Government in Economic Life

SOLOMON FABRICANT, *Director of Research*

NATIONAL BUREAU OF ECONOMIC RESEARCH, INC.

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A Record of 1954 and Plans for 1955

NATIONAL BUREAU OF ECONOMIC RESEARCH, INC.

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1. The object of the National Bureau of Economic Research is to ascertain and to present to the public important economic facts and their interpretation in a scientific and impartial manner. The Board of Directors is charged with the responsibility of ensuring that the work of the National Bureau is carried on in strict conformity with this object.

2. To this end the Board of Directors shall appoint one or more Directors of Research.

3. The Director or Directors of Research shall submit to the members of the Board, or to its Executive Committee, for their formal adoption, all specific proposals concerning researches to be instituted.

4. No report shall be published until the Director or Directors of Research shall have submitted to the Board a summary drawing attention to the character of the data and their utilization in the report, the nature and treatment of the problems involved, the main conclusions, and such other information as in their opinion would serve to determine the suitability of the report for publication in accordance with the principles of the National Bureau.

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7. A copy of this resolution shall, unless otherwise determined by the Board, be printed in each copy of every National Bureau book.

(*Resolution adopted October 25, 1926 and revised February 6, 1933 and February 24, 1941*)

PART I

Government in Economic Life

Last month the President recommended to the Congress a federal budget for the fiscal year 1956 of 62 billion dollars. State and local government budgets may add another 35 billion or so. The total government budget for 1956 may therefore reach close to 100 billion dollars. This is a large sum.

Yet the really striking fact about the budgets now under consideration by many legislatures throughout the country is not what they tell us about government expenditures in the next fiscal year, important as that is. Still more significant is what the budgets indicate of the longer-run future before us.

"During this past year," the President said in his Budget Message, "we successfully made the adjustment from a wartime to a peacetime type of economy." The budget, then, is not an exceptional wartime budget; it is designed for peacetime. But the peace in which we live is insecure; the years ahead appear to follow one another down a long stretch of uncertainty. Nor is national security the only objective: the government must also continue to "do its part to advance human welfare and encourage economic growth." Whatever the outcome of the Administration's efforts to reduce expenditures by "finding better ways of doing the things that must be done," the Budget Message states frankly that future reductions will be more difficult than those already achieved. We know that the budget request for fiscal 1956 is only a billion below estimated expenditures in fiscal 1955.

As for state and local governments, it may suffice to recall the budgetary plans and problems of the city and the state in which we are gathered. The general outlook for state and local budgets is probably one of increase; it is clearly not one of decrease.

We seem to have entered an era in which the activities of government bulk large in the affairs of our economy, far larger than ever

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This report was presented at the annual meeting of the Board of Directors of the National Bureau, held in New York City February 28, 1955. I am greatly indebted to my colleagues for helpful suggestions on Part One, and to Geoffrey H. Moore for advice and assistance on Parts Two and Three as well.

before except during the relatively brief periods of great war.

In such an era, it is unnecessary to dwell on the importance of understanding the place of government in economic life. Instead, we must ask what is being done to equip ourselves with this obviously desirable knowledge. The National Bureau is not less free from this obligation than other centers of research. In this, our annual review of the Bureau's research program, therefore, we may profitably consider our work in terms of what it has contributed and may contribute to meeting the need.

I

If we are to understand the situation in which we find ourselves, it is necessary to see the magnitude of government's activities as clearly as possible. There are, of course, the government budgets, of which we read in the press and which all of us help to underwrite. To the billions of expenditures I could add other large figures: the 10 million persons on government payrolls, the 200 billion or so dollars of government holdings of tangible assets, the 300 billion of government debt. And the government's large scale is proclaimed also by every man's frequent encounters with the personnel and property of federal, state, and local governments. But personal impressions are necessarily vague and subject to bias; and the meaning of figures running into the millions and billions is difficult to absorb. To grasp the dimensions of government's area of operations we need to view them against the background of the economy as a whole.

The National Bureau follows the practice, whenever it promises useful results, of putting economic matters in terms of magnitude and in the perspective of proportion and relative change. We do not depart from this practice when we study government activity.

Concern with the volume of government activity has had a place in our program of work for some time. Indeed, a first step toward a quantitative view of government in economic life was taken in the National Bureau's initial study, reported by Mitchell and his staff in the two volumes on *Income in the United States.* The primary objective was the total national income, but it is an advantage of a broad view of the whole economy, like that provided by a survey of national income, that it must also report on each really sizable sector of the economy, including government, and thus affords perspective — in this case in terms of income — on the relative importance of each major sector. Our first study of national income was followed by the further reports of King and Kuznets, and in each of these the contribution of government to the nation's income (and employment as well) was set forth. Our other comprehensive surveys—Copeland's exploration of money flows, Kuznets' and his associates' study of trends in capital formation, the work of Saulnier and his collaborators on credit, Goldsmith's investigations into the structure of the national balance sheet — also have helped or will help to fix the position of government in the whole economy. Recently, we made a separate enterprise of the measurement of government's share of the nation's labor and capital; and on other occasions when we gave special attention to some particular government operation — for example, in the studies of public works by Wolman and Gayer — we sought quantitative comparisons with the economy as a whole.

So in the course of time we have built and used a number of vantage posts from which to observe and study aspects of government activity. Our observations have been supplemented and extended by others, and we are beginning to have the comprehensive picture of the economy and government's place in it that we need.

Let me draw on some of this information to indicate the present level of government activity. I cite the simpler measures, most of which are derived from current reports of the Department of Commerce and other government agencies.

Last year 15 per cent of all workers were in the employ of government, including government enterprises. Last year 17 per cent of all personal incomes were received from government — including, besides wages and salaries of government workers, also interest, benefit, and relief payments. Last year, furthermore, at least 38 per cent of the nation's total expenditures on new construction and on equipment were made by governments. Still another figure worth mentioning is government's share of the nation's real wealth, measured at current prices net of depreciation. Goldsmith has estimated that in 1953 government held close to a fifth of the nation's total stock of capital goods, including military equipment.

We should not forget that besides employing a great deal of labor and capital directly, government also purchases a large volume of goods and services from business enterprises — 46 billion dollars worth in 1954. The cost of these purchases, together with the value of the services of labor and capital employed by government, equals the total cost of government output. So calculated, government production equaled about a fifth of gross national product last year.

Another figure of Goldsmith's suggests something of government's place in our financial structure. According to his recent Occasional Paper, the public debt outstanding in 1949, including state and local as well as federal government securities, was equal to 14 per cent of the nation's total assets in that year. (The latter includes private claims of various sorts, as well as tangible assets and government debt.) In addition, the federal government's loan guarantee and insurance programs (which are being systematically reviewed by Saulnier, Jacoby, and Halcrow) create substantial contingent liabilities. At present, the contingent liabilities of the federal government run close to 40 billion dollars, and are equal to about a seventh of the federal debt.

Further perspective on the present size of government is provided by comparison with the situation in an earlier generation. The percentage of the labor force employed by federal, state, and local governments today is almost four times what it was at the close of the nineteenth century. The percentage of the nation's capital assets in the hands of government is about three times the earlier proportion. Because government's purchases of goods and services from business enterprises, adjusted for price change, grew even more rapidly than government employment or the real value of government assets, the share of government in the nation's gross product has quadrupled since 1900. Finally, to return to the national balance sheet, the ratio of government debt to national assets in 1949 was seven or eight times the ratio in 1900; and government had no contingent liabilities at all half a century ago.

II

One clue to the sources of government's wide place in the economy today is to be found in the things government does.

Here, to begin with, it is necessary to stress that national defense, important as it is today, accounts for no more than about two-fifths of the total of all government expenditures, capital assets, and workers. Government puts even more into the nondefense needs of the community. And while the government activities devoted to these have not grown nearly as much as defense — defense expenditures constituted only 10 per cent of government's total expenditure half a century ago — they have grown much more rapidly than private activity. The figures on employment make this point sharply. Nondefense government work employed 3.5 per cent of the nation's total labor force fifty years ago; today the percentage is 8.5. While a very important cause of the high level of current government operations lies in the troubled international scene, it is by no means the only important factor.

As much as a quarter of nondefense expenditures consists of transfer payments to individuals, including benefits paid to veterans, public assistance, employee pensions, unemployment compensation, and old-age and survivors' insurance payments. (Inclusion of the net cost of agricultural price supports, subsidies to the merchant marine, etc., would increase the fraction.) To the billions of dollars of transfer payments, interest on the federal, state, and local debt adds more billions (after deducting interest received), and makes the total of transfer and interest payments equal to a third of nondefense expenditures. Half a century ago government transfer payments, largely of veterans' pensions, constituted only about a tenth of nondefense expenditures; and transfers plus interest, about a seventh. The great increase in transfer and interest payments may be compared also with the increase in income. Transfer and interest payments by government to individuals amount today to 1 out of every 14 dollars of personal income; half a century ago these probably amounted to no more than 1 out of every 75 dollars of personal income. Figures such as these remind us of another significant cause of government's large role today: by direct assistance and subsidy and by administering social security, insurance, and pension systems, government has shouldered a far larger share than before of the responsibility of protecting citizens against the hazards of unemployment and other causes of indigence. In addition, government helps to provide health, hospital, and similar services.

Apart from national defense and transfer payments, government expenditures (and also government workers and capital goods) go largely into the production of a great variety of goods and services, including education, highways, health and hospital services, and municipal services generally. The remainder is used to maintain and build up government plant and equipment. Compared with half a century ago, the resources used by government to provide its services have grown considerably. The work of federal, state, and local government has been expanded to satisfy wants not taken care of by government before (some of these, of course, were not felt a half century ago) and — far more important — old services have been expanded in scope and improved in quality. Here then is another and major reason for the high level of government's current activities.

Growth has been especially rapid in regulatory activities — regulation in one form or another, of one aspect or another, and in greater or less degree, of security and credit markets, of agricultural and other commodity markets, of labor markets, of markets for professional services, of markets for consumer goods — activities entirely absent or of much narrower scope fifty years ago. Except for the agricultural commodity price supports, however, these do not involve large expenditures by government — which is not to say that their effects are small.

Government services are generally distributed to the public without specific charge or at relatively nominal fees. However, government enterprises—those government agencies whose product is sold to the public at something approximating cost — are not negligible. They also have grown in scope and variety since the opening of the century. Except for the postal service, almost none of the many present enterprises of the federal government were in existence at that time; and the functions even of the post office have expanded in several ways. There has been expansion also at the state and local levels, though in municipalities public enterprises were already of considerable importance in earlier days. Taken all together, it seems that public enterprises have grown somewhat more than other nondefense activities of government. Employment in public enterprises equaled about 13 per cent of all nondefense government employment in 1900; it amounts to about 16 per cent today.

Of course, modest growth in relation to other government employment means rapid growth in relation to employment in the economy at large. Some of this resulted from increase in government's share in various industries. According to a tabulation to appear in Stigler's forthcoming report on the service industries, government employees in street railway and bus lines constituted a third of all employees in this industry in 1950, and in gas and electric utilities, a fourth; both percentages were larger than in 1900. Some of the expansion in public enterprises reflected the entry of government into industries in which government had no hand at all at the opening of the century; examples are workmen's compensation insurance, housing, state liquor stores, and finance. Some came from increase in the industry concerned, apart from change in government's share. Recent steps on the part of the federal government to divest itself of certain public enterprises and limit the growth of others has so far produced only a ripple on the trend.

To these facts we may add a related piece of information. Many of the services of government that are distributed without charge, or at a nominal charge only, are also produced in the private sector. Thus, three-fourths of medical and other health workers were in private industry in 1950. Government's share in such activities has increased somewhat over the years (though elementary and high school education is an important exception). In this sense, some of the expansion of government reflects "encroachment" on the private sphere.

In summary: more resources to government for national defense; more resources to government for national security against other hazards; more resources to government for the provision of public services; the entry and further penetration of government into fields tilled by private enterprise or philanthropy — these are the substantial developments that have led to government's present place in the economy.

III

Many of the developments I have mentioned came with the Second World War and the Great Depression that preceded it. World War II left a large residue of federal government activities and expenditures when hostilities ceased. Even before Korea, the federal budget had swelled beyond its prewar size with the costs of larger military forces, veterans' benefits and services, interest on the public debt, heavy expenditures on international affairs and assistance, and the activities needed to manage and finance these. And we cannot forget the many expansions in government activity that came during the momentous days of the middle 1930's.

Yet, important as they were, we should not overestimate the role of these major events in the growth of government. What was true of World War II and its aftermath was in some degree true also of World War I; as Slade Kendrick shows in his review of federal expenditures since the formation of the Union, some part of the expansion was retained after all major wars.

As for the depression of the 1930's, it was unique in the speed with which proposals for government action were put into effect. But it was not unique among depressions in starting movements for expanded government action and control. Nor did all of these come to nought or wait upon the climate of the 1930's for adoption. Before the next serious depression had developed the collapse of 1920–1921 had put some measures for the support of farm prices and farm credit on the federal statute books; the contraction of 1907–1908 stimulated the proposal that eventually changed our banking system; the economic troubles of the 1870's and 1880's led eventually to national legislation to regulate the railroads, curb monopolies, and tax incomes — and the state legislation of those days responded more quickly.

As we look back over the past half century we find signs of growth in government through most of the period. These signs appear in the figures on employment: in every decade government employment mounted more rapidly than private employment. They are visible also in the figures on capital and expenditures. They are found in the details of the history of bureaus and functions at all levels of government — national, state, local. The growth was uneven, and occasionally some activities of government were brought to a close by repeal, constitutional conflict, obsolescence, or neglect. Fisher and James report on one such case in their review of federal government efforts to fix minimum prices of bituminous coal, which lasted between 1935 and 1943; and we are currently encountering others. But significant elements of the present situation cropped up in every period. What we see, in other words, is a trend of long duration.

The factors that underlie this trend are surely many and complex. Income rose and brought with it increased demand for services, including those that are conventionally provided by government in this country, such as education, public health, mail, park, and road;

and provided the means to pay for them. Along with the rise in income came further urbanization of the population, with increased needs for municipal services of all sorts. Urbanized life exposed, and in the eyes of many contributed to, disease, crime, and poverty; at any rate, these were revealed by improved statistical and other information, and advances in the social sciences led to a revised judgment of their causes. The way was opened, and sooner or later followed, to public assistance programs, government investments in health and hospitals, improvements in correction methods and processes, and governmental responsibility for economic stabilization. Rise in income and urbanization reflect a basic process of industrialization; industrialization brought with it also large-scale production, problems of labor-management relations, dangers of monopoly, and a more serious unemployment problem during depressions, among other things. These sweeping changes in economic life affected people's views on trade-unions and on government's role as factory inspector, provider of relief, stabilizer of employment, and guardian of fair competition. Industrialization meant technological change, and this in turn intensified — or appeared to intensify — problems of obsolescence of skills and capital, and thus altered attitudes toward government support of sick industries. The rise of large-scale production and the accompanying development of methods of internal control weakened objections to government production on the ground of inefficiency. Needs appeared for action in areas which private enterprise could not be expected to enter or seemed to be ignoring — conservation, flood control, agricultural finance; and government took on the responsibility.

The process was cumulative also because one step in the direction of government action favored another. Old-age and survivors' insurance could not be limited to one group; regulation of railroads generated pressures for regulation of motor carriers. Also, government action taken on one ground paved the way toward government action on other grounds. As in England, bits of humanitarian legislation limited to the hours of women and children in factories and supported by conservatives as well as radicals helped establish the principle that the regulation of labor generally is the proper concern of government and lent prestige to beliefs that government action is desirable in various areas of economic life. In this way, too, one piece of legislation led to another; and this breeding process had its special characteristics in a country made up of forty-eight sovereign states. Still another factor contributed to the process: the benefits of legislation designed to help a worthy section of the population are generally clear and visible, and its supporters have every incentive to press for passage; the costs, however, are spread among many groups, they are frequently indirect and slow to appear, and as a result opposition tends to be weak.

This brief sketch of the process by which government has come to occupy so large a place in our economy lists factors which may not be ignored in a scientific examination of the process. Such an investigation would encounter great difficulties, in part because political and other noneconomic aspects of our institutions and history are involved, as well as economic. Indeed, it is doubtful whether we shall ever reach a fully conclusive explanation. But the question is of basic importance and every insight and bit of objective evidence that economics can contribute would be valuable.

Among ways to tackle the problem, one is to study interstate differences in the level of state and local government activity. An attempt of mine along this line, made with Lipsey's help, has suggested a high correlation between these differences and level of income, and Stigler obtained a similar result in his analysis of employment in education. Supplementary exploration is under way: Brazer is looking into the extent of intercity differences in several classes of government activity and considering the problem of associating these differences with factors like size of city and level of income.

Another approach to the causes of government's expansion is through study of the trend in other countries. I have already hinted at the similarity between developments here and in Britain. Last year Stigler reported briefly on some work we have been doing in this direction. Making use of materials gathered by Abramovitz, Eliasberg, Oshima, and himself for Britain, Germany, and Japan, as well as the National Bureau's earlier work on the United States, he found a clear upward trend of government employment relative to total employment in all four countries. Of course, there are differences in level and rate of government growth, as well as similarities. In 1950, a substantial fraction of Great Britain's labor force fell in the category of nationalized industries; government as a whole employed a fourth of all British workers. Our study of Britain's public employment, which has been completed and will soon be published, points to this and other differences between the situation in Great Britain and here in the United States, and notes differences also in underlying factors. It is certain that Peacock, who is preparing a complementary report on the growth of British governmental expenditures, will uncover other differences, as well as similarities. The interesting suggestions thrown up in these reports merit investigation and indicate that a broad study of government activity in a larger group of countries would be rewarding. If we should find it possible to undertake this, it is likely that we would not be alone in our endeavors. Statistics on government budgets of a large variety of countries are being gathered on a uniform basis by the United Nations secretariat. When these are assembled, we may expect that they will excite scholars here and abroad to subject them to analysis and to study the relations between international differences in level and functional distribution of government expenditures and such factors as income, industrial structure, and urbanization.

IV

Along with the vast growth of government's operations and the expenditures to which it gives rise has come a remarkable change in the character of the revenue system. Even state and local revenue systems have been altered materially; as our Committee on Fiscal Research concluded last year after consideration of research needs in public finance, the time seems ripe for a thorough analysis of the developments in this area of governmental revenue. But the profound changes have been in the federal system, following the final establishment of the income tax in 1913, and it is on these that most attention has been and needs to be focused.

We have not neglected this area of research. Seltzer, with Kahn's collaboration, is reviewing the federal tax on personal incomes. Among the subjects under study are changes in the contributions of different income groups and different types of income to the tax yield, and the effects on the tax revenue of modifications in rates, exemptions, credits, and deductions. Few people recognize how much the coverage of the personal income tax has increased – from under 30 per cent of total personal income in 1929 to over 80 per cent currently. The wider coverage is the result of both statutory changes and economic developments – among which higher average real income per family, less inequality of distribution of income among families, and price inflation count heavily. An Occasional Paper will soon be submitted to the Board setting forth the results of the work dealing with interest as a source of income and tax revenue.

Dobrovolsky has been working on a briefer complementary report on the corporate income tax. Holland is looking into special questions concerned with the combined impact of the corporate and personal income tax on the income of stockholders. Lent's study of tax-exempt securities, a facet of our income-tax system, has just been published. There are also the investigations undertaken by us a few years ago: the detailed comparison by Smith and Butters of business income based on prevailing accounting conventions with business income adjusted to the peculiarities of the internal revenue regulations; and Seltzer's work on the nature and tax treatment of capital gains and losses. Other studies of ours have touched on one aspect or another of the income tax: some of our national income reports seem to have found new uses in current discussions of the tax treatment of depreciation.

As with so many other innovations in government, an objective of the income tax was a less uneven distribution of income among the people. There can be little question that the income tax has moved the country closer to this objective. At any rate, a significant portion of the shift since the 1920's toward equality of income distribution, traced by Kuznets in his recent volume, stemmed from this source. And there are, in addition, the income-distribution effects of the government services and transfer payments financed by the income tax.

While this much seems certain, many of the effects of the tax on income distribution remain to be cleared up, for the law is complicated and its influence travels in many directions. Holland's study, for example, is concerned with the kinds of assumptions and calculations needed to answer the apparently simple question of the "double taxation" of incomes of stockholders.

The income tax has had, in addition, "side-effects" of a sort not desired by any in favor of the tax and viewed by many of its opponents with alarm. Certain of these effects, bearing on the choice among alternative types and forms of investment, and thus on the financial structure and efficiency of the economy, were discussed by Seltzer in his report on capital gains and by Lent in his paper on tax-exempt securities; and others are being examined in Seltzer's current study of the personal income tax. Still other students have tried to come to grips with the effect of the income tax on investment and incentives generally and thus on the rate of economic progress.

The strength of all these effects depends on many things, among which are to be counted not only the particular form and structure of the tax code and regulations and the use that government makes of its tax revenues, but also, and heavily, the magnitude of the taxes, and thus ultimately the scale of governmental operations generally. When government is small, Holland's problem is surely a slight matter; when the scale of government operation is as large as it is today, his problem is worth time and effort. The differences between taxable and business income found by Smith and Butters did not appear great, on the whole; but when corporate tax rates run high, even small differences contribute significantly to differences between the tax treatment of one company or industry and another. And so, we may be sure, for the other effects.

In addition to influences of government's scale of operations on income distribution, on efficiency, and on economic progress – all of which merit far more study than they have yet received – the size of government may influence also the stability of the economy. This deserves a separate word.

V

The summer of 1953 saw a fairly general recession in business. Together with Hastay, Eisenpress, and Cagan of our staff, Moore followed the unfolding of events. He studied his statistical indicators of recession and revival, experimented with various other technical devices for currently analyzing business conditions, including an extension of the work begun by Mitchell and Burns on diffusion indexes, and explored the usefulness for current analysis of surveys of expectations of businessmen. In the course of this work, the contraction that started in 1953, the revival that came some six months ago, and the broad expansion that followed and is now proceeding, were all scanned and as a matter of course compared with what had happened in other cycles. Developments were in many respects similar to those traced in earlier cycles, as Moore notes in his report on the work of our business cycle unit. As we should expect, there were also differences. Especially significant were two facts: first, the contraction between 1953 and 1954 was extremely mild and unusually short – perhaps not the mildest on record, but surely sharing that position with only one or two other contractions; second, while production and employment fell significantly, disposable personal income rose – only slightly, it is true, but the rise seems almost unique in our monthly or quarterly records of business contractions.

The course of events during the past few years has, without a doubt, been under closer and more adequate observation — and by more persons — than changes in business conditions during any other period in history. For our people have become highly sensitive to the economic weather; furthermore, our economic intelligence has been greatly improved, in large part because the flow of current statistics from government has become greater, more frequent, and more rapid — this is one of the expanded services of government. We are, however, far from understanding all the reasons for the course taken by the contraction, particularly its brevity and mildness and the unusual behavior of disposable income.

In the work that will have to be done to answer the questions raised by our recent experience, one of the major objects of study will, it is clear, be the role of government. In that study, attention will not fail to be paid, I think, to the influence of government's size on its power as a stabilizing factor.

Consider the so-called automatic stabilizers that have developed in the governmental machinery. A good deal of attention is being given to these by economists. Here at the National Bureau we will soon have off the press Creamer's report on the behavior of personal income during business cycles, in a section of which he estimates the importance of government offsets to cyclical losses in personal income during several contractions between 1920 and 1949. Firestone is examining the cyclical swings in federal receipts, expenditures, and surpluses since 1879. In the personal income tax study, Seltzer is considering the consequence, for contracyclical effects, of changes in coverage, rate level, and graduated structure. And at the two conferences on policies to combat depression which the Universities–National Bureau Committee held in 1953 and 1954 a considerable number of papers were discussed on the stabilizing effectiveness of this and other aspects of our fiscal system.

Though many subtle questions are encountered in the analysis of the contracyclical effects of our fiscal system, as the conference discussions revealed, the basic ideas are simple. When personal income is taxed as it is in this country, a fall in income means that more individuals find themselves with incomes wholly offset by exemptions and deductions and therefore with no taxes to pay, and many of those remaining on the tax rolls drop into lower tax brackets and pay smaller average rates. As a result, the fall in disposable income (or "take-home pay") is substantially less than the reduction in income before tax. Government absorbs some of the fall in income.

Other elements of our fiscal system also have a cushioning effect: the corporate income tax, the farm price-support program, unemployment compensation. Even old-age insurance and general welfare assistance come into play when persons over sixty-five lose their jobs or when workers exhaust their unemployment compensation benefits.

The offsetting power of all these elements of our fiscal system is greatly influenced by the magnitude and scope of government's operations. When government activity and expenditures are small in relation to total economic activity and expenditures, tax payments are small in relation to private incomes: a given reduction in private income will be offset in small part by automatic tax reductions. The larger taxes are, the bigger is the offset.

The point is obvious enough. Its force can be roughly illustrated by a comparison of the personal and corporate tax reductions that occurred between 1953 and 1954 as a result of the decline in personal and corporate incomes, apart from the changes that took place in the tax law itself. (We must keep in mind, of course, that the average level of corporate tax rates is substantially higher than the average level of personal tax rates.) According to estimates presented in the January 1955 Economic Report of the President, about a billion of the 4.4 billion dollar reduction in personal incomes between July 1953 and July 1954 (measured at annual rates and excluding government transfer payments) was offset by lower income taxes, that is, by something like a fifth of the decline in income. The fall of 7.4 billion in corporate income between the second quarter of 1953 and the second quarter of 1954 (also at annual rates) was offset by a reduction in corporate tax liabilities of 4.5 billion, equal to 60 per cent. Another illustration is provided by Creamer, who contrasts the offsetting power of the personal income tax in 1948–1949 and 1929–1930. In the earlier period, when taxes were very small relative to incomes, only about 4 per cent of the drop in personal income was reflected in lower taxes: in 1948–1949, it was 12 per cent. As we have just seen, the percentage was larger still in 1953–1954.

The size of government operations determines also the stabilizing effect of the other sections of our fiscal system. The coverage of the unemployment compensation and old-age systems is better today than it was even a few years ago: their stabilizing power is that much greater.

Stability can be promoted also by deliberate steps taken by government. The effectiveness of certain of these, too, hinges on the scale of government operations. Reductions in tax rates, over and above the automatic reductions that occur when incomes fall, are in this class, for the effect of a given percentage reduction in taxes obviously depends on the level of the tax in the first place. This is true also for structural changes in the tax code – for example, with respect to depreciation allowances, the effect of which can be large only when business taxes are large; and similarly for changes in personal exemptions and other features of the personal tax law.

A further point needs to be made. When government's operations bulk large, even a modest and therefore administratively feasible speeding up of outlays for specified purposes can have an effect greater (in absolute terms) than a hasty multiplication, from an initially low base, of government outlays in an emergency program. And the increased outlays can more readily be directed into socially useful projects. This, however, is not the whole story. When government operations are large, even a relatively modest reduction in government outlays – or plans for outlays – may have serious short-run effects on the economy. This was, in fact, the case in 1953, when new orders for munitions were cut sharply. The subsequent reduction in the annual rate of government purchases of goods and services between the second quarter of 1953 and the third quarter of 1954 was no more than an eighth of government's total rate of purchase, after allowance for a slight net rise in nondefense outlays. But because of the initial high level, this meant a reduction in government expenditures of over 10 billion dollars, to which was added the reduction in expenditures of munitions manufacturers, as they cut inventories. On the other hand, although defense orders and then outlays were cut sharply, it was soon made clear to the public that the reductions planned were limited in scope, and this helped confine the unsettling effects of the reductions in government expenditures.

There are still other ways in which the large scale of government may in some degree influence the economy's response to the forces of recession and recovery. I will mention only one.

Recently the National Bureau received a grant with which to undertake a study of the postwar capital markets. We expect to survey the characteristics of each type of market and financial institution and develop a comprehensive quantitative record of flows and holdings of various classes of securities to which significant questions can be put. A salient objective of the study is to determine how the capital markets of today differ from those of prewar days. One of the major questions to which we shall address ourselves, therefore, will be: How does the existence of a large government debt – and the related fact of substantial credit guarantee and insurance operations by government – affect financial operations and structure? How, for example, does the large public debt influence the operations of the Federal Reserve System and of commercial banks in general? How does it affect the flexibility and efficiency of operation of large institutional investors? Still other questions arise which lie within the scope of other projects. How does the large public debt make it both possible and imperative to manage the federal debt in a way that will help us to cope with the forces of deflation and inflation? This question is related to the work of Rolph and of Robinson, who are making historical and comparative surveys of national debt management policies and experience here and abroad. How, also, do substantial holdings of government securities, though not "real" wealth from a national point of view, widen the freedom with which families spend out of a given income, as Klein's explorations of consumer survey data suggest is the case and as Friedman implies in the interim report on his analysis of the consumption function?

There is always danger in concentrating on a single feature of economic organization. The attention drawn to the stabilizing tendencies of government's scale should not lead us to overemphasize their importance or to exaggerate the extent of our knowledge of them.

At the conclusion of his 1953 conference paper on the cyclical effects of the personal tax system Pechman took care to indicate how much he had been forced to substitute judgment for fact in his analysis. Estimates of many of the magnitudes needed to assess the contracyclical power of our fiscal system could stand improvement. Also, a time dimension needs to be put into the analysis; Ida Merriam found it especially necessary to emphasize this at our 1954 conference when she discussed the limits set by law on the duration of unemployment-insurance benefits. Further, unlike the federal government, state and local governments encounter difficulties in obtaining funds when revenue is declining, and this raises a problem of meeting expanded unemployment-insurance and public assistance needs when reserves are exhausted, and maintaining if not increasing expenditures on public works and other objects; it is this problem which Maxwell examined in our report of a few years ago on federal grants and the business cycle. The whole expenditure side of the fiscal system, largely taken for granted when attention is focused on the contracyclical characteristics of the revenue system, requires careful review, as was duly noted in our conferences. Much remains to be done also to determine the uses to which individuals and business firms might be expected to put the money saved by lower taxes as business declines, and the influence on their behavior in this and other respects not only of the large public debt, but also of government's scale generally, and of government's particular policies, alertness, efficiency, and wisdom. We are barely at the threshold of understanding the present role of government in the business cycle.

Nor should current discussions of government as a stabilizing factor cause us to ignore the other effects – good or bad – of big government.

Our one conclusion is this: If what has been said has substance, the growth of government to its present scale cannot safely be ignored by anyone concerned with the workings of the contemporary economy.

VI

"The great object," wrote Jeremy Bentham of political economy a century and a half ago, "the great desideratum, is to know what ought and what ought not to be done by government"; what belongs among its "Agenda" and what, among the "Non-agenda."

Conditions and circumstances, and our knowledge, change. Every generation, therefore, must face the problem anew and distinguish afresh what ought from what ought not to be done by government. It will always be a major task of economics to assist in this vital work. It will always be a major task of our science also to uncover and clarify the problems inevitably encountered in government's efforts to do the things it undertakes to do. The two tasks are related. By exposing inconsistencies among objectives, or – what is almost the same thing – by revealing the costs of fulfilling the declared programs of government, economists perform the one as well as the other function.

The tasks are great. As we look about us today, we see on the accepted Agenda of government many programs whose study falls peculiarly within the province of economists. Over the years, government has been given and today acknowledges the responsibility, in greater or less degree, of preventing serious deflation and inflation, of stimulating economic growth, of providing security against the hazards of unemployment and old age, of reducing the inequalities of personal incomes, of preventing monopoly, of protecting this or that group against the effects of competition. Policies of one sort or another have been devised and are continually being invented to carry out these objectives. Each of these policies is important and requires attention, each is complex and needs careful study.

The National Bureau concentrates upon basic problems rather than upon questions of the day; it does not give advice on policies. This was the course decided upon when the Bureau was founded and it continues to be our practice today. How, then, do we shoulder our obligations as economists; how do we render services of value to a community deeply concerned with current social problems and immediate matters of governmental policy?

Wesley Mitchell explained in our twenty-fifth Annual Report why we devote our attention largely to systematic research into basic problems of economic behavior rather than to current issues:

> The gravest limitation of piecemeal investigations is that their results do not cumulate so surely or so effectively as the results of a program in which the problems suggested by one investigation become the subjects of later studies. Dealing energetically with one practical question for a year does not necessarily make an investigator better qualified to deal next year with a different question. Economic problems of the day arise from difficulties experienced in the functioning of an economic organization in which all the innumerable parts are interdependent. That these parts are genuinely interdependent is a proposition everyone accepts; but two corollaries are often overlooked: first, no economic problem can be adequately treated by itself; second, anything learned about the basic features of economic organization applies to a host of practical problems. The first corollary most emphatically does not mean that *ad hoc* studies are futile; for inadequate analysis is often better than no analysis. The second corollary does mean that growth in ability to deal with economic problems at large depends upon learning more about the economic system as a whole. In the long run, systematic research into fundamentals has greater practical value than piecemeal research.

In accordance, then, with our belief that "systematic research into fundamentals" is of practical value, we study the basic features of our economy; we devise ways of observing, and accumulate information on, the major dimensions and structural proportions of our economy.

The National Bureau's work on what happens during business cycles, begun by Mitchell thirty years ago, puts us in a better position to understand the course and linkage of events during the past two years than would be the case had we concentrated entirely on particular policies in effect or advocated at that time. Abramovitz's analysis of the general features of inventory investment and disinvestment during business cycles helps clarify the role of this factor in the current cycle. Our ability to observe current developments is strengthened by the work Moore and other members of our staff are doing on statistical indicators and by the discussions we have fostered in our conferences on economic forecasting.

When, almost twenty-five years ago, the Committee on Credit and Banking of the Social Science Research Council asked the National Bureau to undertake a study of capital formation and its relation to national income, we knew that the results would find wide use. Nor were we disappointed. Kuznets, who was put in charge of the project, began a series of notable publications in 1934. His ideas, terminology, and statistical findings have found their way into the thinking of all sections of the population, here and abroad, concerned with economic affairs and economic policy. Keynes cited Kuznets' preliminary calculations in his *General Theory;* Kuznets' results have been used by non-Keynesians and by anti-Keynesians. They appear in discussions of economic growth as well as of business cycles; and they were of basic importance in planning the mobilization of our resources in World

War II. They have found application in the work of businessmen and trade-union officials as well as government officials and academic economists. The estimates, currently calculated by the Department of Commerce, constitute a major item of economic information, and releases of the latest figures appear on front pages of newspapers throughout the country.

These are not the only examples of how our work on the basic features of economic organization applies to a host of practical problems confronting the government and citizens at large. I could mention our work on productivity, designed to throw light on the process of economic growth, which has been put to use in wage negotiations and wartime planning; our analysis of the behavior of corporate bonds since 1900, which has given investment institutions and public regulatory bodies the kind of information they need to appraise investment policies and which became the basis for amendments to the laws regulating investments of trust funds, savings banks, and insurance companies – and which, when Hickman's further findings are published and digested, may well influence the thinking of those charged with currently assessing the quality of bonds; our estimates of the volume of consumer credit, which have been taken over and continued by the Federal Reserve Board and which have found uses in the regulation of consumer credit; and our new work on the structure of world trade and payments under Woolley's direction, which we expect will deepen public understanding of various aspects of international economic policy when it is completed and which seems already to be making its mark on the basic statistics compiled and used by national and international governmental agencies.

Although we concentrate on basic problems and refrain from giving advice on policy, we do not shirk the task of analyzing particular policies, provided the issue is broad and we can pursue the investigation scientifically. Our early report on *Business Cycles and Unemployment* was devoted largely to an examination of the remedies for cyclical unemployment proposed at the time; I have already mentioned our studies of public works, federal grants, and the tax system; last year we published a volume of conference papers on the *Regularization of Business Investment*; and this year we expect to issue the proceedings of our conferences of the past two years on *Policies to Combat Depression.*

Another current example is Fisher's and James' forthcoming volume on the minimum price regulation of bituminous coal, done under the auspices of the Price Conference and in cooperation with the Industrial Research Department of the Wharton School. After study of the Bituminous Coal Act of 1937, with its emphasis on average cost as the basis for fixing the minimum price, any competent economist, aware of the subtle ways in which the many parts of the economy affect one another, might have drawn up an abstract list of the kinds of complications and difficulties that would be encountered in its administration. But no one could have foreseen the experience in the richness of detail needed to convey the lesson to the public. Here, as Mills states in his foreword, is "the most complete and rounded 'case' in minimum price fixing recorded in the industrial annals of the United States." It is the study of an experiment in which the interdependence of the economy was ignored. Under the terms of the Act, the eyes of the price-fixing authority were closed to essentially all economic interrelations but one – the influence of cost on price. As we all know, coal competes with other fuels and with devices for saving fuel, among other things. The effect on demand and thus on output of the prices set on coal, and the further effect of output on cost, were therefore, in the long run, to widen the gap between capacity and demand. The problem which the Act was designed to solve thus tended to become worse rather than better. It is very likely that it would have become worse had not the wartime increase in the demand for coal put an end to the experiment. The Fisher-James study discloses the kinds of problem with which price fixing must grapple and some of the social costs it incurs.

The interdependence of the parts of the economic organization accounts for the multitude of uses, some expected, some unexpected, to which our results are put. It explains, also, the cumulative nature of our results. One study leads to and supports others in a way that studies concerned with particular issues could not do as well. This may be illustrated with Friedman's current analysis of certain of the factors that determine the division of income between consumption and savings.

One of Friedman's outstanding contributions to our report on *Income from Independent Professional Practice* (which we have just reprinted) was the analysis of a year's income into a temporary component, determined by accidental influences present that year only, and a permanent component, reflecting training, ability, general health, wealth, etc., common to that and other years. The idea was useful in explaining shifts in the position of individuals in the distribution of income. It has important implications for public policy concerned with problems of poverty, income inequality generally, and taxation, for the distribution of income by size of permanent component is less dispersed than the distribution of income by size of current income. The idea is now finding another use. When one compares successively higher income groups in any given year, one finds a rise in the proportion of income saved. As Friedman reports in Part Three below, this phenomenon can be largely explained by assuming that consumption depends on the permanent component of income: savings in any year are equal to the difference between consumption so determined and the year's current income, which, of course, is the sum of the permanent and the temporary components of the year's income. When the temporary component of income is positive, current income is larger than usual, and savings still larger, proportionally; when the temporary component is negative, current income is smaller than usual, and savings slight or even negative. This interpretation of the relation between income level during a year and the fraction of income saved out of that income provides, among other things, a simple basis for reconciling the relation with one of Kuznets' striking findings. This is the discovery, now common knowledge, that the trend in the average percentage of income saved in the United States has been remarkably close to horizontal, despite the great increase that has taken place in real income per capita. Since what is involved in Friedman's theory are the reactions of consumers to changes in income, its implications for business cycle policy are wide.

The same idea appears also in another form and in another context. In our recent volume of conference papers on *Business Concentration and Price Policy,* Rosenbluth subjects the customary measures of business concentration to critical examination. One of these measures involves calculating the percentage of a year's output of a particular commodity turned out by the largest establishments in the industry producing that commodity. Like the size distribution of income in any one year, however, the size distribution of establishments — and therefore the measure of concentration — is influenced by accidental factors peculiar to that year. Therefore, like the income distribution, the distribution of establishments is less dispersed — concentration is less — when these accidental influences are set aside. If this turns out to be important — little work has yet been done on it — it will have significant implications for public policy on monopoly and competition. Other technical problems encountered in studying size distributions of firms may be analogous to those met in studies of income distribution. In that case, too, studies of business concentration will profit from experience gained in studies of income concentration.

Another illustration of how our results cumulate will soon appear. When Seltzer's paper on interest as a source of income and tax revenue is published, its readers will discover how his task was lightened and his results improved by the work done at the National Bureau by King on national income, by Kuznets on national income and income distribution, by Macaulay on bond yields, by Atkinson on the assets of Wisconsin individuals, by Goldsmith on financial intermediaries, by Lent on tax-exempt securities, by Grebler on federal credit aids in residential construction, by Rude on private nonprofit institutions, as well as by the work of others published in our *Studies in Income and Wealth.* The aim of Seltzer's study, of which the paper is a section, is to lay the factual foundation necessary for informed discussion of public policy with respect to personal income taxation. That foundation will be the more solid for resting in turn on the work of many scholars here and elsewhere.

The problem Bentham posed so many years ago is not one to which a single, simple, and final solution can be given. No solution of the past stood long unchanged, nor will the solution of our generation. A great volume of services will continue to be provided by government; government will continue in one way or another to regulate sections of the economy and the economy at large; government will "do its part to advance human welfare and encourage economic growth." That government will cease to be a factor of major importance in the economy is not likely. But that in one direction or another and in greater or less degree the scale and work of government will be altered is likely. Whatever our people decide about the line between private and government action – whatever new governmental ventures are embarked upon to meet urgent needs or old ventures discarded as unnecessary or worse – the decisions, we may hope, will be wiser if we at the National Bureau, as well as those in other centers of research, continue "to ascertain and to present to the public important economic facts and their interpretation in a scientific and impartial manner."

SOLOMON FABRICANT
Director of Research

PART II

Activities During 1954

NEW STUDIES

In recent decades far-reaching changes have taken place in the conditions underlying the operations of the capital markets. The rise in the federal debt; the shift toward greater dependence by corporations upon internal sources of funds; the change in the financial structure of commercial banks; the rise in importance of life insurance companies, pension funds, and investment trusts among financial intermediaries, are only a few of the factors that have made postwar capital markets different from prewar. Some of these trends and structural changes have been documented and analyzed in our studies of trends in capital formation and financing, of bank capital problems, of urban mortgage credit, of federal lending and loan guarantees and insurance, and in other studies. But an integrated analysis of the recent developments remains to be made. Fortunately, we shall be able to initiate this year, with the aid of a grant from the Life Insurance Association of America, a three-year project designed to fill this gap in our basic knowledge.

Milton Friedman has formulated a new approach to the analysis of the relation of consumers' expenditures and savings to their income, and has submitted it to some preliminary tests (see Part Three, Section 2). This work is, in part, an ingenious adaptation of an analytical scheme developed in Friedman's and Kuznets' *Income from Independent Professional Practice,* and if it lives up to its promise, will call for a recasting of much of the work that has been done in recent years on income-consumption-savings relationships.

Several new studies were begun in the business cycles investigation. Ruth P. Mack is undertaking a brief statistical investigation arising from her monograph, *Consumption and Business Fluctuations: A Case Study of the Shoe, Leather, Hide Sequence,* which is in press. In the monograph, she discloses that systematic fluctuation in the sequence of activities from the purchase of shoes to the production of hides is not confined to movements of business cycle length. Some shorter fluctuations, not seasonal in character, are widely dispersed throughout the industry. Their average duration in the period 1920–1940 was somewhat less than a year and a half. Preliminary investigation has shown that many of the same movements are found in other industries, capital goods as well as consumer goods lines. Mrs. Mack's new investigation should show in systematic fashion when and where these "short cycles" are found and, it is hoped, contribute to our understanding of the ceaseless process of business changes. It may also throw some light on the vexing problem of distinguishing the smaller ups and downs in business activity from the larger waves.

Another aspect of business cycles is being studied by Gerhard Bry. It has long been apparent from our measures of cyclical timing that changes in the average workweek in manufacturing industries have tended to precede changes in the number employed (cf. Wesley C. Mitchell and Arthur F. Burns, *Statistical Indicators of Cyclical Revivals,* Bulletin 69, 1938, and Geoffrey H. Moore, *Statistical Indicators of Cyclical Revivals and Recessions,* Occasional Paper 31, 1950). Mr. Bry is examining the evidence for this in different industries and considering its rationale in relation to conditions that characterize the employment of labor.

One of the most expensive and time-consuming phases of the empirical analysis of business developments is the adjustment of monthly and quarterly time series for seasonal variations. Hence great interest was aroused by experiments begun this year by Julius Shiskin at the Bureau of the Census, the aim of which is to accomplish such adjustments on high-speed electronic computers at great savings of time and cost. First results look decidedly promising. Certain avenues of experimentation remain open, and we are exploring these as part of a joint project with the Department of Statistics and Economics of the International Business Machines Corporation. Our experiments grow out of earlier efforts to put the techniques of determining moving seasonal indexes on a definite mathematical basis, and to calculate the coefficients by statistical regressions. The program of machine operations is being designed to compute the seasonal indexes, employ them to adjust the original data, and print out the results, including certain additional data that will permit a test of the adequacy of the seasonal correction.

George H. Borts, a Research Associate this year, is taking up the question whether the amplitude of cyclical fluctuation experienced by a region or an industry is noticeably affected by its secular rate of growth. Some striking examples of such an effect are known. Wesley Mitchell noted the drastic increase in the severity of cycles in beehive coke production when the output from beehive ovens entered upon a secular decline owing to the advent of the by-product process (*What Happens during Business Cycles: A Progress Report,* 1951, p. 20). A trend toward larger cyclical swings in railroad traffic and investment as the secular trend in railroad traffic flattened out was observed by Burns and Mitchell (*Measuring Business Cycles,* 1946, pp. 414-416). But a systematic survey of this phenomenon as it pertains to different industries or regions of the country has not yet been made. In Part Three Mr. Borts indicates the first steps he has taken in this direction.

Another Research Associate, Michael Gort, has begun a study of capital formation, financing, and growth in the steel and petroleum industries. Conceived along lines parallel to those followed in our study of capital formation and financing, but utilizing statistics for individual firms and for shorter time intervals, Mr. Gort's work will provide an interesting supplement to the results of the larger study.

George K. Brinegar, also a Research Associate, is working on a monograph on agricultural credit institutions that was planned several years ago. Its purpose is to provide a broad view of the factors that have produced changes in the institutional structure of farm finance and thus sum up the results of the Agricultural Finance Project.

At its meeting in May the Committee on Fiscal Research expressed the view that a study of state and local government expenditures was urgently needed. Harvey E. Brazer has therefore undertaken some preliminary explorations. These have uncovered considerable variations among the larger cities and towns in per capita expenditures on various services, even among cities similar in other important respects. Further study of the relationship between such variations and a number of explanatory factors seems indicated. The importance of state and local expenditures in the aggregate is so great that a major study designed to put the statistics into comparable form and to subject them to careful analysis would be warranted.

PUBLICATIONS DURING THE YEAR[1]

Fourteen reports were issued during 1954 and five have been printed to date in 1955:

Arthur F. Burns, *The Frontiers of Economic Knowledge*

Lawrence A. Jones and David Durand, *Mortgage Lending Experience in Agriculture*

Long-Range Economic Projection, Studies in Income and Wealth, Volume Sixteen

Short-Term Economic Forecasting, Studies in Income and Wealth, Volume Seventeen

Regularization of Business Investment, Special Conference Series No. 4

Business Concentration and Price Policy, Special Conference Series No. 5

Daniel Creamer, *Capital and Output Trends in Manufacturing Industries, 1880–1948,* Occasional Paper 41

Raymond W. Goldsmith, *The Share of Financial Intermediaries in National Wealth and National Assets, 1900–1949,* Occasional Paper 42

Melville J. Ulmer, *Trends and Cycles in Capital Formation by United States Railroads, 1870–1950,* Occasional Paper 43

Alvin S. Tostlebe, *The Growth of Physical Capital in Agriculture, 1870–1950,* Occasional Paper 44

Israel Borenstein, *Capital and Output Trends in Mining Industries, 1870–1948,* Occasional Paper 45

Simon Kuznets and Ernest Rubin, *Immigration and the Foreign Born,* Occasional Paper 46

George E. Lent, *The Ownership of Tax-Exempt Securities, 1913–1953,* Occasional Paper 47

M. Slade Kendrick, *A Century and a Half of Federal Expenditures,* Occasional Paper 48

Bert G. Hickman, *The Korean War and United States Economic Activity, 1950-1952,* Occasional Paper 49

David M. Blank, *The Volume of Residential Construction, 1889–1950,* Technical Paper 9

Ruth P. Mack, *Factors Influencing Consumption: An Experimental Analysis of Shoe Buying,* Technical Paper 10

Research in the Capital and Securities Markets, Exploratory Committee on Research in the Capital and Securities Markets

Input-Output Analysis: Technical Supplement (multilithed for the Conference on Research in Income and Wealth, for limited circulation)

The Frontiers of Economic Knowledge is a collection of essays by Dr. Burns, now Chairman of the President's Council of Economic Advisers. It comprises the annual reports he wrote during 1946–1953 as Director of Research of the National Bureau, together with articles on various subjects related to the work of the National Bureau. The main theme of the volume is the high importance of research into actual economic behavior as revealed by carefully assessed quantitative records.

Mortgage Lending Experience in Agriculture is a study of farm mortgage distress in the United States during the twenties and thirties. In the course of a careful review of regional variations in mortgage distress, the authors analyze the influence of such contributing factors as differences in price behavior and in inflation of land values and debts, unwise loan practices, and failure to recognize production limitations and hazards.

Regularization of Business Investment reports the proceedings of a conference devoted to the question: Can we expect individual firms to regularize their investment in new plant, equipment, and inventory, and so help to moderate business booms and depressions? The authors of the papers included in the volume are fifteen economists from business firms, universities, and the National Bureau.

[1] The full list of titles published by the National Bureau since 1920 begins on page 72.

Business Concentration and Price Policy is a collection of essays on the nature and extent of concentrated power in today's economy and on the problems of analyzing the forces that have determined concentration. Attention is given also to the relation between industrial concentration and pricing policy and marketing relationships.

Long-Range Economic Projection contains twelve papers dealing with conceptual problems involved in forecasting long-term trends and with methods that have been devised to cope with them. The contributors consider trends in national income, manpower, productivity, capital formation, and other aspects of the economy.

Short-Term Economic Forecasting contains seven papers evaluating methods of forecasting short-term economic changes. Several papers deal with the accuracy of forecasts developed from surveys of investment plans of business enterprises, businessmen's expectations as to sales and shipments, and consumers' anticipated purchases.

Capital and Output Trends in Manufacturing Industries, 1880–1948 analyzes the past trends in the relationship between the stock of capital and output in major groups of manufacturing industries. The author finds evidence that a sharp reversal in these relationships occurred around 1919 in most industries, and discusses some of its implications.

The Share of Financial Intermediaries in National Wealth and National Assets, 1900–1949 documents the remarkable increase during the past half-century in the practice of entrusting savings to institutions. For example, banks, insurance companies, and other intermediaries between those who save money and those who use the savings held only 31 per cent of all outstanding bonds, stocks, and mortgages in 1900, while they held 59 per cent in 1949.

Trends and Cycles in Capital Formation by United States Railroads, 1870–1950 offers new estimates of capital expenditures by steam railroads and data on their sources and uses of funds. With these materials the author is able to trace the process of capital formation in an important industry over a significant part of its life history.

The Growth of Physical Capital in Agriculture, 1870–1950 shows in various meaningful ways the growth of physical farm capital and related developments over an eighty-year span. One of the striking developments analyzed is the recent rapid trend toward larger and better-equipped farms. The value in constant prices of physical assets per farm (including land) rose by only 7 per cent in the seventy years 1870–1940, but by 25 per cent in the next ten years.

Capital and Output Trends in Mining Industries, 1870–1948 shows that in each of the major mining industries capital per unit of product rose for a time and then declined. The significance of these declines is indicated by the fact that, had capital per unit remained unchanged in each industry between 1919 and 1947, the stock of real capital in mining in 1947 would have been almost three times as high as it actually was.

Immigration and the Foreign Born originated as a part of a study of the international economic relations of the United States. It provides a reconciliation of immigration and emigration data with census figures on the foreign born, and makes some observations on the relation of immigration and emigration to the growth and fluctuations in the country's economy.

The Ownership of Tax-Exempt Securities, 1913–1953 traces the recent decline in the proportion of tax-exempt securities held by individuals and the rise in the proportion held by commercial banks. The effect of tax exemption on investment is studied by reference to income and estate tax records.

A Century and a Half of Federal Expenditures demonstrates that the federal government has grown more than ten times as fast as the total economy over the past 150 years. The largest increases in federal expenditures have occurred at the time of major wars, and after all major wars part of the increase in expenditures was maintained: expenditures never returned to the prewar level.

The Korean War and United States Economic Activity, 1950–1952 analyzes the influence of the Korean War and the associated defense mobilization on production, investment, consumption, and prices. Comparisons with similar developments during World War II bring out the significance of the reactions of consumers and businessmen to the outbreak of war and the prospect of mobilization.

The Volume of Residential Construction, 1889–1950 presents a new series of estimates of residential construction and discusses, among other things, the long cyclical swings in the number of houses built.

Factors Influencing Consumption: An Experimental Analysis of Shoe Buying endeavors to measure statistically the factors that have been responsible for changes over time in aggregate shoe buying by consumers in this country. Through this study something is learned about the problem of detecting the forces that govern the purchasing of other types of consumer goods.

Research in the Capital and Securities Markets contains an inventory of recent research on capital and securities markets and outlines a number of research projects that would contribute to knowledge in this area.

Input-Output Analysis: Technical Supplement is devoted to the description of interindustry (input-output) tables for various sectors of the economy. It is a supplement to *Input-Output Analysis: An Appraisal,* Volume Eighteen of Studies in Income and Wealth (in press).

FORTHCOMING PUBLICATIONS

The following reports are in press:

Harold Barger, *Distribution's Place in the American Economy since 1869*

Daniel Creamer, *Personal Income during Business Cycles*

Ruth P. Mack, *Consumption and Business Fluctuations: A Case Study of the Shoe, Leather, Hide Sequence*

Leo Grebler, David M. Blank, and Louis Winnick, *Capital Formation in Residential Real Estate: Trends and Prospects*

J. E. Morton, *Urban Mortgage Lending: Comparative Markets and Experience,* Studies in Urban Mortgage Financing No. 6

Input-Output Analysis: An Appraisal, Studies in Income and Wealth, Volume Eighteen

Capital Formation: Concepts, Measurement, Controlling Factors, Studies in Income and Wealth, Volume Nineteen

Waldo E. Fisher and Charles M. James, *Minimum Price Fixing in the Bituminous Coal Industry,* Conference on Price Research No. 5

Capital Formation and Economic Growth, Special Conference Series No. 6

Policies to Combat Depression, Special Conference Series No. 7

Howard G. Diesslin, *Agricultural Equipment Financing,* Occasional Paper 50

Additional reports that may be issued in 1955–1956 include, among others, the following:

Moses Abramovitz and Vera Eliasberg, "The Growth of Public Employment in Great Britain"

Thomas R. Atkinson, "The Pattern of Financial Asset Ownership: Wisconsin Individuals, 1949"

Donald C. Horton, "The Pattern of Farm Financial Structure"

Clarence D. Long, "The Labor Force under Changing Income and Employment"

Lawrence H. Seltzer, "Interest as a Source of Personal Income and Tax Revenue"

George J. Stigler, "Trends in Employment in the Service Industries"

"Measurement and Behavior of Unemployment," Special Conference Series No. 8

CONFERENCES AND RELATED ACTIVITIES

Conference on Research in Income and Wealth

Comparability of national accounts was the subject of the meeting in New York in October 1954. In accordance with the program developed by a committee headed by Richard Ruggles, the following papers were submitted:

"The Feasibility of a Standard Comprehensive System of Social Accounts," by Morris A. Copeland, Cornell University

"The Government Sector in National Economic Accounts"

a. "A Re-examination of a Few Controversial Issues," by Gerhard Colm, National Planning Association

b. "Three Federal Budgets: A Reconciliation," by Marilyn Young, National Planning Association

"Comparability of Statistics of Capital Formation: Some Notes and Comments," by J. B. D. Derksen, United Nations

"On the Elaboration of a System of International Transaction Accounts," by Herbert B. Woolley, National Bureau of Economic Research

"Measuring Comparative Purchasing Power," by Dorothy S. Brady and Abner Hurwitz, Bureau of Labor Statistics

"The Scope of Economic Activity in International Income Comparisons," by Irving B. Kravis, University of Pennsylvania

"Comparability of National Product Measures among Different Societies," by Simon Kuznets, Johns Hopkins University

John W. Kendrick will serve as editor of the volume covering the proceedings of the conference.

Two meetings are being planned for 1955. One, to be held in June at Duke University, will deal with problems of regional income and consider eight major topics: the value of the regional approach in economic analysis, problems of assessing regional economic progress, analysis of interstate income differences, interregional differentials in real income, statistical measurement of regional incomes, problems of delineating geographic units for economic purposes, relationships between city size and income, and county income statistics. The committee planning the program consists of Charles F. Schwartz, *Chairman,* Frank Hanna, and Walter Isard.

The second meeting, the regular annual conference, to be held in October, will be devoted to a general discussion of the national income statistics of the Department of Commerce. Two papers are to be presented on the income side of the accounts and two on the expenditures side, each developed from the standpoint of the needs of business analysts and of economists. At this meeting it is planned that emphasis will be placed on the discussion, which will be led by about a dozen discussants each of whom will deal with a preassigned topic. Raymond Goldsmith is in charge of the program.

A meeting is being planned for 1956 on the income data of the Bureau of the Census with special emphasis on the 1950 census income statistics. George Garvy is *Chairman,* and Dorothy Brady, Selma Goldsmith, and Herman Miller are on the committee planning the program.

Long-Range Economic Projection, Volume Sixteen, and *Short-Term Economic Forecasting,* Volume Seventeen, of Studies in Income and Wealth, were published, and *Input-Output Analysis: Technical Supplement* was multilithed for limited circulation. *Input-Output Analysis: An Appraisal,* Volume Eighteen, and the proceedings of the 1953 conference, *Capital Formation: Concepts, Measurement, and Controlling Factors,* are in press.

The members of the Executive Committee of the Conference are Raymond W. Goldsmith, *Chairman,* Raymond T. Bowman, Martin R. Gainsbrugh, Simon A. Goldberg, Edgar M. Hoover, Nathan M. Koffsky, Stanley Lebergott, Joseph A. Pechman, and Charles F. Schwartz. Lillian Epstein is Secretary.

Special Conferences

Two conferences were held under the sponsorship of the Universities–National Bureau Committee for Economic Research in 1954.

In May a conference on Policies to Combat Depression, a continuation of the October 1953 conference on the same subject, was held at the Woodrow Wilson School of Public and International Affairs, Princeton University. The following papers were presented:

"Structure and Stability: The Economics of the Next Adjustment," by Kenneth E. Boulding, University of Michigan

"A Case Study: The 1948–1949 Recession," by Benjamin Caplan, Office of Defense Mobilization

"Social Security Programs and Economic Stability," by Ida C. Merriam, Social Security Administration

"The Contribution of Farm Price Support Programs to General Economic Stability," by Karl A. Fox, Bureau of Agricultural Economics

"Stabilizing State and Local Finance," by Clarence Heer, University of North Carolina

"Stabilization of International Commodity Prices," by D. Gale Johnson, University of Chicago

"International Currency and Reserve Plans," by Robert Triffin, Yale University

A volume including the papers and discussion at both conferences is in press. The papers presented at the earlier conference are available now in mimeographed form. Herbert Stein served as chairman of the committee planning the conferences and as editor of the volume reporting the proceedings.

In September a conference on the Measurement and Behavior of Unemployment, organized by a committee under the chairmanship of Clarence D. Long, was held at the Woodrow Wilson School. The following papers were contributed:

"The Meaning and Measurement of Full Employment," by Albert Rees, University of Chicago

"The Meaning and Measurement of Partial and Disguised Unemployment," by Louis J. Ducoff and Margaret J. Hagood, Bureau of Agricultural Economics

"The Secondary Labor Force and the Measurement of Unemployment," by Richard C. Wilcock, University of Illinois

"Current Unemployment Statistics of the Census Bureau," by Gertrude Bancroft, Bureau of the Census

"Unemployment Data from the Employment Security Program," by Herbert S. Parnes, Ohio State University

"Estimates of Unemployment in the United States, 1900–1952," by Stanley Lebergott, Bureau of the Budget

"Unemployment by Industry – Some Comments on Its Measurement and Behavior," by David L. Kaplan, Bureau of the Census

"Unemployment by Industry and Locality," by Louis Levine, Bureau of Employment Security

"Differential Unemployment and Characteristics of the Unemployed in the United States, 1940–1954," by Philip M. Hauser, University of Chicago

"Studies of Individual Characteristics of Unemployed Workers," by Elizabeth J. Slotkin, Illinois Department of Labor

"International Comparison of Unemployment Rates," by Walter Galenson and Arnold Zellner, University of California

"Employment and Unemployment in the Soviet Union," by Warren Eason, Johns Hopkins University and Rand Corporation

Preparation of a volume covering the proceedings of the conference is under way.

A conference on Consumption and Economic Development is scheduled for October or November 1955. The planning committee for the conference consists of Ruth P. Mack, *Chairman,* Dorothy S. Brady, Reavis Cox, Karl Fox, Elizabeth Hoyt, Margaret Reid, Arthur Smithies, James Tobin. Ester Moskowitz is Secretary.

Plans for a conference on international trade, to be held in 1956, are being drawn by a committee consisting of Gottfried Haberler, *Chairman,* Charles P. Kindleberger, Ragnar Nurkse, Thomas Schelling, Herbert B. Woolley, and Robert M. Lichtenberg, Secretary.

Twenty-eight universities offering graduate work in economics and emphasizing research, together with the National Bureau, are represented on the Universities–National Bureau Committee for Economic Research.

The present list of participating universities follows:

Buffalo	Harold M. Somers
California	John B. Condliffe
Chicago	John E. Jeuck
Columbia	George J. Stigler
Cornell	M. Slade Kendrick
Duke	Joseph J. Spengler
Harvard	Arthur Smithies
Illinois	V Lewis Bassie
Iowa State	Elizabeth E. Hoyt
Johns Hopkins	G. Heberton Evans, Jr.
Massachusetts Institute of Technology	M. A. Adelman
McGill	Donald B. Marsh
Michigan	Gardner Ackley
Minnesota	Francis M. Boddy
New School for Social Research	Adolph Lowe
New York	Emanuel Stein
North Carolina	Milton S. Heath
Northwestern	Richard B. Heflebower
Pennsylvania	Raymond T. Bowman

Princeton	Oskar Morgenstern
Queen's	M. C. Urquhart
Stanford	Moses Abramovitz
Texas	Eastin Nelson
Toronto	D. C. MacGregor
Vanderbilt	William H. Nicholls
Virginia	Rutledge Vining
Wisconsin	James S. Earley
Yale	Richard Ruggles

Other members of the Committee include: Edgar M. Hoover, A. D. H. Kaplan, and Dexter M. Keezer, Members at Large; and Solomon Fabricant, representing the National Bureau of Economic Research.

The members of its executive committee are: George J. Stigler, *Chairman,* G. Heberton Evans, Jr., *Vice-Chairman,* Raymond T. Bowman, Solomon Fabricant, A. D. H. Kaplan, D. C. MacGregor, and Joseph J. Spengler. William J. Carson is Secretary of the Committee.

DIRECTORS AND RESEARCH STAFF

Upon his appointment as a member of the Board of Governors of the Federal Reserve System, C. Canby Balderston resigned in August as Director by Appointment of the University of Pennsylvania and as Chairman of the Board, to which he had been elected by the Board of Directors at the 1954 Annual Meeting. Percival F. Brundage, elected President at the 1954 Annual Meeting, resigned this post in May upon his appointment as Deputy Director of the Bureau of the Budget. Harry Scherman was elected President to fill Mr. Brundage's unexpired term. At the meeting of the Board on February 28, 1955, Harry Scherman was elected Chairman of the Board, Gottfried Haberler, President, and George B. Roberts, Vice-President and Treasurer.

C. Reinold Noyes, Director at Large until his resignation June 30, 1954, died on July 5. Donald B. Woodward was elected Director at Large at the 1955 meeting.

Solomon Fabricant, who had served as Acting Director of Research in 1953, was appointed Director of Research on March 1, 1954 to succeed Arthur F. Burns, who went on leave of absence on March 19, 1953 to serve as Chairman of President Eisenhower's Council of Economic Advisers.

George H. Borts of Brown University, George K. Brinegar of the University of Connecticut, and Michael Gort of the University of California, were appointed Research Associates for 1954 and 1955.

SOURCES OF SUPPORT

The National Bureau's work in 1954, as in earlier years, received financial support from a variety of sources. The funds came in the form of grants from philanthropic foundations and contributions from business associations, companies, labor organizations, and individuals. In addition, there were royalties and receipts from the sale of publications.

Foundations from which support was received for 1954 include the Rockefeller Foundation, Carnegie Corporation of New York, Ford Foundation, Alfred P. Sloan Foundation, Merrill Foundation for Advancement of Financial Knowledge, Scherman Foundation, and National Science Foundation. Still other groups contributed toward the support of certain projects. General contributions from companies, labor organizations, and individuals were larger in 1954 than in earlier years; roughly a sixth of the National Bureau's total budget came from these sources.

The National Bureau has no endowment. Contributions toward its support are usually on a yearly basis, but some grants for general support and some contributions for specific projects cover several years.

All investigations by the National Bureau are undertaken with a view to publication of the results, in accordance with our stated objective "to ascertain and to present to the public important economic facts and their interpretation in a scientific and impartial manner." Receipts from the sale of publications have shown a gratifying increase in recent years, but they cover only a small fraction of the National Bureau's budget. Information on how to order National Bureau publications appears on page 78.

RESEARCH IN PROCESS

Reports by members of the staff on their research activities during 1954 are presented in Part Three. The findings briefly mentioned there have not yet been subjected to the full critical review accorded the National Bureau's studies and are therefore tentative and provisional.