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FACTORS IN ECONOMIC GROWTH

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Few economic questions have been so continuously in the forefront of public discussion in the United States in recent years as our rate of economic growth and how best to accelerate it. During much of the 1950's and particularly in 1959-60 it well-nigh monopolized attention when economic matters were under discussion. Even though interest has tended to lag of late, considerations of economic growth and how to increase it continue to be more or less governing in public policy matters.

Many examples of policy decisions that have been shaped with the growth issue primarily in mind could be cited. The outstanding example is the tax reduction program which the Ways and Means Committee has had under consideration for over six months. As you know, this is being urged by its advocates on the ground that it will produce such a high growth rate that the increment to federal receipts will not only counterbalance the projected loss of revenue from lower rates and the large annual additions currently being made to federal expenditures but will also help reduce our 9 billion dollar budgetary deficit.

The reasons why considerations of economic growth have been accorded so much prominence are not hard to identify. After all, to say we should strive to achieve a faster rate of economic growth is to say that we should strive to achieve a better economic performance, and surely this is a purpose which everyone shares. Beyond that, and more specific, has been the view that we have to grow faster in order to keep ahead of the Russians. Considerable interest is still shown in this contention, though nothing like the total preoccupation with it that was so evident in 1959-60. At that time it was pointed out a million times if it was pointed out once that we were growing only 2.7 percent a year while the countries of Western Europe were growing about 5 percent a year and the Russians were growing at a 7 percent rate. You might want, as I would, to take exception to these figures, but the fact is that they were widely used to make the point that if we did not accelerate our economic growth rate, we would not only fall behind Western Europe but the Russians would soon overtake us. Moreover, Chairman Khrushchev added a gruesome note by promising some day to bury us.

Since Mr. Khrushchev made that promise the edge of his threat has been dulled somewhat. He has been good enough personally to point out that when he speaks of burying us he does not mean that shovels will be used. He assures us that the whole thing is to be understood merely as a matter of systems in conflict. More important, however, have been the widespread failures not only in the Russian agricultural program but, notwithstanding their advances in space, in their industrial programs as well. And no one has been more candid in discussing them than Mr. Khrushchev himself, when he is talking to the Russians. The 7 percent claim is difficult to maintain in the face of economic news such as has recently been coming out of the Soviet Union.

Fortunately, for these and for other reasons the growth issue is seen in somewhat better perspective today than it was in 1959-60. We nowadays think of bettering our economic performance, not in terms of keeping ahead of the Russians, but in terms of solving a problem which is just as acute today as it was in the 1950's, namely, the tendency for unemployment in our own economy to run substantially above a reasonable minimum.

I am sure you realize also that purely political reasons underlie part of this interest in economic growth. Unfortunately, the growth issue is ideally suited to partisan political use and it has virtually been politicked to a fare-thee-well. Failure to recognize that growth has frequently been used for political purposes would be dangerous no less than naive.

However, the fact that economic growth as an issue has frequently been used for political purposes does not diminish in the least the importance of improving our economic performance. Let me turn, therefore, to a discussion of the factors that determine the growth rate. I think you will see evidence of wide areas of agreement on what constitutes the sources of growth. The disagreements have to do mainly with the question of how to accelerate it.

SOURCES OF GROWTH

Although it is far from an entirely satisfactory method, economic growth is most commonly measured in terms of the annual increase of constant price gross national product (real national product).[1] We may, therefore, identify the factors that influence our rate of

[1]For an interesting and important statement on alternative standards and measurements of economic growth, see the article by Clayton Gehman in the *Federal Reserve Bulletin* for August 1963. Also, for an earlier heretical view, see Colin Clark's pamphlet, *Growthmanship*, published in 1961 by Barrie and Rockliff for the Institute of Economic Affairs, London, England.

economic growth by considering what factors cause an increase in GNP.

This question may be viewed in many ways, but a useful view is that an economy's output is equal to the amount of work done, that is, to the number of man-hours worked, times average output per man-hour worked. The utility of this approach is that it forces us to organize the factors in economic growth into two distinct categories —first, the determinants of the volume of man-hours worked and, second, the determinants of output per hour worked. Obviously, in brief remarks such as these all determinants of growth in both of these broad categories cannot be identified, much less described in full detail. But we can at least identify the major factors.[2]

Factors Affecting Man-Hours Worked

Factors that affect the volume of man-hours worked, or the amount of labor input, include the size and age distribution of population; the extent to which people choose to participate in the labor force; the average length of the work week and of the work year; and the amount of unemployment.

You will note that all of these are factors that change over time, in most cases in a fairly regular trend. What is more, their trends are such that they do not all pull in the same direction, and some of the trends that pull against economic growth are nonetheless regarded as among the brightest achievements of our economy. Thus, our population is rising, which is favorable to growth, but until recently the age distribution, with increasing proportions in the younger and the older age groups, has been exerting an opposite pull. The age distribution trend is being altered now, as those in the younger age groups are entering the labor force, which is a major factor in the expectation of more rapid growth in the second half of the present decade.

Second, the tendency has been for the average length of the work week to shorten and for lengthened vacations to reduce the number of weeks worked per year.[3] Except to the extent that periods of

[2]The point of view from which this paper is written is that the sources of long-term growth are to be found in the economy's supply of "real" resources. To the extent that demand factors affect resource supplies (which is significant but easily overrated), they can affect growth. However, over any appreciable period of time, growth depends basically on the increase and improvement in real resources and on the real factors that generate these increases and improvements rather than on the degree of utilization of existing resources. In this point of view the question whether aggregate demand is best bolstered by fiscal or monetary measures, for example, is of secondary importance, at most.

[3]References to changes in the average length of the work week are to changes in the number of hours on the job, not to changes in the base-pay period.

rest make people more productive when they are at work, which is a consideration not to be ignored, this trend works against the rate of economic growth. Paradoxically, however, we regard the shorter work week and longer and more frequent vacations as achievements, and properly so. Indeed, in labor contract negotiations nowadays longer vacations and a shorter work week are frequently on the same level with increased wages as an employment benefit. Notwithstanding these facts, the trend toward shorter hours that has prevailed in the United States over much of our industrial history has more or less continuously dampened the rate of economic growth.

Finally, the trend toward earlier retirement tends to reduce the growth rate, though it, too, is properly welcomed as an improvement in our economic performance and in our level of living.

A distinction should be drawn between factors that enhance an economy's growth rate and those that merely raise the volume of output from one level to another without affecting the economy's capacity to increase its output continuously over time.

Clearly, the volume of our economy's output is increased, other things equal, but a reduction in unemployment. If we were, for example, to cut unemployment by about 50 percent, from 6 percent, say, to 3 percent thus employing 97 percent of our labor force rather than only 94 percent, we might achieve a GNP increase of something like 2.5 percent. But, once that has been achieved, we would have to all intents and purposes exhausted the possibility of increasing output by this means. Thus, while reduction of employment is obviously desirable, it cannot be regarded as a way of accelerating the economy's growth rate as a continuing thing. Of course, if unemployment is high and the absorption of unemployment is extended over a fairly long period, it may have the same appearance as an improvement in the growth rate but at some point its beneficial effect will be exhausted. A trend toward higher levels of unemployment can, of course, have a more drastic and extended effect in depressing the growth rate.

Finally, you will see without my spelling out the details that a reduction in underemployment—that is, when a person is at work but could be most productive in another job—because it is doubtless more pervasive in our economy than is unemployment, provides important opportunities for raising our growth rate over extended periods.

Factors Affecting Output per Man-Hour

Prominent among factors that govern the level of productivity at any point in time are the volume and quality of the natural resources available to the economy, including not only such natural resources as the soil, the mineral deposits available for our use, and other such assets, but also the physical climate within which economic activity is conducted. As the geographer Huntington pointed out a long time ago, it is no accident that the world's major economic and industrial achievements have occurred largely within the confines of the temperate zone.

Productivity is affected also by the amount and quality of the man-made resources, or capital, with which labor is equipped in the production process. This, in turn, depends on the community's ability and willingness, one way or another, to save.

Finally, the qualities of labor itself make for high output: its skill, its industriousness, its ability and willingness to work constructively together, and its sobriety.

Then we have the factor which, in economics, we often call the state of the arts or the state of technology. Its importance as a source of growth is exceptional because improvements in technique are the major source of improvements in productivity over time as distinct from the level of productivity at any point in time. We could say a great deal about this as a factor in productivity and in growth, but I can cover only a small fraction of it in these remarks. Part of the story has to do with the way work is done. You know that achieving a high level of efficiency depends in good part on finding the best way to do the job and being able and willing to do it that way. Sometimes this is simply a matter of organization; sometimes it involves the use of very subtle and sophisticated methods or techniques of production, in which all our knowledge about the sciences of energy and of matter are brought into play; sometimes it is a case of changing conventional practices or thinking or somehow breaking vested interests in inefficiency.

The roles of the physical sciences and of technology are, of course, paramount in achieving high productivity, but we must not overlook the arts of business management. Clearly, we can achieve our optimum performance as an economy only when the productive capabilities of our human and material resources are used to their maximum. This is partly a question of getting people into the right jobs and of organizing their work in the most effective manner; and it is partly a question of selecting and organizing capital equipment and directing its use so that we make the most, in any given state of knowledge, of the available capital resources. This is the task of management.

Productivity achievements are affected also by the prevailing economic system. In some economic systems the tasks of organization are performed through a centralized planning agency. I have seen this at work in the Soviet Union and elsewhere and I can say, without hesitation, that it has grave weaknesses. In our economy, resources are allocated through a market process in which short-term and long-term considerations of cost, revenue, and profit, judged by the individual firm, govern the use or allocation of resources. Our economy's success in maximizing output per unit of labor employed naturally depends in good part on how well that market process works.

We favor this market system for a thousand reasons and not only because it has given us the world's best level of living. We favor it also because it affords assurances of freedom and independence in political, social, and cultural matters that no other type of economic system can provide. We keep our system operating efficiently when we keep it open, fluid, and competitive, with minimal obstacles to the movement or altered use of people, financial capital, and physical resources. And we should remind ourselves that the most efficient allocation of resources in an economy must be construed not just in a national but in an international sense. The economic system that works best is the economic system that permits, through the free international movement of people, goods and services, and financial capital, the most efficient use of all a nation's resources.

A whole collection of noneconomic or only semieconomic factors—some institutional in the sense they are imbedded in our customary way of doing things; some legal and some psychological, and some in a sense spiritual—also have a critical bearing on the performance of our economy.

MEANS OF ACCELERATING ECONOMIC GROWTH

Other things equal, population growth means economic growth and we can, accordingly, speed up the rate of economic growth if, with the stated proviso, population grows more rapidly. As I stated earlier, this is a major factor in the hopes for a higher rate of economic growth in the second half of this decade. But this does not necessarily raise per capita output, which should, of course, be our objective.

Also, we could increase the rate of economic growth, for a time at least, by raising the rate of labor force participation or by increasing the average length of the work week, though in most cases these methods would be unacceptable for reasons already stated. While reduction of unemployment and fuller use of productive capacity are desirable, measures to this end must be regarded as ways of raising economic output, once and hopefully for all, to a higher level rather than as ways of continuously increasing output. The effective means for improving our economic performance, in the sense not only of achieving continuing increases in the economy's annual output but of speeding up the pace of these advances, is by increasing the rate at which we are improving productivity.

A good many ways of improving productivity will become apparent at once. Productivity can be improved through a more efficient use of natural resources and, to the extent that this is possible, by the discovery of additional and more economical resources. This latter point is one that the opponents of the depletion tax allowances should note; it is also a point that should encourage those who see opportunities for economic advance in a more intensive exploration of the sea. Economic growth rates can be accelerated also by the provision, through saving, of more capital and by transforming available financial resources into better tools and equipment. The same results can be achieved by improving methods of work and increasing efficiency in the application of both labor and of capital. Finally, the rate of economic growth can be accelerated by a better allocation of economic resources, so that increasingly we improve our ability to get the most from available resources.

If you ask yourself how we can accomplish these things, I am sure you will see that at every turn education and research, which is the business of the universities, emerge as the essential processes. Actually, in education and research we find most of the answers to the problem of how to achieve a good rate of growth and how to accelerate it.

But this is not all of the story. We must be willing to put the benefits of education and research into use. Discrimination in any form which keeps skilled, talented, and educationally well-equipped people from doing jobs for which they are fitted lowers the nation's economic productivity. Also, productivity advances are blocked in some countries by cultural and religious beliefs and habits. I am sure it is also plain that obstacles to the introduction and use of improved methods of production, such as resistance to automation, impede the achievement of a faster rate of economic growth.

Much needs to be done, also, in improving the institutions of our economic system if a faster growth rate is to be achieved. First, a fast rate obviously requires a system or environment of work that provides maximum incentives to effort. We cannot operate our economy without government services, and we cannot operate government services without raising revenues with which to pay for them. But neither can we operate our economy at its best under a tax system that lowers incentive to effort. Not only a graduation of tax rates but a fairly steep graduation, can be defended on several grounds, but a tax rate graduation can be carried too far. It can be carried to the point where it discourages incentive and the willingness to take risks. With an individual income tax rate graduated to 91 percent, as ours currently is, I think we could agree that we have achieved this unfortunate result.

Second, any economic system that does not encourage innovation has little chance of vigorous growth. How can we possibly expect to enjoy the benefits of new methods of production if we give no encouragement to their introduction? Providing this encouragement is partly a matter of maintaining an open competitive system in which obstacles to entry into business, to the extension of business into new lines, and to the introduction of new methods of work for new products are minimal. It is partly also a matter of keeping the channels of credit and capital open to all reasonable risks and of applying to business concerns a tax system which permits them to retain a reasonable proportion of their profits to finance expansion of activity and to provide incentive for further investment. For an economy such as ours, which depends on private initiative and private effort for its achievement, a tax system which places a near-confiscatory burden on medium and high-bracket incomes, as ours does, and which takes more than half of the profits made by business concerns, is clearly not compatible with attainment of higher growth rates.

Third, we need to strengthen those features of our economy that foster competition for many reasons. Competition discourages inefficiency and waste and penalizes it heavily. It comes as near as we can come to affording a guarantee of efficiency. More than that, competition means that economic resources will tend to be used where they are at their maximum efficiency. Also, it provides an environment in which innovation is possible.

These are by no means all of the factors involved. Government has many opportunities for helping to achieve growth—such as providing basic utilities and promoting the economy's stability—but the most important of all is that it help create an environment, an institutional and legal framework, favorable to growth.

But we would make a very grave mistake if we did not realize that in our economy heavy responsibilities for promoting economic growth reside entirely outside the federal government. These are the responsibilities of all of us as individuals, the responsibilities of privately owned and managed business concerns, and the responsibilities of the leaders of business and labor and of government at the state and local level. A statement of the range of these responsibilities will be found in President Eisenhower's last Economic Report to the Congress, submitted in January 1960.[4]

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