the heavily indebted.

Mr. Toé made the following statement:

Before addressing the issues raised for discussion in the staff paper, I would like to make two brief general comments on the paper itself. In the context of the global effort to come to grips with the debt problem of developing countries, several proposals have been made, one being the utilization of market-based hedging instruments by those countries to ensure efficient

management of their external debt. The staff paper provides an extensive description of the various hedging instruments available to countries willing to hedge against the risks arising from the high variability of international interest rates, primary commodity prices, and the exchange rate of the major currencies in which these countries' external liabilities are denominated. While this detailed description is useful, the paper would have been even more enlightening had the staff complemented such detailed description with an ex ante assessment of the results of hedging operations undertaken by a sample of countries. It would have been interesting to analyze the cases of two or three heavily indebted countries to determine how well they would have fared had they engaged in hedging operations. Such an approach would have added an extra dimension of practicality to the paper.

The staff paper does provide a good example of the effective use of financial futures to hedge interest rate exposure by describing the hedging program undertaken by Chile. It is heartening that Chile has succeeded in eliminating interest rate uncertainty by locking in an effective interest rate of 7.3 percent, which, according to the staff, compares favorably with the interest rates that prevailed during the period covered by the hedging operations. But I understood from Mr. Zecchini's statement that interest rates for that period were in fact substantially lower than 7.3 percent. Can the staff explain this divergence of views? Here again, it would have been interesting to get the full picture of the Chilean hedging program. In particular, the staff could have provided a full cost-benefit analysis of this program. I wonder whether the staff has any information about other member countries that have undertaken such a program?

Turning now to the issues raised in the staff paper, I consider the use of hedging instruments a promising avenue worth exploring in our effort to expand the options available under the menu approach to dealing with the debt problem. The high variability of international interest rates, primary commodity prices, and major currency exchange rates in the 1970s and 1980s has contributed to the emergence of the debt-servicing difficulties experienced by developing countries. Finding mechanisms to shield debtor countries from the adverse effects of such variability would certainly contribute positively to the solution of the debt problem. It was in this respect that the compensatory and contingency financing facility, supplementing existing arrangements, was viewed as a step in the right direction. Of course, the new options to be added to the "menu" cannot be a panacea nor should it be a substitute for the official multilateral and bilateral agreements and assistance currently available to member countries. In any event, the decision to enter into futures and option transactions should be left to the

discretion of the countries concerned, especially as the various limitations on the use of these instruments--creditworthiness, cash flow, cost considerations, and the complexities of these operations--ensure that only a few indebted countries will be able to take advantage of them.

A formal link should not be established between the compensatory and contingency financing facility and the use of hedging instruments. In view of the limited coverage of interest rate fluctuations by the facility, countries that can manage hedging operations should be encouraged, and, if they wish, assisted to do so. This would provide added protection against external shocks arising from interest rate fluctuations, and would enable the country concerned to carry on its adjustment program. On this broad issue of coordinating market-based hedging instruments with other official hedging mechanisms, I would urge the Fund to expand its support of international commodity trading agreements by making the International Cocoa Agreement and the International Coffee Agreement eligible for financing under its buffer stock financing facility.

As to the issue of the cost-effectiveness of market-related hedging instruments in maintaining adjustment momentum by indebted developing countries, I have some questions. I agree that cost-effectiveness should be judged on a case-by-case basis, and that hedging operations should be as cost effective as possible. The key question is whether the Fund stands ready to provide the necessary technical assistance to countries willing to hedge their exposure to interest rate and exchange rate fluctuations and to the variability in commodity prices. I have noted that for its part, the World Bank is ready to expand its efforts to help indebted developing countries to establish the necessary institutional arrangements for the management of hedging operations. In addition, when the protection of a Fund-supported adjustment program is involved, is the Fund prepared to provide financial assistance to bring the cost of hedging operations within the reach of member countries that otherwise could not afford them?

Finally, beyond the immediate protection that the utilization of hedging techniques can provide, the provision of better and longer-lasting protection rests in the pursuit of coordinated efforts by member countries to eliminate, or at least reduce, fluctuations in interest and exchange rates, and in primary commodity prices. This can best be achieved through the international coordination of economic policies by those countries whose policies have a large impact on the world economy.

Mr. Templeman made the following statement:

The staff paper is an interesting, if complex, addition to our knowledge of the financial tools potentially available to indebted countries in reducing risks from the volatility of interest rates, commodity prices, and exchange rates. Unlike Mr. Ortiz, I do not doubt the utility of work on this subject, although it may admittedly be some time before hedging devices become a major tool in our arsenal of options for assisting indebted countries.

Since the Board has discussed some aspects of volatility of these financial variables on previous occasions, and the subject of today's discussion is more narrowly focused, we need not spend much time on this subject today. However, I do agree with other Directors in supporting international economic policy coordination as one way to reduce the volatility of these variables. On a narrower question, we were interested in the statement in footnote 4 on page 6 of the paper concerning the question of whether risks created by fluctuations of interest rates, exchange rates, and commodity prices have tended to be offsetting. The footnote asserts that this has not, generally, been the case in the 1970s and 1980s. Some further staff comments on this point would be interesting, especially in connection with the outlook for use of the new compensatory and contingency financing facility.

However, the main focus of our considerations today should be on the practical role which might be played by the financial market instruments discussed in the staff paper. This should include the relationship of these hedging devices to use of the compensatory and contingency financing facility and to commercial bank financial packages linked to Fund-supported programs.

Before turning to these policy questions it would be helpful to confirm our impression from the staff paper that the most promising prospects for minimizing the risks of interest rate volatility in the short term would, in most cases, appear to be Eurodollar futures contracts and, in the longer term, interest rate caps; and that the main problems which might arise for an indebted country are, in the first case, the need to prearrange some form of financing or to have assets available to meet payments to the clearinghouse at short notice and, in the second case, the requirement for significant premiums to be paid up front. More generally, the complexities and costs of managing any kind of hedging operations would appear to impose potentially serious limits to the use of hedging devices by indebted developing countries.

If these conclusions are correct, continuing work by the Fund on this matter might focus on ways to overcome these

financial and managerial problems. Footnote 4 on page 30 of the staff paper says that the World Bank's Financial Operations Department has provided technical assistance to a number of indebted developing countries with regard to management of hedging operations, and that such efforts will be expanded. It would be interesting to know more about this service, as well as to have the staff's view as to whether there is also a technical assistance role for the Fund, without duplicating that of the World Bank.

We believe that the use of hedging instruments by indebted developing countries should be pursued on a case-by-case basis, and technical assistance to industrial countries by the World Bank, and perhaps by the Fund, could make a useful contribution; consideration should be given to a Fund-supported seminar or Institute course on the subject of hedging; Article IV and stand-by arrangement missions should explore this question routinely; and hedging arrangements might become an important part of the menu approach to commercial bank financing and possibly to the commercial bank contribution of parallel contingency financing linked to the compensatory and contingency financing facility. Unlike Mr. de Groote, I believe that it is more appropriate that the banks themselves, rather than the Fund's compensatory and contingency financing facility, should provide the financing for hedging operations against interest rate risks as one form of parallel financing in cases where the Fund offers contingency financing. Also, like some Directors, I view facility financing and financial hedging through the compensatory and contingency financing facility as complementary, and not competitive, particularly at the present state of development of these two approaches.

In conclusion, we would encourage the staff to continue to explore these matters with experts in financial and commodity markets and with the World Bank, with a view toward making a status report to the Board, in perhaps a year's time. In the meantime, employment of hedging devices in connection with specific programs on an experimental basis would seem useful.

Mr. de Groote observed that he had explicitly suggested that the banks should, on their own, consider hedging mechanisms. He would even say that they should consider modalities in their contracts that would make hedging unnecessary by adopting clauses reflecting the Fund's contingency clause, allowing debtors to repay debts faster when their income positions improved. However, apart from that possibility, the Fund might also perhaps have to consider whether some Fund facilities might not be used in those cases where there was a remaining volatility risk that was not covered.

Mr. Templeman remarked that it was precisely the latter, narrower point that he had questioned, simply because while parallel financing could be sought from the banks in compensatory and contingency financing cases, providing such financing would not be the only way in which the banks could make a contribution.

Mr. Fernando made the following statement:

The first issue raised in the staff paper implies that indebted countries which are already on an adjustment course could maintain momentum in the face of adverse exogenous shocks if they used hedging, but it is not certain whether hedging could be a cost-effective means. It is not clear, from the examples cited in the staff paper, whether hedging could maintain the adjustment momentum. This is an empirical question, since the extent to which adjustment was disrupted would depend mainly on the size and nature of the shock involved and on the amount of protection that hedging would possibly provide. One would, however, expect the effects of shocks to be much more intense and comprehensive than the net benefits of hedging. If this is not so--that is, if the benefits of hedging were perceived to have the potential to substantially meet the effects of the shock--then interest in, and use of, hedging operations should have been high and widespread. This would allow us to expect that countries would optimize their objective function--namely, maintenance of the adjustment momentum.

The discussion in the paper is mainly limited to the meaning of hedging, and to the elements that need to be taken into account in calculating the costs and benefits of hedging. We are not sure how far the costs of hedging--the initial margin and maintenance margin costs, and the commissions to brokers--and the position limits would constrain hedging attempts by adjusting countries. It is also not clear how the countries would bear these costs. If reserves are used for that purpose, then one needs to consider the alternative uses to which reserves could be put. But this point may have only an academic value, since for most indebted countries, reserves are not available for hedging purposes. Using loans to meet hedging costs could well impose additional debt burdens, and could further impair credit ratings. Even if it is assumed, for the sake of argument, that these elements do not act as serious constraints, it is highly doubtful whether most countries could undertake hedging operations, because their use is not as simple and straightforward as it appears in the examples in the staff paper.

The paper correctly recognizes that the adoption of proper hedging techniques and strategies requires highly sophisticated training and experience in market procedures and practices, as well as continuous monitoring and readjustments.

Personnel skilled in these matters are scarce or not available at all in the countries under review, even if one were to assume that these countries could bear the costs of hedging. In practical terms, hedging against interest rate variations is severely curtailed for those countries with debt service problems.

These considerations indicate that the costs of hedging should not be viewed in the narrow sense of margin costs and commissions, subject, of course, to position limits. In our view, beyond the use of hedging instruments, a more effective means of maintaining the adjustment momentum would lie in implementation of an appropriate set of medium-term policies with the support of adequate multilateral and bilateral financial flows. This is the more familiar concept of adjustment with financing, but in the context of the external shocks, consideration should also be given to the relevance of international policies aimed at reducing volatilities in external factors, and at providing freer access to industrial country markets. In other words, use of hedging instruments as such in the current circumstances is likely to offer only limited protection to indebted developing countries, at any rate in the short run.

This, however, should not be regarded as a rejection of the usefulness of hedging per se. In fact, given the complexity of the operations involved, it is necessary to explore how hedging could be made more attractive and be more easily understood. In this context, many Directors have commented on the need to provide technical assistance wherever needed. Apart from this, it could be useful if the Fund provided some training facilities in this area. For instance, in the Institute course on financial analysis and policy, some emphasis could be placed on forward and futures markets. It might also be worthwhile to have a two-week Institute workshop on this theme for policy-making in indebted countries.

There are some hedging instruments which seem to have good potential for being useful additions to the menu approach to external debt problems. One such instrument is the interest rate cap, because of its relevance to growth-oriented adjustment over the medium term. Such caps could be part of debt restructuring agreements or part of loan restructuring.

It is too early to envisage coordination of hedging instruments with other official mechanisms such as the contingency element in the compensatory and contingency financing facility, in view of the lack of any experience whatsoever with contingency financing. In any event, coordination attempts with such financing or with buffer stock financing should not impose an obligation on countries to make use of hedging instruments,

irrespective of the costs and complexities involved, in order to utilize official financing mechanisms. What could usefully be done is to encourage adjusting countries which use official mechanisms, such as the compensatory and contingency financing facility or buffer stock financing, to use hedging operations wherever possible. It is necessary to guard against overenthusiasm in favor of hedging instruments, since hedging without reasonably adequate cash flows would hardly help to maintain the adjustment momentum when unanticipated exogenous developments occur.

Mr. Donoso made the following statement:

We have to thank the staff for this interesting paper exploring possible additions to the market-based menu approach for dealing with the debt problems.

Given the lack of access to financing of indebted countries, the use of techniques to avoid abrupt changes in financing requirements is valuable. These techniques can have an important effect in rendering more remote the possibility of abrupt policy changes to face external shocks, thus contributing to the creation of a more stable environment and to the conditions that stimulate investment.

The efforts of indebted countries to study the available instruments and to negotiate the required amendments to financial contracts with external creditors, so as to be able to orient some international reserves to these purposes are worth pursuing.

As indicated in the papers, my Chilean authorities have developed some hedging operations. They have the impression that there is much to do in this direction in the prevailing circumstances, in addition to such processes as financial risk containment through conversion of debt into equity, revision of the currency composition of indebtedness, and appropriate management of international assets.

A careful reading of the first part of the staff paper could indicate that the use of interest rate caps or of financial futures to hedge interest rate exposure arising from floating rate external liabilities might, from a longer-term perspective, be only a second-best alternative given the empirical relation between nominal and real interest rates.

It could easily be true that interest rates go up in nominal terms by less than the inflation rate of prices of the relevant export goods, and therefore, that interest rates go up in nominal terms at the same time that they go down in real

terms. In this case, hedging operations that had the effect of fixing the nominal interest rate for the country would imply that the country got more resources when it was richer, owing to the lower real interest rates, and lost resources when it was poorer, owing to higher real interest rates.

In that case, the impact of the hedging operations would be to amplify fluctuations in real national income in exchange for a reduction in liquidity problems. Of course, the costs of reduced liquidity can fully justify entering into hedging operations even if the result was to amplify fluctuations of real national income. That might, however be a second-best solution, the best being to obtain access to liquidity so as to deal with liquidity problems, and to undertake hedging or other operations to fix the real interest rate. In this sense, an initiative like the compensatory and contingent financing facility seems to be a very efficient and appropriate instrument to deal with the problem of fluctuating nominal interest rates and one to be strengthened and extended. My point about fixing nominal interest rates being a second-best solution is not relevant if generally higher nominal interest rates are to be associated with higher real interest rates and vice versa. But the information in Chart 1 of the staff paper shows that this is not necessarily the case. There have been many instances in the last two decades of a rising nominal LIBOR rate at the same time that inflation in commodity prices caused real interest rates to decline.

Looking at Chart 1, I tend to conclude that stabilization of the nominal interest rate could be destabilizing in real terms, that changes in nominal rates should be financed, and that efforts should be oriented toward stabilizing real interest rates. It is, I believe, possible to implement some measures to stabilize real interest rates, and that this is a very productive area for more staff work. Clearly, real interest rates--as defined in Chart 1--became volatile when exchange rates among major currencies were allowed to float. Part of the real interest rate volatility was directly related to exchange rate fluctuations. We have on several occasions discussed how empirical work shows that the appreciation of the U.S. dollar reduces the U.S. dollar prices of commodities, beyond any impact through inflation, in a 1 to 1 proportion. Thus, ceteris paribus, a 10 percent appreciation of the U.S. dollar reduces the dollar prices of commodities by 10 percent. Under these ceteris paribus conditions, that corresponds to a real reduction in the prices of commodities of 10 percent, and given LIBOR interest rates, it also implies an increase by 10 percentage points in the rate of interest.

The empirical link between appreciation of the U.S. dollar and falling dollar commodity prices would imply that, for

instance, deutsche mark prices of commodities do not change when the deutsche mark moves against the dollar. This would imply that expressing all indebtedness in deutsche mark rather than in U.S. dollars would eliminate the variability of real interest rates due to exchange fluctuations.

It might be an oversimplification to argue that only dollar prices change with exchange rate adjustments, and most probably the way an exchange rate adjustment is reflected in price changes differs among commodities. This implies that the solution is not simply to go from indebtedness expressed in U.S. dollars to indebtedness expressed in some other currency. Appropriate empirical work should however be useful for deriving a reasonable diversification among currencies in the contracting of indebtedness, which would ameliorate the destabilizing impact of exchange rate fluctuations on real interest rates.

In a world of fluctuating exchange rates among major currencies, and when purchasing power parity clearly does not hold at any given moment, contracting indebtedness almost completely in U.S. dollars is a highly destabilizing element that makes real interest rates highly volatile. This problem should be corrected by individual countries, and there could be some guidance from the Fund for countries to proceed in this direction.

Just as there is a need to adjust the currency composition of indebtedness to deal with exchange rate fluctuations, it might be possible to find ways to offset or eliminate other sources of instability in real interest rates. I would encourage the staff to pursue this analysis to see what is feasible. In the meantime, hedging operations are a useful way to avoid abrupt adjustment to face external shocks, which owing to lack of access to credit cannot be financed. Such operations are important elements to be included in the menu approach.

If access to more financing is not possible, hedging operations can play a relevant role in protecting programs. They could be even more effective if accompanied by measures to stabilize real interest rates, through means such as those suggested in the first part of the staff paper.

Mr. Chatah made the following statement:

In recent years, the indebted developing countries have become more vulnerable to the financial risks associated with fluctuations in commodity prices, interest rates, and the exchange rates of major currencies. This has been the case both because of the increased variability in these key international prices, and also because the constraints facing many debtor

countries have made it exceedingly difficult for them to absorb unforeseen shocks to their payments and receipts profiles. The reduced access to borrowed reserves and the inability to reach a consensus on global reserve supplementation have certainly compounded the problem, and have contributed to the precariousness that has characterized many adjustment programs. It is not very surprising that in a significant number of cases, unanticipated exogenous developments have jeopardized the achievements of Fund-supported programs, and have led to noncompliance with performance criteria under the associated arrangements.

The staff paper addresses the limited issue of whether and how available market mechanisms can be used by the indebted countries to reduce the financial risks associated with unforeseen fluctuations in key international prices. Obviously, the question of a country's ability to adhere to a charted course of adjustment based on certain assumptions regarding exogenous variables is a much broader one than that being addressed today; and in this connection I support many of Mr. de Groote's comments on industrial country policies and policy coordination. Nevertheless, the staff paper does raise a number of interesting questions relevant for the Fund, an institution often intimately involved in the formulation of financial programs which constitute the basis for economic adjustment. Indeed, one can argue that a main purpose of the Fund's existence is to assist members in coping with unforeseen adverse developments, including those concerning key exogenous variables. Stand-by credit as originally envisaged was clearly intended for that purpose, but, as we all know, stand-by arrangements have lost much of that precautionary feature for reasons which probably could not be avoided. Clearly, the compensatory financing facility--and more recently the compensatory and contingency financing facility--were intended to fill this precautionary gap.

Coming back to the issue before us today, two basic questions arise from the material provided by the staff. First, given our knowledge on the availability, and the costs and benefits of the existing market mechanisms, does it make sense for indebted developing countries to utilize such mechanisms more often than they have so far? Second, if so, is it useful to encourage increased use of such mechanisms, including steps to be taken by the Fund?

As far as the first question is concerned, it is clearly difficult to make a generalized judgment since the optimum level of utilization of these instruments will differ from one country to another. However, one does get the impression that the current level of utilization is probably less than it should be, even after taking into account the costs and benefits of these instruments and of alternative precautionary instruments

such as reserves. If this impression is correct, then the question is why that is the case. To some extent, this could be due to the lack of information and familiarity with these market instruments, and thus time and technical assistance may lead to a wider use of hedging instruments. It could, however, also be the case that the balance of costs and benefits of these instruments relative to the costs and benefits of maintaining an open position are not the same, when viewed from a country's standpoint, as they are when seen from a global perspective. Is it possible that the global welfare gain of reduced uncertainty in external receipts and payments is significantly higher than the sum of those net benefits which enter into countries' own calculations? Could one also argue that the manner in which debt-servicing difficulties are addressed by the parties concerned, and the way that exogenous developments are responded to by the international community, make the perceived costs of an open position less than they actually are?

These questions have a bearing on whether anything should be done to encourage countries to resort more to the hedging instruments of the market. Without attempting to answer these questions with any degree of certainty, the fact that in many cases the Fund includes a country's reserves as a performance criterion--often the subject of difficult negotiations--suggests that the question of incentives and perceived costs must be looked at carefully before any conclusions are reached on the steps--if any--that should be taken to encourage countries to increase their use of market-based hedging instruments.

If one does reach the conclusion that such steps are indeed useful, then the question focuses on the options open to banks and multilateral institutions to achieve the desired objectives. As far as the banks are concerned, the staff's assessment--on page 32 of the staff paper--suggests some possibilities, including providing interest rate hedges in the form of caps, perhaps as part of a more general approach to debt restructuring. Concerted action by banks should benefit them, as it reduces financial risks to the debtor country and thus increases the value of the banks' assets with that country. In this connection, Mr. de Groote's remarks on the distribution of the cost burden associated with hedging are particularly interesting.

As far as the Fund is concerned, one could argue that it may be worthwhile, in the context of program negotiation, to discuss, where relevant, the possibility for market-based hedging, and to include the costs of such hedging in calculating the financing requirements of a country. Conceivably, this cost could in some cases be offset by a somewhat lower reserve level than would otherwise be considered appropriate.

As far as the compensatory and contingency financing facility is concerned, although we understand the theoretical argument that has been made in the past--namely, that as a safety net, it may reduce the incentive for countries to seek other means of protection against potential financial risks--we do not think that this is indeed the case. Not only is the facility limited to partial financing of deviations beyond a certain threshold, it also covers a broader range of risks than can be hedged against in the market. Therefore, in reality, we do not see hedging instruments and the facility as substitutes but as complements. The question does arise, however, as to whether the compensatory and contingency financing facility can or should be used to finance hedging costs, including margin requirements in futures contracts. Admittedly, this raises a number of difficult issues, technical and otherwise, but they may well deserve some additional thought.

Mr. El Kogali made the following statement:

Our discussion should be treated as a seminar on the staff paper, a seminar which can be described as part of the general effort to develop market-based approaches to be used in helping to solve the debt problem.

It is true that there has been a substantial increase in interest rate variability during the 1970s, with negative effects on economic performance and adjustment programs in developing countries. However, an analysis of Fund-supported programs shows that commodity price variability remains the major source of financial instability in most developing countries, especially in sub-Saharan Africa. The paper fails to deal with this aspect in detail.

A number of considerations limit the general application of hedging instruments. The heavily indebted low-income countries which are mainly indebted to official creditors will be effectively excluded from hedging operations. On the other hand, the middle-income developing countries that have large debts to commercial creditors might not be able to fully use these instruments because of the market's negative perception of their creditworthiness, owing to the inability of these countries to service their debt. And as the staff paper recognizes, the full implementation of hedging operations entails substantial costs and requires levels of liquidity and expertise not present in most developing countries. Hence, hedging operations are unlikely to be cost effective in protecting programs in the face of variable international asset and commodity prices.

Effective utilization of the potentially useful role of market-related hedging instruments by developing countries would

require a more conducive international environment, and normal access and participation in the international financial markets. Under the prevailing circumstances, the contribution of hedging instruments to the market-based menu approach to the resolution of the external debt problem appears to be limited. Against this background, I do not see much to be gained from linking market-based hedging instruments to the compensatory and contingency financing facility. In contrast, I see a more useful role in the revival of official multilateral and bilateral agreements, and in assistance in the form of commodity trading arrangements, buffer stock financing, and regional stabilization programs. In this context, re-establishment of a compensatory financing facility directly connected with export diversification policies might be a more effective approach to shielding indebted developing countries in the face of international asset and commodity price variability.

Mr. Dai made the following statement:

From different angles, the staff paper analyzes the causes and effects of financial risks in these countries, and relevant strategies in hedging operations. I generally agree with the analysis in the paper and just briefly wish to comment on a few points.

Since the 1970s, the world economy has experienced two major changes: increasing integration and the shift from a fixed to a floating exchange rate system. Over the last two decades, the world economy has been increasingly integrated in almost all economic areas. Countries have become more dependent on each other for foreign trade, the transfer of modern technology, direct investment, absorption of advanced management, and financial flows. Since the Bretton Woods exchange rate system came to an end in the early 1970s, the international financial system has become more volatile with the appearance of floating exchange rates. In order to minimize financial risks in foreign exchange and interest rate fluctuations, financial participants began to actively and closely associate themselves with various newly developed hedging innovations in the international capital and money markets.

With these two changes in the world economy, countries are, on the one hand, benefiting from the more efficient allocation of resources, with their respective absolute and relative advantages, and, on the other hand, becoming more vulnerable to external impacts. One striking example of these developments was the debt crisis of the early 1980s, and, unfortunately, the indebted developing countries have been suffering the most from fluctuations in exchange and interest rates since that time.

The staff paper discusses many strategies in hedging financial risks, strategies that employ, inter alia, futures, forward contracts, swaps, and options. These market-related instruments could help to hedge financial risks if the countries in question can really master the techniques of using these innovations, but I am not optimistic that these instruments could in practice be used by the indebted developing countries. Several problems stand in the way of indebted developing countries' ability to take advantage of these hedging strategies. First, financial personnel must have the skills to manipulate the hedging of possible financial losses; if they do not, financial risks could actually increase with participation in hedging operations. At present, most indebted developing countries lack such skilled personnel and the necessary techniques. Second, in order to follow new developments in financial markets closely, advanced equipment such as computers and communication devices will be needed, and many indebted developing countries may not be sufficiently well equipped. Third, the cost of hedging is relatively high. Since the indebted countries are already burdened with current debt-servicing obligations, it would obviously be difficult for them to incur additional hedging costs. Fourth, market access could prevent indebted countries from carrying out hedging activities, given the countries' limited creditworthiness.

All of these factors would greatly constrain the use of market-related hedging instruments by indebted developing countries. Therefore, the market-related hedging instruments recently developed in the sophisticated financial markets in major industrial countries might be useful imports for the developing countries from a longer-term point of view; however, in the present circumstances, their usefulness for maintaining adjustment momentum or as an addition to the menu approach is rather limited. Even as a complement to contingency financing in the context of the compensatory and contingency financing facility, hedging needs to be carefully devised on a case-by-case basis.

In considering the seriousness of the debt problem, the increasing integration of the world economy, and the impact of volatile financial markets, I must emphasize that the fundamental solution lies in the reduction of some fluctuations in the world financial markets--which are mainly influenced by the policies of the major industrial countries. If the major industrial countries could aid financial market stabilization through the implementation of appropriate economic policies and better policy coordination, that would benefit both the indebted developing countries and the rest of the world.

Finally, financial flows through official channels, including international financial organizations' facilities for

the indebted countries and particularly for low-income countries, should be emphasized and increased, since official channels are more secure and stable than private channels. Such an increase in official aid could help to promote the favorable conditions necessary for adjustment programs in indebted developing countries.

Mr. Al-Assaf made the following statement:

The staff paper is useful in a number of respects. First, it examines an area to which we have given little attention so far, despite potential benefits to a number of member countries. Second, it opens up a number of different avenues that some countries might be able to explore further. Third, it illustrated the possible benefits and limitations of various financial risk management schemes.

Those limitations fall into three broad categories: the insufficient size and liquidity of the markets in which these instruments are traded; the cost of the transactions themselves; and the technical complexity of the schemes, as the skills and expertise required for their successful implementation are unlikely to be readily available in many countries.

It is important that hedging programs for countries be evaluated on the basis of criteria that are not necessarily as rigid as those applicable to commercial users. In particular, for a number of developing countries subject to sharp and unpredictable variations in the price of their main export commodities, the stability and security offered by guaranteed returns in a given activity would seem of special importance. This alone might make the cost of hedging, at least in certain circumstances, less objectionable than it would otherwise be. The example of Chile is interesting in this connection. However, it would have been useful if the staff paper had elaborated further on the advantages, at the policymaking level, of the elimination of interest rate uncertainties--even short-term uncertainties. It would have been interesting to examine the extent to which reducing the exchange rate risk, for instance, would have affected the Chilean program.

The staff paper leads me to the following three conclusions: first, the use of hedging techniques is not a panacea, as others have already noted, and it is subject to serious limitations. However, the continued expansion of market-based mechanisms and instruments is providing a growing number of tools that can be useful to many members facing external uncertainties. Second, it is likely that some member countries have not fully realized the potential benefits of such techniques. This is an avenue that could be explored further, in the context

of our consultations and negotiations with member countries. I would be interested to know the nature and extent of the technical assistance that could be provided by the Fund and the World Bank in counseling and developing awareness of those options in countries where the potential for such techniques would appear promising. Third, we might find it useful to look into this matter further, possibly on the basis of some practical cases. Such cases should not be limited to those of middle-income, highly indebted countries, or to the use of hedging techniques solely against the interest rates risk. Producers of goods, or countries not characterized by a high level of debt or acute balance of payments problems, could also benefit from these schemes. The recent experience demonstrates that much can be lost, or gained, from sudden exchange rate variations or the collapse of commodity prices. No hedging program, however, should be expected to be successful over time if it does not deal comprehensively with external risks.

Finally, no matter how successful hedging programs are, they can only enable a country to avoid or minimize the consequences of external shocks. In that sense, their role is a preventive one and in no way can they be expected to solve the serious difficulties inherited as a result of past policies.

Mr. Ovi made the following statement:

Although the staff paper is--given the complexity of the issue--necessarily somewhat inconclusive, it does provide a useful framework for assessing the extent to which indebted developing countries should strive to use hedging instruments to protect their economies against changes in external factors. For a more complete assessment one would ideally have wished for a closer examination of some additional factors. First, despite the inclusion of positive examples--in particular the case of Chile--information on the degree to which the indebted developing countries have already utilized market-based hedging mechanisms in foreign trade and financial transactions, and a quantification of the actual and potential effects of such hedging arrangements, would have been interesting. Second, the staff points out that low creditworthiness appears to be a major hindrance to a country's access to markets for the purpose of hedging. Creditworthy borrowers in industrial countries often use interest rate swaps as an effective hedging instrument. Indebted developing countries with debt-servicing difficulties have no access to this market. It would, however, be interesting if the staff could assess whether the creditworthiness of the developing countries could, in some way, be improved by use of collateralization. Third, what can be said on the capacity of such markets, and their ability to meet developing countries' potential hedging requirements? Fourth, to what extent has the

Fund--or perhaps the World Bank--the capacity to render relevant technical assistance on financial management to developing countries which do not master the intricacies of financial markets and the relevant instruments? We endorse the staff's view that the application of market-based hedging instruments cannot be a substitute for macroeconomic adjustment. However, they can be a valuable supplement alleviating countries' sensitivity to external variability.

A number of factors, including creditworthiness, liquidity requirements, and the absorptive capacity of the market, will serve to limit the extent to which debtor countries can effectively apply hedging instruments. We, therefore, agree with the staff that hedging, as such, cannot be expected to generate an increased flow of financial resources to debtor countries. However, especially for the more creditworthy debtor countries, their use might be a step in the direction of enhancing access to international capital markets.

The relatively limited use of hedging instruments by debtor countries can, no doubt, be partly ascribed to a lack of technical and financial expertise. To the extent that these factors limit the developing countries' utilization of hedging devices, countries should be assisted in gaining access to the necessary expertise. International institutions, including, inter alia, the World Bank, which already has experience in this area, and the Fund, via the Institute's activities, could consider giving such assistance. However, this must be done on the proviso that the technical assistance is only for training purposes. Final decisions on engagements in financial hedging operations would have to be the full responsibility of the authorities of the countries concerned.

Costs and immediate liquidity requirements associated with hedging arrangements are often considerable. However, as banks themselves have expressed a certain interest in engaging in hedging arrangements, for instance, to reduce the need for rescheduling negotiations, agreements on hedging arrangements in the form of interest rate caps, or similar types of arrangements, should be possible on a case-by-case basis. In this way, an appropriate adjunct to the Fund's compensatory and contingency financing facility could be established.

Finally, analysis of hedging in a broader context, and closer examination of the effects of fluctuations of exogenous variables on the success of Fund-supported programs would be most appropriate. As the staff explains in the paper, changes in the external environment constitute one important reason why Fund-supported programs have been derailed, and this is bound to happen more frequently as more medium-term Fund-supported programs are implemented. Hence, it would be worthwhile to

give still closer attention in Article IV consultations, and especially in the preparation of Fund-supported programs, to the sensitivity of member countries' economies to external variables.

Mr. Enoch made the following statement:

This is an interesting paper on what is clearly an important topic. Given the fragility of the recovery of heavily indebted countries toward economic growth and creditworthiness, the downside risks to their recovery from any adverse shock are considerable. Even if these risks are not in the event realized, anticipation of their occurrence may lead some authorities to adopt an excessively cautious adjustment strategy, or may reduce the motivation to pursue adjustment policies at all. These were the concerns which led us to establish the compensatory and contingency financing facility. In addition, a host of novel financing techniques have been developed in this decade, so far largely benefiting industrial countries--including their corporate and financial sectors--by reducing the uncertainties to be faced. That raises the question whether the benefits of these innovations can also be extended to the developing countries.

The paper before us therefore raises a number of interrelated questions: are indebted developing countries making the best use of hedging instruments within existing constraints; are these markets likely to develop further, so that these constraints are eased, and so that more use can be made of them; should the official sector in some way assist the development of these markets; and, finally, could hedging techniques be an additional menu item?

The staff paper reaches no firm conclusions. It reaches the view, with which I wholeheartedly concur, that one has to look at each specific instance on a country-by-country and instrument-by-instrument basis. There will be costs and benefits in each attempt to use such techniques, and it will be difficult to set out useful general rules in advance. However, there are a number of observations to be made which might guide assessment of individual instances.

First, hedges are essentially short- or medium-term instruments. Markets in most of the relevant instruments extend up to a maximum of approximately one year. Thus, such instruments should really be seen as techniques for fine-tuning debt management, rather than as instruments of overall policy formulation. Second, for techniques where there is a medium-term market, the emphasis on creditworthiness is intrinsically paramount. Access to many of the new markets is therefore limited to a rather

small circle of borrowers. There is more scope for a wider range of borrowers where the market runs across an exchange, so that credit risks are more diffused. However, especially in these cases, access to markets is far from costless, both in pecuniary and other resource terms. The pecuniary cost often involves up-front fees, and margin requirements create additional financing uncertainties. And the risks facing a developing country are not always totally eliminated, being in some cases merely transformed by hedging: if a country, for instance, had shifted its interest payment liabilities from floating to fixed rates at the beginning of the 1980s, it would have suffered severely from the unexpectedly rapid disinflation of the following years. As Mr. Donoso has stressed, hedging on existing markets may serve to amplify rather than to dampen the effects of exogenous shocks on the economy. In any event, the absence of longer-term hedging techniques should not necessarily be taken as a sign of market failure: if exogenous factors influence a country beyond the short or medium term, adjustment by the borrower is undoubtedly the appropriate course. All these considerations lead to the conclusion that one should not exaggerate the benefits which wider use of hedging techniques might bring highly indebted countries.

Developing countries in general do seem not to be making much use of hedging techniques at the moment. Whether they could do much more at the moment cannot be judged without substantially more information, but the example of Chile given in the staff paper does provide some indication of the potential. Eurodollar futures and interest rate caps may have a significant role to play, and I would join with Mr. Templeman in asking whether the staff considers that these are the most appropriate of the various instruments.

As to whether the markets are likely to develop further so that more use can be made of these instruments, again my answer would be very cautious. A market requires not only hedgers, but position takers and arbitrageurs to give it depth, and--while some of these markets are developing rapidly--where there are no deep markets at the moment, it is not clear that any such markets will develop rapidly. Where they do, they may be expensive.

Should officials encourage the development of such markets? Here I would challenge the paper's assertion that there is growing interest in commodity stabilization agreements. I think it is disingenuous to give as evidence the fact that there are six such agreements in existence. Of the agreements cited, the tin agreement collapsed in 1985, the current international sugar agreement contains no price provisions, and the international cocoa agreement has no recent history of maintaining accord on prices among member countries. I would, therefore, conclude

that there is increasing skepticism regarding the benefits of official involvement in markets. The appropriate role for governments lies in policy coordination and in avoiding the policy shocks which led to the economic fluctuations in the 1970s and early 1980s. Regarding both of these roles, the position now is much more favorable than it was during earlier periods.

Clearly, if banks and debtors wish to include hedging as a menu item, one would not wish to stand in their way. Indeed, insofar as existing menus may reduce an indebted country's control over the form of its liabilities as the menu is generally presented for selection by the banks, hedging might serve to reduce such a loss of control. Also, insofar as hedging requires considerable technical expertise, it may be that the banks are able and willing to bear a significant part of that cost. They assuredly have a comparative advantage in providing such facilities, and in providing the technical expertise in assessing such facilities. There does seem to be scope for proceeding with some quasi-hedging techniques, for instance, commodity-related instruments such as oil warrants. And the compensatory and contingency financing facility should not induce a borrower to forgo appropriate use of market-based hedging techniques.

Beyond this, however, we must recall that hedging is only one aspect of financial management. The paper's discussion of self-insurance was interesting, and there is considerable scope for developing analysis in this area. Much of the need for hedging may result from a failure of past self-insurance. Hedging in a sense represents the fine-tuning of financial management: liability diversification and other components of self-insurance are aspects of strategic financial management, and much could be learned from additional empirical work on these areas.

In conclusion, there may well be some scope for increasing the use of hedging instruments by developing countries, but it should probably not be exaggerated. Instances will have to be assessed country by country and instrument by instrument. Hedging can only be a short-run aid, and should not be a substitute for adjustment. Self-insurance techniques and appropriate adjustment are likely to be significantly more important for the future management of the debt strategy.

Mr. Kafka made the following statement:

The factual part of the basic paper--Section II--had no immediately obvious explanation, at least to him. He was puzzled by the greater variability of earnings from manufactured

goods exports of developing countries than of earnings from manufactured goods exports of industrial countries. He had assumed that it was earnings rather than prices that the paper had in mind in the relevant sentence at the bottom of page 7, as the context did not make clear what precisely was meant.

The third section of the staff paper was the most important but also contained the most disappointing conclusions, Mr. Kafka remarked. The section discussed the nature and availability of a large variety of hedging instruments against price and interest rate risks. It was encouraging that instruments such as medium-term caps for up to five years seemed to be available, but their face value did still appear to be very limited. The paper's comments on hedging costs, access to markets, and the complexities and up-front costs involved in the management of hedging operations were also helpful. Subsection 6, on the integration of market-based hedging into adjustment programs, referred to an interesting subject. But he hoped that the staff would not be tempted to invent new performance clauses that would insist on the existence of specific hedges. Any integration had to be entirely voluntary.

The paper offered a useful, though perhaps not indispensable, list of hedging possibilities, Mr. Kafka concluded. On the staff's own analysis, too much should not be expected from their use while other approaches--including debt reduction both for low- and for middle-income countries--still retained a higher priority.

The Economic Counsellor and Director of the Research Department said that the staff paper should be placed in the perspective set by the limitations of self-insurance. Export diversification had been one way in which several countries had tried to eliminate or avoid the costs associated with commodity price fluctuations and changes in external demand. There was, however, an optimal degree of diversification, and production had ultimately to be determined by the principles of medium-term comparative advantage--which suggested that other means of hedging had to be employed. One mechanism would involve the use of the market-related hedging techniques discussed in the staff paper. Moreover, within the broad perspective of the global debt problem--which would not disappear overnight--every possible improvement in debt management techniques should be investigated. In SM/88/233, the staff had focused on the potential usefulness of market-related hedging instruments. The limited scope of the paper had allowed for an examination of the available mechanisms in somewhat greater depth than was usually possible in Board discussions of debt management instruments.

The markets for financial and commodity hedging instruments were still developing, the Economic Counsellor continued. For certain important hedging instruments, one key issue was indeed creditworthiness. In

particular, the lack of sufficient creditworthiness had limited access to the swap markets for various countries. Since interest rate swaps involved an exchange of debt-servicing obligations, they were an effective hedging instrument only if each counterpart fulfilled its debt-servicing obligation. Hence, there could be no escape from efforts to restore creditworthiness, and that was indeed where emphasis should be placed. The question was how to restore creditworthiness, to which there were both long- and short-term answers. In the long term, creditworthiness had to be earned through a country's track record. If, however, a country was not in a crisis situation and needed access to the market, the possibility of collateralization was relevant, and represented a useful mechanism by which the market could get a signal that a country believed that its prospective policies deserved greater creditworthiness than the market currently perceived them to deserve. Moreover, some participants in the market expected that in future, credit risk problems in the swap market could be somewhat reduced through the use of marking to market techniques. That would enable some developing countries to get into the market, as such techniques were equivalent to margin calls in futures markets.

Those considerations led to the key issue of the complementarity of hedging techniques with other existing debt management instruments with efforts by others, the Economic Counsellor observed. For some time, the Fund had adopted the theme that stronger programs deserved stronger financing. One way for the Fund to encourage support for stronger programs and for the political will that they demonstrated was to ensure that programs had and were perceived to have sufficient safety devices to be activated in the case of unexpected shocks. That would encourage countries to undertake stronger programs, and would also encourage greater financial support. Hence, there was a positive relation between stronger programs, stronger hedging needs, and stronger financing.

So far as the complementarity between market-based hedging instruments and the compensatory and contingency financing facility was concerned, it was important to note that the various instruments were designed to deal with different problems, the Economic Counsellor remarked. The instruments had different coverages and different costs, and that made them potentially complementary. For most countries, the compensatory and contingency financing facility only covered a small portion of most contingencies. However, by focusing more attention on contingencies at the start of a program, the facility might encourage rather than discourage greater use of hedging techniques.

Certainly, market-based hedging techniques were complementary with the notion that the coordination of macroeconomic policies by major industrial countries should provide an external environment conducive for progress, the Economic Counsellor considered. In that context, the staff paper addressed questions of interest beyond the heavily indebted countries, to the rest of the Fund's membership.

The allocation and the volume of risks were two distinct questions, the Economic Counsellor commented. It was possible that the entire volume of risk could be reduced through the introduction of proper concerted policies by the industrial countries, together with adjustment by debtor countries. That might lead to more imaginative ways of sharing the risk, as a reduction in the volume would provide an appropriate context for such attempts.

While the staff paper had observed that the total amount of financing would not be increased, it was probably better to say that financing might not be increased, because the total amount could increase if the environment improved, the Economic Counsellor noted. It was probably useful to distinguish between measuring the amount of finance in volume terms and in effective terms. The same amount of finance would be more effective in creating a better environment if it was provided in the context of stronger and more confident policies, in an environment where shocks that might derail a program could be countered effectively.

The question of technical assistance from the Fund, and its relation to the effort of the World Bank in the same area, was in its infancy, the Economic Counsellor and Director of the Research Department remarked. The staff would continue to examine assistance in the context of the availability of resources and developments in that area, taking great care to avoid any duplication with parallel efforts, while recognizing that assistance could provide another useful dimension for a Fund contribution to the debt problem. The staff had noted that Directors had mentioned a number of possible areas for future work--involving, in addition to the staff, the Institute and officials of member countries--as well as the Board. In that context, work on developing the criteria for proper financing and for determining the correct coverage of hedging would receive some emphasis. In the context of the availability of resources, the question of private versus social costs would be examined, together with the possibilities of providing case studies.

The staff representative from the Research Department said that a number of factors supported the staff view that the use of hedging instruments and of the compensatory and contingency financing facility were more likely to be complements than substitutes. First, there was the question of coverage. Some of the contingencies that would be handled by the facility were difficult to handle in private markets. For instance, an unexpected fall in export volume could be a very important element in fluctuations in export earnings, and was much more difficult to handle in the private market. Other examples included changes in migrant remittances or in tourist receipts which would again, in certain cases, be handled under the compensatory and contingency financing facility. Second, a successful hedging operation involving private markets demanded the availability of trained, and highly skilled, staff. Those personnel were scarce in many developing countries. Once again, the staffing requirements for running the compensatory and contingency financing facility on the part of members might be less than for hedging operations. Third, certain private hedging operations required some up-front expenditure. That might not be true with use of the facility.

The staff view was that risks in commodity, financial, and exchange markets were not offsetting, the staff representative from the Research Department continued. For instance, Chart 1 on page 2a of the staff paper showed that the variability of real interest rates--nominal interest rates deflated by the export price--was larger than that of nominal interest rates. In addition, an examination of particular subperiods usually indicated that cases of high commodity price variability correlated with interest rate variability.

The other staff representative from the Research Department commented that the use of market-based hedging instruments in Chile had been part of an overall debt-management program. It had involved the activities of both the Central Bank--the focus of the staff analysis--and the state copper company, as well as changes in Chilean laws to allow for private sector use of those hedging instruments. Hence, the program was very comprehensive. It had also been developed quite carefully in terms of the preparation of a management system and the training of its staff. The hedging program itself had been phased in over time, with smaller hedging operations coming at the beginning.

The duplication of that pattern in other countries would depend on the availability of technical staff, and the willingness to devote the resources to establish the necessary training programs, the staff representative continued. Such programs were being considered or were actually under way in a small number of Asian and East European countries. In many developing countries, some experience in the commodities hedging market was available in various state enterprises or in the public sector.

The scale of hedging activity was still quite limited, and was likely to be limited during any phase-in of such operations, the other staff representative from the Research Department remarked. Hence, current hedging operations by developing countries were small in comparison to both the total stock of outstanding external debt of indebted developing countries and to the overall scale of activities in hedging markets. The staff had searched for facilities available for combining the hedging operations of smaller developing countries, but had not been able to find any.

The Chairman made the following summing up:

> There was broad agreement that the high variability of international interest rates, primary commodity prices, and major currency exchange rates during the 1970s and the 1980s, as well as the sheer magnitude of the external debt of developing countries, had given the management of financial risk in indebted developing countries particular importance and relevance. Most Directors, therefore, welcomed this opportunity to discuss the issues presented in the staff paper and to offer their evolving views on the potential for greater use of market-related hedging instruments by indebted developing countries--it being generally agreed that the use of these technical

instruments could perhaps make a useful but not magical contribution toward the solution of the problems at hand.

Many Directors emphasized that examination of defensive measures against financial risk should not obscure the responsibility of all countries, especially major industrial countries, to implement disciplined and coordinated macroeconomic and structural policies that would enhance stability in the global economic environment. This by itself would substantially reduce the financial risk facing countries, developing and developed alike. At the same time, given the scale of existing external and internal financial imbalances in many countries, the process of restoring greater stability to prices, interest rates, and exchange rates would inevitably take time, and in any case, could not eliminate such risks. Seen in this light, official and private sector arrangements that might help indebted developing countries reduce the adverse impact of external commodity and asset price variability on their adjustment and development objectives merit serious consideration.

In considering the response to external financial risks, many Directors felt that there was limited scope for indebted developing countries to rely on self-insurance measures. While export diversification was an essential development strategy, it could not be employed as a short-term hedge against external risks. In a similar vein, the ability of most indebted developing countries to match external assets and liabilities was restricted by the disproportionate size of their external debts. Also, debt/equity swaps and foreign direct investment were positive elements in the debt strategy and carried the advantage of reducing exposure to interest rate risks, but they were still of relatively limited scale. And international commodity trading arrangements and buffer stock facilities--while providing a multilateral framework for dealing with commodity price volatility--have served as only a partial hedge against large commodity price swings. Finally, I have heard no dissent from the view stressed in the staff paper that putting restrictions on external transactions and moving toward an inward-looking approach was an entirely inappropriate strategy for dealing with external risks.

Given the limitations of self-insurance against external financial risks, many Directors stressed the positive role that the Fund has played and should continue to play in facilitating developing countries' adjustments to external shocks. As indicated by several Directors, the compensatory and contingency financing facility should shield the momentum of adjustment from a broader set of external shocks than can currently be fully hedged against in private markets, and it will do so in a way that does not require the prior expenditure associated with private hedging instruments. But this being said, Directors

cautioned that use of the compensatory and contingency financing facility should be regarded as just one component, albeit an important one, in a country's overall program of adjustment and risk management. In that sense, the compensatory and contingency financing facility and private hedging instruments were seen by most speakers as complementary rather than substitutes. Today, Directors have insisted somewhat less than I expected on exchange reserve management, another very efficient form of self-protection against contingencies. Thus, when developing an economic program and external financing, it is necessary to take into account the uncertainties that a country may face. And this is, of course, central in our responsibilities each time that we agree with a country on a program.

Directors expressed a broad range of views on the usefulness of market-related hedging instruments as an additional means of protecting indebted developing countries from external variability. Most Directors felt that there was scope for increased use of market-related hedging instruments, especially if the breadth and depth of these markets continue to expand. However, the cost of hedging operations versus potential benefits or alternative expenditure decisions should be assessed carefully, and a few Directors were skeptical whether hedging could make a meaningful contribution to the solution of the debt problem. It was also noted that the potential usefulness of any particular hedging instrument would depend--case by case--on the situation confronting a country at a given moment in time. Some countries might find commodity hedging instruments particularly helpful, whereas others might be more attracted to interest rate hedging instruments. Another key factor was a country's ability to gain access to the market for their instrument, access which could be constrained by considerations of creditworthiness, position limits, and again, the cost of using the instrument. In this regard, the recent hedging program undertaken by Chile was cited as an example of the effective use of interest rate hedging instruments as part of a comprehensive debt management program.

A number of Directors argued that there is greater scope for the use of market-related hedging instruments in Fund-supported adjustment programs. Some Directors thought that the provision of interest rate caps by creditor banks could be an attractive addition to the menu of techniques dealing with the debt problem. In that vein, hedging was seen as analogous to parallel financing in complementing the resources available under the compensatory and contingency financing facility. A number of Directors raised the question of how the use of market-related hedging instruments could best be integrated with the use of the compensatory and contingency financing facility.

This is an issue that we will have to return to during, and which will indeed deepen, our forthcoming review of that facility.

Some Directors were less optimistic about the prospects for greater use of market-related hedging instruments by indebted developing countries. They pointed to the insufficient volume of activity in hedging markets, especially for the maturities most relevant for indebted developing countries; the high cost of obtaining an adequate degree of protection; and the difficulties involved in effectively managing and controlling the use of such highly leveraged instruments.

Many Directors emphasized the importance of the ongoing education process on the management of financial risks. In addition to the possible publication of the staff paper--after review to incorporate views expressed by Directors--it was suggested that we consider holding a seminar on the subject for expert officials of developing countries. The importance of technical assistance by the World Bank in this area, and possibly by the Fund, was also noted. Within the limitation of staff resources, we will keep this subject under review and see whether, as was suggested by some of you, a progress report in a year or so would be useful.

DECISIONS TAKEN SINCE PREVIOUS BOARD MEETING

The following decisions were adopted by the Executive Board without meeting in the period between EBM/88/156 (10/21/88) and EBM/88/157 (10/24/88).

2. GUINEA-BISSAU - TECHNICAL ASSISTANCE

In response to a request from the authorities of Guinea-Bissau for assistance in the central banking field, the Executive Board approves the proposal set forth in EBD/88/288 (10/17/88).

Adopted October 21, 1988

3. EXECUTIVE BOARD TRAVEL

Travel by an Assistant to Executive Director as set forth in EBAP/88/252 (10/20/88) is approved.

APPROVED: April 25, 1989

LEO VAN HOUTVEN
Secretary