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Minutes of Executive Board Meeting 87/174

3:00 p.m., December 16, 1987

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

Executive Directors	Alternate Executive Directors
	A. G. A. Faria, Temporary
Dai Q.	
C. H. Dallara	
J. de Groote	
	E. C. Demaestri, Temporary
	I. Zaidi, Temporary
	B. Goos
J. E. Ismael	J. Reddy
A. Kafka	
	S. King, Temporary
	D. McCormack
	C. V. Santos
	A. Ouanes, Temporary
G. Ortiz	
	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. European Department: D. C. McDonald. Exchange and Trade Relations Department: D. Lee, C. Puckahtikom. External Relations Department: H. P. Puentes, E. Ray. Fiscal Affairs Department: V. Tanzi, Director; S. K. Chand. IMF Institute: A. Lanyi, Deputy Director. 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, E. C. Meldau-Womack, P. J. Monteil, P. Wickham. Western Hemishpere Department: J. Ferrán, Deputy Director. Personal Assistant to the Managing Director: H. G. O. Simpson. Advisors to Executive Directors: K.-H. Kleine, P. Péterfalvy, G. Pineau, Song G., D. C. Templeman, A. Vasudevan. Assistants to Executive Directors: J. R. N. Almeida, W. N. Engert, C. L. Haynes, G. K. Hodges, L. Hubloue, A. Iljas, K. Kpetigo, V. K. Malhotra, C. Noriega, S. Rouai, D. Saha, G. Schurr.

1. PROGRAM DESIGN - GROWTH EXERCISES

The Executive Directors continued from the previous meeting their discussion of 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. Santos made the following statement:

I welcome today's discussion, which is long overdue. However, the Executive Board has spent considerable time in the recent past--mostly in seminars--exploring the theoretical foundations of the design of Fund-supported programs. The first Fund/World Bank Symposium and the publications arising therefrom have also contributed to the exploration of growth issues in adjustment programs. On the basis of the views expressed during the seminar discussions and the symposium, I welcome the production by the staff, in the context of its long-term program of studies, of papers that attempt to pay more attention than hitherto to the question of growth in the design of programs. I am confident that they will be useful additions to the growing body of the literature on the question of adjustment with growth and will continue to generate debate within and outside the Fund.

The staff paper summarizing the various contributions made at the symposium on growth-oriented adjustment has attempted to narrow the areas of difference between the ways in which the Group of Twenty-Four and the Group of Ten perceive adjustment with growth and the role that the Fund should play in this new approach to adjustment that is based on the fact that adjustment and growth should go hand in hand.

The second section of the paper on issues in the design of growth exercises concentrates on the part that capital accumulation, saving, and total factor productivity could play in economic growth in the medium term. However, the paper seems to have devoted too much attention to the conceptual and measurement problems that are likely to be encountered in growth exercises. Indeed, for most of the countries in my constituency and other developing countries, the lack of information and statistical data is a major problem that has impeded exercises in financial programming, and this problem may be of even greater significance in the new area of growth exercises. The lack of data in some developing countries may make it difficult to apply the concept of production functions to the growth exercises of those countries. Despite these limitations, the staff should continue to apply the type of production function that is based on the incremental capital/output ratio model that relates the growth of output to the ratio of investment to output. I agree with the staff that, in the conduct of growth exercises, great reliance should be placed on rough estimates and a considerable degree of judgment will be required. This requirement is not a reason for avoiding attempts to undertake growth exercises. However, in doing so, the staff should exercise prudence, taking into account the need to design programs on a country-specific, case-by-case basis.

In Section 3 of the staff paper on issues in the design of growth exercises, the staff discusses the relationship between domestic and foreign saving and the impact of capital accumulation on total growth. This discussion reflects the savings gap approach proposed for growth exercises by the Group of Twenty-Four. This approach relates the rate of growth of potential output to the net flow of foreign credit, the change in reserves, the rate of domestic saving. Using this model, the amount of foreign credit needed to sustain a given growth rate of GDP can be established, assuming a certain domestic saving rate and taking into account the targeted rate of reserve accumulation. Without thoroughly pursuing the feasibility of the savings gap approach, which emphasizes the need to mobilize foreign savings and to use them efficiently to support growth-oriented adjustment efforts in the medium term, the staff has merely extended the savings gap framework to accommodate the distinction between GNP and GDP and to emphasize the cost of borrowing abroad.

Applying the theory of foreign borrowing developed by Cooper and Sachs, among others, the staff has suggested policy prescriptions, outlined on page 11, for establishing an optimal borrowing strategy for developing countries. In the same section of its paper, the staff has discussed the concerns that have been expressed about the debt problem and the achievement of growth-oriented adjustment by developing countries, especially the view that a large amount of external debt has a significant constraining effect on efforts to increase investment, thereby suggesting that developing countries are well advised to incur external debt only to the extent that it would generate or improve their capacity to service debt. Accordingly, in the context of financial programming and the attainment of growth objectives, it would be imprudent for countries to borrow excessively, since the determinants of a country's growth prospects and ability to pay debt do not evolve simultaneously in the short term, but only in the medium and long term. For most developing countries, the relevant issue is not so much the level of foreign borrowing, as it is the terms and conditions for such borrowing. Foreign loans and other financial flows should be made available on highly concessional terms to support the adjustment and growth objectives of developing countries.

Discussions or exercises on growth-oriented adjustment programs should emphasize structural changes in which fiscal policy could play an important role. Working Paper No. 87/1 is a useful contribution to the subject; it focuses on the role of fiscal policy and distinguishes its demand-management aspect from its contribution to growth.

I am particularly interested in the section of the staff paper on financial programming and growth exercises in which the financial programming approach is merged with the growth model. I have no difficulty with the staff's analysis. As the staff has noted, the merged model is easy to apply, particularly to most developing countries where complex models demanding more sophisticated data and information would prove unsuitable.

It is regrettable that the staff appears to dwell too much on the difficulties in applying the expanded model. These difficulties, especially those relating to behavioral parameters, and the issues concerning projections of exogenous variables, are not new. Accordingly, I agree with the staff that there is a need to strengthen the analytical foundation of growth exercises, and I strongly encourage the staff to continue to do so in the context of its ongoing studies.

Mr. Posthumus made the following statement:

While the models that have been developed are simple and, therefore, cannot begin to capture reality fully, I feel strongly that small and simple models are best, for two reasons. First, it is not possible to construct a model that would fit all economies; indeed, I doubt whether such a construction can be successful even on a case-by-case basis. Second, and even more important, models are being discussed because of their relevance for policymakers. Small models help policymakers to make their own analyses and judgments, while large models hinder policymakers. The border between small and large models is not clear, of course, but model builders should be very careful in presenting complicated, multidimensional models. It is better to explain why a model is simplistic than to try to make a model even more realistic than it already is.

While reading the staff papers, I asked myself what implications the various models have for policies. The G-24 report concerns the role of the Fund, and, in that connection, the main question to ask is what the growth exercises of the staff can or should mean for the Fund's policies. In that area, in turn, there are two particularly interesting issues. One is the criticism by the Group of Twenty-Four that Fund-supported programs are aimed excessively at achieving a quick reversal of balance of payments deficits. The other issue is the role of the Fund in the debt strategy. Of course, this is not the occasion on which to discuss the debt strategy. However, there are interesting questions about the role of the Fund in the light of the studies presented by the staff in the papers at hand, and it is useful to note that, in the staff paper on issues in the design of programs, the staff describes the importance of the stock of foreign debt, while in the other main paper the staff seems to make the model so unrealistic that even I would consider it to be too simple and perhaps inadequate.

The G-24 report criticizes the Fund on the assumption that "excessive emphasis on the principle of temporary use of the Fund's resources has resulted in the adoption of policies, geared to a quick reversal of balance of payments deficits, without being consistent with the requirement that they should not detract from achievement of prosperity and development of resources." The implication seems to be that growth-oriented adjustment and quick adjustment are incompatible, or even that slower adjustment is equivalent to growth-oriented adjustment. However, for countries with balance of payments deficits which seek Fund assistance in achieving a sustainable balance of payments deficit and growth in the medium term, there are only two possibilities. First, a relatively small balance of payments deficit can be financed with desirable and available new resources, in which event the smaller deficit would be sustainable, and the staff would not press for further reduction of the deficit. Second, a country with an unsustainable balance of payments deficit, must adjust in order to retain or rebuild the growth potential, which might well require three or four years. In retrospect, it seems that the Fund has been too optimistic in its approach to many member countries; repayments to the Fund weigh heavily in the debt repayment accounts of many countries, and donors and banks complain that they must indirectly finance repayment to the Fund. Although finance for that purpose might well be a noble goal, donors and banks often fail to take into account the particular contribution made by the Fund when its credits were extended to members. There is every reason to continue to be cautious; it is not detrimental to the growth of the countries concerned to have the Fund continue to point out that balance of payments viability is a sine qua non for continued growth.

Another element of the G-24 report is the treatment of the existing debt burden. The report says that an assessment is required of the level of the debt service burden that a country can bear in the light of the stock of accumulated debt, the prospects for the balance of payments, and the need to maintain a reasonable growth rate. The staff's analysis shows simply and clearly that the level of a country's external debt has consequences for the marginal cost of the member's borrowing abroad, and that the relationship between foreign saving and the growth of real GNP is not a linear one. Accordingly, then an important question is whether the Fund's role in the debt strategy is indeed the optimal one. A message conveyed by the staff's models is that adjustment and growth are related to the adjustment efforts of a debtor country, the amount of foreign credit available to the country, the country's debt situation, and the volume of desirable foreign assistance available; the optimal outcome for a debtor country can be seen only when all the relevant equations for all the variables involved in the model used are solved together.

There is a relation between the debtor and the commercial banks, between the debtor and the Paris Club, between the debtor and its creditors, and between the debtor and the World Bank and the Fund. The Fund, through its adjustment and financing programs, should not only take into account the results of the other relationships, but also influence them, advise the debtor on how to handle them, including how to link the various relationships together. The Fund then, in the end, helps to finance adjustment on the basis of available resources. However, if among all the various potential creditors the Fund is the first to take a decision on lending, then it may not be able to help the debtor to influence the other creditors. An important question is whether the present approaches are such that the Fund can fulfill its role to the maximum possible extent, or whether it is restrained in doing so. Perhaps the staff can link the present papers with the papers that presumably are being prepared for the next discussion on debt issues.

Mr. Fogelholm made the following statement:

These papers help to increase our understanding of the mechanisms influencing growth. However, it hardly seems possible, at least at this stage, to incorporate models like those presented in the staff papers directly into the design of Fund-supported programs. The Executive Board will undoubtedly have to return to the question of the role of growth in adjustment programs many times in the future.

I will comment first on the staff paper on issues in the design of growth exercises. One important point, which a number of previous speakers have made, is the explicit recognition of the distinction between GNP and GDP, which is a significant extension of the framework proposed in the G-24 report. This distinction underscores the fact that it is not possible to achieve a desired target for the growth of potential GDP merely by increasing the reliance on foreign savings; the main emphasis must be on sound economic policies that foster domestic savings. This distinction can be eliminated only if the foreign savings take the form of grants, although, from an analytical viewpoint, this would mean a relaxation of the important condition inherent in foreign borrowing, namely, that the capital should earn a positive rate of return. This is perhaps what happened in the early part of the 1980s, when an abundance of capital on relatively favorable terms was available, and not enough attention was paid to its proper and efficient use.

According to the optimal borrowing theory, a country could increase its foreign borrowing and investment up to the point at which the marginal productivity of capital is equal to the cost of borrowing from abroad. This is certainly a necessary condition, but I wonder whether it is also sufficient, as it does not cover the foreign exchange risk involved. Accordingly, the marginal productivity of capital should at least be equal to the cost of borrowing expressed in foreign exchange. Even with this addition, the concept of optimal borrowing holds true in theory but is almost impossible to use in an operational sense by a government in any meaningful way. Even with fully liberalized capital movements and open access to international capital markets, the outcome with respect to the use of capital can be evaluated only ex post and at the company level.

As to the staff paper on financial programming and growth exercises, I have little to add to the staff's conclusion that the approach it describes can best be seen as a useful framework for reviewing the interrelationships between extended financing, investment, growth, inflation, and the balance of payments. In addition, I agree that there is still some way to go before the financial programming-with-growth approach outlined in the staff paper can be fully integrated into an actual Fund-supported adjustment program. A basic shortcoming of the simple growth models used in the growth exercises is that improvements in efficiency are disregarded. However, many government policies are designed precisely to reduce the incremental capital/output ratio by increasing the efficiency of investment through various means, such as trade liberalization, changes in pricing policies, financial sector reforms, industrial policies, and tax reforms; it is hard to believe in growth models based on fixed factor proportions since under regular adjustment programs, an effort is always made to facilitate these changes to the extent possible. In addition, our knowledge of the transition mechanisms for different growth factors in member countries at different stages of development is still very imperfect, and the uncertainties about the behavior of key parameters are substantial.

Growth is indeed important for all adjustment programs, and work by the Fund should continue to bring growth aspects more explicitly--but realistically--into Fund-supported programs. At the same time, I agree with the staff and Mr. Goos, among others, that present Fund-supported programs already implicitly take growth into account to a considerable extent, as the staff's policy recommendations are by and large aimed at establishing a sound foundation for, and increasing the efficiency of, an economy. As Mr. Dallara and Mr. de Groote have suggested, the staff should review and analyze the present model that is implicit in Fund-supported programs and compare it with the proposed growth models.

The main problem that remains is that growth simply cannot be ordered.

Mr. Demaestri made the following statement:

The staff papers indicate some of the elements that help to explain growth and include models that help to evaluate the consistency of policies and objectives. However, in its analysis the staff does not discuss in detail ways in which to determine the extent to which a specific structural reform will contribute to growth. I agree with the staff that we have much to learn about growth and about specific economies if we expect to be able to place any confidence in estimates of the possible impact on growth of certain structural adjustment policies. Therefore, the staff should continue examining these issues, especially those related to labor and incomes policies.

Empirical evidence is particularly important. The examination of the experiences of several countries can be useful. We can draw lessons from the experience of developing countries--for example, Korea--and from industrial countries--such as, Belgium and Luxembourg--that have made important structural reforms over the previous few years.

Today's discussion enhances the relevance of the G-24 analysis of growth problems. As the staff has indicated, the Group of Twenty-Four concentrated its analysis on the availability of domestic and external resources. The Group of Twenty-Four did so not because it neglected the importance of other factors, but rather to emphasize the importance of the elements about which concrete and operational conclusions could be drawn.

One of the basic problems in countries making adjustments is a lack of resources, and the staff has concluded that a country will grow more rapidly if it uses external resources up to the point at which the cost of the external capital is the same as the marginal productivity of capital. The Group of Twenty-Four has indicated that adjusting countries have excessive debt and, in consequence, are transferring resources abroad even when the marginal productivity of capital exceeds the cost of external capital. Accordingly, countries should use more external savings to achieve an increase in investment, and, ceteris paribus, adjustment and growth compete for the same resources.

Even after structural reforms are implemented, it would still be true that, instead of transferring resources abroad, countries should be using more external savings, especially since the reforms would probably increase the productivity of capital. The staff's analysis includes an important quantifiable guideline, namely, that if the marginal productivity of capital exceeds the cost of capital, investment should be increased. This is not happening, according to the Group of Twenty-Four, and in its papers the staff has underscored the importance of this inefficiency in the present adjustment efforts of developing countries.

Some structural adjustment measures have a potentially useful role to play. In this area, the problem is that the precise effects of such measures cannot be precisely quantified and, therefore, it is impossible to say with great certainty how important such measures might be in ensuring that growth can be maintained at the minimum required to make adjustment feasible. As a result, we cannot rely on structural adjustment measures, at least in the short run, as an alternative to more financing when financing is technically useful in enhancing growth. Structural adjustment measures should be considered a good complement, but not a substitute for, financing as a means of reaching growth objectives. Therefore, structural measures should be encouraged by the Fund, which should always be interested in promoting growth. We will have a further opportunity to consider growth issues during the coming discussion on monitoring of structural adjustment in Fund-supported adjustment programs.

Mr. Dallara made the following statement:

We welcome this opportunity to examine some theoretical and empirical issues related to the issue of growth in Fund-supported programs. As Directors are aware, my authorities have been using this "password" for some time, noting the importance of ensuring that our adjustment programs are growth oriented. We believe progress has been made in this direction, but much more needs to be done by the Fund and members with regard to program design, with respect to our instruments and techniques of conditionality, and with respect to our mandate of collaboration with the World Bank.

Today's discussion, based on two interesting and well-developed papers, can advance our efforts, although the papers do not directly address many of the operational aspects of the challenges that lie before us. But that was not their purpose. We will have an opportunity in just a few days to focus on some of those questions. Today, we can reflect, in a necessarily brief and superficial fashion, on what the economics profession does and does not know about sources of growth in developing countries, and about how we could consider incorporating growth objectives formally into program design and formulation.

It is important, as I listen to the discussion and resist my own temptations, not to hold the drafters of the staff paper in any way responsible either for the general shortcomings of economic theory or the shortcomings of the particular models under discussion. If we had wanted new models from the staff, we should, perhaps, have given them two years, or two decades, rather than two weeks.

Before commenting on the financial programming and issues papers, I would like to recall just two or three of the important conclusions which emerged in the recent Fund/Bank Symposium, and which seem particularly relevant today.

First, that the role of capital formation, however critical, should not be overstated; nor should it be the sole focus of our attention. Neither should the role of foreign financing be overstated, particularly debt-creating financing--and we appreciate the elucidation which the staff has brought to this important growth factor.

Second, that a strong export sector is a key to sustainable growth and external balance. And third, that favorable external conditions for foreign savings can only be expected to materialize--this perhaps came across more clearly in the symposium than in the paper today--and the Fund can only hope to utilize those external savings, if the debtor countries pursue cooperative rather than unilateral or confrontational approaches.

There are important questions about what is, or is not, a growth-oriented approach to economic policy. It is clear from today's discussion, as well as from the papers that we have before us, that there are serious problems in using current available growth models to conduct growth exercises. The limitations have been cited, and I would only emphasize a couple which seem particularly serious to us.

In particular, with respect to the limitations involving the so-called ICOR model, based on the historical relationship between growth and the incremental capital output ratio, there is the problem that the model does not--indeed, does not purport to--take into account the wide variety of factors which determine investment.

But second, and perhaps an even more serious limitation as far as the operational relevance for the Fund is concerned, as Mr. Fogelholm just stated, is the fact that the model does not fully take into account the determinants of total factor productivity, for example, the impact of improvements in the efficiency of resource allocation, due to technological advances and other improvements, such as education, on the quality of the factors of production. Of course, this relates to our discussion of issues concerning structural policies which are aimed at improving factor productivity and improving overall fiscal performance.

Before commenting briefly on what some of these structural policies may be and how they may relate to the issues before us, let me say that the discussion in one of the papers concerning fiscal deficits reminds us that, as much as it may seem counter-intuitive, fiscal restraint may be growth oriented.

Regarding structural policies and how we may wish to incorporate them into Fund programs, we can and should strive to further develop financial programming with a greater growth orientation, perhaps using some of the models which are currently available to us, not as a definitive guide, but as another source of information.

These models have various limitations, as do the monetary models we now rely on. What is most important is not which model we use but that, in developing our programs, the authorities carefully reflect on the recommendations of the staff on the potential impediments to growth in the particular circumstances of that country, along with consideration of how policies could be designed to promote payments sustainability.

Of course, in the rapidly moving world which many countries face, this will be a dynamic and difficult political as well as economic process. But a comprehensive assessment must be made, based on whatever models may be available, or on empirical or even anecdotal evidence.

The aim must be to achieve not only payment sustainability with growth over the medium term, and not just to boost growth temporarily. I fully share the emphasis on this point made by Mr. Goos and other Directors today. We need to reflect on some of the potential contributions for growth, not only of sound financial, fiscal, and exchange rate policies, but also of structural policies.

I would briefly mention the importance which we should be attaching to tax reforms. These could, by helping to create a more level playing field, help to improve the efficiency of private investment and thereby promote growth. Also, the creation of new, or the strengthening of old, financial market instruments and institutions, along with positive real interest rates, might raise domestic savings and thereby foster growth.

At the same time, foreign direct investment, convening with it managerial expertise, technological abilities, and marketing facilities, could improve the quality as well as the quantity of capital, affecting both aspects of the production function and promoting growth.

In conclusion, we realize the complexities of the problem with which we are dealing. We also realize the shortcomings inherent in the application of any particular models today, or of other models. One cannot help but be persuaded of the appropriateness of a day-to-day pragmatic approach by the Fund. I would encourage more of that as we work to incorporate growth more effectively into our programs.

Mr. McCormack made the following statement:

While the staff studies are interesting and useful, they also clearly show that the simple growth models considered by the staff are inadequate for guiding Fund policies. A suitably elaborated model along the lines of the approach outlined in the second staff paper can be a useful organizing framework in which to pose particular questions about the interrelationships among a number of variables that we are often concerned with, including external financing, growth, and the balance of payments. However, it seems clear that both the theoretical and empirical weaknesses of that approach preclude a more ambitious role for models. My Canadian authorities in particular are very concerned about the implications of tying financing to a growth target, a point that this chair has made previously in relation to growth contingencies.

The centerpece of the incremental capital/output ratio model considered in the staff papers is the fixed coefficient production function and the assumption of a constant capital/output ratio, features that seem to be of doubtful relevance and validity on both theoretical and empirical grounds. In particular, as the staff papers clearly show, a constant incremental capital/output ratio precludes substitutability between capital and labor and rules out any responsiveness by the incremental capital/output ratio to changes in wage rates or the cost of capital. A constant ratio also precludes the possibility of improvements in the efficiency of investment and therefore seems to be at odds with much of what is advocated in the context of Fund-supported programs. In other words, many of the policy reforms advocated by the Executive Board to increase efficiency and productivity could not be reasonably captured or reflected in a fixed incremental capital/output ratio model. In addition, this approach, while having important advantages with respect to data requirements and tractability, seems to be at odds with much empirical work that emphasizes the contribution of factor productivity and technical progress in explaining the growth of output.

The neoclassical model on which much of the staff's work is based emphasizes the distinction between growth rate effects and output level effects--that is to say, some changes, such as productivity increases, lead to permanent increases in growth rates, while other factors, such as the removal of trade barriers or other structural improvements, lead to one-time-only shifts in the level of output, a point that is well made by the staff. In this connection, the implication of the neoclassical model is that changes in the savings rate lead to essentially level effects--in other words, a permanent increase in the savings rate will lead to a higher level of capital and output and, in the transition to this higher level, a temporarily increased growth rate will be observed. However, after the transition is complete, the growth rate of the economy can be expected to settle down to the steady state observed before the increase in the savings rate. This effect is also suggested in the staff papers in the context of an increase in government saving relative to GNP.

Of course, this argument does not suggest that structural improvements and increases in the savings rate are undesirable. They clearly are desirable as a means of moving toward higher income levels. However, we should not expect a large permanent effect on an economy's growth rate simply from an increase in the savings rate.

The line of argument that I have described also seems to suggest that economic growth--which can be viewed as a summary measure of all the activities in any particular society--is a multifaceted approach; it necessarily depends on social as well as economic factors. This process clearly is not well understood; nor are steady-state growth rates of an economy easy to change.

The financial programming-with-growth approach that is outlined in the staff papers seems to be subject to so many limitations as to be useful at this stage only as a framework of inquiry. As the staff has concluded, at its present stage of development the approach is still some distance away from being able to capture the range of policies associated with Fund-supported adjustment programs, and its accuracy in describing the implications of alternative adjustment and financing packages has not been reliably established. In addition, there are important data limitations. I wish to associate myself with Mr. Lankester's comments in this area.

Experience teaches that we ought to be cautious in our policy recommendations in view of the relative paucity of well-understood and empirically supported propositions in the area of adjustment with growth. In addition, our main, but perhaps not exclusive, task as policy advisors is to suggest the way, to the

> extent possible, toward a stable and predictable policy environment in which individuals can make rational decisions. However, it is clear that the Fund must recognize in some fashion the implications of Fund-supported adjustment programs on growth. Without a reasonable prospect of some acceptable growth potential, adjustment fatigue is an important risk. At the same time, we should bear in mind that growth is not simply a matter of resource availability. Both developed and developing countries obviously have squandered away available resources. A more important task for industrial countries than the provision of financing is their maintenance of an open trading system and their taking the steps that would establish a global environment that is conducive to the improvement of the growth prospects of all member countries.

The Director of the Research Department remarked that for many years economists had considered the problem of how to increase the level of economic activity in individual countries. No simple method had been found, and the staff papers were merely a first step in the staff's ongoing research program to deal with the important issues that were raised in the G-24 report and in other studies. In effect, the staff papers constituted a progress report.

One of the important issues was whether growth and adjustment were complements to, or substitutes for, one another, the Director said. The staff felt that they were complements, and that one of the main questions to answer was how to find the appropriate mix. In that connection, timing of policy implementation was important. As Mr. Rebecchini had stressed, there was typically one set of policies for adjustment and another set for growth, and the two often were not fully identical to or synchronized with one another; the appearance thereby was given of there being a trade-off between adjustment and growth. When seen in a short-time perspective, there did seem to be some lack of coherence between the supposedly optimal sets of policies for adjustment and growth, but in a longer-time perspective, the policies were clearly complementary. At the same time, it was important to recognize that growth-oriented policies required a longer period than other policies to achieve the desired outcome.

A related issue, which had been raised by Mr. de Groote, was whether the optimal mix of adjustment and growth-oriented policies involved any sacrifice of other objectives of a society, the Director continued. It had been argued that the right mix would be consistent both with growth objectives and an appropriate debt strategy. The issue of the effect of the optimal mix of adjustment and growth-oriented policies on other policy objectives might well deserve further examination by the staff.

It was important to bear in mind the kind of adjustment that one had in mind in analyzing growth-oriented adjustment models and policies, the Director commented. In the past, adjustment generally emphasized demand-management policies. During the present discussion, however, most Executive Directors apparently had had in mind structural adjustment policies, and the staff certainly shared that view. The kind of adjustment that was the subject of the present discussion should be lasting and was based on structural adjustment policies.

The role of fiscal policies was another important topic, the Director remarked. In that connection, one of the main questions was whether adjustment policy should be aimed at the overall content of fiscal policy, in an aggregated sense, or at the various components of fiscal policy. The staff felt that large aggregates, such as overall fiscal policy indicators, were not sufficiently useful. For example, in considering the objective of cutting government spending, it was important to determine whether public sector investment should be treated differently from other public sector expenditure. In that connection, it was worth noting that some evidence was available on the relationship between public and private investment. Previous staff studies had shown that infrastructure investment was complementary to, and crowded in, private sector investment. At the same time, other kinds of public investment could crowd out private investment. In sum, while a more refined disaggregation of public sector spending was called for, the various investment classifications also called for more careful examination.

Another major general issue was the role and limitations of the analytical models used, the Director commented. The staff certainly sympathized with Executive Directors who had noted the various significant limitations of models.

One of the key questions about models was the relevance of long-term analysis under steady state conditions applied in typical growth models for the appropriate approach to solving short-run problems facing member countries, the Director continued. It could be argued that some issues should be seen in a long-run perspective, while others should be seen in a short-run perspective. The staff believed that the long-run perspective should be borne in mind continually, even when a member was implementing short-run policies. Experience clearly showed how tempting short-run policies had led to undesirable long-run consequences. Indeed, the accumulated debt of member countries was the result of accumulated annual budget and current account deficits.

A second reason for using long-run models was that they provided a good clue to the usefulness of whatever model that was used in the formulation of an adjustment program, the Director went on. If the model used to formulate a program had obviously unrealistic long-run implications, then, even if the short-run implications were realistic, the model was clearly inappropriate and should not be used. As Mr. Lankester had emphasized, an important question was how to bring about a smooth transition from short-run considerations to those associated with the very long run. That challenge faced the entire economics profession, and its existence was a reflection of the current state of the art of economic analysis.

Another question that had arisen in the context of the applicability of models was whether the neoclassical kind of model that was usually applied to industrial countries should be applied to developing countries, the Director recalled. In other words, should alternative, post-Keynesian models be applied to developing countries? In his view, the choice of the appropriate model did not reflect the particular philosophical or ideological preference of a modeler; instead, it reflected the time frame under consideration. The Keynesian model was based on certain key assumptions, such as downward wage rigidity, and the time period for the model was generally the short run. If one believed that the market structure and other features of developing countries' economies were subject to adjustment in the short run, then the very long-run growth models had significant limitations. At the same time, it would be unfortunate to conclude that adjustment in the developing countries should always be seen in a short-run modeling context. The objective should be to ensure that the long-run model was also applicable to developing countries.

One of the main issues was how to make the growth models more operational, the Director said. As Mr. Ouanes had stressed, simplicity in a model did not imply that the model was necessarily useless; indeed, a model that was full enough to encompass every factor would no longer be a model but a description of reality. In choosing appropriate models, the Fund should not consider what was aesthetically appealing, but rather which models had the greatest potential for being useful in an operational sense. In that connection, one of the main sources of debate was whether a model should be judged on the basis of its realism or its predictive power. According to one school of thought, a model was acceptable for operational purposes as long as its predictions were accurate and even if its assumptions were unreasonable. Another school of thought maintained that assumptions must be tested for their realism.

As Mr. Sengupta had stressed, the issues concerning modeling were empirical, rather than strictly theoretical, in nature, the Director commented. The role of theory in modeling was to identify the relevant parameters within which strict empirical standards would be applied. The present staff papers were a progress report in the sense that they were a first step toward identifying the relevant parameters.

The question whether or not an aggregate production function actually existed was difficult to answer, the Director said. It was interesting to note that the latest Nobel Prize for Economics had been given for work--including empirical work--on the concept of the aggregate production function. The main issue at hand was not whether the aggregate production function was conceptually correct or incorrect, but whether it was useful in growth modeling. It seemed clear that inputs of capital and labor, as conventionally measured, did not fully account for total output; there was an important residual, which was widely thought to be technological progress. An effort should be made to discover and understand the residual, and it should be widely appreciated that there was no simple relationship between inputs and outputs. Accordingly, merely adding inputs of labor and capital to a model would not necessarily yield a predetermined output. Much would depend on the quality of the inputs, the way in which they were used, and the institutional framework.

Another theme of the discussion was the appropriateness of foreign direct investment compared with external borrowing, the Director commented. Foreign direct investment might not always be appropriate in a country that had distortions in its economy or if the investment did not bring with it the management required to making the investment work efficiently. Of course, such a country should attempt to eliminate the distortions that hindered efficient foreign direct investment and should encourage investment that was accompanied by the needed managerial expertise. As a general rule, an objective of Fund-supported programs was to enable a member country to live within its means in the form of available external resources. A program would in no way seek to reduce the amount of external financing available to a country. Indeed, wherever possible, the aim was to help a member country to increase the volume of available external resources. The staff papers were not meant to give the impression in any way that the volume of available external resources should be reduced; the objective of programs was to help member countries make the best possible use of available resources.

The staff intended to undertake additional studies to narrow the confidence intervals of the estimates that Mr. Lankester had mentioned and to gain a better understanding of the determinants of savings, investment, and other building blocks in the growth process, and of the effects of exchange rates on growth, the Director of the Research Department said. The staff had not meant to imply in its papers that the exchange rate was an instrument of demand management. The exchange rate was a structural policy instrument that could be used to correct distorted relative prices. The staff studies would address questions concerning market mechanisms, pricing systems, and, the most difficult question which Mr. King had raised, namely, the cost of using the wrong model.

The staff representative from the Research Department (Mr. Khan) said that the model that was presented in the staff paper on financial programming and growth exercises was one of the simplest possible models and was based on a set of very restrictive assumptions. As the staff had stressed in its paper, there was no expectation that the model would be applied in a mechanical way. The staff had been searching for a minimum framework in which it could handle three specific policy objectives, namely, the balance of payments, inflation, and growth. In effect, the staff had developed a skeleton model that could be built upon with the addition of relationships or through the use of judgmental or anecdotal evidence on the parameters. The staff's model was by no means the last word on growth modeling; indeed, it was merely a first step.

Some useful suggestions had been made for extending the staff's simple model, the staff representative commented. That model was a long-run model that in effect combined the long-run monetary approach to the balance of payments with a long-run growth analysis. The staff's model did not handle short-term output movements and, therefore, was not equipped to handle some issues that, like capacity utilization, were significant in the context of stand-by arrangements. Since the model was not meant to handle short-term fluctuations in output, no attempt had been made to introduce in the model variables such as credit that determined short-term output. However, the staff should certainly think of moving in that direction.

The staff's model also gave a limited role to the exchange rate, the staff representative went on. The exchange rate affected net exports and the rate of inflation--although in a mechanical way--but it had no direct effect on output. The exchange rate certainly had a broader role to play, and its role should not be limited to the one in the staff paper.

The staff model could also be extended to incorporate debt servicing, the staff representative explained. The first staff paper had not included debt servicing partly because the second paper had dealt with that particular issue.

In considering possible extensions of the staff's model, one should remember that models could quickly become very complicated, the staff representative said. Complex models were not as appealing in operational terms and tended to be difficult to understand, thereby limiting their applicability to various member countries and to different situations, while making it difficult for anyone other than the model builder to use the model.

It had been usefully suggested by Mr. Dai that one approach would be to build small models that applied to different kinds of countries, such as highly indebted countries, low-income countries, low-debt countries, and middle-income countries, the staff representative remarked. The staff would wish to give that approach serious consideration.

The staff's model and any extensions of it would have to be subjected to empirical tests of their applicability, the staff representative commented. The staff readily admitted that it knew little about how the models would fare when such tests were applied. At the present stage, the models were merely in the conceptual stage; they had yet to be tested.

The questions that Mr. Sengupta and Mr. Salehkhou had raised about the relevance of the neoclassical production function model to developing countries would have to be answered through empirical evidence, the staff representative remarked. It was conceivable that such models were relevant for developing countries, but there might well be alternative models, and all would have to be tested. There was as yet no certainty that any particular model could be applied smoothly to any particular country.

In its paper, the staff had emphasized how difficult it was to estimate production functions, the staff representative commented. There were, of course, a number of limitations to the incremental capital/output ratio model, but it had the advantage for long-term analysis of requiring relatively little data, something that was particularly important in the context of developing countries, where data on such variables as wages and the price of capital were difficult to obtain. Incremental capital/output ratios could be misleading in the short run, as they could fluctuate considerably from one year to the next. In the medium and long run, however, the ratios tended to be much more stable. The staff had not meant to suggest that the incremental/output ratio model was the correct one to use in all cases; the staff certainly recognized the limitations of that model. At the same time, it was important to remember that a more generalized growth model would be difficult to develop, partly because it would require a considerable investment in the gathering of the required data.

Additional analysis of growth, savings, and investment would of course be useful, the staff representative from the Research Department said. However, it would also be useful to undertake empirical analysis of such variables as the velocity of money and the effects of exchange rate changes, which were already elements of the traditional financial programming framework that was currently in use.

The staff representative from the Research Department recalled that Mr. Kafka had said that the staff paper on issues in the design of growth exercises had treated foreign borrowing implicitly as a close substitute for domestic capital, thereby suggesting that such borrowing was subject to diminishing returns. A distinction should be made between foreign borrowing in the form of direct investment and in the form of direct bank borrowing or other forms of debt financing. Direct investment might involve the transfer of some foreign technology, and therefore might improve the quality of investment. In that sense, the effects on growth of foreign saving might be different from those of domestic saving. Otherwise, domestic saving and foreign borrowing were substitutes, and capital formation required savings that would have to be obtained domestically if they were not available from abroad.

A number of Directors had commented on the lack of realism of the neoclassical model, the staff representative recalled. Mr. Faria had said that he doubted whether the neoclassical approach was applicable in situations in which the substitutability of factors was limited. Most neoclassical models assumed that the elasticity of substitution was fixed. They did not necessarily assume that the elasticity of substitution was large. Indeed, those models were consistent with the assumption of fairly low, albeit fixed, substitutability between capital and labor.

It had been suggested that the staff paper did not elaborate on the implications of the staff's findings and merely concluded that an increase in domestic saving was needed to foster capital formation and that member countries should adopt policies that would increase total factor productivity, the staff representative remarked. The concepts developed in the staff paper were admittedly not new or adventurous, but they were important and had often been forgotten. Therefore, they had seemed to require reiteration.

Another criticism of the staff paper on the design of growth exercises was that the concepts developed in it were not based on specific analyses of the situations in developing countries, but rather on methodologies that had evolved from the analysis of industrial countries, the staff representative noted. He agreed with Mr. Sengupta that, in talking about growth in developing countries, one paid a heavy price for not having worked in developing countries and reflected on specific development problems. At the same time, the staff doubted whether the experience of industrial countries was irrelevant to the problems facing developing countries. On the contrary, some of the key issues that had been raised in the debate on growth in industrial countries were relevant to the developing world; they included the need to increase domestic savings, the disappointing performance of productivity growth, the excessive accumulation of government debt, the crowding out of investment by fiscal deficits, and, in the case of the United States, the excessive accumulation of foreign debt.

A question had been raised about the complementarity between fiscal and structural adjustment policies, the staff representative recalled. In its paper, the staff had noted the uncertainty about the possible effects of fiscal and structural adjustment policies. The key result of the theory of economic policy under uncertainty was that, in such situations, policymakers should not put all their confidence in a single policy instrument; for example, they should avoid relying solely on structural policies and should instead combine structural adjustment and fiscal policies to have a higher probability of achieving their growth objectives.

As Mrs. Ploix had noted, total factor productivity was derived as a residual in the models described in the staff paper and was therefore subject to errors owing to a variety of factors, especially the measurement of capital, the staff representative said. Mrs. Ploix had added that it was difficult to identify a specific link between total factor productivity and the structural adjustment policies that were supposed to affect total factor productivity. The staff felt that, even though total factor productivity was a residual, it was difficult to understand and was naturally subject to error, it might be useful in many circumstances at least to identify that variable and observe how it had behaved over time. That exercise could add to the realism of growth exercises. For example, if it seemed that total factor productivity had been increasing at an annual rate of, say, 1 1/2 percent over a long period, one might view with some skepticism projections that implied a growth of that variable of, say, 4-5 percent a year. Attempts had been made in the empirical literature to reduce the residual or unexplained component of total factor productivity. Work in that area had been started in the United States by Dennison and had been followed by work in other industrial countries and in some Latin American countries, with some success. The researchers basically had been trying to incorporate some quantification of the quality of factor inputs, especially the quality of the labor force as measured by education. There had also been some success in the difficult effort to identify the link between total factor productivity as a residual and several demographic variables, including the age/sex composition of the work force. The World Bank had undertaken a series of studies on total factor productivity in developing countries and had found some empirical regularities in its behavior. For example, there seemed to be, broadly speaking, a relationship between the extent of intersector mobility of resources and the growth of total factor productivity, and a relationship between the growth of exports and total factor productivity; moreover, it appeared that countries with industries that were heavily protected by quantitative trade barriers seemed on average to record slower growth of productivity over the long run.

Short-run Keynesian models were aimed at the short-term determination of output and were useful in that context, the staff representative remarked. However, those models were based on the assumption that, at any given time, the stock of capital and the level of productivity were constant. In that connection, the models seem to assume away two of the variables that were of considerable interest in explaining the growth process. In their attempts to explain the growth process, the builders of the Keynesian models unavoidably had to introduce some kind of production function or at least some kind of relationship between output, the capital stock, and productivity.

The staff shared Mr. Sengupta's doubts about the measurement of total factor productivity. The staff also recognized the limitation of neoclassical and other production functions, but the staff wondered what other alternatives were available to linking the variables that were thought to be important in the growth process with the growth of potential GNP. He wondered whether one could attack the neoclassical production functions as being unrealistic while defending the conclusion that a stable relationship between output growth and the investment/output ratio would be operationally acceptable. Mr. Sengupta had said that it was untrue that assuming a fixed capital/output ratio ignored the growth of total factor productivity. In that connection, the staff had had in mind the neoclassical framework in which an increase in the capital/output ratio was determined by the difference between the growth of the capital/labor ratio and the growth of total factor productivity. In that particular context, a fixed capital/-output ratio would require either a fixed level of productivity or would have to assume that somehow changes in capital intensity offset changes in total factor productivity.

It had been noted by Mr. Sengupta that the G-24 discussion on growth exercises was not based on a fixed coefficient production function, the staff representative remarked. The staff had thought that the annex to the G-24 report assumed a fixed relationship between income and the capital stock, and that seemed to rule out substitutability between capital and labor.

Some Executive Directors had remarked that the literature on optimal borrowing made the point--which the staff did not necessarily endorse but had presented for the sake of interest--that the existence of limitations on feasible tax rates had implications for the optimal level of borrowing, the staff representative from the Research Department said. That point was theoretical in nature, but had some practical relevance; if there were fiscal rigidities in a country stemming from, for example, an inefficient revenue collection system, the country faced a cost in the form of the limitations that the fiscal system imposed on its ability to finance profitable investments with external borrowing.

The Chairman made the following summing up:

This has been an interesting and useful discussion of growth-oriented adjustment and the design of programs to achieve this objective. Indeed, it has been a most welcome further step in the ongoing examination of these subjects.

In the discussion today, Directors emphasized that Fund-supported programs should promote sustainable economic growth in a medium-term perspective. Adjustment programs which strengthened the balance of payments in the short run, without laying the basis for growth, were not sustainable. By the same token, balance of payments viability was essential for growth to be sustainable. Against this background, a number of Directors felt that quantified "growth exercises" would be a useful complement to the financial exercises in the design of Fund-supported adjustment programs.

Directors noted that the growth models examined by the staff in SM/87/267 highlighted the key roles of capital formation and total factor productivity in accounting for the growth of productive capacity over the medium term. With regard to capital formation, the availability of saving was a factor of central importance, although the quality of investment also had to be given proper weight. In this respect, some Directors noted that, while providing the room for private investment was clearly important for growth, government investment and the tax system also had a crucial role to play.

Directors stressed the important distinction made by the staff between national product and domestic product, which made it possible to allow for the costs incurred in borrowing from abroad in the form of interest payments on the foreign debt. In this context, several Directors underscored the fact that a rise in foreign saving would lead to a higher growth rate of potential GNP only inasmuch as the marginal product of capital exceeded the interest rate charged on foreign borrowing. Some Directors felt that the extent to which inflows of foreign saving might be relied upon to finance domestic investment and growth was likely to be limited. An excessive level of external borrowing might indeed lower the growth of national income while leading to an unsustainable external current account deficit.

Directors felt that the limitation on the scope for foreign borrowing pointed to the need for strengthening domestic saving through the use of fiscal and structural measures. Directors noted the importance of the growth of total factor productivity in explaining the growth of output in many countries. This underscored the significant scope for improving growth performance by adopting structural policies that would improve resource allocation and enhance the quality of the factors of production. Without denying the importance of these measures, some Directors stressed the difficulty in estimating the lags associated with structural policies which, in the view of some Directors, raised questions with regard to the appropriate time frame of Fund programs, the scope and strength of conditionality, and the maturity structure of Fund lending. More generally, some Directors noted that the models examined by the staff had not been entirely successful in accounting for economic growth. In particular, these models found that total factor productivity played a crucial role in the growth process. However, to the extent that estimates of total factor productivity growth were typically derived as a residual, it appeared that the models failed to explain a significant component of growth. For this reason, some Directors suggested that considerable caution was needed in applying these models to specific countries, particularly in view of the limitations of the data on certain key variables, such as the capital stock. Some Directors also questioned the use of the neoclassical approach in explaining the growth process in developing countries.

Directors felt that SM/87/268 provided a useful description of how simple growth exercises could be explicitly integrated with financial programming exercises. It was noted that the virtue of the suggested integrated approach was its relative simplicity. This gave the model operational content which more complex models, with more demanding informational requirements, would tend to lack. Directors, however, cautioned against the integrated approach being used in a mechanical fashion. Growth is affected by many factors other than the availability of resources.

Several Directors commented that the growth models analyzed in these papers focused on the growth of potential GNP over the medium term but were not well suited to modeling the dynamics of short-term adjustment. More research on the dynamics of adjustment was needed to determine the appropriate pace at which policies should be phased in. Other Directors expressed considerable doubt about the ability of government to fine-tune growth in the short term. They felt that probably the most governments could do was to create the conditions which should lead to growth over the medium term.

While there was support for the notion of combining growth exercises and financial programming, Directors expressed concern about the uncertainty necessarily involved in this approach for the design of programs--although some speakers noted that uncertainty was also characteristic of the traditional financial programming approach. This uncertainty would stem from lack of knowledge of key behavioral relationships, along with uncertainty regarding the behavior of exogenous variables. Reducing such uncertainties through further research would be essential to the success of growth-oriented adjustment programs.

Directors encouraged the staff to continue its efforts to examine and strengthen the analytical foundations of growth exercises. This would involve, among other things, careful empirical research on the key determinants of the growth process, the role of structural reforms, and the effects of policy packages that capture more fully the range of policies associated with Fund-supported adjustment programs.

DECISION TAKEN SINCE PREVIOUS BOARD MEETING

The following decision was adopted by the Executive Board without meeting in the period between EBM/87/173 (12/16/87) and EBM/87/174 (12/16/87).

2. NIGERIA - 1987 ARTICLE IV CONSULTATION - POSTPONEMENT

Notwithstanding the period of three months specified in Procedure II of the document entitled "Surveillance over Exchange Rate Policies" attached to Decision No. 5392-(77/63), adopted April 29, 1977, as amended, the Executive Board agrees to extend the period for completing the 1987 Article IV consultation with Nigeria to not later than January 6, 1988. (EBD/87/325, 12/14/87)

Decision No. 8754-(87/174), adopted
December 16, 1987

APPROVED: July 29, 1988

JOSEPH W. LANG, JR.
Acting Secretary