0404

INTERNATIONAL MONETARY FUND

Minutes of Executive Board Meeting 87/173

10:00 a.m., December 16, 1987

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

Executive Directors	Alternate Executive Directors
A. Abdallah	A. G. A. Faria, Temporary
Dai Q.	
C. H. Dallara	
J. de Groote	
	E. V. Feldman
M. Finaish	A. M. Othman
	B. Goos
J. E. Ismael	J. Reddy
A. Kafka	
T. P. Lankester	S. King, Temporary
	D. McCormack
	C. V. Santos
	I. A. Al-Assaf
	A. Ouanes, Temporary
G. Ortiz	L. Filardo
	M. Fogelholm
H. Ploix	
G. A. Posthumus	G. P. J. Hogeweg
	C.-Y. Lim
G. Salehkhou	O. Kabbaj
A. K. Sengupta	L. E. N. Fernando
	N. Adachi, Temporary
	S. Rebecchini, Temporary

L. Van Houtven, Secretary and Counsellor
K. S. Friedman, Assistant

Also Present

African Department: T. K. Morrison. Central Banking Department: D. R. Khatkhate. European Department: D. C. McDonald. Exchange and Trade Relations Department: L. A. Whittome, Counsellor and Director; S. J. Anjaria, E. Brau, G. G. Johnson, S. Kanesa-Thasan, D. Lee, D. Puckahtikom. External Relations Department: P. C. Hole, H. P. Puentes, E. Ray. Fiscal Affairs Department: V. Tanzi, Director; A. A. Tait, Deputy Director; S. K. Chand. IMF Institute: A. Lanyi, Deputy Director; P. R. Rado. Legal Department: J. V. Surr. Research Department: J. A. Frenkel, Economic Counsellor and Director; A. D. Crockett, Deputy Director; N. Haque, E. Hernández-Catá, M. S. Khan, M. S. Kumar, F. Larsen, E. C. Meldau-Womack, P. J. Montiel, P. Wickham. Western Hemishphere Department: S. T. Beza, Director; J. Ferrán, Deputy Director; L. L. Pérez. Personal Assistant to the Managing Director: H. G. O. Simpson. Advisors to Executive Directors: K.-H. Kleine, P. D. Péroz, P. Péterfalvy, G. Pineau, Song G., D. C. Templeman, A. Vasudevan, J. E. Zeas. Assistants to Executive Directors: J. R. N. Almeida, E. C. Demaestri, W. N. Engert, S. K. Fayyad, C. L. Haynes, G. K. Hodges, L. Hubloue, A. Iljas, V. K. Malhotra, C. Noriega, S. Rouai, D. Saha, G. Schurr, I. Zaidi.

1. PROGRAM DESIGN - GROWTH EXERCISES

The Executive Directors considered staff papers on issues in the design of growth exercises (SM/87/267, 11/17/87) and financial programming and growth exercises (SM/87/268, 11/17/87). They also had before them a staff paper on growth-oriented adjustment--themes from the World Bank/IMF symposium (SM/87/269, 11/17/87).

Mr. Lankester made the following statement:

The staff has provided us with an interesting and stimulating set of papers. I would like to start with a few comments on some theoretical and empirical issues before turning to the implications for the design and monitoring of Fund-supported adjustment programs. Finally, I draw some broad conclusions.

The staff has concisely set out the basic growth models. Not surprisingly, these do not deal with many of the practical problems which confront governments when they are seeking to design an adjustment program. We need to bear these factors in mind when we apply such models to the sorts of situations we commonly encounter.

The models described by the staff were originally intended to account for changes in growth rates in a country over time. They were later used to investigate the causes of the differential growth rates among the major industrial countries in the 1950s and 1960s. It is probably true to say that they have had a mixed record. As the staff notes, empirical studies have often found that total factor productivity played a crucial role in "explaining" the differences in growth rates between countries. This variable is the residual in the model. Consequently, the model has often failed to capture a significant part--if not most--of the growth process we are investigating.

Furthermore, these models were designed (and in some ways are best suited) to examine growth performance over the medium to long term during which differences between potential and atual output are assumed away. In the short term, this distinction will be of considerable importance. Another way of putting this point is that these models are essentially concerned with the transition from steady state equilibrium to another. They are not necessarily well suited to modeling the dynamics of short-term disequilibrium. There must therefore be some doubts about how effective they are likely to prove in forecasting short-term output trends. We need to be cautious before we apply such models mechanistically to economies undergoing shocks of one form or another. In such circumstances, parameters estimated on the basis of historical relationships may prove a poor guide.

I would question, at least to some extent, the realism of the fixed ICOR approach. It seems to me that this ignores many of the key issues facing policymakers. Where one factor of production (say, labor) is in excess supply and other (capital) is supply constrained, changing their relative usage is presumably an important objective.

The staff correctly notes the general importance of confidence effects in the short term. I hardly need to say that whether--at the margin--additional resources are used for domestic investment or capital flight will crucially depend upon the private sector's confidence in the authorities' policies. This raises complex questions for economic modelers but they are not issues which we can ignore. They are clearly crucial in many of the situations faced by the staff. In this connection, I note that in practice there may well be important nonlinearities which policymakers will need to take into account. It seems to be the case, for example, that once access to external finance is lost, it may take some time to be regained even if the economy has in some sense regained the precutoff position.

There is also the more general point that, even if we could be confident that additional investment financed by external finance would produce higher growth rates, the additional external finance may not be available. Alternatively, it may not be wise for the country in question to take on further debt. More specifically, there will be situations in which the Fund may in effect be asked to "finance" additional investment and growth; yet it would be unwise for the Fund to do so because of doubts about the country's ability to service the incremental debt.

The last theoretical issue I would like to raise concerns the intertemporal trade-offs. In many cases, firm adjustment measures will raise the growth rate over the medium term, albeit possibly at some short-term output cost. It would have been interesting (if rather potentially complex) to have tried to incorporate this into the analysis.

I believe that there is a general case for our giving more critical attention to the quality of statistics reported in staff papers. When they carry out their own analytical work, I am sure that governments are generally well aware of the particular defects in the statistics. It might be salutary for the staff to present confidence estimates for key statistics. I would imagine, for example, that some monetary statistics should be accurate within small margins whereas the errors for GDP statistics may be considerably larger. Capital stock estimates--where they exist--presumably need to be treated with even more caution. I suspect that in some cases in which the staff estimates growth at 2 percent, this means that we can be reasonably

confident that the true value lies somewhere in the minus 1 percent to 5 percent range. We should treat modest year-to-year fluctuations in the growth rate accordingly.

These caveats clearly apply to much of the data required for growth planning exercises (e.g., the capital stock and the labor supply). It might be instructive for the staff, when it carries out such work, to show how the model it is using has tracked in the past.

The staff also correctly emphasizes the difficulty in estimating the lags associated with structural policies. That is not, of course, to deny the importance of such policies or their desirability.

As a practical matter, I suspect that in many cases the most effective way of increasing the growth rate is to improve the efficiency with which the existing factors of production are utilized. This certainly seems to be one of the lessons from improvement in the United Kingdom's relative economic performance in recent years, which has partly reflected a marked improvement in the total factor productivity growth. The models presented by the staff have relatively little to say about how governments should go about improving total factor productivity. Policies to promote better resource allocation through removing distortions and promoting competition obviously have considerable potential. Furthermore, I would also attach considerable importance to the beneficial impact of achieving greater macroeconomic stability. A prolonged rise in investment may well be difficult to achieve--whatever financing is available--against the background of high and/or rising inflation. Any realistic growth programming exercise would have to take these factors fully into account.

Where a government wishes to try and move on to a higher steady-state growth path, an increase in the growth rate of the capital stock will often be required. The growth models cited by the staff, however, tell us very little about the dynamics involved in engineering such a shift. One approach which might be adopted is to try to increase the investment ratio to the level which is believed to be appropriate in the longer term and then hope that the economy will adjust to reach the desired new equilibrium. In practice, however, things will be more complex than this, and this approach may not always be the optimal one. Governments generally will need to exercise judgment in deciding how to move toward their medium-term objectives.

I would draw three conclusions. First, the Fund must be concerned with promoting growth. Adjustment programs which strengthen the balance of payments without laying the basis for growth are not sustainable. This will generally require a

combination of appropriate financing and structural reform, although the exact mix will obviously depend upon the circumstances in the country concerned.

Second, the Fund needs to advise members on the adjustment paths which are most likely to lead to growth over the medium term. The Fund should be very cautious in trying to set short-term growth targets. Our understandings of the relationships involved in this area mean that any such estimates must be subject to a wide margin of error. Statistical deficiencies only underline the uncertainties in this area. I continue to have doubts about the ability of governments to fine-tune short-term growth. The most governments can probably do is to create the conditions which should lead to growth over the medium term.

Third, in many cases, improving total factor productivity may be the most effective way to increase output in both the short and medium run.

Mr. de Groote made the following statement:

I will make some general comments before turning to the specific issues raised in the staff papers. When we discuss growth exercises in the context of Fund-supported programs, we should bear in mind that there is a fundamental difference between growth-financing exercises and growth-adjustment exercises. I will simplify the matter somewhat in order to make my point clear: the G-24 proposals that gave rise to today's discussion were based on the premise that the achievement of growth objectives depends directly on the availability of adequate financial resources, while the achievement of balance of payments objectives results from adjustment policies that are specifically directed to that end. The growth-adjustment exercises that are presented by the staff do not make this distinction; they are based instead on the assumption that the amount of external financing is fixed, and that the goals of growth and external viability are to be pursued by reinforcing and broadening traditional adjustment policies.

While both the financial and adjustment approaches have their merits, each has important limitations, as each fails to take into account the synergically reinforcing effects of adjustment and financing on one another in the context of Fund-supported programs. Income growth can be accelerated through external borrowing only if it is supported by sound policy reforms to improve the allocation or resources and increase the productivity of investment capital. Conversely, the restoration of external viability requires both financing and growth sufficient to release the resources needed to service foreign debt. This basic complementarity between strong adjustment and strong

financing lies at the heart of the Fund's most successful programs and should be present at every stage of a member country's preparation and implementation of Fund-supported policies. Accordingly, at each stage, discussions of the member country's growth and balance of payments objectives should aim not to determine whether adjustment should be preferred over financing, or financing over adjustment, but rather what mixture of the two is most appropriate under various circumstances.

I will now address some of the specific issues raised in the staff papers. I strongly support the general notion of growth exercises aimed at producing results that a country's authorities can use in discussing with the international creditor community the amounts of external financing required to support growth-oriented adjustment programs. On previous occasions, I have proposed that the banks might be persuaded to adopt more constructive and farsighted views on their role in the debt strategy if they were given an outline of the financing that it is anticipated that a country would require to realize its legitimate growth and investment goals and its adjustment intentions. Such program outlines would include significant inputs from both the Fund and the World Bank, provided in the course of the exercise of each institution's responsibilities, and would enable a member country to negotiate future financing agreements on the basis of general economic policy plans rather than on the narrower basis of projected financing gaps.

Of course, in order to be effective, the growth exercises that are intended to support such negotiations should include all relevant elements, especially the cost of servicing foreign debt. In this connection, the staff proposes two essential extensions of the G-24 proposal, namely, focusing on potential GNP rather than on GDP, and incorporating a relationship between the level of foreign debt and the cost of borrowing abroad. In general, these extensions lead to the proposition that the income growth of a country can be increased by further borrowing only as long as the productivity of capital exceeds the cost of borrowing. This proposition has important implications for the design and potential use of growth exercises.

A first group of those implications arises from the automatic introduction of the adjustment component into the growth exercises through the inclusion of borrowing costs. Because the growth of national income is constrained by the cost of borrowing, rather than rates of productivity, growth programs will always have to include policies aimed at increasing productivity through improved resource allocation and the encouragement of domestic savings as an alternative to foreign borrowing. In other words, income growth can be ensured only as long as the expansion of foreign borrowing is associated with steadily increasing productivity and savings; obviously, these increases can be obtained only through structural policies.

Accordingly, if the Fund is called on to address explicitly growth objectives in its programming exercises, programs will have to include structural reforms that place potentially heavy demands on a member country's overall adjustment efforts. Therefore, these growth elements should widen the scope of conditionality in Fund-supported programs, contrary to the G-24 recommendations. Moreover, given the interrelation between income growth and structural adjustment actions, discussions on the required level of financial flows will be meaningless unless they are based on a dynamic view of the country's general adjustment prospects.

A second set of implications of the staff's discussion of growth exercises has to do with the inverse relationship that the staff suggests exists between a country's income growth and its level of external debt. Because rising debt, in relation to GNP, limits the resources that can be released for servicing foreign debt, future borrowing will carry a risk premium that will adversely affect the contribution of borrowing to the country's income growth and which will have a feedback effect, increasing the perceived risk of further borrowing. Many of the problems facing countries that have a debt overhang, and the banks' reluctance to step into any new lending commitments, can probably be traced to these simple relationships. It follows from these relationships that strong adjustment is an essential component of any possible debt strategy. In addition, this adjustment can succeed in restoring a country's creditworthiness only if it is aimed at achieving higher growth rates that will facilitate the servicing of foreign debt. It is this growth orientation that is at the heart of the Baker plan, and which has made possible the rapid adjustment in countries like Turkey.

I will now comment on some of the more specific policy implications of including growth exercises in Fund-supported programs. Structural reforms will be vitally important for achieving legitimate growth objectives within the overall context of Fund-supported policies to achieve external adjustment. This notion is implicit in the growth/financing programming model prepared by the staff. It is striking that most of the parameters of this model that have a direct impact on growth, such as general import and export behavior, the capital/output ratio, and the private savings rate, are strongly influenced by structural policy conditions affecting a country's resource allocation and general productivity performance. That these conditions cannot be left outside the scope of Fund-supported programs is now generally accepted; the real difficulties seem to arise from their systematic and explicit incorporation into the design and monitoring of Fund arrangements. These difficulties are due partly to the large statistical and empirical gaps that were mentioned by Mr. Lankester and, perhaps even more importantly, to the large unknown territory in the area of interactions and

transmission mechanisms of structural reform actions. This issue will be the subject of discussion in the near future. In any event, the monitoring of structural adjustment programs has to focus more on the appropriate timing and sequence of reform actions, because it is often not possible to observe and quantify all the elements in the chain of causes and effects.

In discussing the role of fiscal policy in growth exercises, the staff has appropriately excluded the protection of public investment outlays from the general principle that policies to reduce fiscal deficits are beneficial for both growth and current account adjustments by virtue of their positive effect on aggregate saving and private sector activity. Although I generally support this principle, the staff should continue to explore possible ways in which to protect outlays for public investment programs more effectively within the Fund's overall ceilings for reducing domestic absorption. Previous exchanges of views with the staff on this issue have convinced me that this objective could be most appropriately pursued by earmarking a given share of government revenue for priority investment outlays, as was suggested during the recent discussion on the staff report for the 1987 Article IV consultation with Morocco. Such authorized investments could be protected through the life of the program by flexible monitoring of the fiscal ceilings: unexpected shortfalls in general government revenues could be temporarily offset by raising the program's fiscal ceilings, thereby avoiding disorderly cuts in capital expenditure and disruption of the country's growth objectives.

Mr. Ismael made the following statement:

The successful integration of growth-oriented policies into the design of Fund-supported adjustment programs is important for all member countries. The stakes involved are very high; they include not only the timely repayment of Fund resources, but also the future well-being of millions of people in the countries concerned. Given the interdependence of countries, the stability of the global financial system and the interest even of creditor countries can best be promoted through successful growth-oriented adjustment programs. I agree with the staff that more systematic use of growth exercises would be useful in Article IV consultations with countries that are not undertaking Fund-supported adjustment programs.

The models described by the staff for the design of growth exercises and financial programming with a growth objective are interesting and provide useful and consistent frameworks for analysis. However, we need to recognize their limitations in modeling the many complexities of the real world of national macroeconomic management for sustained development. As the

staff emphasized, the usefulness of the models depends greatly on the spirit in which they are used: they should not be applied mechanistically; and they should be used only to provide a consistent framework in which judgment can be used on a case-by-case basis. The uncertainties about the behavioral parameters and exogenous variables certainly call for considerable caution and judgment in using the models. In this connection, I fully agree with Mr. Lankester's comments on the theoretical issues that he raised. Modelers often assume smooth, continuous functions of behavioral parameters, while, in reality, these functions are often discrete, noncontinuous curves with jumps at the margins because of confidence and other factors.

The empirical evidence that the contribution of total factor input to growth is more important in developing countries than in industrial countries emphasizes the priority that has been given by the Group of Twenty-Four to the external financing requirements for growth. This area deserves more emphasis in Fund-supported programs.

The distinction between GDP and GNP is important, as in many cases growing per capita income is essential to sustaining adjustment efforts. Fund-supported programs should emphasize growth of GNP rather than GDP, taking into account not only interest payments but also net factor outflows. The more comprehensive definition of GDP would also make transparent the cost of foreign direct investment, especially in cases in which remaining domestic distortions "guarantee" continuing large profits and dividend remittances. In such cases, foreign direct investment can be more costly than external borrowing.

Using the concept of GNP would usefully emphasize the importance of world interest rates--and, by implication, better macroeconomic and financial management in the major industrial countries--in determining the growth of incomes in developing countries. Similarly, the Fund may need to explicitly recognize the domestic costs of exchange rate devaluation, especially in heavily indebted countries.

The growth exercises confirm that Fund-supported programs have generally emphasized the appropriate policy areas, namely, domestic resource mobilization, external resource management, and structural adjustment measures that increase the efficiency of resource use. However, the long lags between the implementation of structural measures and the evidence of their impact mentioned on page 17 of SM/87/267 call into question the appropriate maturity of Fund lending. The provisions of the structural adjustment facility and the enhanced structural adjustment facility address this issue for low-income countries, but countries that are not eligible to use these facilities also have to

undertake structural adjustment. There is much to be said in favor of substantially increasing the portion of World Bank resources that are devoted to supporting structural adjustment.

The staff should undertake the studies, highlighted in the conclusion section on page 16 of SM/87/268, that are designed to strengthen the analytical foundation of growth exercises. There is certainly much more that we need to know about the behavioral relationships among key macroeconomic variables in developing countries. In this connection, I wonder whether more work could not be done in the context of Article IV consultations. Article IV consultation reports for the major industrial countries contain a substantial amount of supplementary work on key macroeconomic issues, but similar work is rarely done for developing countries, which have a much greater need for such studies because of the inadequate economic expertise in those countries.

The Fund would probably find it difficult to move away from its short-term orientation despite the recent emphasis given to growth in adjustment programs. The World Bank staff is already participating in joint missions to prepare the policy framework for programs supported by arrangements under the structural adjustment facility. I wonder whether the World Bank staff could not usefully participate in negotiations on adjustment programs under facilities other than the structural adjustment facility and in Article IV consultation missions to countries where strengthening of growth is important. Joint missions would provide a better orientation toward growth and would enhance cooperation between the Fund and the World Bank.

Growth exercises should be featured more importantly in the Fund's training programs, especially the courses on financial programming and analysis. In addition, the number of such courses should perhaps be increased, so that more officials from developing countries can be trained in the important discipline of promoting growth-oriented adjustment.

Given the importance of exogenous variables in the design of growth exercises and the uncertainties that they can generate, there is much room for improvement in the forecasts in the world economic outlook exercise. The forecasts might have been good in the areas of growth and inflation in the industrial countries, but forecasts of developing country exports have been widely off the mark, basically because the "usual" assumptions of unchanged exchange rates and constant commodity prices were obviously unrealistic in 1985-86. At the least, alternative scenarios of different exchange rates and commodity price levels should be examined in the world economic outlook exercise.

Mr. Ortiz made the following statement:

It is widely recognized that economic growth is essential to ensure medium-term balance of payments viability. Therefore, the design of Fund-supported programs must be oriented toward growth in order to comply with the Articles in general, and to safeguard the revolving character of the Fund's resources in particular.

The staff has initiated a serious effort to develop a theoretical framework that would enable the Fund to design programs to achieve adjustment and growth. I strongly support this line of research. This discussion is taking place at the beginning of the research process, and the papers under review constitute what is essentially a work program. I will comment first on the broader issues at hand and the overall orientation for future research.

In considering the overall orientation of future research, we must first acknowledge the existence of the perennial trade-off between making models more realistic--which usually implies added features and complexities--and the need to give the models an operational content. The models initially presented to the Executive Board should attempt to focus more precisely on some key problems facing developing countries that have not been adequately dealt with in the past. In the next stage, the models can be simplified, perhaps by retaining their most relevant characteristics. The models should further explore the external debt problem, the promotion of exports, and the structure and involvement of the public sector in economic activity.

In SM/87/267, foreign debt is introduced to distinguish GNP from GDP and to suggest that, unless the domestic rate of return exceeds the international interest rate, foreign savings will not contribute to the growth of potential GNP. This outcome is well known. Merely adding external financing does not automatically produce economic growth; domestic savings must be increased, and economic efficiency must be improved--in other words, total factor productivity must be raised. At the same time, the debt problem is too complex to be modeled in a simple fashion. However, at least the main characteristics of the debt problem could be included in the model. For example, with respect to outstanding debt, the market discount or the proportion of debt that a country may service regularly, could be introduced as a parameter or a policy instrument in order to analyze the relationship between external resource transfers and income growth. With respect to new borrowing, institutional constraints, such as risk valuation by lenders, or regulations in the foreign markets of creditor countries, limit the flow of foreign savings through ceilings or surcharges; presumably these depend on the relative level of debt. By introducing these feedback relationships,

one can make foreign credit an endogenous variable, thereby helping to determine the optimal level of foreign debt in current circumstances.

A second general topic that is not developed thoroughly in the models presented in the staff papers is export promotion. In both models it is assumed that exports are determined exogenously, although a footnote indicates that work on making exports an endogenous variable is under way. This point is worth emphasizing because the Fund often appears to be supporting export-oriented growth, but in this preliminary model, the only way to adjust for external disequilibria is to compress imports rather than to expand exports, except indirectly, through the exchange rate. The models would benefit from more work in this area.

The issue of the size and role of government cannot be neglected, even at this preliminary stage of the analysis. The public sector described in the model corresponds essentially to a central government that has a limited impact on the economy; the government affects overall investment through variations in disposable income and public expenditures. However, in most developing countries, the parastatal sector plays a large role in the economy, and the operation of public enterprises is sometimes geared toward attaining inflation targets, subsidizing consumption, or developing certain activities. These objectives usually affect the overall level of public expenditure and/or revenue and, through the fiscal deficit, domestic credit expansion.

Several steps could be taken to modify the model so that it would describe economic relations more realistically than at present. For example, domestic credit to the public sector could be included as an endogenous variable. In addition, the model could include a third type of goods whose price would be fixed within paramaters in order to capture short-term inflationary effects of pricing decisions; in turn, the real price would affect public savings. In the financial sector, the demand for domestic and foreign assets could be made a function of the level and composition of public debt.

In its discussion of the methodology for projecting output, the staff has candidly spelled out all the shortcomings associated with the use of the incremental capital/output ratio. For most developing countries, data restrictions prevent the use of a production function. At the same time, some empirical tests of the two-gap model have identified imports as a variable that directly affects output and implicitly associate the amount of imports with the availability of foreign exchange. Although the link between foreign exchange constraints and imports might not hold in practice because of the existence of other constraints on imports, such as tariffs or other commercial policy measures, the model could be broadened to make output a function of not

only investment, but also imports. This approach would be halfway between an incremental capital/output ratio and a production function.

It would be desirable to include the interest rate as a channel of transmission between the domestic real and financial sectors, and between domestic and external variables. Interest rates figure prominently in the Fund's advice for stimulating domestic savings, or reducing absorption, but the staff's model does not describe the way in which this variable affects savings. In the model, savings are affected only through increased public savings. Investment, too, could be made a function of the interest rate in order to depict the trade-off that results from a policy of maintaining high real interest rates. An alternative transmission mechanism between financial and real variables could be to make output in the short term dependent on credit flows; the present structure of the model does not allow for any relationship between credit expansion or contraction and the behavior of real output in the short run. This point is significant because even in the financial programming model there is no relationship between credit contraction and economic activity in the short run. The assumption underlying the model is that prices are flexible.

At the theoretical level, a shortcoming of the model is the assumption that an increase in government savings is "free" in the sense that it does not crowd out private savings. Although the staff recognizes this point and although there is no conclusive empirical evidence on the basis of so-called Ricardian equivalence theory, it is clear that an increase in public savings has at least some offsetting effect on private savings. Overall savings cannot be increased indefinitely by continued increases in the budget surplus or reductions in the budget deficit. There should be an offsetting coefficient, perhaps of a value less than one.

My final comment on the integration of the growth and financial programming models is that the staff has described in detail in SM/87/268 the process, or "critical route," by which each of the simple models is independently applied. For example, when dealing with the financial programming model, one needs to reconcile the balance of payments that is implied by the value resulting for the exchange rate, with a target value for the balance of payments. If the outcome is not satisfactory, the policy variables should be modified. A similar guide for implementing the integrated model is not provided by the staff, perhaps reflecting the comparatively little experience with this model, and it is useful to consider how to apply this approach to a concrete case.

One way would be to start, on an experimental basis, cooperation between the Research Department and area departments in designing from its inception a concrete program, which would then be used to discover the practical problems with the proposed model. At present, there appears to be little input by the Research Department into the work of the area departments on the design of programs. I recognize that the model that eventually will be applied will have to be very simple, but this does not contradict the suggestions for further developments of the model that I have mentioned; only a more comprehensive model can identify the relevant behavioral relationships and serve as a reference for interpreting the results of a simpler model.

Mr. Kafka made the following statement:

I agree with most of the comments that have been made by previous speakers. I will not focus my comments on the theory of growth, but rather on the practical problem of how to make Article IV consultations and staff papers more useful in meeting member countries' growth objectives.

The staff paper on financial programming and growth rightly stresses the fact that an integrated approach that addresses both financial targets and real growth requires more information on behavioral parameters and other relationships than an exclusively financial programming framework. As a result, an additional difficulty is introduced into the exercise.

If we are to employ the integrated approach, additional work will have to be done on the behavioral parameters involved and the other relationships that are mentioned in the staff paper. I see no reason for the Fund not to engage in this additional work. It is particularly fortunate that we are discussing this matter before the next discussion on the budget. This timing draws our attention to the fact that engaging in the studies mentioned in the paper will likely have budgetary consequences, especially if the additional studies are to become available over a not excessively long period. Therefore, a decision may have to be made whether to expand our work load or to compensate for the additional studies on the parameters and other relationships by reducing other research; if the latter approach is taken, a decision on which kinds of research to reduce will have to be taken.

In addition to the Fund's own data, a considerable volume of additional information will be required of member countries. While this is their responsibility, the Fund as an institution could, and probably should, help to prepare statistical development programs for members that would yield the additional information required.

The preparation of research programs and the deployment of information that is already available in some member countries to improve our knowledge of behavioral parameters and other relationships--including those mentioned on pages 12-14--can and should proceed at the same time. The preparation of a statistical program for member countries and a program of research on the relevant parameters and other relationships using information from member countries that is already available could be the first two items that we examine as a follow-up to the present discussion.

However, it should be borne in mind that even our knowledge of behavioral relations relevant to purely financial programming is by no means perfect. Considerable additional work in that area may well be necessary.

In the staff paper on issues in the design of growth exercises, the emphasis on the need for additional data and estimates of behavioral parameters and other relationships is repeated. However, that paper also includes a number of generalizations about the behavior of economies, some of which are well established or are at least intuitively appealing, while the validity of others seems to be more doubtful.

Among the more helpful and well-established generalizations are those referring to the limits on the promotion of growth by means of capital imports. A less well-established generalization refers to one aspect of this relationship, namely, that foreign borrowing and foreign capital seem to be implicitly pictured in the staff paper as close substitutes for domestic capital and, therefore, as being subject--other things being equal--to diminishing returns. This may not be so, since foreign capital often appears in combination with other imported inputs, such as management, technology, and market access--if it is correct to call the latter an input.

Another question concerns the simple dichotomy of fiscal and structural policies that the staff mentions as being relevant to achieving higher savings and higher productivity and to reducing the cost of capital; monetary policy certainly is not usually called a structural policy.

Still another question suggested by the staff paper concerns the apparently underlying belief--mentioned on page 11--that the price system is always Pareto optimal, which apparently denies even the possibility of market failure.

Mr. Faria made the following statement:

The two staff papers have been prepared in response to a specific proposal by the Group of Twenty-Four on the integration of growth-oriented policies into the design of Fund-supported programs in a medium-term context. The staff is to be commended for at least attempting to provide insights into a difficult area where casual views sometimes are not adequately supported by policy-based analysis and data. However, it is useful to recall the concerns behind the G-24 proposal in order to evaluate whether they have been met. The proposal reflected the strong feeling in developing countries that Fund-supported stabilization programs emphasize short-term adjustment through the manipulation of financial variables in order to influence aggregate demand. In so doing, the programs pay less attention to growth prospects, as there is less emphasis on the elaboration of longer-term structural policies that would promote the growth of aggregate supply. The result of that emphasis is to achieve a short-term reduction in financial and external imbalances but at the expense of the longer-term dampening of growth prospects because of the resulting increase in the cost of borrowing for investment and the compression of real imports. An additional complication is the intensification of the external debt problem because of restricted demand-management policies introduced by capital-exporting and commodity-importing industrial countries during the 1980s.

In effect, it seems to me, the G-24 report was attempting to invite the staff to engage in new, perhaps adventurous, thinking on how to formulate a revised operational approach to programming that takes explicit account of growth.

I will now comment on specific issues raised in the staff papers. In SM/87/267, the staff attempts to examine the various factors that influence growth by using a neoclassical production-function approach that is well known in the literature. Of course, the literature also raises the question whether this approach, particularly as it relates to the measurement of the relative importance of factor input and factor productivity in ensuring potential output growth, models the growth process in an analytically dynamic and operationally meaningful way; this is especially true when a simplistic attempt is made to extend its application to developing countries where capital constraint and the severe bias of factor proportions toward excessive labor supply mean that factor substitution possibilities are relatively limited. A more substantial point, of course, is how such a basic production-function approach--whether used in the form of a fixed coefficient or a constant elasticity of substitution model--can be used to capture growth potential within a Fund-supported program.

The use of the basic incremental capital/output model, of which the savings-gap approach used in the G-24 report is a numerical extension, and the associated need to support it with direct measurement, have led to a regrettable shortening of the qualitative policy discussion of some valuable insights for Fund programming.

The first insight is the relatively greater contribution of total factor inputs, particularly capital, relative to that of total factor productivity, in stimulating output increases. I recognize that in the production-function approach, multifactor productivity can be measured only imperfectly and as a residual. Fund-supported programs, in conjunction with World Bank-supported programs, need to examine more closely how, in a situation of relative scarce savings and unlimited labor, growth can be fostered through both a better mix of capital and labor and more efficient utilization of existing capacity. Other insights into Fund-supported programs can be seen as a result of the useful extension in the staff paper of the two-gap approach to accommodate debt servicing.

A second finding is that high levels of foreign debt tend to reduce the favorable impact of a depreciation of the currency on GDP while increasing the effect on the external current account as measured in foreign currency terms. This finding is particularly interesting, in view of the often-heard complaint that the Fund's prescription for changing relative prices between the tradable and nontradable sectors to promote external balance does not lead automatically to growth in debt-distressed countries.

A third finding is that for large values of the ratio of debt to GNP, increases in foreign savings--on the assumption that such increases are perfectly elastic with respect to interest rates--might in fact lower the growth rate of national income even if the marginal productivity of capital exceeds the marginal cost of borrowing as represented by the world interest rate. This result, which seems to be inconsistent with what might appear to be true intuitively, is crucial to the formulation of a debt strategy under Fund-supported programs, because it seems to imply that balance of payments viability is being secured at the cost of output growth. For example, it would be conceptually useful to consider what grace period and lower marginal rate of borrowing would unambiguously promote growth in a sensitivity analysis. In the event, Fund-supported programs would, as is now the case with structural adjustment arrangements, need to explore how, at least for the low-income debt-distressed countries, longer grace periods could be made available and an increased negative spread between the borrowing rate and the world market interest rate could be ensured. It is regrettable that, having developed these valuable insights, the staff does

not venture to expand on them, but is content, after identifying them, to retreat into the analytical safety of the theory of optimal borrowing.

Once the staff recognizes in its paper that growth objectives cannot be solely, perhaps even largely, achieved through foreign financing, then what is generally a relatively closed economy analysis, albeit applied to essentially open economies subject to strong exogenous pressures, becomes even more restrictive in nature; what follows in the paper is a fairly standard analysis of how potential output growth may be achieved through the operation of fiscal and structural policies on the level of domestic savings, total factor productivity, and the cost of capital, all in line with the traditional production-function approach. It would have been useful to have had at least some discussion, with an operational bias, which emphasized policy priorities and implementation sequencing based on the likely impact and domestic implementation capability.

A striking example of the slight unrealism of this exercise is the discussion on page 14 of the role of fiscal policy in a growth context and as seen in the light of the theory of optimal borrowing: "If the government faces a binding constraint on the amount of taxes it will collect for political reasons or reasons of inefficiencies in the tax system, the policy prescription is altered in the following way: external borrowing by the government should proceed up to the point where the marginal product of capital exceeds the cost of borrowing abroad by a factor that is inversely related to the maximum average tax rate that is practically attainable." I have no doubt that this conclusion is conceptually valid or that it can be formulated algebraically; but I would suggest that it has little operational significance.

In contrast, Section 5 of the paper contains useful insights into the trade-offs in policy implementation. Two important considerations in growth programming exercises are the elements of uncertainty introduced by the fiscal structural policy mix and the indeterminancy that this uncertainty generates because of the fundamental Tinbergen modeling principle of numerical equivalents between instruments and targets. From an operational perspective, it is not clear to me how the staff arrived at the conclusion that there is an essential complementarity between structural and fiscal policies in the presence of a defined growth objective.

Given the much criticized short-term bias of Fund-supported programs, it is sobering to be told that the one-time-only impact and lagged effects of structural policies take time to manifest themselves. We need to think more about this conclusion in the context of our structural adjustment programs, particularly arrangements under the structural adjustment facility and the enhanced structural adjustment facility.

I will now comment on the staff paper on financial programming and growth exercises. As the paper itself notes at the outset, its relationship with its companion paper is tenuous, as the role of total factor productivity in the growth process and issues of foreign debt and its servicing are excluded from consideration. Therefore, in a simplistic sense, one might say that the staff's model is a mere extension of the previous financial programming models in which potential output is now defined as GDP, rather than GNP as in the previous paper, with its level being straightforwardly derived from an incremental capital/output relationship that embeds multifactor productivity within factor inputs rather than showing them separately as a residual.

A model is established with the self-stated virtues of transparency and applicability, and it is numerically solved by being condensed into two relationships about the change in output and the change in price. I cannot be sanguine about the operational validity of this model in terms of meeting the G-24 report's specifications, although, to be fair, I recognize with the staff that a nonmechanistic application is clearly warranted to compensate for known data and analytical limitations. While this is neither the time nor the place to go more deeply into an analysis of the theoretical underpinnings of the model, I wish to make several observations.

First, there are two aspects to the growth exercise. One concerns the creation of capacity through investment, which is discussed in the staff paper. The other, which is not dealt with in the staff paper, concerns the problem of ensuring that aggregate demand is adequate in relation to potential aggregate supply, so that underutilization of capacity does not occur. The distinction between the two growth exercise aspects is significant, because in the model the slack from excess supply conditions generated by a tight credit stance is assumed to be eliminated through downward price flexibility. However, I doubt whether there is an incentive to invest and to expand potential output when prices are sticky because institutional rigidities and underemployed resources exist.

Second, price determination under this model is a purely market-clearing phenomenon that is derived from the equilibrium condition that incremental money demand equals its supply. A preferable, more fully specified reduced-form approach to price determination would better capture the effect at the macroeconomic level of important expectational and interest rate variables.

Third, the import function, equation 12A, would be better specified along the lines that Mundell has long advocated as an integral part of the monetary approach to the balance of payments. If it were to have absorption or expenditure, rather than income,

it would be consistent with a variety of adjustments in the relative prices of tradables and nontradables and, depending on the response parameters, even with an increase or a decrease in imports. Moreover, one could envisage a situation in which, with nominal income being unchanged, aggregate expenditure is reduced and, with it, imports--a situation that is not allowed for under the present formulation of the import function.

Fourth, a fuller incorporation of exchange rate feedback effects is probably necessary. There is no discussion of the possible contractionary effects in the short run from devaluationinduced increases in prices while liquidity is constrained. Does this reflect the specification of equation 4A in which money supply will rise as the result of an upward re-evaluation of the pre-existing stock of foreign assets? Such flexibility might be welcome in the event of a positive net foreign asset position, but what if there were a net foreign liability position?

In any event, most Fund-supported programs do attempt effectively to sterilize part of the increase coming through foreign assets through offsetting credit restraint, especially the allocation to the private sector.

As my comments suggest, it is difficult to avoid the broad conclusion that the G-24 expectations of more imaginative thinking by the staff on the issues at hand have not been fully met. I would not wish my comments to be taken in other than a positive spirit, and I agree with Mr. Ortiz and other Executive Directors who have strongly encouraged the staff to continue to engage in more work in this area, bearing in mind the overriding aspects of operational relevance. In this connection, the staff's work would perhaps benefit from the insights and experience of area departments, as Mr. Kafka stressed. The issues that have been raised are crucial to member countries as they seek ways in which to sustain real per capita growth, and they have wider implications for the Fund's image and its relations with member countries.

Mr. Goos made the following statement:

The staff papers have been most helpful in clarifying important growth issues in the design of Fund-supported programs. Two immediate conclusions that can be drawn from the staff's analysis merit particular attention. First, the art of growth exercises apparently is at a rudimentary stage, particularly if one considers the uncertainties related to both the structure of key economic relationships and the impact of specific policy measures on economic objectives. In this connection, Mr. Lankester has made important observations. On the whole, it appears that

growth exercises in their existing form are of only limited practical relevance, particularly in defining specific quantified causalities. Of course, the Fund could conceivably make additional efforts to improve our knowledge of the relevant relationships and behavioral ratios, as has been suggested by previous speakers, but I seriously doubt that it would be useful to devote additional or increased Fund resources for this purpose, for various reasons.

Second, the staff's analysis clearly reveals the fundamental conceptual weaknesses of the G-24 proposal concerning the design of growth-oriented adjustment programs: the relationships between growth and financing are obviously more complex than is assumed in the G-24 report. In this connection, I attach particular importance to the staff's observations on the costs and limitations of external growth financing. But even if those weaknesses were remedied in the framework of a more realistic growth model, the so-called requirement approach to external financing favored by the Group of Twenty-Four, as opposed to the availability approach, would impinge on fundamental Fund policies: deriving the required external financing for Fund-supported programs from preset targets implies that the Fund would become involved in the financing of growth and development objectives, as the Fund would certainly be expected to close the financing gaps left by other external creditors. Such an approach would clearly be incompatible with the Fund's monetary character. At the same time, it would interfere with the responsibilities of aid institutions, notably the World Bank, as well as the commercial banks. Given the Fund's potential for money creation, explicit or implicit recognition of growth and development financing as a legitimate function of the Fund would entail serious risks for the stability of the monetary system. I feel strongly that we have to preserve the availability approach to external financing as a fundamental principle of Fund policy.

I would have liked to see these issues addressed more specifically in the staff papers, which read much like a compendium of good development policy. The constraints imposed by the Fund's monetary character on the promotion of growth make it necessary for Fund financing to be provided only in support of adjustment programs that aim at the restoration of a viable balance of payments within a reasonable period and at maintaining the revolving character of the Fund's resources. Accordingly, I see no room for the Fund to engage explicitly in the financing of growth objectives. This conclusion does not mean that I would ignore the importance of growth for the lasting success of adjustment programs, and I am certainly prepared, in accordance with the Interim Committee's request, to discuss ways and means of improving the design and results of Fund-supported programs, including their impact on growth. However, it is fair to say that the Fund has never been indifferent to growth, as the

latest review of Fund conditionality and other recent discussions have clearly shown. In addition, as the staff papers under discussion rightly stress, for many years Fund-supported programs have placed increasing emphasis on supply-side and structural reform measures with a view to improving growth conditions. Therefore, the repeated criticism that Fund-supported programs are biased toward growth-inhibiting austerity measures seems to have little justification.

In addition, it is useful to recall some important conclusions of the recent Fund-World Bank Symposium, particularly the finding that growth and adjustment are not mutually exclusive. Indeed, adjustment was found to be a precondition for growth; the eventual success of programs is crucially dependent on the strength and quality of the adjustment measures taken. Furthermore, the symposium stressed the central role of adequate fiscal policies and, in developing countries, the importance of promoting agriculture and exports. The experience of recent years seems to suggest that program failures, including disappointing growth performance, are to be blamed in large measure on weaknesses in program implementation rather than on shortcomings in program design.

On balance, therefore, I fail to see the need for fundamental changes in the Fund's adjustment philosophy and I approach the notion of growth exercises with considerable skepticism. I certainly agree with the staff that the utility of these exercises depends significantly on the spirit in which they are conducted. However, even if they were used only as a series of iterative consistency checks or as what the staff refers to as a useful organizing framework, great care is called for to avoid creating unrealistic growth expectations.

The staff has correctly stressed the limitations on the promotion of growth through recourse to foreign savings. It would certainly be irresponsible for the Fund, through basically well-intended growth exercises, to contribute actively to an unsustainable buildup of foreign debt and, therefore, to the exacerbation of the problems facing member countries. Hence, I strongly endorse Mr. Lankester's view that the Fund should be very cautious in trying to set short-term growth targets and I sympathize with his proposal that, in future, the staff should present confidence estimates for key statistics, including growth projections.

The Fund could go even further by fully refraining from setting growth targets under Fund-supported programs and concentrating instead on efforts to improve the underlying conditions for the resumption of sustainable growth. Such efforts should take place in the framework of a realistic, and even cautious, assessment of the prospective availability of foreign financing

and of output growth. This may sound provocative, but I am concerned that we are becoming increasingly involved in short-term growth maximization. In this connection, I have in mind not only the subject under discussion, but also that in the framework of Fund-World Bank cooperation, particularly in the context of policy framework papers, we are increasingly being pushed to recognize explicitly in our programs specific growth and development objectives. Moreover, I fear that the ongoing discussion on the introduction of external contingency clauses in Fund-supported programs might give an additional impetus to the formulation of ambitious growth exercises as a normative basis for such programs.

These concerns could perhaps be alleviated if the Fund were to limit its role to the support of what could be called core stabilization programs that would focus on the correction of financial and structural imbalances with a view to overcoming external financing constraints and improving the underlying conditions for growth. This approach is not antigrowth. In order to create room for the achievement of more ambitious growth objectives than the ones that are implicitly derived from the core stabilization programs, we could introduce a measure of flexibility in program design allowing, under appropriate safeguards, for external financing that might become available in addition to the financing assumed during the core program period. This approach would require the flexible formulation of program targets for the fiscal deficit and the external current account. The advantage of such an approach is that the achievement of specific, and perhaps ambitious, growth targets could be left to other institutions that have a specific mandate in that area, especially the World Bank, thereby restoring the original division of responsibilities between those institutions and the Fund.

I recognize that this proposal raises a number of difficult issues that will undoubtedly require further examination. This is not the occasion on which to examine the proposal in detail. But the staff should give some thought to the feasibility of such an approach as a part of its own ongoing work on conditionality.

Mrs. Ploix made the following statement:

The first staff paper analyzes the major conclusions of the G-24 report, which includes an analysis of growth that is based mainly on the incremental capital/output ratio model. The principal outcome of this approach is to associate a high growth rate with a strong investment effort, which, in turn, leads to a reliance on external financing to make up for any lack of adequate domestic resources. This line of reasoning lies behind the G-24 request that the Fund should undertake a growth exercise on the basis of which financial analysis could be made

to determine whether a savings gap exists that should be covered by creditor countries. Starting from the same premise, the staff introduces two major caveats in this analysis that tend to modify substantially the conclusions that can be drawn from it. The first qualification is that capital formation by itself cannot guarantee any particular rate of expansion of potential output. A complex production function must be used if growth prospects are to be assessed accurately. In particular, overall factor productivity should be captured in the production function, as it may have a larger impact on the final outcome than the level of factor inputs. This approach is less mechanistic, as the search for a more cost-efficient use of available inputs tends to supersede the need for additional resources.

According to the staff, a second limitation of the analysis in the G-24 report is the absence of the distinction between GDP and GNP. In resorting to external financing, a country may maximize its growth potential only to a certain point. The quasi-automatic link between foreign savings flows and the expansion of GNP appears to be highly conditional on the existence of investment opportunities in a country and on the relative cost of external resources.

These two conclusions by the staff should be taken into account in the growth exercises that could precede the designing of Fund-supported programs. Therefore, the alternative approach that is described in the staff paper, and which is based mainly on fiscal and structural actions, is more reliable than the original proposals.

The growth exercise analysis is designed mainly to enhance domestic savings, improve overall factor productivity, and reduce the cost of capital. In that connection, combined fiscal and structural actions to improve the measurement and allocation of available resources are likely to be more conducive to growth than systematic reliance on foreign resources.

However, the staff's analysis has some shortcomings. For example, it is sometimes difficult to determine in the staff paper whether the staff is referring to potential GNP or actual GNP. That problem is understandable, as the notion of potential output often cannot easily be captured in a direct manner. In any event, it is often difficult to determine whether factors are affecting potential output or actual GNP.

Another reservation that I have about the staff paper is that, in my view, overall factor productivity is a residual that can be measured only with a significant margin of error. Moreover, the fact that overall factor productivity includes a variety of factors makes it difficult to attribute its behavior at any given time to any particular components. This lack of

specificity tends to limit the operational scope of the policy conclusion that enhancing overall factor productivity is a crucial element of any growth strategy.

In its second paper, the staff correctly emphasizes that the integration of growth in the Fund's financial programming must be reconciled with the achievement of two other central objectives, namely, external viability and price stability. I have no difficulty with the technical aspects of the staff's model. The weaknesses of the new approach are underscored by the staff itself, and it is obvious that further analytical work will be needed before a satisfactory framework can be introduced. Nevertheless, in the light of the uncertainty that is inherent in all Fund-supported programs, my authorities are interested in the analysis of exogenous variables. The comparison between expected values, actual developments and sensitive variables is a promising exercise, and the staff should carry it out.

Mr. Lim made the following statement:

The staff papers develop additional aspects of growth-oriented adjustment in the context of Fund-supported programs. The Group of Twenty-Four has suggested that in designing a Fund-supported program a "growth exercise" should precede the "financial exercise" in order to determine how much external resources are needed to support a growth-oriented adjustment program. The implication of the G-24 approach is that there is a direct and causal relationship between the availability of external financing and the growth of GDP, given a particular rate of domestic savings and reserve accumulation. As I understand it, however, the staff has argued that it is not possible to achieve any desired target for the growth of potential GNP merely by increasing the reliance on foreign savings. The limitation on foreign borrowing that is likely to arise suggests that growth-oriented policies should be focused on increasing domestic savings, improving productivity, and lowering the cost of capital. In my view, the appropriate use of foreign financing probably lies somewhere between the G-24 savings-gap approach and the staff's conclusions on page 20.

We need to be cautious in accepting the theory that it is optimal for a country to borrow abroad up to the point at which the marginal productivity of the capital equals the marginal cost of the borrowing. The cost of overseas borrowing must be adjusted to reflect the borrower's creditworthiness. For large debtors, increased reliance on foreign savings might lower the growth rate even if the marginal product of capital exceeds the international interest rate. In addition, the prospect of adverse external shocks suggests the need to keep the volume of borrowing much smaller than would be suggested on the basis of

the principle of maintaining an equilibrium between the marginal productivity of capital and the marginal cost of borrowing. The policy implication that is drawn from this analysis is that the simple application of the incremental capital/output ratio optimum borrowing strategy does not have much practical value.

The two stages of growth-oriented adjustment require different approaches. In the first stage, when a country is beginning to adjust and is not highly indebted, there can be considerable benefits from access to foreign borrowing. In the second stage, when the country already has a large amount of foreign debt, the staff's policy approach, under which the focus is on the need to raise domestic savings and improve the performance of productivity, clearly seems to be more appropriate. However, if a debtor country in the second stage is to achieve growth together with a sustainable balance of payments position, the country must be encouraged to run a balance of payments surplus to permit a shift from a reliance on foreign savings to an increase in domestic savings.

Although I agree that external financing has a significant role to play in facilitating the adjustment process, I do so with two caveats. First, the existence of an increased financial need and the longer maturity associated with the financing of structural adjustment policies should not be used to delay adjustment. Second, the foreign savings must be used efficiently to build a productive base that will permit the additional external debt to be serviced on a sustainable basis.

I agree with the staff that growth modeling should be treated with caution and that a fundamental weakness of modeling is that it concentrates attention on the quantity of resources rather than on the quality of resources or the efficiency with which they are used. Models cannot capture the concepts of the credibility of, and confidence in, a government's policy actions.

Mr. Rebecchini made the following statement:

Today's discussion and the two staff papers provide the Executive Board with a welcome opportunity to address in a systematic fashion the crucial issue of growth in the context of the Fund's responsibilities. This issue has long been overlooked by the Fund in the design of adjustment programs and clearly requires further examination and research. The issue must be addressed promptly in order to adequately equip the Fund to cope with the challenges facing it.

At the outset, it is important to recognize that the set of macroeconomic policies designed to achieve adjustment do not precisely coincide with the set of policies aimed at achieving

economic growth. Some trade-off exists between adjustment and growth; there was clearly a consensus on this matter during the recent symposium on growth-oriented adjustment programs. Because of this trade-off, the optimal strategy for adjustment in a growth context will differ from one country to the next, and will depend on the conditions--including institutional and structural constraints--of each country. This conclusion is supported by the different successful growth adjustment strategies of member countries in the past. It is the Fund's task to combine the best set of adjustment measures with the best set of growth measures. Greater attention than hitherto will have to be paid to the impact of demand policies on growth. In addition, growth measures will have to be carefully tailored to each country's structural conditions.

I will now comment on some of the specific issues concerning growth policies that are raised in the first staff paper. Growth results from a complex interplay of forces. It is the result of not only an adequate amount of real and financial resources, but also efficient utilization of these resources. Therefore, our attention should not focus solely on the availability of foreign and domestic savings; attention should also be paid to the need to increase factor productivity. In this connection, while the G-24 framework for growth is a useful initial step in the analysis, it has serious limitations. The basic building block of this model in its present version--namely, the fixed coefficient production function relating the rate of growth to the investment/output ratio--fails to capture the complex factors that determine growth performance. Several speakers have already pointed out some of the shortcomings and have provided useful insights and suggestions for improvement. The staff has also indicated areas for further study, and work in this area should be continued.

The complex factors that determine growth are influenced strongly, although not exclusively, by fiscal and structural policies. Therefore, these policies should be the basic operating tools, and Fund expertise in these areas should be strengthened and broadened.

While it is clear that the correction of fiscal imbalances is required for stabilization, the way in which the correction is achieved has implications for a country's growth perspective. Different deficit reduction measures have different effects on potential output. The analysis of the different effects on growth of fiscal corrective measures warrants further attention by the staff and the Executive Board. The analysis should be aimed at distinguishing between the macroeconomic and microeconomic effects of fiscal policies. Furthermore, I agree that a trade-off between the quantity and quality of fiscal adjustment

exists. The Fund should explicitly recognize this trade-off in its program design, and the Fund's guidelines on conditionality should be reviewed accordingly.

The role of structural adjustment policies is well documented in the staff paper. Structural adjustment policies are more efficient than demand-management policies in increasing private savings, which is a key to expanding potential output and growth. Demand-management policies bolster private savings by increasing real interest rates and reducing savings by the public sector. Both sets of measures are likely to affect negatively the level of demand and output and, through the accelerator mechanism, will dampen investment and growth. In contrast, structural adjustment measures that remove distortions and disincentives can boost savings with no adverse side effects on demand.

With respect to the role that government intervention should play in the area of structural adjustment, the main issue is the appropriate mix of intervention and liberalization. Given the successful experience of such countries as Japan and Korea, I believe that government can have a significant catalytic effect on growth by fostering the development of a market structure in countries where the market structure is too small or nonexistent; in this connection, I have in mind particularly the financial sectors in the vast majority of developing countries. In addition, the government can promote the appropriate outward orientation and outward-oriented strategy based on export promotion and import substitution. This strategy should be clearly distinguished from the strategy of pure liberalization that envisages no role for government support. The role of incomes policies needs to be more fully examined; the staff paper pays little attention to the impact of these policies on growth. Incomes policies have often been neglected in the design of ordinary adjustment programs supported by the Fund. However, these policies, because of their consensus-building feature, can reduce the trade-off between adjustment and growth. Adjustment measures, which are more credible, and thus more durable than incomes policies, are less costly in terms of growth. The experience of some countries with hyperinflation supports this contention. Moreover, it is well known that an equitable distribution of income is a powerful incentive for development. The Fund's role in this area is obviously delicate, and in playing that role, the Fund should exercise great caution. At the same time, the Fund's advice--based strictly on economic considerations--on incomes policy could be highly productive.

This discussion is a useful step forward in the consideration of a matter that is of great importance to the development of the Fund's strategy for the coming years. Further efforts should be made along the lines that I have suggested. I will address other issues pertaining to growth in Fund-supported programs during the coming discussion on monitoring procedures.

Mr. Ouanes made the following statement:

Two general propositions should be kept in mind as we push forward our modeling efforts. First, a model is not necessarily of less use because it is relatively simple. Second, a model that is realistic, in the sense that it takes into account all relevant considerations, is not necessarily useful in policy formulation and in gaining insights into the working of the variables that we are trying to model. Even a rudimentary map can guide someone from one point to another; in attempting to make such a map more realistic, one might run the risk of cluttering it, thereby rendering it useless. The staff's model constitutes a good beginning. Of course, there are many possible extensions of the present model, but I will speak with the staff about these on a bilateral basis.

I will now comment on the issues raised in the staff papers. The staff distinguishes between the notions of GDP and GNP in order to account for, among other things, the cost of borrowing in terms of transfers of resources. Ultimately, potential GNP and the increase in it are the appropriate measures in the area of growth objectives. Nevertheless, most staff reports on country items are still based on the notion of GDP; only a few of them deal with GNP or the more direct measures of national income. This is not surprising, since such important factors as the sustainability of the current account and fiscal deficits are best gauged in terms of ratios to GDP. However, given the present emphasis on the importance of growth in Fund-supported programs, greater efforts should be made to compile and present statistics on both GDP and GNP.

A lesson that can be drawn from the staff papers is that a country's growth objectives cannot be achieved solely through reliance on foreign finance. The staff has presented a convincing argument that increasing financing flows to countries will not necessarily increase their growth potential. As this chair has always suspected, real growth can be enhanced when capital is scarce only if foreign savings are being properly invested, in ways that increase the country's capacity to service foreign debt.

The staff's general proposition that a rise in foreign savings will lead to a higher growth rate of GNP, if and only if the marginal product of capital is higher than the interest rate charged on foreign borrowing has a general implication and implications specifically for low-income and debtor countries. First, increased foreign savings is not always necessary or sufficient to enhance growth. Second, the staff's conclusion implies that in making their investment decisions recipients of foreign concessional assistance must account properly for the

true opportunity cost of that assistance. This step is fundamental to achieving genuine enhancement of growth in low-income countries. In playing their role in strengthening the growth orientation of adjustment programs, the World Bank and the Fund should take these points into account, particularly in assessing a country's investment program. Third, heavily indebted countries, for which the cost of borrowing is relatively high, have to be especially vigilant in using borrowed resources. In particular, if growth is to be assured, such resources must be directed to areas where the return is highest.

Experience teaches us that the elimination of protectionist barriers enhances growth. Studies by the World Bank suggest that the favorable impact of eliminating protectionist barriers in countries such as Turkey and the Philippines might be of the order of 5 percent of GNP. A genuine effort to dismantle protectionist barriers and accelerate structural reforms would certainly have a favorable impact on the growth of industrial countries, in general, and of the European countries in particular. In the present world economic situation, removing barriers might revive world economic trade and have a beneficial spillover effect on growth around the world. The Fund should play a positive role in emphasizing the need to accelerate structural adjustment and the reduction of protectionism in industrial countries.

As the staff has indicated, structural policies are the key to fostering the appropriate environment for growth. It is important to remember that, if structural adjustment policies are to bear fruit, they must be sustained over time. It is also important to ensure that both member countries and the Fund recognize that the beneficial impact of structural adjustment measures on the growth of productive capacity involves lags. The Fund should recognize these lags, as it is unrealistic for a growth objective to be achieved in the period of a typical stand-by arrangement. This is one of the reasons why this chair has reservations about so-called growth contingencies.

Another interesting finding is that uncertainty about the relations between economic policies and objectives introduces the need for "redundancy." Therefore, it is particularly important for Fund-supported programs to be based on a comprehensive approach and to ensure that appropriate policy tools are in place to achieve the desired targets. For example, structural and fiscal policies should not be thought of as substitutes for the achievement of growth, but rather as mutually reinforcing means of achieving a given growth target. The appropriate policy mix and dose should clearly be determined on a case-by-case basis.

Another interesting conclusion mentioned in the staff papers is that the impact on growth of adjustment in macroeconomic policies will depend on not only the magnitude of the adjustment,

but also--and crucially so--on the quality of the adjustment. For example, there is no doubt that the impact on growth will be critically dependent on the quality of the fiscal measures adopted. Unfortunately, however, in seeking a particular quality of adjustment, rather than a particular size of adjustment, one may face a dilemma. Promoting growth-oriented adjustment policies requires the Fund to walk a thin line between the quality and quantity of adjustment. In addition, the Fund must build up the needed expertise among its staff.

I encourage the staff to continue its work in this area while bearing in mind especially the various operational considerations.

Mr. Finaish made the following statement:

The staff papers raise several interesting issues that have a bearing on the design of growth-oriented adjustment programs. I welcome the emphasis on the issue of growth of productive capacity over the medium term and the staff's conclusion that a more systematic use of growth exercises could be a useful ingredient in the design of Fund-supported programs.

The paper on issues in the design of growth exercises discusses the links between domestic and foreign saving, capital formation and growth, and it provides some useful guidelines on the appropriate pace of foreign borrowing. The staff points out that the framework will need to be broadened in many cases to deal with important issues such as inflation, exchange rate depreciation, and the implications for aggregate supply of various forms of nominal or real wage rigidity and the dependence on imported inputs. I agree that it is essential that the framework be sufficiently broad to incorporate structural adjustment measures as well as the contributions of productivity increases and capital formation to the growth of output.

The staff has mentioned that if a government faces a binding constraint on the amount of taxes that it can collect, external borrowing should be governed by the rule that the marginal product of capital should exceed the cost of borrowing by a factor that is inversely related to the maximum average tax rate that is practicably attainable. This rule applies to many developing countries where central governments and public agencies are the major borrowers of external funds but returns to government investments often accrue to the private sector because a large item in government investment is usually expenditure on social overhead capital. Instead of earning a direct return from its investment expenditures, the governments rely on increases in the tax base to meet their need for revenue to service debt. While in some cases the revenue constraint may be attributable to inefficiencies in the tax system, in many other cases, the

restraint is due more to the long gestation periods of public sector investment projects. That is to say, there may be high returns on certain projects, notably large-scale investments in major industries and infrastructure, but these returns are often long delayed. Therefore, when investments in such projects are considered, an important factor is the maturity structure of the foreign loans involved. In order to avoid liquidity squeeze problems, there has to be a close correspondence between the stream of returns on investment expenditures and the repayment structure of external loans. In this connection, it is essential that the average maturity of new medium- and long-term loans to developing countries be significantly increased.

The staff paper on financial programming and growth exercises provides a useful analytical framework for a discussion of issues relating to the setting of policy instruments when the authorities are simultaneously pursuing objectives of growth, external balance, and a low rate of inflation. The paper appropriately stresses that the exogeneity of income is a potential shortcoming of the monetary models when program design has important implications for economic growth, and it is necessary to consider models of the growth process to supplement the monetary analysis. From this standpoint, the mathematical relationships derived in the analysis illustrate the links that bind the saving-investment balance, the trade balance, and the external financing requirement. However, there are certain limitations on the staff's analytical framework that need to be kept in mind when assessing its usefulness for economic policy purposes.

In integrating financial programming and growth analysis, the staff starts with the simple monetary approach to the balance of payments model and adds to it certain relations from the two-gap model. The staff notes on page 24 of SM/87/268 that "the model becomes the familiar two-gap growth model in which the foreign exchange constraint prevents the investment and growth potentials from being realized. If foreign financing is not perfectly elastic, then the growth and reserve accumulation targets cannot both be achieved with a single policy instrument--public saving." The staff suggests that this problem of overdeterminancy can be eliminated by introducing more variables of economic behavior into the model, and in the paper that modification is made by generalizing the import function to include the effects of the exchange rate on imports. But what needs to be emphasized is that although inclusion of the exchange rate allows two independent equations to determine two independent variables, so that the problem of overdeterminancy is eliminated, the exchange rate plays a limited role in the model, and exports and international capital flows, in particular, are exogenous in foreign currency terms.

The paper provides several important insights into the monetary and two-gap models, and it is clear that, under the monetary approach, prices are very flexible and markets are cleared, while in the two-gap model, there is a very limited role for the price mechanism and there are important structural rigidities in the economy. The monetary approach suggests that the excess supply of money and, hence, the balance of payments, can be explained by the determinants of the supply of and demand for money. However, the assertion that it is better to concentrate on the money demand function in analyzing the balance of payments is based on the judgment that the variables that affect the demand for money behave in an easily predictable way and can be taken as being exogenous. But it is not clear that the general equilibrium values of the money demand determinants, namely, income, the price level, and interest rates, will behave in an easily predictable way, because of the interrelationships between the money market and the markets for goods and services and securities.

To eliminate this uncertainty, two arguments have been developed in the literature on the monetary approach, namely, the long-run neutrality of money, and the law of one price. The monetary approach makes the level of real income exogenous to the system by assuming that prices are flexible and real output is at the full-employment level. The law of one price comes from the assumption of perfect commodity arbitrage. Since it is assumed that prices are flexible and real output is at the full-employment level, the supply side of the economy is independent of the monetary variables. Since it is also assumed that the determinants of the demand for money are independent of the money supply process, any change in the domestic monetary base has to be offset by a one-for-one change in foreign reserves. This, in turn, leaves only the composition of monetary assets--domestic credit and net foreign assets--and not the level, as an instrument of policy. An immediate conclusion is that domestic credit is an effective instrument to control the balance of payments. As is noted by the staff on page 3 of SM/87/268, this type of model does provide a justification for the use of credit ceilings as key policy instruments and as performance criteria in Fund arrangements. However, the unambiguous conclusions derived in the monetary approach are based on some highly restrictive assumptions. The implication that, for each commodity, supply must equal demand, cannot be the case in developing countries, where there are structural rigidities and government policies to break bottlenecks and promote economic growth lead to situations in which markets do not clear. Models in which prices quickly adjust to excess supply or demand are of limited value for macroeconomic analysis of developing countries, because nonclearing markets and short-term quantitative adjustments are prevalent in prevalent in these economies. This is an important characteristic of developing economies, and it must be taken into account from the start when building a model of balance of payments adjustment.

In sharp contrast to the monetary approach, which equates balance of payments disequilibrium with money market disequilibrium, the two-gap model views the excess demand for foreign exchange in developing countries as a structural, nonmonetary phenomenon. The source of balance of payments problems in the two-gap model is that the export capacity cannot satisfy the import requirements for growth, which are in fixed proportion to output. To the extent that disequilibrium in the foreign exchange market is an attribute of economic development, a result of technologically imposed lags in the development of exports and substitutes for imports, monetary cures for the disequilibrium will be expensive in terms of losses in output. In the two-gap model, the aggregate production function is assumed to have a constant capital/output ratio, exports are exogenous, and real domestic savings and imports are assumed to be positive functions of real output. If a rate of growth of real output is posited as a target of economic policy, savings and import projections are calculated through their respective functions. In general, either investment requirements obtained from the capital/output ratio and the target growth rate of output will not coincide with projected savings, or imports associated with the target growth rate of output will exceed the projected level of exports. Of course, ex post, the excess of imports over exports is equal to the excess of investment over domestic saving, with foreign capital inflows making up the difference between the total use of real resources by an economy and the total supply of resources. Ex ante the larger of the two gaps specifies the amount of foreign capital required if the output growth target is to be met. Therefore, extensions of the two-gap model could be used to perform growth exercises to determine the amount of external financing needed to support growth-oriented adjustment programs.

However, while the calculation of the external financing requirements is one thing, the design and implementation of a growth-oriented adjustment program is quite another. If growth exercises are to be viewed as attempts to relate, within a quantifiable framework, objectives for growth of national income over the medium term to key macroeconomic variables, particularly policy variables, then it is necessary to develop a broader analytical framework for the design of Fund-supported programs than simple monetary approach or two-gap models. Structural adjustment measures and supply-side policies have been increasingly incorporated into Fund-supported adjustment programs. In this connection, the analysis should address in a systematic fashion both demand-management and structural adjustment questions. An adjustment policy should be analyzed in terms of both its financial effects and its effects on the real economy. By providing guidance on the impact on the real economy of adjustment measures, such an analytical framework would permit choices with respect to the path and pace of adjustment to be made with a view to minimizing output losses and unemployment. There are

admittedly difficulties in modeling and quantifying structural relationships and the real economy, but this suggests the need for more intensive research by the Fund on these subjects.

Mr. Salehkhou made the following statement:

I welcome these useful and timely, if not overdue, studies, which should serve as a first step in designing more adequately growth-oriented adjustment programs. The realistic and sober approach reflected in SM/87/268 is particularly worthwhile. I wish to raise some questions on the staff papers.

First, I wonder how useful and applicable a neoclassical framework is in the analysis of developing countries' problems. This question is not being addressed in the present papers. Is there any specific reason why other models, such as the "modified Keynesian," "post-Keynesian," "disequilibrium," or even "the other Cambridge" models should be less adequate paradigms for our purposes.

The present models give inadequate treatment to the relationship between savings, finance, and credit that is of paramount importance in the analysis of both the adjustment programs and growth prospects of developing countries. The papers, as well as the Fund's existing approach to adjustment, treat credit and finance as control variables for achieving balance of payments objectives. Clearly, however, the authorities in many developing countries perceive of credit expansion as a simple and ostensibly inexpensive method of facilitating the capital formation that both staff papers consider to be crucial for economic growth.

The present papers do not address the question of "cognitive dissonance" that exists between the objectives of Fund-supported adjustment programs and the authorities' perception of an adequately growth-oriented policy framework. At some point, the Fund will have to develop an analytical framework that will allow for better goal convergence between the Fund's model developers and the authorities in developing countries. To continue the imperious attitude that only the Fund and its staff possess the necessary collective wisdom, and that the authorities have either an inadequate understanding of the behavior and objectives of their own economy or have incomplete information about correct macroeconomic models, leads to further intensification of this "cognitive dissonance," which has created considerable dissatisfaction with, and occasionally resentment toward, Fund-supported programs.

I wonder how realistic it is to assume, as the staff does on page 9 of SM/87/267, that the availability of external finance for developing countries is a function of the discounted value of a country's surplus--in other words, GDP minus domestic

expenditure. I wonder whether this assumption realistically explains the behavior of the industrial countries' banking industry toward the developing world during the 1970s. Does not the availability, or lack, of loanable funds in the industrial countries have much more to do with how aggressively the banks in those countries search for customers in the developing world? What was the Fund's position on this issue during the 1970s? Will financing be available at present for a developing country no matter how large the discounted value of its domestic output minus domestic expenditure? In other words, have we perhaps placed the cart before the horse? Should the supply of external financing available to developing countries be a function of industrial countries' surplus loanable funds?

The staff could have usefully submitted the models it presents to empirical tests of verification of the staff's assertions; the staff could have analyzed a few of the existing Fund-supported adjustment programs to see how adequately the models address the problem of adjustment with growth. In this connection, it would perhaps be timely to update and expand the staff's study entitled "Adjustment Programs in Africa: The Recent Experience, 1980-81" (DM/83/84). I noted with interest the assertion in the final paragraph of the conclusions section in SM/87/268 that the absence "of a precise quantitative framework establishing the relationship between government policies and growth" is made the "fall guy," rather than the inadequacies of Fund-supported adjustment programs. It is heartening that, for once, that staff is not blaming the authorities' "failure to take appropriate, necessary and timely" actions; to my knowledge, this is the only instance in which a staff paper has said that a third party, called "the precise quantitative framework," can take the blame for the difficulties in implementing Fund-supported programs. I hope that, since we now know what causes the difficulty in designing appropriate growth-oriented adjustment programs, the staff can take effective steps to eliminate it.

Although I welcome these studies, which are of a high technical quality, I believe that, despite the staff's efforts, the documents do not sufficiently address the issues and concerns in the G-24 report, which contains the following statement on page 59:

> The appropriate design of programs for achieving balance of payments adjustment consistent with other objectives, such as sustained economic growth, depends on the economic structure of the borrowing country. No single model or set of policies is uniquely applicable to all countries. The design should be based on a careful empirical study of the relationships between the alternative sets of policies and the objectives to be achieved, the time needed for particular policies to bring about the desired outcomes,

and the capacity of the country to sustain particular policies during the program period, which, in turn, is dependent on the amount of finance provided to the country. Adjustment and finance are thus complementary to each other, not mutually exclusive. The programs will pay due regard to the domestic social and political objectives, and the economic priorities and circumstances of the member countries.

It seems to me that the staff papers before us are attempting to fit a square peg into a round hole.

Mr. Sengupta made the following statement:

It is now recognized that when developing countries attempt to adjust their balance of payments to changing environments, the success of their policies depends on their ability to tackle development issues. Therefore, when we talk of the design of adjustment programs with growth, we are referring to development problems of actual developing countries, not theoretical issues relating to growth and growth models. The issues are empirical, and there is a need to judge relationships between different exogenous, endogenous, and policy variables in the context of a particular country that is implementing an adjustment program. Such judgments can occasionally be made on the basis of econometric exercises, but they usually have to be made on the basis of qualitative assessments of real-world relationships. Such assessments may have to be based on experience, and staff papers should discuss them clearly, spelling out the transmission mechanisms and the ways in which policy variables are expected to affect targets.

The first staff paper is very general. Apparently it was written by a competent economist, but one who has not had much experience in actually helping to solve problems facing developing countries, and that probably explains the author's enthusiasm for production functions, estimates of total factor productivity, and the Ricardian equivalence theory. I feel somewhat uneasy about the direction in which we are going on the basis of these staff papers. In the area of financial programming, the Fund is finally moving out of the straitjacket of the monetary approach to the balance of payments. In the area of growth exercises, I hope that the Fund will not become bogged down in what Samuelson has called the neoclassical "parables." That outcome would be unfortunate, as the world has moved far beyond the economic literature of the 1960s.

What are we trying to tell the world through our discussions on factor productivity? All that one can say is that if an index of capital stock can be constructed, then output growth can be

broken down into a scale factor and a weighted sum of the growth of the stock of capital and labor. If an aggregate production function exists and behaves in a reasonable manner, the estimated parameters or weights can be associated with factor shares, namely, the shares of profits and wages. However, the existence of an empirical relationship between the growth of value added and the growth of the capital stock and labor--an existence that is difficult to confirm in developing countries--does not mean that an aggregate production function can be said to exist. More important, the scale factor, which has been described as factor productivity in the staff papers, is an unknown quantity. We simply do not know what determines its growth. The economist Robert Solow, who introduced the concept of factor productivity, termed it a "residual," and another economist, Domar, called it the "index of ignorance." All that one can say of Chenery's exercises in this area is that the relevant experience differs widely among developing countries.

A number of statements in the first staff paper are false or, at best, imprecise. It is untrue that fixed incremental capital/output ratio models are unable to account for observed fluctuations in real wages. The neoclassical marginal productivity theory is not the only theory that explains those fluctuations. It is not true that assuming a constant capital/output ratio rules out the possibility of changes in total factor productivity even in a neoclassical model, unless capital is the only factor of production. It is also untrue that the G-24 argument is based on a fixed coefficient production function. In fact, there is no reference to a production function in the G-24 report, which assumes only a stable relationship between the rate of investment and the growth of output. That approach is somewhat similar in its logic to the assumption of stable velocity in the demand for money function. Similarly, a statement made on page 18 is unnecessary in the context of the discussion on that page, and betrays a theoretical bias: "Capital deepening would lower the marginal product of capital, slowing investment and output growth." That conclusion is not necessarily accurate. The staff must do considerable research to prove that the world always behaves in line with Euler's theorem.

The first staff paper makes two major points. First, it has drawn our attention to the rising marginal cost of borrowing in highly indebted countries and to the need to talk in terms of GNP rather than GDP for countries with large factor payments, something that is not explicitly considered in the G-24 model. This point represents a step forward, but the lesson that I derive from it is different from the staff's, namely, not to give up calling for an increased flow of foreign savings, but to do something about the debt overhang that leads to the rising cost of borrowing and to meet the need for concessional financing in poor countries, where the social, or shadow, return of investment

is much higher than the commercial return. Second, the staff summarizes on page 17 another step forward, namely, the evidence of the lag with which structural policies have their full impact. However, the staff then says that demand-management policies are the only alternative in the short run. This conclusion does not follow, unless the balance of payments is the only objective and a balance of payments problem is due only to excess demand. If a balance of payments objective is pursued together with a growth objective, the lesson to be drawn from the staff's discussion is that financing should be made available to countries so that they can maintain structural policies over the years that are required for their impact to be felt. That conclusion is presented in the G-24 report.

The staff paper on financial programming is a much more serious paper and attempts to tackle the real problem of designing appropriate adjustment problems. The G-24 basic approach is an attempt to derive a feasible extension of the Fund's approach and includes three targets--the balance of payments, the rate of inflation, and the growth of real output--and three policy instruments, namely, domestic credit, changes in the exchange rate, and foreign savings, or the inflow of foreign capital. A problem arises in establishing the relationship between these target and policy variables, assuming that projections of exogenous variables can be made with reasonable accuracy. The staff paper highlights the problems associated with such projections but does not go beyond that. The G-24 report spells out the contingency mechanism to indicate what should be done if the projections of exogenous variables prove to be wrong. The staff should have explored that area as well.

The staff should undertake the research that is needed to establish the relationships between the target and policy variables. However, the issues involved are empirical in nature and should not be resolved by theoretical presumptions based on any specific economic ideology.

The demand for money, or the velocity of circulation, may be a stable function, but if any of the variables determining that function, such as real income, expected inflation, or interest rates, is affected by recommended policy changes, such as a change in domestic credit policy, that effect should be fully taken into account in the program. Much more research in this area is required before one can blindly insist on domestic credit restraint that in many cases leads to the contraction of an economy. Indeed, the Fund's approach seems to be based entirely on the full-employment model, as the Fund makes no provision for the existence of excess capacity and unemployment, and it is assumed that actual real income equals potential real income and that demand management should adjust only the price level. These assumptions do not affect conditions in the real world;

since prices and wages are sticky downward, demand restraint may lead to severe contraction of current output and reduce the rate of investment and thereby the rate of growth. Moreover, the Fund's model of inflation is very weak: it lacks an element of price expectations, and price changes are confined to tradables through exchange rate changes that are assumed not to affect imports; in fact, imports should be expected to be the first variable to change in response to exchange rate changes.

Fund-supported programs invariably emphasize exchange rate changes, but the staff paper on financial programming shows how little we know about the effect and the transmission mechanism of exchange rate changes. If a change in the exchange rate has a serious effect on inflation and the effects on allocation of such a change take time to materialize during which balance of payments deficits cannot be financed, the exchange rate change might be counterproductive. A similar conclusion is applicable to import liberalization. The staff has stated that it takes a long time--about three years--for the effects of liberalization to be felt on the efficiency of resource allocation. Who will pay for the increased balance of payments deficits during this period?

Similar comments can be made on all the individual equations in the staff's financial programming model. I hope that more research will be undertaken on ways in which to make the model operational and on the relationships in the model. The structural parameters in these models can of course be changed through structural policies. In the G-24 report, the growth of output has been related to foreign savings, given a particular balance of payments target, on the assumption that the incremental capital/output ratio and the savings rates are determined exogenously. Policies that reduce that ratio and improve the rate of saving would certainly help, but before these policies are recommended, their full implication should be carefully considered, on the basis of proper empirical assessments. The problems involved can be tricky; for example, in its enthusiasm to improve "factor productivity," the staff has said that liberalization of the restrictions on foreign direct investment that exist in many countries could improve efficiency by enhancing the transfer of advanced technology embodied in foreign direct investment. That conclusion seems innocuous and justifiable. However, if foreign direct investment does not transfer technology, at least to a significant extent, the dividends withdrawn through direct methods and indirect forms of transfer pricing may exceed the rate of return on investment and, following the staff's own logic, reduce the growth of national income. This is but one example of the possible pitfalls of the staff's usual policy recommendations.

Mr. Adachi made the following statement:

The staff papers present the theoretical foundations for the design of growth-oriented adjustment programs. The staff's effort is commendable, since it is essential to incorporate economic growth into Fund-supported programs.

The basic objective of such programs is to achieve external and internal balance as well as adequate growth. I am pleased that the staff has paid due attention to achieving balance of payments viability over the medium term in considering the design of growth-oriented programs.

In its papers, the staff has made extensive use of economic models in reaching its conclusions. Although these models are based on broadly reasonable and acceptable assumptions, it will be important to confirm the appropriateness of the assumptions when we make use of the staff's conclusions in our work in the real world. Therefore, I agree with the staff that financial programming techniques should not be used in a mechanical fashion.

The availability and effectiveness of various policy instruments varies from one country to another according to the institutional framework of each. This fact underscores the need for a case-by-case approach. In this connection, it is important to emphasize the usefulness of the accumulated knowledge in the Fund's area departments. In the design of Fund-supported programs, that accumulated knowledge should be taken into account to the same extent as general theories.

I will now comment on the theoretical issues raised in the staff papers. Although the empirical studies have not given conclusive answers to questions concerning the sources and measurement of economic growth, it is possible to conclude at least that growth is a function of capital, labor, and total factor productivity. This fact leads us to consider measures that focus on the supply side of the economy, while noting the effectiveness of demand-oriented measures. Importance should therefore be attached to the implementation of structural adjustments that are designed to enhance the efficiency of resource allocation and to remove impediments to the growth of aggregate supply. As to the optimal borrowing strategy over time, I agree with the staff's conclusion that a country should expand foreign borrowing and investment up to the point at which the marginal productivity of capital is equal to the sum of the cost of borrowing from abroad and the rate of depreciation of the capital stock. However, I am reluctant to apply this conclusion to real-world situations. As I understand it, this conclusion is derived by maximizing the intertemporal welfare function of a typical household, assuming perfect foresight. I wonder whether the authorities of a member country would correctly recognize

the utility function of households over time; in that context, the authorities might well attach more importance to the present generation than to future generations. In addition, I have doubts about the assumption of perfect foresight, as authorities may tend to have optimistic expectations for exchange rates and interest rates. Furthermore, I wonder whether these derived conclusions could work well as a guideline in the real world. It might be difficult to have enough information on the marginal productivity of capital and the rate of depreciation of the capital stock.

Although I broadly support the staff's discussion of the role of structural and fiscal policies in the attainment of growth objectives, the uncertainty associated with policy measures should be stressed.

I broadly agree with the staff's conclusions on financial programming and growth exercises. However, I wonder how we can avoid the criticism--the so-called Lucus Critique--based on the assumption of rational expectations. How can we rationalize in the growth model the assumption of fixed factor proportions of the production function? What would be the staff's analysis of a situation in which, because of institutional impediments, a relatively long time is needed for the markets to be cleared and for equilibrium to be reached?

Mr. de Groote remarked that traditional Fund-supported programs, which emphasized demand-management and monetary actions to improve the balance of payments, were clearly based on an underlying model. According to that model, a reduction in a budget deficit or a change in monetary flows would lead to a change in the right direction in the trend in the current account. A number of the criticisms that had been leveled against the growth-oriented model described in the present staff papers could also be leveled against the model underlying the Fund's traditional approach to adjustment programs. That model, like the model described in the staff papers, was based on assumptions concerning rational expectations and certain causalities.

The Director of the Research Department said that he fully agreed that, under Fund-supported programs, there was an implicit link between particular policy actions and outcomes. Efforts could be made to give the link empirical content, but it should be recognized that the confidence intervals around the estimates might well be large.

Mr. Ortiz commented that he agreed with Mr. de Groote that some of the criticisms that had been made of the staff's model could be applied to the model on which the Fund's traditional financial programming was based. Some of the criticism was a reflection of the increased uncertainty about the information that was needed to construct growth models as well as a financial programming model. There was no reason to suspect

that the complications in building a financial programming model were any smaller than the complications arising in the formulation of growth-oriented models.

Mr. Goos remarked that he too agreed that the Fund's traditional approach to financial programming and, for that matter, the possible outcome of various policy measures, were subject to considerable uncertainties. However, it was important to stress that the uncertainties tended to accumulate in response to the introduction of additional factors into the underlying model. It was useful to use models as a means of clarifying the likely direction of the impact of policy measures, but, in using models for programs, the Fund should avoid trying to specify outcomes too precisely.

Mr. Dallara commented that Mr. de Groote's point that the present model used by the Fund had certain deficiencies was well taken. In his opening statement, Mr. Lankester had noted that one of the shortcomings of many of the growth models was that they were based on long-term relationships. However, the same shortcoming was characteristic of the monetary approach to the balance of payments, at it was based on assumptions about long-term relationships among credit variables. The uncertainties about, and the lack of direct relevance of, growth models called for humility in applying not only those models, but also the Fund's monetary model. The uncertainties surrounding the growth models might be greater than those surrounding the Fund's traditional financial programming model, particularly with respect to data and the complex behavioral relationships involved.

Mr. de Groote remarked that one of the problems with the present discussion was that the Executive Directors were comparing the apparent simplicity of the Fund's current financial programming with a model that had been constructed by the staff to help the Fund to devise a new type of program. The exercise would be less difficult if it involved the comparison between the underlying model of the traditional Fund-supported programs with the model that had been constructed by the staff. It would then have been clear at the outset that the underlying model of Fund-supported programs did not provide much certainty about the likely outcome of policies. It would be unrealistic to assume that the proposed revision of Fund-supported programs would be able to establish very convincing causation between policies and outcomes.

He did not agree with Mr. Goos that growth models necessarily introduced new complexities in programming, Mr. de Groote continued. Indeed, the opposite seemed to be true, as the purpose of growth models was to bring out more clearly than other models could the relationships of the variables involved. For example, the traditional Fund model clearly showed that large external debt had a negative effect on growth for a number of reasons. That was a strong proposition that could not be readily grasped if it were not expressed in model form. Even if growth models appeared to be somewhat complicated, their purpose was actually to simplify reality and to clarify relationships among variables; such models

had always been used in the formulation and analysis of Fund-supported programs. Indeed, even a recommendation to adjust an exchange rate was based implicitly on a model that would appear to be very complicated if the recommendation were expressed in model form. Therefore, he felt strongly that the staff should continue to explore possibilities for modeling to provide a better understanding of the relationships between important variables which in turn would help the Fund to devise effective programs designed to achieve growth and adjustment.

Mr. Faria said that he agreed with Mr. de Groote. The growth modeling exercise was not designed to enable the Fund to project precise rates of economic growth in individual member countries. Rather, the models were intended to give substance to the often-expressed and widely shared objective that Fund-supported programs should establish the foundation for the resumption of growth. In other words, the aim was to establish an organizing framework within which to determine how Fund-supported programs affected growth and established the basis for the resumption of growth. The modeling exercise was not meant to suggest that the Fund would insist that an individual country achieve a specified rate of growth. At present, Fund-supported programs treated growth as an exogenous variable and emphasized the need to identify and fill balance of payments financing gaps. The Group of Twenty-Four had suggested making growth an endogenous variable in order to gain a better sense of how policies affected economic growth. As the staff had concluded, that kind of procedure could not be performed in a single stage. The process was an iterative one, involving a backward look at the behavior of certain variables to determine what kind of endogenized growth rate would emerge from the selected model, followed by an analysis of the appropriateness of such a rate in the context of the per capita income growth and other factors of the country concerned. In addition, the analysis would take into account the policies that the Fund had recommended to determine whether they were consistent with the country's reserve targets and balance of payments viability, always having in mind, with the humility that such exercises required, that some of the factors that impeded growth were structural in nature and that the lags between policy implementation and outcome often were not sufficiently captured in the typical fairly short period of a stand-by arrangement. The hope was that such considerations could be given more prominence in the three-year horizon of arrangements under the enhanced structural adjustment facility.

Mr. King commented that the issues at hand were essentially empirical in nature. Accordingly, they could not be resolved on the basis of theoretical discussions. An examination of the stability of the various relationships among variables and outcomes in individual countries would have to be undertaken. The model implicitly underlying the Fund's present financial programming was not perfect. At the same time, some of the relationships in that model might be somewhat easier to determine than the relationships in growth models. Moreover, the costs of using the wrong model needed to be taken into account. The costs of errors in the use of a growth model might well be larger than the costs of similar errors in the use of the more traditional model.

Mr. Dai made the following statement:

The traditional financial programming approach to the design of programs has been employed by the Fund for a long time. Shifting from this approach to a new one, which would give more weight to economic growth, would be a substantial transformation in the Fund's philosophy governing, and technical exercises in, program design. Such a process would certainly not be easy. In this context, the answers to the question of what is an appropriate design of growth-oriented adjustment programs provided in the staff papers, although not fully satisfactory, do point in the right direction.

The shortcomings of the financial programming approach have repeatedly been pointed out during previous Executive Board discussions and in other international forums. One shortcoming is that the traditional approach is based on an excessive emphasis on the need to preserve the principle of the temporary use of the Fund's resources. As is correctly pointed out in the G-24 report, the financial exercise behind each Fund-supported program is geared to a quick reversal of the balance of payments deficit but is not consistent with the requirement that a program should not detract from the achievement of prosperity and the development of resources.

Another shortcoming is that models that have been constructed on the basis of the traditional approach are too rigid and cannot be adapted to changes in the international economic environment and to increasing membership of the Fund. Moreover, the programs contain too many uncertain factors to be realistic. Unfortunately, however, the traditional model has been used to determine the targets for Fund-supported programs. Naturally, therefore, translating these targets into performance criteria and requiring member countries to adhere strictly to these criteria have caused many of these programs to be unsuccessful.

Although integrating a growth ingredient into the financial programming-with-growth approach as outlined in the staff paper is no doubt a step forward in overcoming the weakness of the financial programming approach, it does not represent a fundamental departure from the old approach. It is this point that distinguishes the growth exercises approach advocated by the Group of Twenty-Four from the approach advocated by the staff.

The staff has fully illustrated the role of multifactor productivity in economic growth, the cost of external borrowing, the optimal borrowing strategy over time, and the role of fiscal and structural policies in attaining growth objectives, as well as data requirements in the growth approach. In contrast, the importance of adequate external financial support in attaining adjustment with growth has not been given sufficient emphasis;

nor has it been thoroughly illustrated either theoretically or mathematically. In the circumstances, I wonder how much improvement could be made in the design of adjustment programs even under the financial programming-with-growth approach.

One question that is not fully dealt with in the staff papers is how to deal with the growth problems of heavily indebted countries. In other words, how does the financial programming-with-growth approach work in the design of adjustment programs for such countries? Most of these countries long ago exceeded the level of optimal borrowing according to the analysis of the cost of external borrowing, the level of debt and the optimal borrowing strategy described in the staff paper. If the best borrowing strategy is to limit borrowing from abroad to the optimal level, the only answer for such countries would be to avoid any additional external financing. What are the implications of such a strategy for the present economic situation of these countries in general, and for their growth in particular?

In this connection, it may be useful to extend the framework of the financial programming-with-growth approach and to present its models in two groups, namely, countries without debt service problems and countries with debt service problems. For the latter group, a distinction between the heavily indebted low-income countries, and the middle-income countries may be necessary and helpful. Under that approach, models of the financial programming-with-growth approach may show variances in handling different economic cases. Furthermore, it may be desirable to make the distinction between foreign savings through official channels and those through international capital markets. Accordingly, the differentiated costs of capital should be recognized.

Balance of payments and growth objectives should be well integrated into and coordinated within the Fund's program design. The impact of adjustment on growth must be taken fully into account. A program should not pursue short-term adjustment targets at the expense of growth.

One of the most important objectives of the growth exercise is to avoid the undesirable consequences of a decline in growth and to avoid undermining the basis for growth. Without the necessary growth, the sustainability of an adjustment program cannot be assured. On the other hand, emphasizing growth does not necessarily mean adhering to a relatively high growth rate or a rate that would overheat the economy, which would not benefit the economy and, indeed, might disrupt the whole adjustment program.

No simple and homogenized model of program design can be expected to work well. Different designs, according to the specific circumstances of different countries, should be the rule. Caution should be taken to avoid dogmatic approaches.

I agree with the staff that in order to strengthen the analytical foundation of growth exercises, additional research needs to be undertaken, especially as the enhanced structural adjustment facility will be implemented soon. This task is a difficult one, but it will give us an opportunity to see whether we can make any significant improvement in the design of Fund-supported programs in the context of growth exercises.

The Executive Directors agreed to continue their discussion in the afternoon.

DECISIONS TAKEN SINCE PREVIOUS BOARD MEETING

The following decisions were adopted by the Executive Board without meeting in the period between EBM/87/172 (12/15/87) and EBM/87/173 (12/16/87).

2. APPROVAL OF MINUTES

The minutes of Executive Board Meetings 87/81 through 87/85 are approved. (EBD/87/318, 12/9/87)

Adopted December 15, 1987

3. EXECUTIVE BOARD TRAVEL

Travel by an Advisor to Executive Director as set forth in EBAP/87/272 (12/14/87) is approved.

APPROVED: July 28, 1988

JOSEPH W. LANG, JR.
Acting Secretary