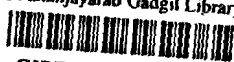


# AMERICA'S CAPACITY TO PRODUCE

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**AMERICA'S CAPACITY  
TO PRODUCE**

# AMERICA'S CAPACITY TO PRODUCE

BY

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1934

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*Printed in the United States of America by*  
George Banta Publishing Company  
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## DIRECTOR'S PREFACE

The character and purpose of this book are so fully described in the foreword and introduction that there is no occasion to add anything here. It is appropriate, however, to mention that the entire study has been carried on with funds granted by the Maurice and Laura Falk Foundation of Pittsburgh.

A word of explanation should also be added as to the division of labor among those who have been associated in the preparation of this volume. Frederick G. Tryon has been responsible for the minerals section, for the chapter on electric power utilities, and for Appendixes B, C, and D. Horace B. Drury was associate author of the section on manufacturing. Maurice Leven and Harold G. Moulton prepared the chapter on transportation, and Mr. Moulton prepared the chapter on money and credit. Cleona Lewis conducted the investigations and made the statistical calculations for the labor chapter and prepared Appendix E. Chapters not otherwise designated are the work of the senior author, and he has organized and conducted the study and is to be held responsible for its findings.

The co-operating committee from the staff of the Institute of Economics included Charles O. Hardy and Clark Warburton.

EDWIN G. NOURSE  
*Director*

Institute of Economics  
May 1934

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## FOREWORD: THE LARGER STUDY

Poverty has always been the lot of the great majority of mankind. It has been only within the very recent past that geographic exploration and scientific development have encouraged the human family seriously to entertain the idea that life could be so organized and conducted as to achieve general well-being. Such a state has never actually been attained even in the most advanced countries of Western civilization. To be sure many millions of people in Northwest Europe, the United States, and Canada during the last half-century have—with fairly brief interruptions—enjoyed greater material comfort than was ever known in the past except by small favored groups. But these interruptions and the persistence of large numbers of “under-privileged” persons or of “submerged classes” in even the richest industrial nations show how far we still are from the age-old goal of “prosperity for all” or even the “abolition of want.”

There are natural optimists among us who feel that mankind is marching ever forward to more productive and more prosperous conditions, even though there are occasional delays and temporary halts. There are also natural pessimists who quote the most revered writings to the effect that “the poor are always with us” and who suggest that we may have been living in a fool’s paradise during the last 75 years or so. They say that civilization may go backward as well as forward, and that we may quite possibly be on the verge of a new Dark Age.

In the light of existing conditions and current experimentation in the realm of economic organization, the present moment seems opportune to examine anew the

foundations of economic progress. Is there adequate reason to suppose that the economic activities of our people could be organized on a sustained level which would permit ample food, adequate clothing, comfortable housing, and a reasonable minimum of education and recreation for all members of society? If so, what is the type of economic organization and, more particularly, what are the ways of conducting the affairs of an economic society so organized which would assure the attaining of such a permanent high standard of material well-being? Possibly different types of economic structure might prove themselves suitable for different countries. Each would have to fit the spirit of the people, the resources with which they have to work, the leadership available, and the peculiar situation to which the past history and social evolution of the country had brought it.

For example, in Italy Fascism proposes, among other things, an economic organization under which a particular group under vigorous personal leadership displaces capitalistic democracy by benevolent state autocracy. Proponents of this system hope that thus they can most quickly and surely enhance the general economic welfare. A second line of experimentation is that of Russia, which is seeking through a communistic organization to work out a high measure of productivity for the country and a liberal and practically uniform provision for the needs and desires of all members of the national group.

A third type of approach rejects all such revolutionary suggestions and seeks economic regeneration under an economic organization not basically different from that to which we have been accustomed in the United States. Could we not, within the limitations of our natural resources, our people, and our traditions, with only evolutionary modifications and readjustments to current con-



ditions, restore and stabilize such a productivity of goods and services as would provide a general standard of living as high as that which we have known at the peaks of prosperity in the past? Could we not expect to improve on our best past performances until every citizen (barring physical or mental defectives) who cared to exert himself could attain a material standard of living equal at least to that of the so-called "middle class" in the prosperous days before the collapse of 1929?

If such ample consumption is to be attained from our economic system, two general conditions must be met. (1) On the technical side, the equipment of plants, machinery, tools, and materials provided out of past labor as a means of making scientific and engineering techniques effective must be maintained and, as time goes on, enlarged to provide for expanding population and rising standards of living. (2) On the pecuniary side, there must be such a distribution of purchasing power among all the population groups that productive resources do not lie unused simply for lack of a market while large numbers of people are deprived both of employment and of the goods and services which they need and desire.

The essential character of this problem can perhaps be better seen if for a moment we leave money and prices out of the picture and discuss the technical process of production and the division and use of the product merely in physical terms. Viewing it thus, we see our producing plant and personnel turning out a great flow of goods and services, which constitute the gross national product during any given period. Services obviously are used immediately and directly as they are produced. As for goods, they subdivide into four classes. First there are perishable consumers' goods used almost immediately

after production. This class shades off gradually into the second, namely, durable consumers' goods, such as furniture, automobiles, houses, works of art, and the like. The consumption of such goods, even though it may begin immediately, lasts over a considerable period—possibly a lifetime or even several generations. A third part of the national income or product takes the form of non-durable producers' goods—raw materials, fuel, and other supplies. These producers' goods, though they disappear or lose their identity in the immediate process of fabrication, reappear as finished consumers' goods or as machines or equipment for further production. Finally, there are durable producers' goods—factories, stores, machinery, and transportation facilities used over a long period of time for the further production of consumers' goods either directly or indirectly.

Looked at from this purely technical point of view, the national economic problem is simply one of using our labor supply upon our natural resources and productive equipment so fully and efficiently as to turn out, year in and year out, the largest possible dividend of goods and services. This not merely demands industry and skill on the part of workers but involves also a correct direction of society's productive effort. We must strike a balance between current satisfaction of consumers' wants and the maintenance of an adequate stock of those underlying goods like electric generators, blast furnaces, cement mills, and whatnot that are essential, though some of them very remote, agencies in the process of creating consumers' goods.

Now let us put money back into the picture. In a society organized on a pecuniary basis those who participate in the economic process (with few exceptions) receive payment in the form of money, or in credit instruments

equivalent to money. The total amount thus received in the form of wages, salaries, interest, rent, and profits constitutes the national income expressed in money terms. Under these circumstances the allocation of our energy as between the creation of goods to be consumed and the production of additional capital equipment depends upon the ways in which this monetary income is utilized. For it is in response to the demands created by the utilization of this monetary income that the character of continuing production and the functioning of the economic system are determined.

A small part of current income is withheld from individual consumers under the practice of corporate saving which, besides providing for depletion and depreciation reserves, results in the accumulation of "surplus." This may be "plowed back into the business" of the given corporation or it may be invested in the securities of others; in either case it goes largely into capital goods. Another small part is taken in the form of taxes from individuals or from institutions to be diverted by various units of government either to capital maintenance or expansion or to consumption uses. The remainder goes into the hands of individual income receivers who disburse part of it in the purchase of consumers' goods and direct the remainder back to the capital fund<sup>1</sup> through bank savings, the purchase of insurance, or some of the numerous forms of investment.

The forces controlling the division of the national income between saving and spending are therefore of great concern. Since the continued functioning of the economic system is motivated by the flow of money incomes, the

<sup>1</sup> Though with considerable shrinkage on the way, owing to costs of operating our investment machinery, losses on fraudulent securities, and the like.

steady and efficient operation of our economic society depends closely upon the allocation of monetary income between savings for capital expansion and expenditures for consumption goods. If one kind of adjustment is maintained we may have steadily expanding production and rising standards of living; if another adjustment exists, economic growth may be retarded.

The period in which we and our fathers and grandfathers have lived, running back to the so-called Industrial Revolution, has on the whole been one of great economic progress, especially for the countries of Western Europe and the United States. At the same time it has been characterized by a great deal of idleness of productive plant and by widespread unemployment. Evidently we have not succeeded in utilizing our opportunities fully, and thus poverty has persisted where apparently it might have been reduced, if not removed. This has caused the question to be raised again and again whether existing conditions as to the distribution of national income were responsible for maladjustments in the economic system which retarded economic progress.

For well over 100 years there has been a division of thought between those who extolled saving and yet more saving as the prime force to be relied upon in advancing our economic well-being and those who conceived that saving was in fact being overdone and that diverting more of the social income into the channels of consumers' purchasing power was the surest way to promote a better functioning of the economic system.

Those who emphasize saving as the only road to economic progress are supported by long tradition and can appeal to a very simple logic. Through saving, or thrift, the *individual* accumulates capital for himself which gives protection in his old age as well as a source of addi-

tional personal income in the meantime. Benjamin Franklin's *Poor Richard's Almanac* was typical of a great mass of popular teaching designed to promote saving during the late eighteenth and early nineteenth centuries. This view was reinforced by moral exhortations which, from then on through the Victorian Age, extolled the self-denial which is required in the saving process as being a virtue in itself. In 1875 Samuel Smiles devoted a book of nearly 400 pages, under the title *Thrift*, to the effort "to induce men to employ their means for worthy purposes and not to waste them upon selfish indulgence."

The benefits of unlimited saving to *society* as a whole appeared equally evident. Saving furnishes the funds with which capital is expanded, and the enlarged capital supply makes possible increasing efficiency and higher standards of living. Accordingly it was believed that the larger the percentage of the national income which was saved in any given year the greater would be the supply of productive capital and the greater the general economic well-being in the ensuing year.

This theory of economic progress appeared, at least superficially, to be sustained by the history of the nineteenth century. This period was characterized by wide geographic exploration and settlement, by great increase in population, and by a rapid rate of scientific discovery and mechanical invention. The great requirement for economic progress obviously appeared to be to procure, through saving, the funds with which to multiply transportation agencies and to build up factories, machinery, and other industrial equipment. The possibility of over-saving appeared ridiculous. The new capital that was created resulted in increased productive efficiency, which in turn yielded more and cheaper goods for consumers generally.

This reasoning of course assumes that increased productive capacity is followed by persistent declines of prices resulting from the competition of business men. In fact price competition was relied upon as the force which would automatically distribute the results of economic progress to the masses of the people. With money wages remaining unchanged, the fall in prices would increase the real purchasing power of the public. The sequence of events on the road to progress was thus as follows: (1) restriction of consumption; (2) the expansion of new capital equipment; (3) increased production of consumers' goods at lower prices; and (4) larger consumption and higher standards of living for the masses.

From time to time for a century there have, however, been those who have argued that, while thrift may be a necessity and a blessing to the individual, from the standpoint of the economic system as a whole saving may be greatly overdone. Without attempting any systematic or complete recapitulation of economic thought along these lines, a few citations will help reveal the evolution and the character of the issue with which we are here concerned.

In 1804 Lord Lauderdale of Scotland, in an essay entitled *An Inquiry into the Nature and Origin of Public Wealth*, argued that "in proportion as forced parsimony abstracts from the funds that would be allotted to acquire consumable commodities, the demand for labor, whether performed by the hand of man or by capital, must be diminished." It appeared to him that an expanding consumption was the first requisite to the full employment of both labor and capital, and that persistent saving would lead to a diminution of national well-being.

In 1819 the French economist Sismondi, in explaining

the great depression of that time, argued that the unequal distribution of national income prevents the steady expansion of mass purchasing power upon which continuous production and employment depend. A year later the English economist Malthus contended that "if, at the very time that the supply of commodities to revenue [that is, purchasing power] is already too great, we go on saving from our revenue to add still further to our capital, all general principles concur in showing that we must of necessity be aggravating instead of alleviating our distress."

The belief that low wages and restricted consumption are a major source of society's economic difficulties is quite generally diffused through the writings of Karl Marx.

John Stuart Mill recognized a tendency for capital to become, in older countries, so plentiful as to threaten the extinction of profits.<sup>2</sup> He did not, however, argue that it would be impossible to use this capital productively or that it would result in unemployment. On the contrary it would increase the demand for labor and raise wages; and this would in turn further reduce profits. As profits approached zero further saving would be restricted and thus a readjustment would gradually be brought about.

In the middle eighties the American economist David A. Wells was greatly impressed with the phenomenon of over-production, which he ascribed to the extraordinarily rapid increase in and improvement of "the instrumentalities of production and distribution"—factories, labor-saving machinery, transportation facilities, and the like. He attributed the great depressions of trade of the seventies and eighties to the fact that "the supply of the great

<sup>2</sup> See *Principles of Political Economy*, Book IV, Chap. IV, Sec. 5.

articles and instrumentalities of the world's use and commerce has increased, during the last ten or fifteen years, in a far greater ratio than the contemporaneous increase in the world's population, or of its immediate consuming capacity."<sup>3</sup>

Some years before the World War the view that excessive saving is responsible for periodic gluts in the markets and resulting depression was advanced by John A. Hobson of Great Britain. Hobson contends that in modern society the rate of saving and the growth of capital outrun the effective demand of consumers and grave maladjustment necessarily ensues. He insists, moreover, that expanding consumption is a necessary antecedent to the profitable utilization of additional capital goods.<sup>4</sup> A recent and succinct statement is as follows:

There is a chronic attempt to oversave income, checked by the disastrous discovery that the goods which represent the over-savings lie for a long time unutilized. . . . The futile and costly attempt to oversave is due to an irrational and inequitable distribution of income. . . . This "irrational" element, introduced into our economic system by maldistribution of income, shows itself later on in the irrationality of general unemployment, the inability of consumption to keep pace with productive power.<sup>5</sup>

In 1918 Harold G. Moulton advanced the argument that, whatever the division of the national income among classes, the very process of saving, in a pecuniarily organized society, tends to check the demand for the expansion of capital goods. This is because individuals must, if they are to effect savings, set aside a portion of their monetary income for that purpose, thereby lessen-

<sup>3</sup> "The Great Depression of Trade," *Contemporary Review*, September 1887, p. 382.

<sup>4</sup> *The Evolution of Modern Capitalism*, Chap. X, rev. ed., 1913.

<sup>5</sup> *Manchester Guardian Weekly*, Jan. 16, 1931, p. 57.



ing their demand for consumptive goods, and the reduced demand for consumptive goods makes it unprofitable to expand capital goods. He contended that in fact the only time when the supply of capital goods does expand is when expanding consumption is leading the way. He found that a *simultaneous* expansion in the flow of funds through consumptive channels and through the investment markets has been made possible by the commercial banking system.<sup>6</sup>

The view that restricted consumption is a primary source of economic difficulty has been extensively promulgated in recent years by the writings of Foster and Catchings. They argue:

This, then, is the difficulty: this is the Dilemma of Thrift. Individuals as well as corporations must save; yet savings tend to thwart the social object of thrift. For the individual as well as for the corporation, a penny saved is a penny earned; but for society, a penny saved is a penny lost if it results in curtailed production. And often it does. For every dollar which is saved and invested, instead of spent, causes one dollar of deficiency in consumer buying unless that deficiency is made up in some way.

In seeking now to plan deliberately for a better future, we must find out how to make sure that the right amount of money flows into use in the right way. If we can do that, there appears to be no reason, short of a world calamity, why the present progress cannot continue for many generations.<sup>7</sup>

They thought a simple way out of the difficulty was to be found through the medium of progressively increasing money wages.

<sup>6</sup> See "Commercial Banking and Capital Formation," *Journal of Political Economy*, May, June, July, and November 1918.

<sup>7</sup> William Trufant Foster and Waddill Catchings, *Business Without a Buyer*, pp. 48, 86, 103-04, 1927. See also Edward A. Filene, *Successful Living in This Machine Age*, pp. 1, 16-52.

The high-wage philosophy has, in fact, come to be widely accepted in recent years. The development of the automobile industry, together with the expansion of other new lines of manufacture which furnish goods outside the range of subsistence necessities, called attention dramatically to the interrelations between such growth and the spending power of the masses. Impressed with the necessity of rapidly expanding markets if the possibilities of mass production were to be fully realized, Henry Ford became the leading exponent of the doctrine that high wages were essential to business prosperity, and took steps to carry the high-wage system into effect in his own plants.

Spokesmen for organized labor have, not unnaturally, been among the leading exponents of the view that low wages are the root of economic difficulties. For example, the *Proceedings of the Annual Convention of the American Federation of Labor* for 1931 (page 81) state: "It is quite obvious that the technical ability to produce has far outstripped our understanding of our economic structure. Our distribution of the returns from production are not balanced. Increased profits have been monopolized by the few so that income of the masses—wage earners—has not increased sufficiently to provide buyers proportionate to the capacity of industry to produce."

Elsewhere the same idea is elaborated further: "The whole story of our economic activity may be summed up in two related functions—accumulation and distribution. We have made far greater progress in accumulating or producing the things that constitute wealth than in distributing them. . . . In the decade between 1919 and 1929 productivity increased 54 per cent, while real wages

increased 26 per cent. With industries geared to mass production, it is obvious that wage earners were not able to buy their share of our increasing wealth."<sup>8</sup>

In periodicals and newspapers similar views have attained a wide following. In its pages, from April to September 1932, *Business Week* conducted an analysis of "The American Consumer Market." After detailed comment on the "paradox of prosperity" this series of articles ended with the tentative conclusion that:

The purchasing power of consumers in the lower income brackets, which depends principally on industrial wages and farm earnings, was too low even in 1929 to buy and pay full cost value plus normal profit for the goods and services they consumed. . . . It is these consumers who absorbed the bulk of the goods and services sold, and it must have been in competing for a share of their inadequate income that the losses of business capital must have chiefly occurred.

One might go farther and suggest that what was not paid out in wages to workers or in dividends to small-income recipients, or in fair prices to farmers, sufficient to enable them to purchase the goods and services produced was in the end lost to business profits and to business capital anyway. Perhaps this process of dissipation of capital is an inevitable characteristic and a sort of self-preservative compensation mechanism in our economic system.<sup>9</sup>

This doctrine has moreover apparently been accepted as a basic part of the economic philosophy of the present national government. It finds expression particularly in the effort under the National Recovery Administration to raise money wages in advance of the rise of prices and in the Agricultural Adjustment Administration's effort

<sup>8</sup> "Union, the Key" (editorial), *American Federationist*, February 1932, pp. 139-40.

<sup>9</sup> Sept. 7, 1932, pp. 21-22. The under-consumption view has also made a considerable appeal to the "scientific management" group. See *Bulletin of the Taylor Society*, October 1932.

to enlarge purchasing power in the hands of the rural masses.

Obviously it is a matter of great importance in modern industrial society that we learn where between these conflicting views the truth lies. In a thousand practical decisions which must be made from day to day concerning wage rates and salary scales, dividend disbursements, the accumulation of surplus, the promotion of new enterprises, the building of factories, roads, or rolling stock, the provision of educational or recreational facilities, the laying of taxes, and the provision of pensions, annuities, and poor relief, persons in authority are bound to act upon assumptions as to how the economic process is promoted or retarded by a given pattern in the distribution of wealth and the adjustment of the balance between spending and saving by which it is accompanied. We should therefore lose no opportunity to get a fuller view of the facts of the situation and a better grasp of their meaning. Only on the basis of real understanding of the motivating forces in economic progress can the nation's accomplishments in the years ahead be commensurate with the opportunities within our reach.

The task of arriving at such an understanding is not easy. However, the prospect of attaining new and significant results seems well to justify the effort. In the past those who have argued either for the more rigorous practice of thrift or for more liberal policies of consumer gratification have rested their case largely upon theoretical arguments based upon what they conceived to be the logic of the situation. To attempt to go beyond this procedure and to make any statistical check of the validity or speciousness of the argument on either side was impossible in the early days, and has continued down to the present to be fraught with great difficulty. Today quanti-

tative materials have been so much expanded and methods so much improved that it seems not too hazardous an undertaking to attempt to analyze the issue anew and in more concrete and realistic terms. In spite of gaps, ambiguities, and inaccuracies of detail, we believe that this systematic checking of the argument in both logical and statistical terms will yield results of great importance for the guidance of our future economic policies.

The Institute of Economics has therefore undertaken a study in this field which has been given the general title "The Distribution of Wealth and Income in Relation to Economic Progress." In carrying out the work we have divided the inquiry into segments of manageable size and sufficient internal unity of subject matter and method. There are four such divisions, each of which will result in a publication. This volume is the first of the series, whose titles are to run as follows:

America's Capacity to Produce  
America's Capacity to Consume  
The Formation of Capital  
Income and Economic Progress

Each of these volumes sets for itself a severely limited objective. In the first we shall consider our system of production realistically as a technological process, with a view to ascertaining the general trend of capital expansion in the United States, and the capacity of our productive plant and labor supply to produce the goods and services which society requires.

In the second volume we turn to the consumption side of the picture and show how the national product is divided among the various groups in society. This volume will seek to answer two major questions. First, what influence does the division of income among the various

income groups have upon the relative proportions of the aggregate income which will be saved for capital purposes and which will be spent for consumption? Second, what increases of income among certain income groups would be required to absorb the full output of our productive capacity? We conclude this volume with an analysis of certain fundamental issues involved in balancing production and consumption.

In the third volume we shall consider more specifically the pecuniary aspects of the problem of economic organization. We shall examine the process by which nominal monetary savings are transmuted into actual capital goods; the interrelations between consumptive expenditures and the formation of capital in a pecuniarily organized society; and the part which financial institutions play in the process.

It remains for the fourth volume to bring together the various segments of our investigation for purposes of interpretation, diagnosis, and possible prescription. We raise the fundamental question whether the existing method of distributing the national income tends to evoke from our productive resources the greatest flow of goods and services of which they are capable. Or do certain of our practices in the distribution of wealth introduce maladjustments into the productive system which tend to interfere with its most successful functioning? In this volume we shall not only give our answer to the question whether there are such shortcomings but shall also appraise their relative seriousness and suggest the types of adjustment which would seem to us to promise greatest improvement in the situation, that is, greatest acceleration of the nation's economic progress.<sup>10</sup>

<sup>10</sup> The term "economic progress" as used in these studies means substantially "economic activity." It carries no ethical or qualitative impli-

In spite of what has been said above about richer statistical materials and improved statistical techniques as facilitating our task, it must not be supposed that we are promising a complete and conclusive statistical demonstration. This would be impossible for the single reason that, rich as are our accumulations of economic data, they still fall far short of covering all the essential matters involved in our problem. But, even more important, the sort of questions which we are asking cannot be conclusively answered by the marshalling of mere figures. They involve sequences of cause and effect in an organic economic society. Instead of simply adding up a great list of numerical quantities to get a mathematically verified answer, we must proceed step by step through the analysis of a complex economic process, buttressing our reasoning at every point possible by the presenting of such quantitative evidence as can be brought to bear upon that particular phase of the problem.

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cations as to the relative desirability or undesirability of one or another type of economic goods or services. We leave it to consumers themselves or to the sociologists, psychologists, physicians, and preachers to wrangle over and perhaps decide upon the forms of human satisfaction that people should be permitted or encouraged to indulge. But as economists we are defining as "economic progress" the greater and greater opportunity of our fellow citizens to employ their labor most effectively in the satisfaction of such wants as they in fact have. *Real distribution, etc. better?*

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