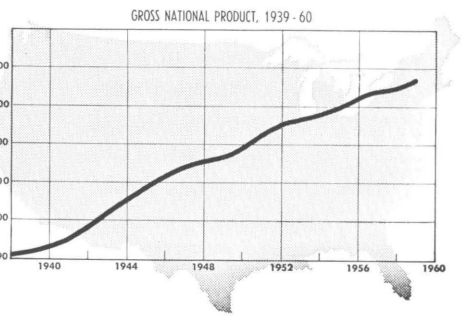

CHAPTER 2

The political, social, and economic setting of U. S. agriculture; the role of agriculture in economic growth.

Total Economic Growth and Agriculture

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AGRICULTURE is an inseparable part of our national economy. This is true of any country at any stage of economic development, because food and fiber are of primary importance. This fact must be recognized in considering agricultural problems.

Any generalization about a "farm economy" or an "agricultural sector" of the national economy, and any assumptions that farming is more or less exempt from economic laws and processes are self-defeating. This is true whether we subordinate economics as applied to farming by reference to its biological characteristics; its peculiar combination of land, labor, capital, and other resources; or the sociological results of decentralization.

AGRICULTURE'S ROLE IN ECONOMIC GROWTH

In the original, preindustrial, self-sufficient household economy, agriculture is identical with the total economy. This is often still true at an early stage of development where farm-grown producer and consumer goods are exchanged in considerable volume between farm people in organized markets. Agriculture is then the comprehensive industry of all industries. It produces not only food, feed, fibers, fuel, and a great variety of other raw materials, but also housing, textiles, clothing, "plant" and "equipment" such as barns, breeding stock, draft animals, plows, wagons, as well as such basic service as transportation, and even occupational training and entertainment. Even at this stage of a minimum division of labor there is considerable leeway for accumulating working capital.

Increasing production and rising incomes are achieved in proportion to the native ability of the individual farmers and their response to economic opportunities. This difference in native ability of individuals, families, or clans and the cumulative effects of added skills, experience, and physical assets results in an extremely wide difference in levels of productivity, income, and comfort of living within a single village. This is true even in the least developed areas of the world.

Some economic growth is not only possible, but has always occurred in agriculture at the preindustrial stage. These instances of growth, as well as the sharp differences in productivity, income, and wealth within underdeveloped economies, are usually ignored. This oversight is derived from the reliance on measures of accumulated assets and production in terms of market values in money which are inappropriate.

However, the leeway for improvements in human existence and for the rise of a civilization worthy of the name is extremely limited until the process of the division of labor, of work specialization, and of developing occupations and professions is underway. The process of separating from

agriculture the specialized crafts (such as woodworking, metalworking, textile work, food processing, construction work, and transportation), of transferring labor to them, and of developing better tools and work routines, together with the rise of urban industries and urban mass-consumption of farm products and of an organized exchange of goods and services are the essence of economic progress. In its course, farm work also becomes more and more specialized. It is ultimately confined to the production of plants and animals.

For an understanding of the social and economic dynamics of the democratic society and of the real issues of the world-wide farm problem, it is essential to identify economic development with the expansion of nonfarming activities and the transfer of manpower from farming. In this process farming makes a dual contribution: It must provide manpower to the nonfarming activities, and its shrinking share of the nation's manpower must supply an increasing proportion of the food and fibers for the urban population.

This latter contribution requires an increase in production per worker engaged in farming. This improvement in productivity depends increasingly on the purchase of farm supplies. Farms become more and more tied into the commercial economy and subject to the dictate of market prices. The obligation to pay taxes and the use of credit ties the farmer more closely to the commercial economy. The population on commercial farms participates in the benefits of a growing national economy only in so far as it succeeds in earning a rising net income per person.

An increase in the per capita income of farmers requires not only an increase in productivity per worker engaged in farming and an increase in the value of goods produced on the farm, but the value of farm produce depends on the response of consumers as a group to price changes and to changes in consumers' incomes. The proportion of the income spent on food declines as the income of families rises.

The economist puts it this way: The income elasticity of the demand for food is much smaller than for most other goods — and particularly for services. This is known as Engel's Law, and based on the physiological limits of the human capacity to consume food. Hence, a sharp rise in farm production leads quickly to price declines unless the capacity of the market for farm products expands materially. The market for farm products may expand if a growing number of consumers spend their rising purchasing power on more expensive foods.

Expansion in the capacity of the market for U.S. farm commodities need not be confined to the domestic economy; it could also occur in foreign countries. Whether domestic or foreign, urban industrial development is necessary for a rising income in farming. Such urban development creates the demand suction for an increasing volume of farm products. It simultaneously creates a rising farm demand for industrial goods that draws manpower from farming into other occupations, and thereby creates the incentive for increasing the productivity per farm worker. The magnitude of change that has taken place is best illustrated by the fact that at Thomas Jefferson's time 90 percent of the people in the United States were working on the farm, while by 1960 this proportion had shrunk to less than 10 percent.

Farming depends on the growth and structural change of the total economy in its pursuit of a rising per capita income. This, in turn, implies that the real leverage for economic gains by farmers lies first and last in the creation and maintenance of conditions favorable for general economic growth. An expanding national economy makes farm problems more manageable because there will be opportunity for dynamic adjustments in agriculture.

If, on the other hand, the economy contracts — if instead of expanding it stagnates or even begins to shrink — farm problems become increasingly difficult. In case of prolonged and severe depression the flow of labor from the

farm to nonfarm employment may reverse itself and farm labor may back up in rural areas.

THE CONCEPT OF ECONOMIC GROWTH

The well-being of the farm population and the proper functioning of the farm industry depend inescapably on the growth of the national economy. Therefore it is important to have a firm grasp of what is actually involved in economic growth and how it can be measured. Unfortunately, the dynamic processes that constitute growth in a well-developed modern industrialized economy are so complex that they are difficult to measure. The usual explanations or measures oversimplify the combination of factors that have brought about growth.

This institutional setting must be kept clearly in mind. It indicates the wide dispersion of the power of decision making leading to economic action. Our modern society is determined to have economic action subordinated to its humane ideals and protected from the depravation of ruthless materialism or irresponsible excesses of the use of power by individuals, groups, or the state. These goals are sought through continual amendment of the legislative framework, highly sophisticated supervision, and law enforcement.

The U.S. economy must function and grow within the basic institutions of our democracy. These emphasize freedom of enterprise, competitive markets with flexible prices, private property, the right of all workers to geographical as well as occupational mobility, a profit and loss system for all businesses, and free markets for labor, capital, and real estate. One aspect of such a system is a wide decentralization of decision making, risk bearing, and the allocation of productive resources. It offers effective incentives for efficiency, innovation, and saving and investing, and thereby puts a premium on progress and dynamic change.

Within this context the term "economic growth" is synonymous with economic progress, development, or ex-

pansion. "Growth" has the specific meaning and is defined in the present discussion as a continual rise in the capacity of the economy to meet the changing needs and expectations of the nation for goods and services.

Growth conceived in this way refers to all productive resources and our ability to use these resources under varying circumstances including those of stress and national emergencies. But growth includes more. It includes the capacity to renew those productive resources that are being depleted and to create new ones. This aspect of growth is of particular importance.

For a highly industrialized country which is also the leading power in a turbulent period of history, economic growth also implies inevitably a rise in the economy's military potential. The defense potential and the economic stature of the United States are closely interrelated. They are a source of strength and assistance to other nations and include participation in the economic development in other parts of the world.

The term "growth" is usually applied to living organisms, meaning an increase in size by assimilation of new matter. But as with so many biological, medical, or other metaphors used in economics, this one too can be mischievous. Some derive from it the assumption that growth is a part of a maturing process which must come to an end. This is an error, derived from a too narrow concept of the capacities of a human society. Measured by the idealistic goals of the free society that aspires to the good life for all its members, the economies of even the wealthiest countries are seriously underdeveloped. The wealthiest countries are far from a fulfillment of even major basic social goals.

In a growing economy, society gradually shifts emphasis from goods to services. Growth involves a continuous recombination of resources not only within the national boundaries but in distant parts of this world.

Economic growth is a normal process for a healthy and vigorous people. If this process is fully understood and

public policies facilitate it, there is good reason to count on continued growth in this and other countries.

THE FACTORS OF ECONOMIC GROWTH

As growth has been defined it is evident that the dynamic process of growth concerns several major factors or resources which taken together determine the capacity of the economy. For convenience, these factors have for centuries been lumped together under three catgories: labor, land, and capital. Since these labels are rather crude I would prefer to name them: Human Resources, Natural Resources, and Man-made Resources.

Human Resources

The essential, powerful, and creative primary factor on which the capacity of a national economy depends and which generates its growth is the human resource. Indeed it is ultimately the unique resource of all resources. Natural resources are supplementary; they get their meaning only in so far as human ability and energy are applied to them and the specific materials they yield are demanded by consumers. Man-made resources, the machines so important in our economy, are the result of combining human and natural resources. They are in a continual process of reproduction and development.

The essential features of a nation's available human resource and its contribution to economic growth are the size, rate of growth, and age composition of its population, including the proportion of people of working age. Population increase is a normal condition for any society with vitality. But it is more than that. Throughout history, it has proved a powerful incentive for economic growth.

In recent decades population increases stimulated public and political interest in policies favorable to economic growth. Population increases without sufficient economic growth would create prolonged mass unemployment, a decline in per capita income, and serious poli-

tical friction. The political impulsion to avoid this outcome is strong indeed.

Population increase, however, acts alternatingly as cause and effect. Declining rates of population increase during the economic instability period of the twenties helped engender the stagnation of the thirties, but the economic stagnation and the high unemployment in turn held down population increase until the spell was broken by World War II. The much discussed sharp acceleration of population increase in certain underdeveloped countries caused by sharp reduction in infant mortality can seriously impede economic growth. But these are circumstances which have nothing in common with those prevailing in the U.S. economy.

Population statistics about the year-by-year changes in the number of people of both sexes in certain age groups are, of course, an extremely crude indicator of the productive value of human resources. The economically important factor is the so-called "labor force," namely the number of people of working age who are able and willing to take jobs.

Obviously, the concept of the labor force is very flexible. How large the actual supply of labor is depends on many conditions, such as the mores of the society, child labor laws, years of school attendance, the willingness of workers to change location and jobs, retirement age, social security, and many others.

With advanced economic development the tendency prevails to delay the average age for entry into the labor force and to reduce the average age of exit from the labor force. Simultaneously, the proportion of women in the labor force tends to increase.

Apart from the increasing size of the labor force, one of the major factors of economic growth is the improvement of the physical and mental working capacity of the individual worker. The physical fitness of the labor force depends on the status of health of the population. Improve-

ment in the general health requires an expanding economy. The availability of health facilities such as hospitals, pure water, and sanitation; the providing of medical care; the war against contagious diseases; the enforcement of pure food and drug laws; and the control of water and air pollution are all bound to have an impact on the capacity to work. As is true for most of the other factors, public health has a close tie with growth: it contributes to growth and it results from growth.

Closely related to the health of the labor force is its nutrition. Food is the number one raw material of any economy, irrespective of the degree of economic development. The quality and quantity of protective and energy-bearing foods consumed are underrated as an important contributing factor to the working capacity of the labor force. The less physical exertion involved in work of the labor force, the more the quality of the diet outweighs in importance the caloric content. Again, this adjustment depends on the process of economic growth as much as it contributes to it.

Good public health and high average level of nutrition, together with an increase in the labor force, are essential factors in economic growth. Of even greater significance are the native ability, the skills, experience, knowledge, and the inventive genius of management. All our institutions — education, government, business organization — are important in improving all aspects of human resources.

Education and training in all their forms convey existing knowledge to more and more people of all ages, but particularly to the young people. In the process, the capacity to think functionally, to sharpen the critical sense and judgment, and to convey methods of studying, doing research, and of contributing new knowledge are developed. Research, exploration, and innovation extend the frontiers of knowledge and techniques.

The sources from which new knowledge, new tech-

niques, and innovations flow are man's curiosity, his imagination, and his logic faculties. Here lie the main roots of genuine economic growth. Hence, it is essential that the economic system be so organized as to offer the widest latitude and an optimal incentive for the full play of creative capacities.

For a realistic grasp of the role of the human resources in economic growth, it is of strategic importance that the managerial function be recognized as another main root.

Even such progress as advances in basic and applied research, discoveries, inventions, potentially valuable patents, and the availability of better tools gives no assurance that the effective capacity of the economy has actually increased or will increase. Neither do extraordinary skills of workers necessarily insure increased capacity of the economy without managerial competence and initiative.

It is the function of management to combine the factors of production (i.e., labor, capital, and land) in such proportions and quality for such time and in such a manner as to maximize the net return of the business. This requires fitting the production program of the business tightly into the anticipated or potential market situations, with careful regard for the kind and degree of competition and for the changing character of demand. The dual managerial functions of organizing the business and day-to-day operations embrace both technical skill and a special art. Expert knowledge and experience are required, but so is a unique combination of abilities which differs from the qualifications of even the most competent workers.

Optimal economic growth of a nation rests crucially on the availability of business managers and on their competence and stature. This applies to private as well as public enterprise. While managerial skill can be taught in schools of higher learning, its full development must depend on training at the command post of a going business. In farming, in large numbers of craft shops, and in

retail and service firms with one man or family operation, management and labor are typically performed by the same person. Here the managerial talent is all important.

It is true, however, that investment in the "brain potential" of the nation is always temporarily at the expense of current production. Such allocation involves: (1) the withholding of a part of the population of working age from entry into the active labor force for education and training; (2) the employment of an increasing number of the active labor force in education, training, and research; and (3) the investment of capital in physical facilities for these services. In a free society the decision where human resources will be used is not made by central planning, but by the competitive bidding of employers in the labor market in response to the demand of private and public consumers of goods and services. However, the large system of public education and research enables the government, primarily at local and state level, to use productive resources for the development of human resources.

To sum up: The essential basis for economic growth is a labor force increasing in size, improving in health, with rising knowledge and skill in more and more specialized occupations, and organized toward greater efficiency. The net result is an improved potential production per worker.

Man-made Resources

How much effective productive capacity the human resources actually represent at any time depends on the capital resources available for production of goods and services. These capital resources consist of plant, equipment, and materials.

While it is possible to increase the productivity of labor without the use of more capital resources, primarily by better organization of work and more specialization, the extent of such improvement is very limited. The vast majority of feasible opportunities for more efficient use of labor also requires the use of more capital goods per worker

or per hour of work. Equipping workers with more mechanical power as substitute for animal power and crude manpower is one way to increase productivity. Economic growth requires, therefore, the availability of capital for transportation, physical plant, equipment, and raw material inventories needed to increase the economic productivity.

This sort of capital is subject to partial consumption or to deterioration due to wear and tear, and obsolescence resulting from new inventions and designs or because of changes in the demand. Economic growth must include ample allowance for depreciation on existing capital resources and continual addition to and improvement in these resources.

A crucial factor in economic growth is savings. Expansion of the man-made resources depends primarily on availability of private savings, namely, savings by individuals, nondistributed profits of corporations, and profits of all other business enterprises.

Natural Resources

A further factor that determines the effective capacity of an economy is popularly called natural resources. Their nature, their role in economic growth, and the importance of specific types of resources change with the progress in science and technology and the shifts in domestic and foreign demand. Contrary to popular notions, these resources have no value as such. They represent opportunities to apply management, labor, and capital to them for the purpose of deriving energy or materials from them. Once private or public capital or both have made natural resources accessible and productive, these resources become valuable.

There are two types of natural resources. One is perpetual such as carbon dioxide and nitrogen of the atmosphere. The other type is store resources such as deposits of organic materials or minerals in the soil or underground. Agriculture, forestry, horticulture, fisheries, and the generation of hydroelectric power depend chiefly on the utili-

zation of perpetual resources while mining deals chiefly with store resources.

It is a misconception — most popularly though not exclusively held in other countries — that U.S. agriculture has prospered because from the beginning it was endowed with uniquely rich resources. In the hands of the American Indians these resources yielded bitterly little. The application of imported human ingenuity and energy, and capital to the land carved an empire of prolific food and fiber production out of wilderness. This included the conquest of pestilence and disease. Only since 1948 has malaria been eradicated from the South.

The natural resources of the United States are uniquely favorable because our economic and political policies promoted the greatest free market area of the world. This market permits utilization of resources according to principles of greatest comparative advantage and a regional division of labor.

Economic growth requires that the existing opportunities in the geography of the country be utilized in so far as they yield the needed materials or energy at lower costs or with greater reliability than they can be obtained from other countries. Use of natural resources requires the application of human resources and a substantial amount of long-term capital investment. This holds for agriculture as well as mining and the single or multiple purpose use of water resources. In each of these resource uses the amount of manpower needed per unit of production can be reduced by additional investment of capital.

CONDITIONS FAVORABLE TO GROWTH

In a free society growth depends primarily on the use and combination of resources in accordance with the preference of the consumers expressed through their purchases of goods and services. Likewise the government's influence on use of resources reflects in effect the decisions of the

electorate, i.e., the same consumers. However, the majority of these consumers who influence the direction of the economy by their expenditures are also the people who compose the human resource. The use of resources is influenced by human beings as buyers and as workers who show preferences for working conditions, remuneration, and fringe benefits.

Hence, it is axiomatic that in the noncoercive society economic growth, as we have defined it, cannot be ordered or dictated by the state. Attempts to do so would have to begin by depriving the consumer of his freedom to determine the allocation of resources and would replace his decision with a decision by the government. This would involve the piecemeal transition from the free economy to a centrally planned and directed economy, which in turn ultimately necessitates the conversion of the political system into a totalitarian state. How well this is recognized by the nation can best be sensed by the careful language chosen by the Congress in the Employment Act of 1946 during the first Truman Administration. This decisive law which determines the economic policy of the federal government with reference to economic growth and stability begins with the following declaration of policy (Section 2):

> The Congress declares that it is the continuing policy and responsibility of the Federal Government to use all practicable means consistent with its needs and obligations and other essential considerations of national policy, with the assistance and cooperation of industry, agriculture, labor, and state and local governments, to coordinate and utilize all its plans, functions, and resources for the purpose of creating and maintaining, in a manner calculated to foster and promote free competitive enterprise and the general welfare, conditions under which there will be afforded useful employment opportunities, including self-employment, for those able, willing, and seeking to work, and to promote maximum employment, production, and purchasing power.

At present one-fifth of the national production of goods and services is purchased by federal, state, and local governments. This share will increase further if more economic tasks are assigned to the government.

There is disagreement on how far the government should go in assuming economic tasks and how this influences economic growth. However, the government has the responsibility and the power to promote conditions favorable to economic growth, to counteract the occurrence of conditions detrimental to it, and to stimulate growth in particular areas through activities such as the construction of highways or ports, the financing of research, and through public education and health.

The responsibility of the government includes the creation and maintenance of confidence in the strength and the stability of our whole economy. This confidence will enable the citizens of this country and the business leaders and governments of the industrially and commercially advanced nations of the world to make their decisions with the expectation of continued economic growth in the United States.

The government can do this by strengthening the free market force, encouraging the mobility of resources, contributing to the development of our human and natural resources, reducing or eliminating trade barriers at home and abroad, pursuing policies which guarantee the integrity of the U.S. dollar, encouraging saving and investment by private individuals, and by moderating the periodic fluctuations of the business cycle by restraining excessive expansion in booms and counteracting excessive contraction in recessions.

The freely convertible U.S. dollar backed by a large gold reserve is not only the measure of value in this country; it is also the reserve currency of leading countries of the free world and an international standard for comparison of prices. Maintenance of the stability of our dollar's purchas-

ing power, or defense against continual rise in the general price level not only at a rapid but at a creeping pace, is a vital prerequisite of a sustainable rate of growth in the United States and is important for development elsewhere.

In all countries one important instrument for stimulating growth is an expansion of foreign trade. Free convertibility of a "hard" currency facilitates foreign trade. Competition in the domestic and the world market is one of the most effective forces promoting price stability and economic growth.

Monetary and credit policies are important factors in economic growth. These policies influence particularly the rate of capital formation and the flow of capital into productive investments.

For example, investment favorable to economic growth can be stimulated by accelerated depreciation of capital in our tax laws, particularly in high risk business ventures. Such provisions are particularly important for overseas investment. Management of the public debt can influence the flow of investment funds needed for expansion of the economy.

Innovations, research, and the general advancement of technology, and their practical application are some of the main forces that generate growth. The resulting reduction of costs and improvement in returns anywhere in the trade chain from producer to consumer encourage investment and stimulate growth.

Public policies and private actions can create conditions favorable to economic growth in many ways. Preferential tax-treatment of investment and expenditures in research activities is one of them. The government can encourage and support research projects.

Changes are inherent in the process of growth. Private initiative and public policies which result in greater occupational and interregional mobility of labor, greater mobility of capital, and greater mobility in use of all resources

are bound to be favorable to growth. Mobility in this sense is extremely important to farmers and to growth of agriculture.

CONDITIONS HARMFUL TO GROWTH

Conversely, any rigidities which stifle or interfere with the mobility of resources are bound to be harmful to growth. Rigidities in prices, interest rates, wages, rents, supply, and demand tend to stifle or interfere with mobility of resources.

The Staff Report of the Joint Economic Committee of the Congress on Employment, Growth, and Price Levels of December 24, 1959, had this to say on policies for American agriculture (p. 203):

> 10. Since mobility of people and of resources out of agriculture into other industries is the only ultimate long-term solution to the problem the Federal Government should take all reasonable measures which facilitate this process — special aids to education in rural areas to provide skills usable in other industries, relocation allowances and strengthening of employment service facilities, and encouragement of movement of nonfarm enterprises to rural areas to provide job opportunities to those who prefer rural to urban living even when working in nonfarm occupations.
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> 11. It has been suggested that the ultimate solution to the problem of overproduction lies in providing agriculture with the same type of market structure as in some industries, giving the producers, through market organization, control of supply and giving them the power to keep goods off the market when they think appropriate. This other policy of adding to the monopoly and quasi-monopoly elements in the economy would add significantly to inflationary tendencies as well as have other undesirable effects on the market structure of the economy. It would be a serious deterioration of the overall structure of the American economy.

If growth is to continue at a healthy rate or be accelerated, it is highly important that governmental programs and regulations encourage efficiences and not just maintain the status quo.

If the government conducts its monetary, fiscal, and antitrust policies in a way that gives business people confidence in the stability of the economy and its currency, the average citizen will have faith in the equity and justice of the economic system, thrift and capital formation will be encouraged, and savings will flow to growth-promoting investment, not into the hoarding of goods.

Inflation depreciates long-term obligations, enhances the value of physical assets, and inadvertently brings about drastic changes in the distribution of wealth and incomes. It disorganizes the proper functioning of the capitalist system and thereby diminishes growth. Hence, a sustainable rate of growth cannot be stepped up by public spending financed by increasing the public debt. It follows that any policy actions resulting in an undermining of the confidence of the business community in the continuity and vitality of economic institutions or the steadiness of development must be deleterious to growth.

One situation in which the flow of capital investment may be influenced is where the government enters into a field of business or intervenes in a market. Example of the latter was entry of the government into commodity markets as part of the price support program. Reduction may occur in the flow of private investment due to the fact that market intervention by public agencies with special authority subject to political change — either under executive discretion or as the result of new legislation — represents an additional risk factor.

Freezing or controlling rent is an example of static policies aimed at social relief which impede economic growth by impairing the dynamic self-adjusting processes of the market. The typical result of rent control everywhere has been sharp reduction in new construction, physical

deterioration in housing previously built, and idling of a large part of the construction industry.

Monopolistic arrangements, irrespective of the social or political arguments on their behalf, and irrespective of whether they apply to agriculture, industry, commerce, banking, or labor, impede the self-adjusting processes of the market economy and tend to diminish growth. Production allotments or marketing quotas have tended to freeze the competitive production pattern and to hinder the allocation of productive resources toward greater efficiency. The impact of such static devices can be mitigated to some extent by making allotments and quotas negotiable.

However, rigidities within a dynamic economy delay adjustment but do not do away with the need for it. As a result, maladjustments accumulate and make the ultimately inevitable correction more and more difficult, painful, and costly.

Reluctance of workers to move to new jobs or new locations may impede growth. Some aspects of our gains in national wealth tend to slow down shifts in our labor force. For example, home ownership, longer and better education for children, seniority rights and fringe benefits under union contracts, and unemployment benefits under state laws stop some workers from moving to better jobs.

The tendency to limit mobility of the labor force has also been strengthened to some extent by the increasing endeavor of business to reduce the costly turnover of workers and hold particularly the skilled workers even in slack periods by spreading the work with a reduction of working hours. Firms tend more and more to stabilize work forces by working overtime in busy periods rather than by adding workers in order to avoid costs of unemployment benefits, costs of turnover, and adverse effects on quality of work.

CHARACTERISTICS OF GROWTH

The growth of a national economy ought to be balanced. In reality, this balance is difficult to attain because

of a multitude of hard, compelling circumstances. Yet, in formulating economic policies, everything practical should be done to remove the obstacles to balanced growth. If some businesses develop faster than others, all sorts of bottlenecks in supplies or services result.

Growth, according to all historical experience, has its roots in increases in productivity which result from a combination of new skills, the availability of capital, and favorable cost factors, and can only proceed vigorously with expanding demand.

The start of more rapid growth is usually a matter of chance, beginning in one or a few enterprises in a small area or a region. Innovations in production, processing, transportation, distribution, or shifts in consumer preference are other factors of growth and are difficult to predict. New scientific or technical knowledge and managerial initiative must converge to start growth in one special type of production.

Growth of the national economy involves continual change within the economy such as new investment and shifts in the labor force. The mobility of workers can be increased by helping new entrants into the labor force to find their way into new or expanding types of employment or to the new locations of businesses. The main flexibility in the labor force lies in guidance of the new generation. But the dislocation involved in vigorous growth also requires vocational and often geographical changes for senior workers and their families as in the case of farmers, coal miners, and steelworkers. It is this sort of adjustment which involves hardship, social and political resistance, and policies of retrenchment which try to protect the status quo. To avoid such blocking of growth requires effective assistance to constructive adjustments.

Growth requires in some fields of activity considerable time for developing the facilities and expansion of large capacities with long-term investment. This leads to a staggered progress of growth. But this unevenness in expansion

of businesses is overshadowed in the national economy by the ebb and flow of the business cycle with its expansive and contractive phases. A mild recession serves frequently as the gestation period during which a great deal of matured innovation is more fully used in production processes. But more severe and prolonged recessions curtail employment, profits, capital formation, investment, and public revenues to such an extent that they reduce the rate of growth. Hence, during prolonged recessions, monetary, fiscal, and public procurement policies — and such built-in stabilizers as the corporate income tax and unemployment insurance payments — may act as an aid to continued growth.

In the process of growth, some businesses and some areas decline or deteriorate. This is due to change in the technology, in demand, in comparative costs, and in the structure of the economy. For example, as deposits of gold and silver were exhausted in certain parts of California, boom towns became ghost towns. Progressive mechanization of coal mining operations caused serious chronic unemployment in certain parts of the East. Shifts in location of factories or failure of enterprises may have the same effect. Consolidation of farms into larger units reduces population and curtails business in some areas. Areas which do not participate in the increase in productivity and income are by comparison retarded.

These pockets of deterioration or stagnation represent primarily idle or underemployed human and other resources which should be mobilized. This can be achieved by starting new enterprises in the depressed areas, or by migration of the people to areas with labor shortage. A legitimate function of government is to assist any local and regional initiative and to foster conditions favoring adjustments. The Committee for Rural Development Program and the Committee to Coordinate Federal Urban Area Assistance Programs are charged with federal guidance and coordination of public efforts to engender growth.

THE MEASUREMENT OF GROWTH

In attempting to measure economic growth, the usual practice in this country is to use estimates of secondary nature, such as employment, production, and income. In fact, some people consider changes in production as identical with growth. It must be emphasized at the outset that we do not possess adequate methods for measuring economic growth itself, that is the increase in a nation's *capacity* to produce goods and services.

Statistics on the number of people gainfully employed, the unemployed, and the sum of both representing the labor force, come relatively close to measuring growth potential because they deal with the employment or nonemployment of the most essential resource — labor.

The Bureau of the Census makes monthly estimates — based on 35,000 household interviews during a sample week — of the civilians fourteen years of age or over that are employed. The classification "total labor force" combines all civilians employed or unemployed and members of the Armed Forces stationed in the United States or abroad.

In the U.S. labor market several million people are at any one time moving from one job to another. Most of these job changes occur without any unemployment. However, even when the economy is booming, there remains a certain amount of unemployment.

The proportion of the population ten years old or over (former definition) in the labor force amounted to roughly 50 percent just prior to both World Wars (1916 and 1941). In the years 1957–59 the total labor force, including the Armed Forces, ranged from 57 to 61 percent of the population fourteen years old or over.

These data do not provide clues to changes in the real labor capacity of the population. Number of hours worked per person per year affects the productive potential of our labor force. In a free economy reduction in the hours of work per week and even in the number of workdays per

week is considered an achievement resulting from growth. Shorter work hours and work weeks may be used for all sorts of part-time employment or do-it-yourself activities which yield real income. Another limitation to measuring growth by employment is the omission from our statistics of all work performed by housewives and their unpaid helpers.

It is obvious that the more a rising gain in productivity reduces hours of gainful employment per worker per year, the greater will be the reserve capacity of the economy — a capacity which can be mobilized in an emergency or at any time the people want to attain maximum production.

From the foregoing, it may be concluded that labor force and employment statistics provide indicators as to the population's desire to participate in the labor force, and to the extent to which desired employment remains unsatisfied. Those statistics are more useful for these two purposes than for directly measuring growth.

The main measures of evidence of growth on which economists rely concern changes in national product and its components. The gross national product (GNP) or expenditure account, calculated and published by the U.S. Department of Commerce, comprises the total annual production of marketable goods and services in terms of current market prices. It embodies four categories: expenditures for personal consumption; government purchases of goods and services; gross private domestic investment in buildings, equipment and business inventories; and finally, net exports of goods and services or additions to assets owned abroad. While these estimates are free from duplication and count only goods and services purchased by private or public consumers or additions to the country's capital stock, it is nevertheless, as its name indicates, a gross and not a net estimate.

Gross national product includes additions to the capital

stock. It does not deduct the necessary depreciation of durable capital goods due to ordinary wear and tear and due to obsolescence, i.e., the capital consumption.

A net national product (NNP) is also calculated by deducting from the GNP an estimated aggregate capital consumption.

For purposes of estimating the rate of economic growth the GNP figures are adjusted for changes in the general price level. In order to exclude the effect of the population growth, these adjusted GNP figures can then also be expressed in per capita terms. Finally, in order to refine the GNP and to measure changes in productivity, the "Real GNP" can be expressed in terms per hour of employment of wage and salary workers.

GNP accounts give a great deal of detailed information about personal consumption expenditures (such as the proportion of durable goods, nondurable goods, and services), gross private domestic investment (such as the proportion in new residential and other construction, durable equipment for business and change in business inventories), and government purchases of goods and services (such as the federal share for national defense and other purposes, and the shares of state and local government).

The part of GNP data relating most directly to growth is the gross private investment in farm and nonfarm producers' plant and equipment. In 1959, with a GNP of $479 billion, the total plant and equipment investment amounted to $42 billion or 9 percent of the GNP (the nonfarm portion being $36.9 billion, the farm portion, $4.7 billion). Additional support to growth is found in government expenditures on research and development.

While GNP statistics are a very useful accounting tool for indicating some aspects of the economy, they are not designed to permit a direct measurement of growth, as that term was defined earlier. It must also be recognized that

they are not well suited for making direct international comparisons, primarily because they ignore all goods and services which are not exchanged for payment in money.

THE HISTORICAL RATE OF GROWTH

For the past 80 years — as far back as usable data are available — the Real GNP in the United States has increased at an average rate of about 3 percent per year (Figures 2.1 and 2.2). This annual average rate amounts to doubling production every 23 to 24 years, or quadrupling it in less than 50 years. Table 2.1 summarizes several of the series frequently referred to in estimating growth in the U.S. economy.

Special reference should be called to the difference in productivity per man-hour in farming and in nonfarm work for the period 1947–58. The annual increase in farm production per man-hour was 6.2 percent for the period. Yet, in considering this remarkable rate of progress in produc-

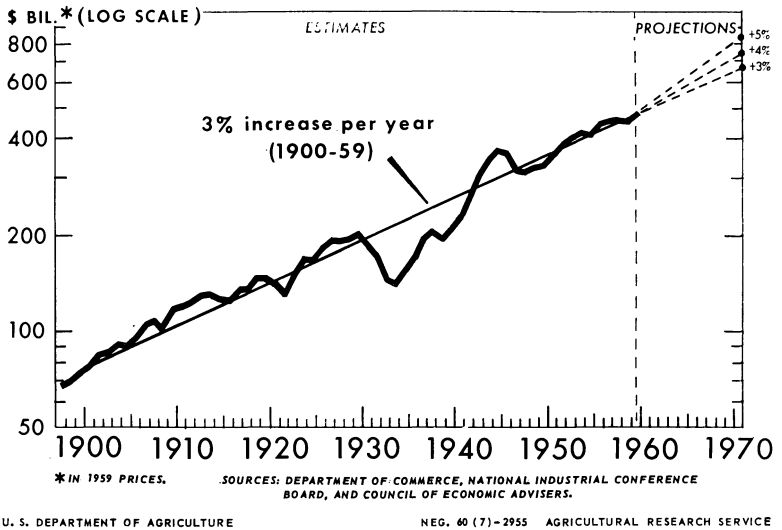

Fig. 2.1 — Farm output in the United States.

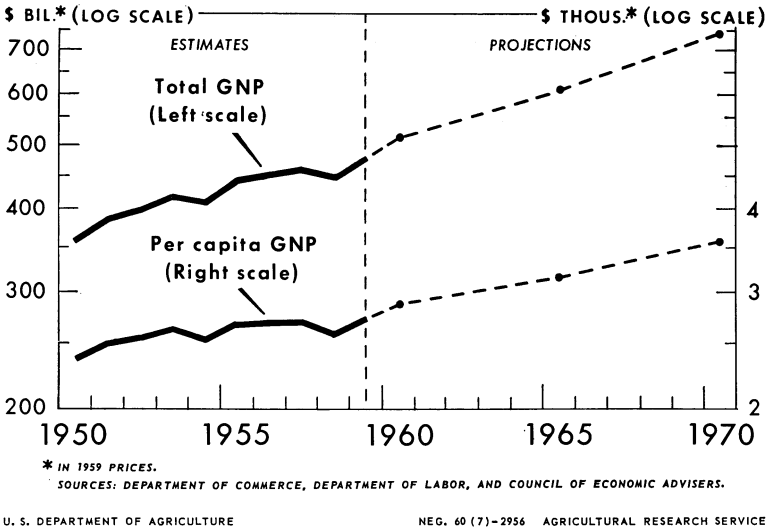

Fig. 2.2 — Real gross national product of the United States with projection to 1970.

TABLE 2.1

AVERAGE PERCENTAGE CHANGES ANNUALLY IN U.S. ECONOMY FOR SPECIFIC PERIODS

	(*Percent*)
Increases in total production (goods and services)	
GNP — 80 years	3.0
Industrial production (Fed. Res. Bd. index)	
1919–57	3.7
1948–57	4.4
Increase in U.S. labor force (since 1930)	1.3*
Increase in productivity per worker (since 1930)	1.7†
Increase in productivity per man-hour worked	
1909–59	2.4‡
1948–59	3.1‡
Increase in productivity per farm worker	
1947–58	6.2‡

* See Figure 2.3. † See Figure 2.4. ‡ See Figure 2.5.

TABLE 2.2

U.S. FARM POPULATION, NUMBER OF FARMS, AND FARM WORKERS

Year	Farm population	Number of farms	Farm workers	U.S. total employment
	(millon)	*(million)*	*(million)*	*(percent)*
1910	32.1	6.6	11.5	31
1959	21.2	4.6	5.8	9

tivity, it must not be overlooked that the value of production per man-hour in farming was in 1958 only $1.64 compared with $3.38 for the value produced per man-hour in nonfarm work.

Changes in farm population, number of farms, and farm employment provide further indicators of rates of growth of the total economy (Table 2.2).

From 1930–59 the U.S. labor force increased by 40 percent, while the farm labor force decreased by 40 percent.

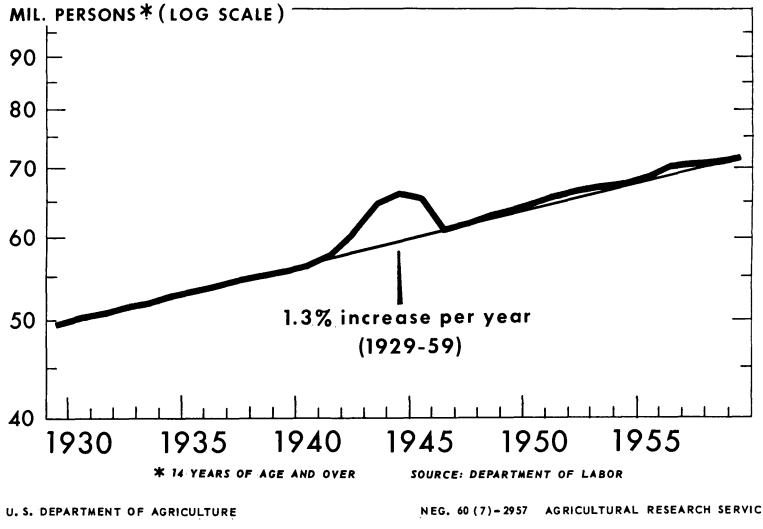

Fig. 2.3 — Total U.S. labor force.

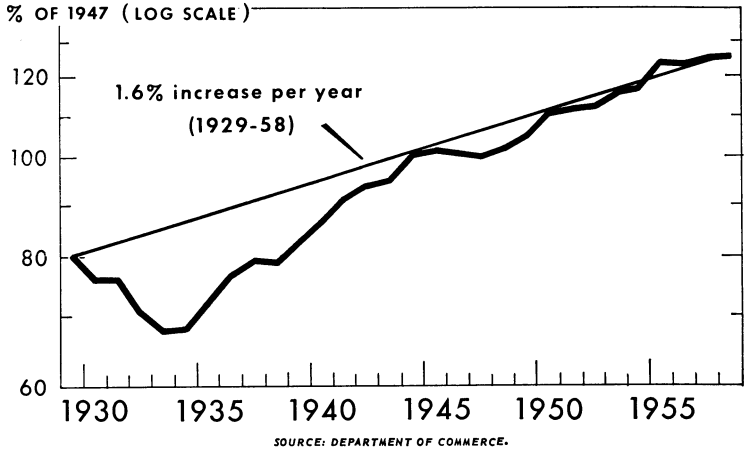

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Fig. 2.4 — Real gross national product in the United States per person engaged in production.

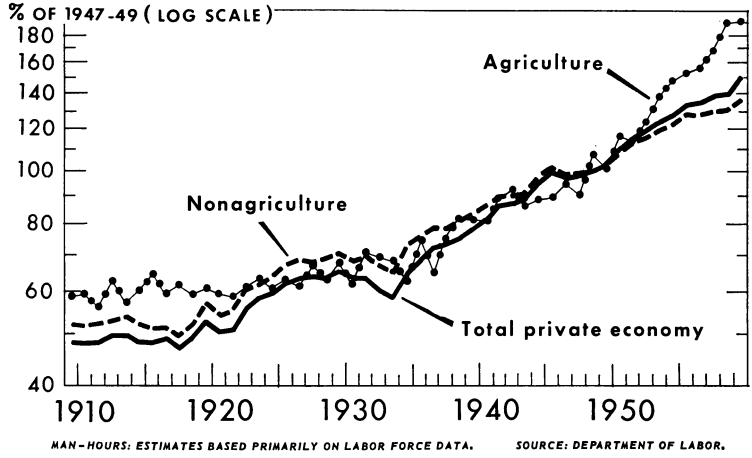

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Fig. 2.5 — Real product per man-hour in the U.S. private economy.

The percentage of disposable personal income (i.e., personal income minus personal income taxes) saved has ranged in the years 1950–59 from 6.1 to 7.9 percent, after having reached a high of 25.1 percent in the war years with their reduced supply of consumer durable goods and many services (1944), and a low of 4.5 percent in postwar years of high consumption expenditures (1949).

PROSPECTS FOR THE NEXT DECADE

While it is impossible to forecast or predict the future developments of the United States or any other economy with any degree of accuracy, it is nevertheless a useful procedure to compose some projections of what may happen under certain assumptions. The projections in Table 2.3 are based on the assumption that there will be neither war nor serious depressions.

If this projection should come true, the per capita share in the gross national product would increase up to 1970 by 2.5 percent per year in terms of dollars of constant purchasing power.

The Bureau of the Census has projected for the decade 1960–70 an increase of the population from 180 million to 208 million, or a growth of 28.4 percent. This is a slightly higher rate than in the preceding decade (Figure 2.6).

TABLE 2.3

PROJECTION OF GROSS NATIONAL PRODUCT IN 1958 PRICES

Year	Total GNP	GNP
	($ billion)	*($ per capita)*
1950	352	2,300
1955	435	2,600
1960	505	2,800
1965	598	3,100
1970	732	3,500

Source: Department of Commerce, Office of Business Economics; Bureau of Labor Statistics.

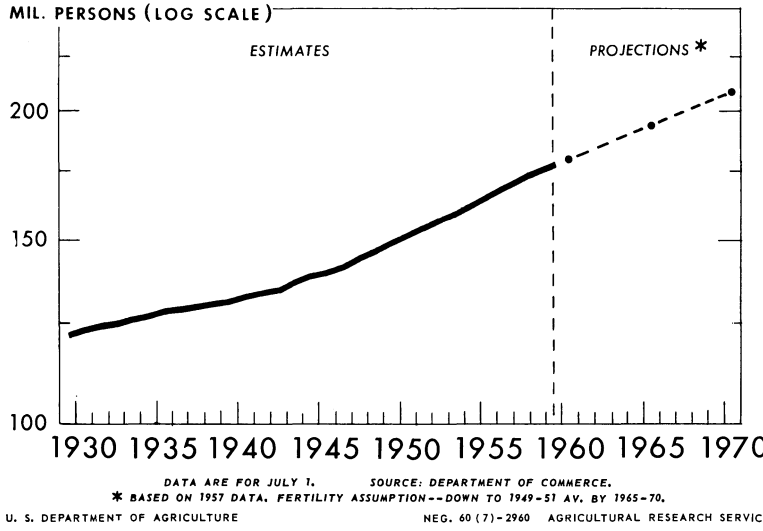

Fig. 2.6 — Population growth in the United States with projection to 1970.

In the sixties, the increase of the number of persons reaching the age of eighteen will be much larger than in the fifties (Figure 2.7). It was about 2.2 million per year from 1950–55, and reached 2.6 million only by 1960. The annual numbers of these young people ready to enter the labor force or college are expected to develop as follows (in millions):

1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
2.9	2.8	2.8	2.8	3.8	3.6	3.6	3.6	3.7	3.8

As the projected figures indicate, it is anticipated that by 1965 and thereafter the entry of young people into the labor force will probably be one million higher than it was prior to that year. The Bureau of the Census and the Bureau of Labor Statistics project a growth of the labor force by 1970 of 18 percent or of 13.5 million workers to a total of 87.1 million compared with 73.6 in 1960.

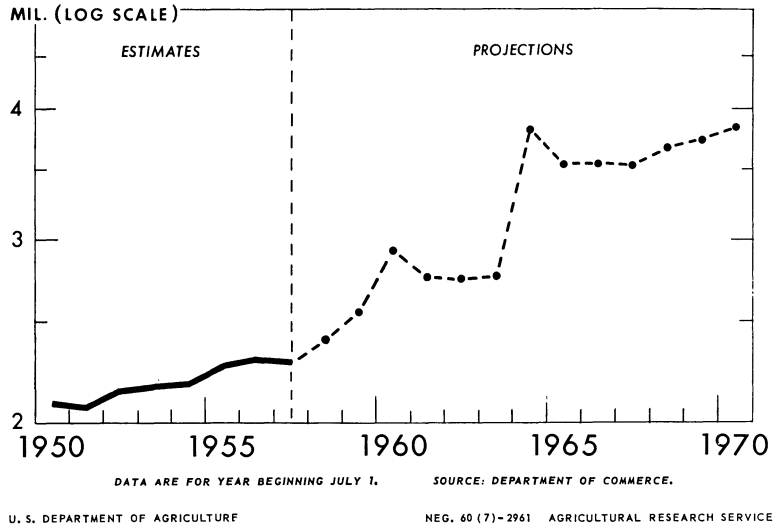

Fig. 2.7 — Persons in the United States reaching eighteen years of age with projection to 1970.

Total employment, which is expected to rise by 20 percent, is likely to vary greatly by industries as follows: 30 percent or more increase in the construction, finance, insurance, and real estate business; 25–29 percent in trade, government, and all other services; 15–24 percent in manufacturing; and only 5–14 percent in transportation, public utilities, and mining. For farming, employment is expected to decline from 5.9 million workers in 1960 to 4.9 million by 1970 (Figure 2.8).

While all these figures are not forecasts of what *will* happen, but projections of what *may* happen in the coming decade, they imply the probability of a continued healthy expansion of the national economy. If this should come true, it would create a great need for further dynamic adjustments in farming and will offer opportunity for improving the income of the farmers.

Even with this favorable outlook, changes and adjust-

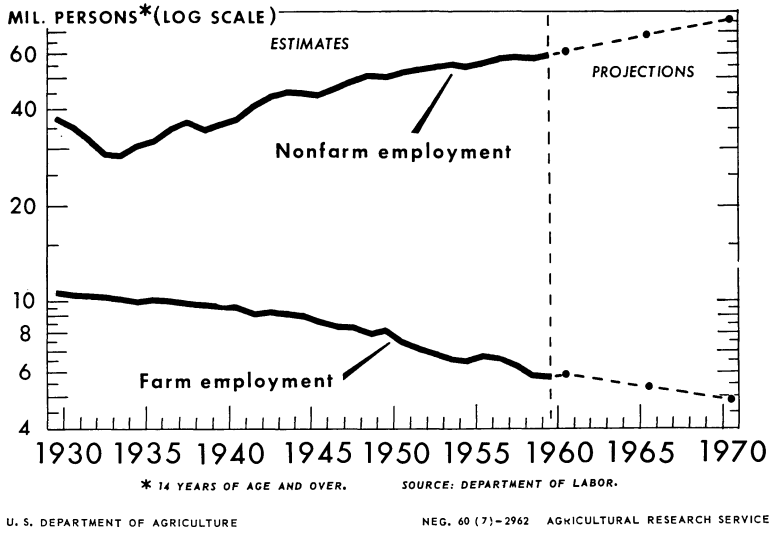

Fig. 2.8 — Farm and nonfarm employment in the United States with projection to 1970.

ments accompanying dynamic growth of the nation will bring considerable hardship for many individuals and families. It is the duty of our humane society to alleviate hardship by assisting people in making adjustments. But it lies beyond the power of government to avoid the adjustments which are involved in economic growth.

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