Closing Remarks

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I am grateful to the organizers of this symposium for their invitation to chair this session on "investing in growth." I would like to take this opportunity to conclude with a brief comment on policies to promote economic growth. The general subject of this symposium, "Policies for Long-Run Economic Growth," is important not only for the development of economic theory itself, but even more so for its practical relevance. The subject is both timeless and universal, relating to all countries, be they industrialized countries, developing countries, or the former centrally planned economies. In view of the current need for policies of a structural scope in many countries around the world, the renewed interest of academic economists in the issues of long-run growth, which characterizes the so-called "endogenous growth models" developed since the late 1980s, is likely to receive a warm welcome from policymakers as well. And I think it fully deserves such a welcome as the new research efforts could produce valuable insights and advice concerning the prerequisites for securing long-run economic growth and the kind of policies that are most likely to contribute to it.

The relation between policy and economic growth performance is not yet firmly established in the economic literature. Moreover, in the recent past, there has been far more emphasis on stabilization policies than on policies concerned with long-run economic growth. This partial neglect of long-run growth issues in the policy-oriented literature has most probably been reinforced by the dominance of short-run issues in the actual policymaking process from the mid-1960s to, say,

the mid-1980s in many countries. I consider it to be a fortunate development that, after a period of quiescence, the economics profession, or at least a significant part of it, has resumed the study of economic growth.

The new research leaves more scope for policy to influence the long-run growth rate of the economy than the earlier literature. To a large extent, this is due to the development of various growth models in which the long-run growth rate is endogenous, and related to intentional investment in human capital, physical capital, and research and development as well as other factors such as trade distortions. Consequently, policies have the potential to influence long-run growth rates through these factors. This feature intuitively appeals to the imagination of many economists and policymakers, and perhaps endows the new growth theories with a higher degree of plausibility than the old models, in which the long-run growth rate is fixed. Extending and reconstructing growth theory to allow for the main empirical regularities is yet another notable feature of the new growth literature. These regularities are that growth rates of per capita income differ across countries, and that there is no worldwide convergence of countries' per capita income levels in the course of time.

Despite the importance of these empirical regularities for research, I should like to focus primarily on the relationship between policy and economic growth. What does the new research tell us about the driving forces of economic growth? The new theory suggests that the process of accumulating human capital and of accumulating and implementing technological knowledge is an important determinant of long-run economic growth. Formal empirical evidence corroborates this theoretical result in showing a fairly robust positive relationship between economic growth on the one hand, and investment in physical capital and either the level or the rate of change of human capital on the other. Additional evidence suggests that, of all types of physical investment, equipment investment is the main driving force of economic growth. This result is not surprising since technological progress is embodied in machinery in particular. Also, a negative impact on economic growth of proxies for trade and market distortions has been reported in various studies.

Given the central role of investment in human capital and equipment in stimulating economic growth, specific policies aimed directly at these types of investment by changing the incentives of individual households, firms, and banks in a way conducive to economic growth, are likely to be the focus of interest. The speakers at today's sessions have provided some interesting examples of such policies.

Professor Auerbach has focused primarily on tax policies and argues that, if there is a special relationship between fixed capital and growth, policies should preferably encourage investment itself rather than savings. His contribution suggests that at present there is no hard evidence revealing the exact types of investment which are most important in driving economic growth. Moreover, due to the complexity of existing tax systems, no definite conclusions can be drawn as to the impact and success of the various policy options discussed. I fully agree with Professor Auerbach's observation that the stability of the tax system should play a role in the design of tax policies to promote investment.

Professor Barro has provided new evidence to support the view that human capital is an important determinant of economic growth. In particular, his contribution shows that countries starting with a higher level of educational attainment grow faster. Although the implications for policy were not discussed, Professor Barro's results of course call for sensible educational policies.

Though I am certainly not hostile to the idea of stimulating investment in both physical and human capital by means of economic policy, we should take account not only of the potential benefits but also of the costs of such policies. In particular, there is the danger of trying to do too much, of overshooting the mark. In my opinion, the emphasis of government policy should be on establishing general conditions conducive to economic growth rather than on specific issues.

This brings me to the subject of macroeconomic stability. For central bankers like myself, being primarily concerned with achieving price stability and establishing sound monetary conditions, the connection between economic growth and broad macroeconomic stability is a principal focus of attention. Macroeconomic stability has many

aspects. An important one is that macroeconomic policies must be sustainable in the long run with a minimum risk of sudden policy changes or reversals. This will contribute to an economic environment in which uncertainty with respect to the course of major macroeconomic variables is reduced to a minimum. Up till now, the contribution of macroeconomic stability to long-run growth performance has not been a very frequent subject of research, at least not in the growth literature itself, and seems to be somewhat neglected. Experience with structural reforms and development strategies, for example in the newly industrializing countries such as South Korea, has indicated that macroeconomic stability is an important factor in bringing about economic growth by reducing uncertainty and raising the credibility of a solid policy stance. If we accept that creating macroeconomic stability brings about economic growth, there must also be a case for securing growth in the long run by maintaining macroeconomic stability.

There can be no macroeconomic stability without price stability. Although inflation is attended to some extent by a shift from liquid assets to more productive investments, the overall impact of inflation on economic growth is very likely to be negative. Higher inflation rates are commonly attended by a larger inflation variability, thus increasing uncertainty and hampering optimal decisions on savings and investment. Relative price signals, intratemporal as well as intertemporal, are distorted by inflation, harming the efficiency of resource allocation and production, and therefore depressing economic growth. Moreover, the inflation rate may, correctly or incorrectly, serve as a proxy for the ability of the authorities to control the economy. If that is the case, higher inflation reduces the credibility of policymakers, forcing private agents to reconsider their investment plans or engage in profitable investment projects elsewhere. Recent empirical evidence, such as that presented in Professor Fischer's paper, "Growth, Macroeconomics and Development" (a National Bureau of Economic Research working paper of May 1991), supports the view held by central bankers all over the world that inflation is indeed negatively related to economic growth.

Our understanding of the interdependence of policy and long-run growth, though increasing, is as yet far from perfect. In the current

growth literature, the role of macroeconomic stability seems to be underestimated. The potential causal links between macroeconomic stability and economic growth are poorly worked out in our current theories, and pose an important challenge for future research. Let me finish my remarks by pointing out yet another challenge for growth theory: the incorporation of environmental issues. These issues, although very topical and a matter of deep concern, have not yet obtained the prominent place they deserve in the thinking of economists and policymakers about economic growth. In my opinion, we should be concerned with sustainable growth, which also includes sustainability from an environmental perspective.