92d Congress }
1st Session }

JOINT COMMITTEE PRINT

THE ECONOMICS OF FEDERAL SUBSIDY PROGRAMS

A STAFF STUDY

PREPARED FOR THE USE OF THE

JOINT ECONOMIC COMMITTEE
CONGRESS OF THE UNITED STATES

JANUARY 11, 1972

Printed for the use of the Joint Economic Committee

U.S. GOVERNMENT PRINTING OFFICE

70-378 WASHINGTON : 1972

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402 - Price $1
Stock Number 5270-1326

JOINT ECONOMIC COMMITTEE

(Created pursuant to sec. 5(a) of Public Law 304, 79th Cong.)

WILLIAM PROXMIRE, Wisconsin, *Chairman*
WRIGHT PATMAN, Texas, *Vice Chairman*

SENATE	HOUSE OF REPRESENTATIVES
JOHN SPARKMAN, Alabama	RICHARD BOLLING, Missouri
J. W. FULBRIGHT, Arkansas	HALE BOGGS, Louisiana
ABRAHAM RIBICOFF, Connecticut	HENRY S. REUSS, Wisconsin
HUBERT H. HUMPHREY, Minnesota	MARTHA W. GRIFFITHS, Michigan
LLOYD M. BENTSEN, JR., Texas	WILLIAM S. MOORHEAD, Pennsylvania
JACOB K. JAVITS, New York	WILLIAM B. WIDNALL, New Jersey
JACK MILLER, Iowa	BARBER B. CONABLE, JR., New York
CHARLES H. PERCY, Illinois	CLARENCE J. BROWN, Ohio
JAMES B. PEARSON, Kansas	BEN B. BLACKBURN, Georgia

JOHN R. STARK, *Executive Director*
JAMES W. KNOWLES, *Director of Research*

ECONOMISTS

LUCY A. FALCONE	ROSS F. HAMACHEK	JERRY J. JASINOWSKI
JOHN R. KARLIK	RICHARD F. KAUFMAN	LOUGHLIN F. MCHUGH
	COURTENAY M. SLATER	

Minority: GEORGE D. KRUMBHAAR, Jr. (Counsel) WALTER B. LAESSIG LESLIE J. BANDER

LETTERS OF TRANSMITTAL

CONGRESS OF THE UNITED STATES,
JOINT ECONOMIC COMMITTEE,
Washington, D.C., January 7, 1972.

To the Members of the Joint Economic Committee:

Transmitted herewith for the use of the Joint Economic Committee and other Members of Congress is a staff study entitled "The Economics of Federal Subsidy Programs."

The study represents a first step in setting forth the analytical principles and the factual data necessary to understand and evaluate Federal subsidy programs. As such, it forms a part of the continuing studies of the economics of public expenditure policy carried on by the Subcommittee on Priorities and Economy in Government.

The views in the document do not necessarily represent the views of the members of the committee or of the committee staff but are satements of issues and facts intended to provide a focus for subsequent hearings, special studies, and general debate.

Sincerely,

WILLIAM PROXMIRE,
Chairman, Joint Economic Committee.

JANUARY 6, 1972.

Hon. WILLIAM PROXMIRE,
Chairman, Joint Economic Committee,
Congress of the United States, Washington, D.C.

DEAR MR. CHAIRMAN: Transmitted herewith is a staff study entitled "The Economics of Federal Subsidy Programs," which examines this economic device in the broad context of identifying the nature of a subsidy, indicating the financial forms it may take, analyzing its probable effects on the economy, and assessing the costs to the Federal Government. It also undertakes to set forth methods for evaluating the relative desirability of particular subsidies from the point of view of effectiveness. The study undertakes to cover the range of subsidies as well as to analyze individual subsidy programs.

This study forms part of the continuing review of public economic policy carried on by the Subcommittee on Priorities and Economy in Government. It should be viewed more as an initial effort to develop facts and relevant issues rather than as a definitive work on Federal subsidies. Principles and data presented herein will require further refinement in subsequent studies. It is hoped that the study will stimulate widespread discussion among decisionmakers—Members of

Congress, program managers, economists, interested citizens, and the like—on the procedures necessary to insure that Federal subsidy programs are properly identified and evaluated. Currently in preparation for later publication are some 40 study papers, which further pursue the matters raised in this initial study.

The study was prepared by Mr. Jerry J. Jasinowski, of the committee staff, and Dr. Carl S. Shoup, formerly professor of economics at Columbia University, who served as consultant to the committee. They were assisted in research and editorial work by Douglas Lee and Fred Boness and in administrative and secretarial work by Beverly Park, and all members of the committee staff.

The assistance of the Library of the Congress, the General Accounting Office, and the Department of the Treasury in the preparation of these materials is greatly appreciated. The committee also appreciates the permission of Aldine Publishing Co. to reprint and draw from the book by Carl S. Shoup, "Public Finance" (Chicago: Aldine, 1969).

JOHN R. STARK,
Executive Director,
Joint Economic Committee.

CONTENTS

APPENDIXES

APPENDIXES—Continued

Chapter I. INTRODUCTION

"Federal programs aimed at supporting or improving the economic position of particular groups or industries should be constantly reevaluated in the light of changing circumstances. Whatever their initial justification, subsidy programs should be so contrived as to eliminate the necessity for their continuation. The broad changes which must be expected in our economy require frequent revision in the scope and character of these programs if they are to achieve their purposes. Failure to adapt the substance of subsidies to changing demands and opportunities may be expected to prevent most efficient use of resources in the subsidized activities as well as in other types of economic endeavor. Where this is the case, the subsidy not only fails of its immediate objective but also imposes real costs on the entire economy over the long run."

This paragraph from the January 23, 1958, "Report of the Subcommittee on Fiscal Policy on Federal Expenditure Policies for Economic Growth and Stability," was the primary justification for a 1960 Joint Economic Committee study entitled "Subsidy and Subsidy-like Programs of the U.S. Government."[1] This study of Federal subsidies is undertaken in the spirit of that tradition.

Unfortunately, the necessity for an accounting and evaluation of Federal subsidy programs appears to have increased in the decade since 1960. We know little or nothing more about the benefits from these subsidy programs and who gets them. Our knowledge about what these programs cost the Government and what adverse effects they have on the economy is quite limited. On the other hand, new subsidies are constantly being proposed, often enacted, and the total subsidy system grows in size and cost to the general public. The system of Federal subsidies seems to be somewhat out of control in the sense that it continues to grow despite the fact that we know so little about it.

As these comments imply, difficulty in controlling the subsidy system stems from public ignorance about this form of government activity. Neither the facts nor a framework for identifying, understanding, and evaluating the facts have been brought to the public arena. Subsidies have been allowed to exist in the shadows of public policy.

In the first place, not enough effort has been made to bring to the public arena analytical principles that would aid in understanding the nature of the subsidy as an economic instrument: what can reasonably be its economic objectives, what are likely to be its effects on private markets and how these effects can be measures of benefit, what are the various cost burdens it places on the Government and the econ-

[1] The Joint Economic Committee updated this study in 1965 and altered the title to "Subsidy and Subsidy-Effect Programs of the U.S. Government."

omy, and how should these considerations be brought together in order to evaluate a subsidy economically. Although some of the benefit-cost literature treats subsidies, little of this analysis has been brought into the public record. One indication of the general paucity of analytical work in this area is that there is no single analytical book on subsidies in the English language and few American public finance books even treat the topic.[2]

The lack of principles on how a subsidy works has kept policymakers and the public from asking questions that would lead to the facts about subsidies. This absence of facts hides the enormous costs of the overall subsidy system and prevents the evaluation and elimination of inefficient and unfair subsidies. An unfortunate cycle has been maintained: absence of the facts about subsidies precludes the development of a public concern that would insist that these programs be carefully analyzed; and the lack of any readily available analytical framework makes it difficult to develop the appropriate facts. The result has been that Federal subsidy programs are maintained indefinitely and piled one on top of another.

In all candor, it should be acknowledged that use of the subsidy device as a political instrument has also contributed to our lack of knowledge about it. It appears that politically one needs only to support a program that "seems" to provide assistance to the special group seeking aid. The political incentives are to keep the arguments for the assistance vague and simple, making many references to the national interest, few references to careful economic analysis, and preferably not even referring to the assistance as a subsidy. The direct recipients of the assistance probably will not analyze it carefully enough to determine if it works, and neither will anyone else, and the program will simply blend in with the rest of the subsidy scene.

Such a simplistic approach does not lead to policy choices that improve the efficiency and general welfare of the economy. We need both facts and hard analysis if we are to use the subsidy instrument intelligently.

A. Scope of Study

The size of the gap between what is known about Federal subsidy programs and what should be known is so great that the aim of this study must be modest. It is to set the stage, so to speak, for an attempt to bring the full story of Federal subsidy programs into the public record. The first part of the study develops general analytical principles explaining what a subsidy is and how it works. While there is a great need for the full facts about specific subsidies, it is our opinion that there is an even greater need to incorporate general economic principles into public debate about subsidies. The second part of the study presents the facts about specific Federal subsidies—objectives, recipients, costs, and so on—as the facts are presently available in the public record. These facts are woefully inadequate, both in terms of substance and coverage, but nevertheless represent the first reasonably comprehensive accounting of Federal subsidy programs. Both parts of the

[2] This is in contrast to certain European countries, such as West Germany, where there is a long and rich literature on the subject. See, for example, Ursula Berthold, "Zur Theorie der Subventionen." (Berne: Paul Haupt, 1967) and Norbert Andel, "Subventionen als Intrument des finanzwirtschaftlichen Interventionismus," (Tübingen: J. C. B. Mohr, 1970). Moreover, the West German Government publishes a bi-annual subsidy report specifying such facts as the budgetary costs and direct recipients of Federal subsidies as a part of their Economic Stabilization Act.

study are aimed at decisionmakers—Members of Congress, executive program managers, interested citizens, and the like.

Chapter I explains why the study was undertaken, it describes its scope, presents preliminary findings, and acknowledges the limitations of the study.

Chapter II defines a subsidy, a consideration that is important in setting the scope of what government activity is to be considered, and important in developing economic principles that explain how a subsidy works. It is also a question that is extremely complex, controversial, and about which there is no unique answer. The chapter attempts to meet these difficulties by reviewing the literature of how others have defined a subsidy, as well as explaining what seem to be the economic characteristics of the subsidy device. Three aspects of this chapter deserve special emphasis.

First, there are numerous ways that government can provide special benefits to the private sector: it can provide goods and services free to a select group, it can provide cash welfare payments to a similarly select group, and it can use various financial means to alter the price and cost arrangements in particular private markets, to name three of the most important techniques. All of these government activities merit more than the usual scrutiny because their direct benefits do not accrue to the public at large—they go to a small percentage of the society. Whether one wants to regard all such special benefits as subsidies is a more complicated question, as Chapter II shows.

Second, it may be more useful to restrict the term subsidy to government assistance that is linked directly to the private market system. Simply put, we have said a subsidy is any one-way governmentally controlled income transfer to private sector decisionmaking units that is designed to encourage or discourage particular private market behavior.

Third, it cannot be too strongly emphasized that the label subsidy does not make a government program automatically good or bad. If the public supports the objective of the subsidy, such as increased housing assistance, and the subsidy achieves that objective efficiently and equitably, it is a good subsidy. If it does not meet those tests, it is a bad subsidy. Only informed public debate can separate the good from the bad subsidies.

Chapter III discusses the various financial mechanisms that can be used to make the income transfer embodied in a subsidy: direct cash payments, special tax reductions, special credit assistance, government purchases above market price, provision of goods and services at a price below-market price, and certain regulatory actions by government. The chapter describes the technical differences among these types of subsidies. It also lays out the criteria that should be used in labeling certain assistance as subsidies while excluding other assistance of the same financial form. Finally, the chapter makes some crude estimates of the gross budgetary costs of direct cash payments, tax subsidies, credit subsidies, and benefit-in-kind subsidies.

Chapter IV presents the basic economics of subsidies: what can reasonably be considered their economic objectives, what effects do subsidies have on private markets and how these can be measures of benefit, what are the cost elements of a subsidy, and how a subsidy may be evaluated. The purpose of the chapter is to initiate the development of general economic principles that should be applicable for understanding and evaluating any subsidy.

This chapter is somewhat more technical than the other chapters and the reader may pass directly to chapter V if the areas mentioned above do not interest him. If he desires to understand how a subsidy works economically, however, he should read this chapter.

Chapter V presents the first reasonably comprehensive accounting of Federal subsidy programs. Subsidies are categorized by major areas of economic activity and these are: agriculture, food, education, housing, international trade, manpower, medical care, natural resources, transportation, and commerce and economic development. Factual descriptions based on available public information are given for each subsidy program. This data is incomplete, in the sense that not all Federal subsidy programs have been identified, and in the sense that the facts for those programs included may not adequately reflect the program—costs may have been improperly estimated, for example. The purpose of the chapter is to initiate the development of the necessary facts on all major Federal subsidy programs.

B. Preliminary Findings

Although this study does not evaluate specific subsidy programs, it does provide some preliminary findings on the scope and operation of the overall subsidy system.

- Federal subsidies constitute an incredibly diversified and pervasive system of economic assistance to the private economy. Much of the information necessary to understand and evaluate this complex subsidy system is hidden from public scrutiny. Special effort is made to give subsidy programs some other label, such as aid, tax credit, loan, or loan guarantee. In many cases, the budgetary costs of these programs are not reported or are incompletely reported in U.S. budget documents; information on the distribution of the benefits of these programs is practically nonexistent. To a large extent this lack of information is the root cause of other deficiencies in our subsidy system. While characteristic of all forms of subsidy, this is especially true of tax, credit, and regulatory subsidies.
- Absence of information on the various financial forms of subsidies has kept the public from knowing their pervasiveness and cost. The fiscal year 1970 gross budgetary cost of the Federal subsidy programs identified in this study is an order of magnitude of $63 billion. The components of that total cost are as follows:

  (*a*) The cost of direct cash payment subsidies is estimated to be approximately $12 billion.

  (*b*) The cost of tax subsidies is estimated to be approximately $38 billion.

  (*c*) The cost of credit subsidies is estimated to be approximately $4 billion.

  (*d*) The cost of benefit-in-kind subsidies is estimated to be approximately $9 billion.

  Even these enormous costs do not represent a complete accounting of Federal subsidy programs. Many subsidies have not been identified in this study—in particular, purchase and regulatory subsidies—and the administrative costs of the identified subsidies have not been included in the above cost figures.

- Federal subsidies are not comprehensively organized by legislative objective and area of economic impact. This makes it almost impossible to determine what the subsidies are supposed to do, to what extent certain subsidies overlap, the magnitude of subsidy payments to each sector of activity, and the relationship of legislative objectives to economic objectives and other national priority goals.
- There is meager understanding of the economic effects of subsidies on private markets, either desired or undesired, and the conditions that determine these effects. We do not in general know what economic benefits these programs yield and who receives the benefits. Nor do we know to what extent they distort the economy by wasting resources, aggravating inflation, and causing an inequitable distribution of income. This situation prevents meaningful evaluation of individual subsidy programs.
- There appears to be no consistent economic explanation of why certain financial forms of the subsidy device are used in one situation but not the next. Nor is it clear why similar private sector activities are provided subsidies in one case, given free goods and services in another, and cash welfare payments in still a third. There appears to be a lack of understanding of how different economic instruments can be used to aid the private economy and achieve desired economic goals.
- In terms of their direct impact, there appears to be a bias in the system toward producer rather than consumer subsidies. Almost all of the subsidies in agriculture, commerce and economic development, international trade, manpower, transportation, and natural resources are producer subsidies. Food subsidies are given directly to consumers. Education, housing, and medical care, although justified primarily because they assist consumers, often employ the means of producer subsidies to achieve their ends.
- No executive agency has endeavored to develop control over our Federal subsidy system, in order to rectify the above deficiencies, although responsibility to do this lies with the Executive. The result is that there is at present no mechanism to represent the public interest in periodic review, evaluation, and reform of Federal subsidy programs. It could be that special institutional arrangements will have to be developed to meet this need.

C. Limitations of the Study

This study should be viewed as initiating a discussion and analysis of Federal subsidy programs and not a definitive work on Federal subsidies. The economic principles articulated are tentative because the area is relatively underdeveloped and extraordinarily complex. The data for the programs that have been included is crude, somewhat dated, and in need of further refinement.[3] Many Federal subsidies have not yet been identified. Finally, the study contains no evaluations of particular subsidy programs.

[3] For those interested in more historical data on Federal subsidies see the earlier Joint Economic Committee study entitled "Subsidy and Subsidy-Like Programs of the U.S. Government."

Many of these deficiencies cannot be corrected without an exhaustive review of Federal subsidy programs by the executive branch. That this should be done seems clear from this study and testimony the committee has received that certain government programs contribute to the current poor performance of the economy. It is hoped that this study will stimulate such an investigation.

To ensure that Federal subsidy programs are the object of more careful scrutiny and evaluation, the committee itself will publish a series of approximately 40 study papers done by noted experts. These study papers will provide some of the program evaluation that is lacking in this study.[4]

[4] For a list of the authors and titles of these study papers see app. G.

Chapter II. DEFINING A SUBSIDY

Perhaps the major problem in any study of subsidies is a determination of the frame of reference by defining the term "subsidy." This is a difficult problem because there is an incredibly wide range of government activity that may be regarded as subsidy. This is also because the term has been frequently used to invoke an emotional response, rather than a clear, analytical meaning. Proponents of a government program designed to aid a particular industry, consumer group, or type of enterprise, avoid and indeed resent the term "subsidy" in describing their program, preferring to call it assistance, or incentive, or an expenditure necessary in the national interest. In fact, very few Federal statutes use the word subsidy in describing the assistance they provide. For their part, opponents of a particular program, in their use of the label "subsidy," seek to stigmatize, or at least to suggest, if not demonstrate, that the program somehow benefits certain individuals at a cost offset, if at all, by doubtful benefits to the taxpayer in general.

Such an approach to understanding the public finance instrument called a subsidy is of no value. It cannot be too strongly emphasized that the label "subsidy" does not make a government program automatically good or bad. If the public supports the objective of the subsidy—such as increased housing assistance—and the subsidy achieves that objective efficiently and equitably, it is a good subsidy. If it does not meet those tests, it is a bad subsidy. Only informed public debate and analysis can determine if a sudsidy is good or bad.

To aid such debate and analysis we must endeavor to develop an analytically clear and operationally useful subsidy definition. Resolution of this question is important in setting the scope of what government activity one is to consider, as well as in developing principles that explain how a subsidy works. It is also a question that is extremely complex, controversial, and about which there is no unique answer. Somewhat different definitions of a subsidy can be framed for different purposes. Definitions are meant to facilitate analysis, not to determine it, and must be so framed.

The chapter attempts to meet these problems by reviewing how others have defined a subsidy, explaining what major economic characteristics are embodied in the subsidy device, and then using these characteristics to define a subsidy for the purpose of this study. Simply put, we have said that a subsidy is any one-way governmentally controlled income transfer to private sector decisionmaking units that is designed to encourage or discourage particular private market behavior.

A. Previous Subsidy Definitions

In attempting to define a subsidy, it is reasonable to first consult a dictionary. "The Random House Dictionary of the English Language"

(1967) defines a subsidy as "direct pecuniary aid furnished by a government to a private industrial undertaking, a charity organization, or the like." While not incorrect, this definition of a subsidy is too restrictive to be of much analytical use. Other dictionary definitions suffer from the same deficiency or because they are too vague.[1]

Of course dictionary definitions are drawn from the prevailing view of experts in the field in which the term is most widely used. As subsidies are basically an instrument of economics, let us examine the definitions that economists have used for the term "subsidy."

The first significant use of the subsidy concept in modern economic theory can be found in the writings of A. C. Pigou and Alfred Marshall. Using the term "bounty," Marshall appears to regard a subsidy as any governmental action that would reduce the costs of a business firm in exchange for the firm's expanding production.[2] He advocated such aid for firms that were so efficient that their costs continuously declined as they expanded production, arguing that the value of the expanded production would be greater than the cost of the bounty.[3] Marshall apparently had in mind only income transfers to business firms and not individuals, Pigou expanded this notion of a subsidy to include assistance to individual consumers as well, although he distinguished two types of such individual assistance. These were income transfers to poor people that were not tied to consuming more of a particular good,[4] and income transfers to poor people that were tied to their consuming certain specified goods and services.[5]

One of the few recent discussions of the concept of a subsidy appears in Earl Rolph's book "The Theory of Fiscal Economics." Rolph makes the important point that subsidies are one-way income transfers for which government gets nothing of equivalent value in return. His definition of a subsidy includes transfers to either consumers or producers, although he does not maintain Pigou's earlier distinction between types of consumer assistance. Subsidies may be given both when the recipient performs and when he simply has certain characteristics, such as being poor. Rolph says:

> Likewise, subsidies should be viewed as transfer payments because by definition they refer to payments by Government for which the Government receives no product, service, or asset. A person who obtains a subsidy does so because he conforms to the requirements set down in the subsidy legislation, such as having been a member of the Armed Forces, producing certain commodities for sale, or being unemployed. Subsidies are essentially similar to taxes except for the difference in sign.[6]

---

[1] By far the best of the dictionary definitions is the one contained in the "McGraw-Hill Dictionary of Modern Economics" (1965), which defines a subsidy as: "A payment to individuals or businesses by a government for which it receives no products or services in return. The purpose of such payments is to maintain a particular service at a price that the public can readily afford but that cannot be properly supplied at this price. The particular service or product is considered essential to the public welfare, and the Government therefore finds it necessary to subsidize the enterprise in order to keep it operating and producing the service or product."

[2] Use of the term "bounty" may be significant in that it usually means payment after something is done—the producer is rewarded after having increased his production. Existing subsidies still require a quid pro quo, but operate on the somewhat different stimulus-response principle, i.e. granting the subsidy before the private sector recipient performs. While this may see a small point to economists, it is a point of great controversy in the field of psychology. See, for example, B. F. Skinner, "Beyond Freedom and Dignity" (New York: Knopf, 1971.)

[3] Alfred Marshall, "Principles of Economics: An Introductory Volume" (London: MacMillan and Co., 1930), pp. 467–476.

[4] A. C. Pigou, "The Economics of Welfare" (London: MacMillan & Co., 1924), pp. 677–693.

[5] *Ibid.*, 694–697.

[6] Earl Rolph, "The Theory of Fiscal Economics" (Berkeley: University of California Press, 1956), pp. 66–67.

Rolph carries the concept further by asserting that subsidies may take the form of tangible goods and services, referred to as benefits-in-kind, just as easily as cash payments. These subsidies in kind are distinguished from the general goods and services government provides to the public according to whether their purpose is to achieve government ends or to promote private ends.[7]

Other recent students have widened the concept in some respects while restricting it in others. Robert L. Hubbell, in an article entitled "Concealed Subsidies in the Federal Budget," explains that subsidies may take the form of tax concessions, provision of goods and services at less than their market price, and the like. However, by the restriction implied in "affected commercial transaction" he implicitly excludes unemployment, old-age benefits, and other transfer payments not contingent upon recipient performance. Hubbell defines a subsidy as:

> A government financial device which enables sellers to get more money or buyers to get more goods and services than would be the case if the affected commercial transactions had occurred without government intervention. The financial device may involve (1) direct or indirect payments in cash or kind, (2) provisions of goods or services for prices or fees which do not reflect full competitive market value, or (3) lower taxes which are exceptions to general tax rates.[8]

Perhaps the widest interpretation is contained in an essay written by Carl Kaysen and devoted entirely to the problem of defining a subsidy. According to Kaysen, the truest conceptual statement of the term is as follows:

> In general analytical terms a subsidy to an enterprise can be defined as an increase in the demand for its output, or a decrease in the costs which it must bear to produce its output, which are not the result of market forces or "natural" changes in consumer tastes, techniques of production, or availabilities of natural resources; but rather result from the deliberate action of the subsidy giver (Government). The reader can easily supply the appropriate changes which would be needed to make the definition applicable to a subsidy to a household, either as consumer or as supplier of factors. The application of this definition in practice raises two important problems: what is the treatment of taxes and changes in taxes, and what are the boundaries which mark off "natural" from "artificial" changes in tastes, techniques, and raw material supplies. Both of these problems are essentially problems of the impact of Government activities of various sorts on market and market forces. * * *[9]

In the first reading of this definition it is hard to see how one could exclude from the notion of a subsidy any government activities that affect market prices. But the definition is not that broad. In the first place, it is quite clear that the definition conceives of a subsidy relating to a particular market price and output and not some random collection of market effects. Equally clear is the fact that this particular market effect is the result of deliberate governmental action. In fact Kaysen goes on to close his essay by saying that:

> A subsidy can conveniently be defined in this terminology as an intended subsidy effect, which the legislature (or other policy promulgating authority) foresaw and desired when it authorized the particular Government activity giving rise to the subsidy effect in question.[10]

---

[7] Ibid., see especially ch. II.
[8] Robert Hubbell, "Concealed Subsidies in the Federal Budget," in the National Tax Journal, vol. X, No. 3, September 1957, p. 215.
[9] Carl Kaysen, "On Defining a Subsidy," in Public Policy, Yearbook of the Graduate School of Public Administration, Harvard University, vol. IV, 1953, p. 5.
[10] Ibid., p. 9.

Evidently there has been considerable variation in what economists have referred to as a subsidy, although there appears to be a clear tendency to expand the concept and clarify its analytical meaning. The variability arises because each student of the problem has emphasized different characteristics of the subsidy device. Some have said that whether something is a subsidy depends upon the recipient, others say it depends upon the financial form, still others the purpose or intent, and so on. Similar variability can be found among definitions used by Government agencies, which we now examine.[11]

The Department of Commerce has a subsidy definition it uses to account for certain Government cash payments made to the private sector. For this purpose, a subsidy is defined as follows:

> Subsidies are monetary payments provided by Government to private resident businesses, including farms. Subsidies are excluded from Government purchases of goods and services because they are not payments for any output, and they appear nowhere else in gross national product. However, subsidies are considered as a portion of currently earned private income and as such they appear in national income.[12]

The Office of Management and Budget (OMB) refers to subsidies in describing one of its 16 object classes of expenditures, entitled "Grants, subsidies, and contributions." This phrase is defined in OMB Circular No. A–12, dated July 22, 1960, as follows:

> Comprises grants, subsidies, gratuities, and other aid for which cash payments are made to States, other political subdivisions, corporations, association, and individuals; contributions to international societies, commissions, proceedings, or projects, whether in lump sum or as quotas of expenses; contributions fixed by treaty; grants to foreign countries; taxes imposed by taxing authorities where the Federal Government has consented to taxation (excluding the employers' share of Federal Insurance Contribution Act taxes); and payments in lieu of taxes. Includes readjustment and other benefits for veterans, other than indemnities for death or disability. (Note that obligations under grant programs which involve the furnishing of services, supplies, materials, and the like, rather than cash are not charged to this object class, but to the object class representing the nature of the services, articles, or other items which are purchased.)

---

[11] For a different interpretation of some of the above definitions, see Warren C. Robinson, "What is a Government Subsidy," in National Tax Journal, vol. XX, No. 1, March 1967, pp. 86–92. Robinson does not agree that Pigou referred to payments to individuals as subsidies. He also concludes that only "cash payments and government intermediate goods and services supplied freely or at nominal prices to particular producers" should be referred to as subsidies. Professor Robinson's suggestions have not been found persuasive but are here acknowledged for the reader's own evaluation.

[12] Office of Business Economics, Department of Commerce, June 1971. Under this definition, the cost of Federal subsidy programs for 1969 was approximately $4 billion. The following programs are included under this definition:

- Department of Agriculture:
  - Great Plains Conservation
  - Sugar Act
  - Agricultural Conservation
  - Appalachian Development
  - Cropland Conversion
  - Cropland Adjustment
  - Emergency Conservation Measures
  - Soil Bank
  - Indemnity Payments
- Commodity Credit Corporation:
  - Wool Act
  - Feed Grain
  - Cotton Programs
  - Wheat Certificate Program
- Civil Aeronautics Board:
  - Payments to Air Carriers
- Housing and Urban Development:
  - Rent Supplements and Rental Housing Assistance
- Maritime subsidies (operational subsidies)

As one can see, something called subsidies is lumped together with grants to State governments, contributions to international societies, and other miscellaneous outlays. The U.S. budget does not separately identify any form of subsidies at the present time. This fact in itself is somewhat startling, when one considers how great an influence they exert, and how distinct they are under various reasonable definitions.

Finally, the Division of Audits of the General Accounting Office in May 1954 prepared the following analysis of the term subsidy as used in the General Accounting Office:

We (the General Accounting Office) use the term "subsidy" to refer to financial aid or assistance given by the Federal Government to private individuals or organizations or to non-Federal governmental entities. This aid may consist of incurring expenses on behalf of those individuals or organizations as well as making direct advances of funds or property with respect to which full repayment is not contemplated. On the other hand, we try to avoid the use of the term "subsidy" in referring to expenses incurred by one agency of the Federal Government on behalf of another.

Although worded differently than the OMB definition, it is characterized by similar vagueness. There has been no updating or review of the concept since 1954.[13]

We have before us, then, a review of the major attempts to define a subsidy. What does this review show us? Certainly thre is considerable diversity among the definitions taken as a whole because different parties have emphasized different characteristics of the subsidy device. There is a noteworthy difference between the definitions framed by economists, however, and the definitions framed by Government agencies. The definitions of economists have tended to increase in scope and become analytically clearer. Kaysen's definition was the culmination of this process, where, simply put, a subsidy was any deliberate governmental action to alter the "natural" supply or demand conditions of a particular private market. The definitions of Government agencies, on the other hand, have tended to be either extremely narrow or quite vague analytically.

In our 1965 report, "Subsidy and Subsidy-Effect Programs of the U.S. Government," the Joint Economic Committee (JEC) attempted to reconcile many of the diverse elements of previous definitions. Rereading that definition now, one is struck by how well it still represents a significant improvement over earlier definitions. For this reason, and because the earlier JEC definition will be altered for the purposes of this study, we wish to quote at some length the earlier definition and some of the explanatory material that accompanied it:

A subsidy is an act by a governmental unit involving either (1) a payment, (2) a remission of charges, or (3) supplying commodities or services at less than cost or market price, with the intent of achieving a particular economic objective, most usually the supplying to a general market a product or service which would be supplied in as great quantity only at a higher price in the absence of the payment or remission of charges. Government loans made at lower than market rates of interest or at rates below the cost of funds to the Government and Government insurance provided at lower than private insurance premium rates may also appropriately be considered as subsidies.

This definition distinguishes subsidies from the following other types of assistance:

(*a*) Aids to foreign governments.

[13] For full text of this analysis see: U.S. Congress, 86th Congress, second session, Joint Economic Committee, "Subsidy and Subsidy-Effect Programs of the U.S. Government," p. 7.

(*b*) Aids to business, or farmers, which are intended to help the businesses in any program of its own choice; in such a case the Government does not determine the program which it wishes to see fulfilled.

(*c*) Purchases or sales made on the Government's own behalf which may prove more profitable to the private seller or buyer than comparable transactions on the open market, except where a primary motive of such transactions is assistance to a particular segment of the economy. Thus, some purchases of minerals for stockpiling and of surplus farm commodities could readily be conceived of as subsidies, whereas a Government contract for production of a plane or missile would not normally be considered to involve a subsidy.

(*d*) Grants-in-aid to States and local units.

One type of benefit that may have a subsidy element but often is not classed as a subsidy is differential tax treatment for particular categories of persons or groups, such as minerals producers, corporations installing certain defense facilities, cooperatives, or producers of goods protected from foreign competition by tariffs.

As already noted above, the diversity among subsidy definitions stems from the fact that different people emphasize different characteristics of the subsidy device, while few explicitly identify the characteristics they choose to emphasize. Even the earlier JEC definition does not identify such characteristics. What are the major characteristics of the subsidy device? An answer to that question is given in the following section.

B. Distinguishing Among Real Income Transfers

Differences of opinion over what constitutes a subsidy arise in part because there are so many ways that government can provide a subsidy in the broad sense of transferring income between government and the private sector, or between groups in the private sector. These differences also occur because the various income transfer devices possess other characteristics, in addition to transferring income, that have received varying degrees of emphasis. The discussion to follow lays out the major differences and similarities that characterize these income transfers as a prelude to the formulation of the definition of a subsidy for this study.

Virtually no one would disagree that a subsidy is an income transfer from some level of government in the private sector, or a government-induced transfer between groups in the private sector, and it imposes costs on government and certain segments of the private sector. We use the term income here in the sense of an increment in one's power to satisfy economic desires in a given period insofar as that power consists of (*a*) money itself, and (*b*) anything susceptible of valuation in terms of money. In focusing on such income transfers, one has to admit that almost all government activities bring about some transfer of income. Government purchases of goods and services, the free distribution of government services, the levying of taxes, the payment of a subsidy to a farmer, or a welfare payment to a poor family, all transfer income between government and the private sector, or within the private sector. In this sense, one could say that everything government does is a subsidy.

But there are important distinctions that can and should be made among these transfer devices. In the first place, some government activities involve income flows in exchange for goods and services. these activities, which one might refer to as government business, are simply a part of the exchange economy. Assuming that the contracts are entered into willingly, with full information, government makes no income transfer in any special sense if it receives full payment for the goods and services it sells and full value for the goods and services it purchases. We shall therefore not consider government exchanges as involving an income transfer or subsidy if the exchange does not reduce the net worth of government.

In point of fact, many government exchanges do reduce the net worth of government. Government payment that exceeds the value of the goods or services received, as is the case with some of our military procurement, does transfer income and involve a subsidy. The same is true when government does not receive full payment for goods and services rendered, as with some postal service. One must surely recognize, as we do, that these aspects of the exchange economy involve subsidies.

The distinction between the exchange and nonexchange activities of government takes us to the heart of what Kenneth Boulding has referred to as the grants economy, that is, the sector of the total economy that deals with one-way income transfers.[14] Boulding considers all one-way transfers as part of the grants economy, making no distinction between donors and directions of income flow. Applying this scheme in a more limited way to the question of subsidies, where we are concerned with income flows from government to the private sector, or government-induced income flows within the private sector, one could simply say that all such one-way grants are subsidies. The one-way nature of income transfers is a very important characteristic of a subsidy, deserving emphasis, and is probably the origin of the commonsense notion that a subsidy is a giveaway. The problem with referring to all such grants as subsidies is that it means we are considering the distribution of free government services, welfare payments, subsidies, intergovernmental grants, along with some other government instruments, as all being the same thing. This is unsatisfactory because it ignores distinctions among these one-way income transfers that should be considered.

To illustrate the matter, let us assume that there is a continuum of government instruments that are used to provide one-way transfers of income to the private sector. At one end of the continuum we have free government services of a highly public nature, such as national defense, crime prevention, space exploration, and the like; and at the other end of the continuum we have cash payments the government makes to the private sector, generally labeled transfer payments, and consisting of such things as maritime subsidy payments and cash welfare payments. In between, we find free government services that are not distributed to the public at large, government goods and services that are distributed at reduced prices, including certain credit aids, varius special tax reductions, and the like. Should all of these one-way income transfers be called subsidies and regarded as the same thing, or should we distinguish among them? And if we are to distinguish among them, where are the boundary lines to be drawn?

Free government services are like subsidies in that they are (*a*) one-way transfers of income to the private sector and (*b*) do

[14] Kenneth Boulding, "The Grants Economy." Michigan Academician, winter 1969.

directly influence the pattern of private sector production and consumption in a manner desired by government. Anyone who wants to give the term "subsidy" the broadest possible interpretation can point to these similarities.

On the other hand, this broad interpretation does not fit another commonly held and useful notion of a subsidy as being a government action that modifies but does not entirely supplant private market activity and market prices. The significant thing about a subsidy from this point of view is that it is concerned with rectifying specific private market behavior without doing away with that market. To this end, the subsidy is linked with the market price or quantity: the subsidy is so much per unit of the good or service used, or is a certain percentage of the market price. This government assistance serves to change the price-cost relationship of the private market, thereby creating incentives for the participants in that market to behave differently, but it is the private market price system that actually executes the subsidy and operates the associated economic activity.

A free government service substitutes governmental operation of an economic activity for private operation of that activity, instead of assisting that private activity with some form of income transfer. This means that government actually undertakes the economic activity and distributes income in the form of goods and services that are largely ends in themselves, public ends, rather than distributing income in financial forms, such as cash and credit, that serve as means for assisting the private sector and the ends there served. It follows from this that government must ration among users the free goods and services it provides by some bureaucratic technique rather than market prices. Unsually, then, a free government service is an economic activity that takes the place of the private market, represents government ends rather than means, and operates through the rulemaking of a bureaucracy rather than the price system—all characteristics that tend not to be associated with subsidies. Moreover, many of the free government services such as national defense and civil rights cannot be provided by the private market and, when provided to one member of the community, they are automatically provided to all. There is general agreement that such "public goods" are sufficiently public that they should not be considered subsidies.

There is, of course, a subset of free government services such as public education that could be provided by the private market, and where alternative private markets are in existence. The Government's provision of these marketlike goods and services will inevitably mean that their benefits are restricted to a subgroup of the private sector: those that use that particular good or service. The restricted nature of these free government services is in contrast to public goods and similar to another important characteristic of a subsidy: that the benefits accrue to a special group. Certainly on these grounds one could regard such free government goods and services as subsidies, even though the activities supplant rather than alter the private market system. It all depends upon where and for what reasons one wants to draw the boundary lines along the continuum of one-way income transfers. Although the Joint Economic Committee intends later to examine free government services that are restricted to a special group, as a part of our overall investigation subsidies, they are excluded from this initial study because we lay greater emphasis on government income transfers that alter rather than replace the market system and market prices.[15]

Turning to the other end of the one-way income transfer continuum, there remains the question of whether all cash transfer payments from government to the private sector should be regarded as the same thing, and labeled subsidies, or if distinctions should be made. They are similar in that they use financial means to transfer income, they are all one-way income transfers, they go to a restricted subgroup of the private sector, and they are intended to aid the private sector without supplanting it. These important similarities serve to emphasize that all such cash payments are part of the continuum of one-way income transfers mentioned earlier—that part we labeled transfer payments—and in this sense they are the same thing.

But subsidies and welfare payments, at least in their cash forms, differ from each other in terms of their objectives and direct effects on the private sector. Given our limited knowledge about subsidies, it may be more useful to call attention to the differences than to the similarities.

A cash subsidy, as mentioned earlier, is usually thought to be concerned with creating incentives to alter specific market behavior without doing away with that market. Going further, the purpose of creating the incentives is to increase or reduce the level of economic activity in that market. This is achieved through the actions of the producers, consumers, and factor owners in that market, who, in order to receive the subsidy, must alter their economic behavior in that particular market. In other words, a subsidy always requires a specific economic quid pro quo or performance from the recipients in the particular market to which the subsidy is tied. This performance may take the form of increased or decreased production, sale, or use of a particular good, service, or factor of production: producing wool in order to receive Wool and Mohair Payments, hiring disadvantaged workers in order to receive JOBS payments, operating aircraft over certain specified routes in order to receive Air Carrier Payments, purchasing capital equipment in order to receive the Investment Tax Credit and so on.

A subsidy is linked with the private sector's buying and selling some specified good, service, or factor of production, and is designed either to increase or decrease that purchase or sale, compared with what would obtain without the subsidy. Because the aim of a subsidy may be to decrease rather than increase the purchase or sale, the neutral term "linked with" was employed: the link may be either positive or negative. Under the U.S. farm program, for example, certain farmers are paid for restricting their use of land for the growing of certain crops such as wheat. Here the link with the subsidy is negative. An increase in use of the factor, land, will, within limits, bring with it a decrease in the amount of the subsidy. Subsidies intended to discourage

---

[15] Whether one calls these benefits distributed free subsidies, where the subsidy is 100 percent, or welfare because the private sector recipients do nothing other than accept the benefit, or still some other label, is not as important as bringing out the fact that in many cases free goods and services go to a small percentage of society rather than the general public. Use of the inland waterways, provision of free medical care to merchant seamen, the construction of irrigation systems for farmers, and free education under extension programs are some of the more noteworthy examples. In a certain sense such activities are worse than subsidies in that government has completely taken over certain economic activities that could just as well be performed by the private market, or by some private market subsidy combination.

undesirable activity in the environment are another example.

A cash welfare payment in contrast—say a relief payment to a needy family, or an old-age social security benefit—is not given with the aim of reducing or increasing any particular market activity. Rather, the purpose of the payment is to raise the general income level of certain people, and is given not on the condition that the recipients perform in some specified way, but only that they possess certain characteristics such as being unemployed, blind, having a low income, and the like. Insofar as such welfare payments are expected to encourage economic activity in the private sector, it is the consumption of products in general by particular households, whereas a consumer subsidy is designed to encourage household consumption of a particular product by households in general. One could regard cash welfare payments as subsidies to general consumption, or to saving, but that would be in contrast to all the other subsidies intended to alter the quite specific market behavior that is the focus of this study.

The importance of the distinction we have made between subsidies and welfare payments, resting on whether the recipient alters his behavior and performs a desired action, should not be minimized. The design, operation, and evaluation of subsidies should focus primarily on the anticipated and actual performance yielded by the private sector. Such altered private sector performance is, after all, what government and the public get in return for the income transfer extended by the subsidy. Failure to focus on this performance may allow income transfers to be justified as subsidies when it would be more accurate to refer to them as welfare payments. This was clearly illustrated in a committee hearing exchange between Senator William Proxmire and Treasury Secretary John Connally on the question of justification for the Lockheed loan guarantee bill:

Senator Proxmire:

You raise a very profound economic question. On that it seems to me we ought to have the best economic advice we can get.

I have written to a number of economists. about 20, and only one indicated he favors this. The rest of them overwhelmingly indicated they opposed the Lockheed guarantee. They think it is a serious mistake. And we asked them consistently about the employment impact, and the overall effect on the economy.

I think you are absolutely right in saying this might be something that can have profound effects on our economy. What bothers me so much about this, Mr. Secretary, is that Lockheed's bailout, I would agree with Senator Tower, is not a subsidy, it is different from a subsidy, it is the beginning of a welfare program for large corporations.

I would remind you in a subsidy program it is different, there is a quid pro quo. You make a payment to a railroad and in return they build trackage; you make a payment to an airline and they provide a certain amount of service for it.

In welfare, of course, you make a payment and there is no return. In this case we have a guarantee and there is no requirement on the part of Lockheed to perform under that guarantee. A guarantee of $250 million and no benefit, no quid pro quo.

Secretary Connally:

What do you mean no benefit?

Senator Proxmire:

Well, they do not have to perform.

Secretary Connally:

What do we care whether they perform? We are guaranteeing them basically a $250 million loan. What for? Basically so they can hopefuly minimize their losses, so they can provide employment for 31,000 people throughout the country at a time when we desperately need that type of employment. That is basically the rationale and a justification.

Senator Proxmire:

Exactly. That is a welfare rationale, precisely as we give food stamps to a hungry family, because we do not want them to starve. But they do not have to perform for us, there is no benefit.[16]

Cash welfare payments may indeed contain provisions that have particular market effects in the sense that they provide incentives to work more or less. Whether such provisions mean the income transfer should be regarded as subsidies depends upon whether the income transfer was designed—by requiring a quid pro quo from the private sector recipient—to increase or reduce a particular market activity. A welfare payment system that induces the recipient to work somewhat less than he otherwise would, because the welfare payment is reduced dollar for dollar as he receives income from work, is not here regarded as a subsidy for not working. The welfare payment is not designed to discourage work. In contrast, there are in fact wage-bill subsidies such as the JOBS program that are designed to increase, not decrease, the amount of labor employed.

An important example of a welfare-payment system that does contain a subsidy provision can be found in the House of Representatives version of H.R. 1, "The Social Security Amendments of 1971." That part of the bill relating to welfare reform contains a provision clearly designed to encourage participation in manpower training, which reads:

An incentive allowance of $30 per month would be paid to each registrant who participates in manpower training (States would have the option of providing an additional allowance of up to $30). Necessary costs for transportation and similar expenses would also be paid.[17]

This provision of H.R. 1 is clearly a subsidy and thus we see that even a cash welfare system may contain subsidy provisions.

The H.R. 1 illustration of a combination subsidy welfare payment is not uncommon among Federal income transfers, particularly for transfer made in kind. Public housing, food stamps, and medical care for the poor are welfare payments in that they all aim at improving the general welfare of the recipients by increasing their real income, and they are also subsidies in that they are designed to encourage the consumption of housing, food, and medical services. We include all subsidy-welfare payment combinations in this study, but exclude cash welfare payments, that is, those income transfers that are only designed to redistribute real income.[18] Counterparts to cash welfare payments in the tax laws are also excluded.

The concept of a government subsidy, as we have discussed it above, may be extended to include financial arrangements other than those

[16] Hearings before Committee on Banking, Housing and Urban Affairs, June 8, 1971.

[17] U.S. House of Representatives Committee on Ways and Means. Revised Press Release No. 5: H.R. 1, "The Social Security Amendment of 1971." (Washington, D.C.: GPO), 1971, p. 24.

[18] The Office of Public Information of the Assistance Payments Administration (HEW) estimates that the total costs of these cash payments—to include administrative costs—was $4,559,180 for fiscal 1970, that figure consisting of the following programs: Aid to Families with Dependent Children, Aid to Permanently and Totally Disabled, Aid to the Blind, and Old Age Assistance. It is interesting to note that the assistance payments administration reports as the Federal cost of welfare only these cash payment programs plus medicaid, which is regarded as a benefit-in-kind program. A $2,548,546 cost for medicaid brings the total reported cost of welfare for fiscal 1970 to $7,107,276.

that use cash. The major financial devices covered in this study are direct cash payments, credit aids, tax aids, purchases above market price, provision of goods and services at a price or fee below market price, and certain regulatory actions by government. These financial devices provide the various means by which income transfers can be made to the private sector.

It should be clear from the above discussion that there are numerous ways that government can transfer income and thereby provide special benefits to groups in the private sector: it can distribute goods or services free to a select group, it can provide cash welfare payments to a similarly select group, and it can use various financial means to alter the price and cost arrangements in particular private markets, to name three of the most important techniques. All of these income transfers deserve special scrutiny because their direct benefits do not accrue to the public at large. Whether one wants to regard them all as subsidies is another matter. We find it more useful to restrict the label subsidy to those government activities designed to alter particular private market prices and behavior. As the reader may recall, this was the same general conclusion reached in our survey of earlier definitions. With this in mind, let us turn to a formal statement of the definition of a subsidy for this study.

C. Proposed Definition for This Study

For the purpose of this study, a subsidy is defined as the provision of Federal economic assistance, at the expense of others in the economy, to the private sector producers or consumers of a paricular good, service or factor of production. The Government receives no equivalent compensation in return, but conditions the assistance on a particular performance by the recipient—a quid pro quo—that has the effect of altering the price or costs of the particular good, service, or factor to the subsidy recipient, so as to encourage or discourage the output, supply, or use of these items and the related economic behavior.[19] The assistance may take the form of: [20]

(*a*) Explicit cash payments;

(*b*) Implicit payments through a reduction of a specific tax liability;

(*c*) Implicit payments by means of loans at interest rates below the Government borrowing rate or from loan guarantees; [21]

(*d*) Implicit payments through provisions of goods and services at prices or fees below market value;

(*e*) Implicit payments through Government purchases of goods and services above market price; and

(*f*) Implicit payments through certain Government regulatory actions that alter particular market prices.

This definition is presented as a reasonable standard of the meaning of a subsidy. A full accounting of Federal subsidy programs can and

[19] The above definition has been formed with considerable emphasis on intent because that seemed to be a useful starting point in accounting for Federal subsidy programs. There are of course numerous unintended subsidies, particularly in the tax law, and these must be accounted for to the extent possible.

[20] The explanation of what aspects of the following financial mechanisms should be considered subsidies is discussed in ch. III.

[21] The government borrowing rate has been used to measure the cost of the subsidy to government and not the benefit to the recipient. See sec. C of ch. III for a more detailed discussion of these matters.

should measure all Government activities that fall under this definition. This report, because of resource and time limitations, as well as a lack of access to executive branch data on subsidies, will not present the relevant data for all of the subsidy programs that fall under this definition. A reasonably complete accounting is made of subsidies that take financial forms (*a*) through (*c*). A considerable, but not complete list of benefit-in-kind subsidies, financial form (*d*), is presented. No accounting is made of government subsidies that are granted as a result of government purchases of goods and services above market price. There is also no accounting of the regulatory subsidies. We hope that this study will encourage the executive branch to make a greater effort to account for all forms of subsidies. The Joint Economic Committee will itself hold hearings in order to develop a complete and accurate record of all major Federal subsidy programs.

The definition above also distinguishes subsidies from the following types of Federal assistance that are either regarded as nonsubsidy or beyond the scope of this study:

(1) While some government expenditures for research and development are clearly to purchase a "service," others do not return a service to the Federal Government. But the degree of technical expertise needed to determine which expenditures purchase a service and which are a subsidy is beyond the competence of this staff. Government expenditures for planning and demonstration grants are excluded for the same reason.

(2) The subsidies implicit in international tariffs and quotas were not accounted for in this study because that was beyond our practical means. There is some accounting of export subsidies and further investigation is anticipated in this area.

(3) Federal grants to State or local governments are excluded if the funds are used to provide governmental services to the general State or local populace. Such grants do not flow through the State or local governmental unit to a particular recipient in the private sector and it is more accurate to simply refer to these income transfers as grants. Those that do flow through may be either subsidies or welfare payments and are so treated.

(4) Expenditures for public works are not generally considered subsidies because the Government receives a good in return. In those cases where use of the public work is provided to a special group, however, we have a benefit-in-kind subsidy.

(5) Subsidies provided in connection with defense procurement—purchases above market price, progress payments, and the like—are not generally accounted for in this study. The committee has devoted considerable attention to these subsidies in another place; see, for example, hearings, Subcommittee on Economy in Government, "The Acquisition of Weapons Systems," parts I and II, 1970.

The exclusion of any of these areas does not mean that they are any less deserving of analysis than the programs we have classified as subsidies. The committee itself is presently engaged in separate studies on defense procurement, foreign aid, and welfare programs, and some of these other areas may be examined at a later time.

D. Classification of Subsidies

Having defined a subsidy in the previous section, we now briefly note the various kinds of subsidics with which we will have to deal.

Subsidies may be classified by their financial form. Accordingly, we may have tax subsidies, direct cash payment subsidies, credit subsidies, benefit-in-kind subsidies, purchase subsidies, and regulatory subsidies. A breakdown of Federal subsidy programs by financial form is contained in chapter III.

Subsidies may also be classified according to the areas where they have their direct economic impact. Such functional categorization is useful for understanding what area of economic activity the assistance is directed toward and the Federal budget priority given that activity. We may refer to subsidies in this framework as agriculture subsidies, housing subsidies, and the like. A breakdown of Federal subsidy programs by functional area is contained in chapter V.

Subsidies may also be classified according to their final economic objectives or goals. Section A of chapter IV discusses the possible economic objectives of the subsidy instrument, concluding that the major ones are efficiency, income redistribution, economic growth, satisfactory foreign trade balance, price stability, and full employment. In this context, it may be appropriate to refer to a certain subsidy as an economic growth subsidy, a foreign trade subsidy, and so on.

Finally, subsidies may be classified according to the types of economic decisions the subsidy influences, and the effects the subsidy may have on the decision units involved. Simply put, this would mean that we have consumer subsidies, producer subsidies, or factor subsidies. Such subsidies normally are intended to have either or both of two effects. One effect is to increase the output of the subsidized good, or of a good produced with the aid of a subsidized factor of production, so that more persons are engaged in making it, and consumers are using more of it. The other intended effect is to lower the market price of the good in question and/or increase the wage rate and profit rate for the factors of production engaged in the industry. These two parts of the second effect are not mutually exclusive, but usually the greater is the emphasis placed on one, say an increase in the profit rate, the less is the emphasis placed on the other.

We may therefore classify subsidies according to their effects and obtain four possibilities: two types of consumer subsidies and two types of producer subsidies. A subsidy intended to aid consumers may be either a consumer-use subsidy, or a consumer-price subsidy. A subsidy intended to aid producers and their related factors may be either a factor-use subsidy or a factor-price subsidy.

It is, however, one thing for the donor of the subsidy to intend to achieve a certain effect, among those listed above, and quite another thing to accomplish it. For example, the desire may be to expand the use of a certain good, through a subsidy-induced decline in price, perhaps because that good is believed to have beneficial effects that are not appreciated or desired by the consumers, while in fact the subsidy may reduce price a great deal without expanding appreciably the number of units purchased. We could then say that what was intended to be a consumer-use subsidy turned out to be a consumer-price subsidy.

Similarly, a subsidy designed to increase a wage rate or a profit rate in a depressed industry is a factor-price subsidy. But it may in fact turn out to attract so many more workers and capitalists into the industry that wage rates and profit rates in that industry rise hardly at all. Instead, a larger number of physical units of product is generated and a larger number of the factors of production are utilized. What was intended to be a factor-price subsidy turns out to be a factor-use subsidy.

A still more striking divergence of intent and result occurs when a subsidy that is intended to benefit a particular commodity's or service's factors of production by increasing either their level of employment or their wage rate or profit rate, turns out instead to benefit chiefly consumers of the commodity or service either by expanding their consumption of this product or by lowering the price of it to them—or by some of both. What was then intended to be a producer subsidy is in fact a consumer subsidy.

As the examples above indicate, the actual effect of a subsidy may be quite different from its intended effect. The market conditions that will determine what effect will obtain are discussed in sections C and D of chapter IV.

Although it may at first seem a bit tedious to observe the many distinctions of terminology we have made in this section and chapter, we believe it will prove worth the effort in reduced confusion in communication and increased clarity of analysis.[22]

---

[22] For additional discussion of the difficulties involved in defining a subsidy see especially the study papers by George Break, Carl Shoup, Hendrik Houthakker, Murray Weidenbaum, Richard Posner, and Stanley Surrey.

Chapter III. THE FINANCIAL FORM OF THE SUBSIDY

As the preceding chapter has indicated, a subsidy for a particular purpose may take any one of several financial forms. It may be a straight cash payment, a tax reduction, a credit aid, a benefit-in-kind, a Government purchase above marketprice, or an implicit payment from one part of the private sector to another brought about by Government regulation. Moreover, in each instance the subsidy may pass through another level of government before it reaches the private sector firm or household. The present chapter describes the technical differences among these financial devices. It also lays out the criteria that should be used in labeling certain assistance as subsidies while excluding other assistance of the same financial form. All of the remarks in this chapter should be interpreted in the context of the general definition of a subsidy provided in the previous chapter.

We have explicitly identified the many financial forms a subsidy may take in order to make it perfectly clear that all such devices are alternative means for transferring income and granting subsidies. This is important because there is a widespread misconception that some of these measures, such as specific tax relief, are not subsidies and do not really cost the Federal Government or other third parties anything. Explicit identification is also important because some of the financial forms of a subsidy are "hidden" from the normal budget review process and public scrutiny. This of course creates an impossible situation for good public administration of subsidy programs. In addition, this has the unfortunate consequence of providing an incentive to Government officials to formulate "their" subsidy programs in one of the hidden financial forms. Representative Clarence Brown's, (Republican, Ohio) recent remarks on why he would have preferred using the tax form of a subsidy for the SST illustrates this phenomenon in a most dramatic way:

> We have recently been though the mill—I think that is not an overstatement of the case—with regard to the SST, which provided a national subsidy for the development of a highly technology-oriented product in a highly technology-intensive industry. The Congress has said, in effect, no, that is not for us at this time. I, of course, in a personal sense, and I think I speak for other members of the committee, feel that was a bad decision. I would gather from what you said. Mr. Secretary, with reference to the importance of the development of our technology-intensive industries, that you would share concern that that was a bad decision and, that the approach of subsidy is one that must be balanced against the question of tax incentive, since you would be doing the same thing in a different way through a tax-incentive approach.
>
> This is a long question, but in an era when we seem to be spooked—maybe that is an unfair word, too—but spooked politically by environmental concerns or the word "priorities" and some other things, should we, as a society, be putting our economic organization of such things as incentives for technological de-

velopment into a process that permits their being vetoed someplace along the line, such as a subsidy was in the case of the SST, or should we put them into tax-incentive areas fundamental in the law so that this kind of thing can continue to develop without closer scrutiny so that we can have a continuing program rather than have each one of these things subject to congressional review or direct review? [1]

While it is important to recognize that all the financial forms of a subsidy we have identified impose costs on the public, it is well to distinguish among the financial forms according to who bears the direct costs. The group of subsidies that directly affect the surplus or deficit of the Federal budget, imposing money costs directly on the Federal Government, are "fiscal subsidies." This includes financial forms A through E of this chapter. Government regulatory actions, financial form F of this chapter, that subsidize one subgroup of the private sector at the expense of another subgroup of the private sector, are "regulatory subsidies." Further elaboration of the cost characteristics of each financial form will be undertaken in section D of chapter IV.

It is also well to recognize that there may be some cases where a subsidy involves more than one financial form. In the case of public housing, for instance, the Federal Government provides a credit subsidy to local governments or housing authorities who in turn provide a benefit-in-kind subsidy to the private sector recipient. Similar arrangements also characterize many programs in the areas of education, manpower, and medical care.

In addition to certain general observations about each financial form, this chapter also contains crude estimates of the gross budgetary costs of the first four financial forms of a subsidy. Although we add the cost figures for each financial form to give an approximation of their total costs, such totals must be thought of as illustrative of orders of magnitude rather than strictly arithmetic. Additional details about these subsidy programs, such as legal authorization, objectives, direct recipients, as these details are presently available in the public record, are contained in chapter V.

Having then defined a subsidy in chapter II, and having explained its various financial forms, we shall move in chapter IV to substantive issues, asking what it is that subsidies are intended to do, what they do in fact accomplish, and how they may be evaluated.

A. Direct Cash Subsidy

The first form of subsidy to be discussed is the straight cash subsidy, where no other subsidy element is involved—no tax reduction, no credit aid, no sale by the government at below cost, and so on. The determination of what cash payments are subsidies is in keeping with the discussion in chapter II and need not be pursued further here.

---

[1] U.S. Congress, Subcommittee on Foreign Economic Policy of the Joint Economic Committee, "U.S. Foreign Economic Policy," hearings, June 25, 1971, Government Printing Office.

In the simplest and most common form of cash subsidy the money flows from the Government to the firm or household that engages in the activity specified in the subsidy law, and the amount of money so flowing increases as the firm or household increases its engagement in that activity. This kind of activity is evidently one that the Government wants to see expanded. To receive the subsidy the recipient must of course submit evidence that he has engaged in the activity, to such and such an extent, but he does not have to prove that he did so just because of the subsidy. In other words, there is usually no effort to restrict the subsidy to the "extra" activity it generates. Nor is there usually an upper ceiling beyond which the amount of the subsidy per economic unit is not paid—the subsidies are "open ended."

The rate of such a subsidy is usually fixed in the law as so much per unit of the good or service produced or used, but it may instead be set as a percentage of value, say 2 percent of sales value of the good or service. Similarly, a subsidy for using a certain factor of production, say a certain type of machine, or a certain type of labor, may conceivably be stated either in terms of so much per unit (e.g., per man-hour), but it is usually simpler to set the rate for these input subsidies in ad valorem terms: say, 5 percent of the machine cost or payroll.

A somewhat more complicated form of cash subsidy is that which is paid for doing less of a certain thing, that is, for reducing the amount of output or input associated with some economic activity. Here, evidently, the output or the input is considered undesirable by the Government. We have already mentioned that certain U.S. farm programs fall into this category. Another example would be a cash subsidy paid to powerplants, based inversely on the amount of sulfur emission: the smaller the sulfur emission, in a certain period of time, the larger the cash subsidy. This is a more complicated form of subsidy because it involves the problem of deciding at what point the subsidy should become zero. At what level of sulfur emission does the Government cease paying any cash subsidy to the powerplant? This level can be found, perhaps, by noting what the powerplants used to do when there was no subsidy. But technology is changing constantly and within a few years this base-period measure for the zero-subsidy level would make little sense. There would have to be a determination, or rather a conjecture, of how much sulfur the powerplants would be emitting, given the new technology, if the subsidy were not in force. Only a reduction of sulfur emission below that new zero-subsidy level would entitle the plant to a subsidy of so much per unit quantity of sulfur not emitted.

In principle, to be sure, government ought to be equally concerned when the simpler type of cash subsidy is being paid—one that increases when output or input of the thing in question increases—to a firm or household that would be doing just as much without the subsidy. Government should set a level of output, or input, below which no cash subsidy would be paid, on the grounds that at those levels no subsidy is necessary. If such a positive cutoff does not exist, the subsidy at least goes to zero when the desirable activity ceases. In the sulfur case, in contrast, there is no escape from setting some positive level of the output or input below which no subsidy will be paid. The difficulty is that there is no "natural" lower bound at which the subsidy becomes zero for undesirable activity, as there is a "natural" lower bound where desirable activity ceases.[2]

Table 3–1 contains a list of major cash payment subsidies and estimates of their gross budgetary cost for fiscal years 1970 and 1971. Judgments on what should be selected for the list is in accordance with the statement of definition in chapter II. These budgetary cost estimates were extracted primarily from the "Catalog of Federal Domestic Assistance," 1971, and "The Budget of the U.S. Government," fiscal year 1972, including the "Appendix" and "Special Analyses." The cost estimates are primarily in obligations because it is only in that form that the budget and other public documents contain the necessary program level detail. The total gross budgetary cost for direct cash payments was $12 billion in fiscal year 1970.[3]

---

[2] For further discussion of direct cash payment subsidies see especially the study papers by Carl Shoup, Hugh Macaulay, Jerry Jantscher, Mike Barth, David Mundel. and Dale Hoover and Bruce Gardner.

[3] Several of these cash payment subsidies also contain some element of benefit-in-kind subsidy as well, or they can be alternatively thought of as benefit-in-kind subsidies; higher education subsidies commonly have this attribute. Since it has not been possible to break down the components of cash and in-kind assistance, these programs are listed here. Designation of which programs appear to have this attribute is made in ch. V. Those programs that are exclusively benefit-in-kind subsidies are listed in table 3–4.

TABLE 3-1.—THE GROSS BUDGETARY COSTS OF MAJOR FEDERAL CASH PAYMENT SUBSIDIES, FISCAL YEARS 1970 AND 1971

[In millions of dollars]

Program	1970 actual	1971 estimated
Agriculture:		
Direct payments for commodity purchases	398	316
Feed grain production production stabilization	1,644	1,510
Sugar production stabilization	93	84
Wheat production stabilization	863	891
Wool and mohair payments	53	72
Cotton production stabilization	828	918
Conservation related programs [1]	0	0
Medical care:		
Health manpower training	226	299
Mental health training and education	120	106
Education and training of health service personnel	90	109
National Institutes of Health training	190	196
Health facilities construction grants	201	170
Health professions facilities construction	146	144
Manpower:		
Job opportunities-in-business sector	221	210
Public service careers	87	94
Manpower development institutional training	321	361
Job Corps	158	160
Neighborhood Youth Corps	315	475
Operation Mainstream	51	72
Concentrated employment program	187	169
Work incentive program	86	71
On-the-job training for veterans	87	164
Veterans vocational rehabilitation	42	59
Vocational rehabilitation	436	503
Education:		
Educational opportunity grants	162	167
Higher education work study	155	164
Science education support	120	101
Veterans educational assistance	939	1,568
Strengthening developing institutions	30	34
Higher education instructional equipment	0	7
College library resources	10	10
Higher education academic facilities construction	40	43
Foreign language and area studies	15	8
Howard University	57	38
Higher education-land-grant colleges and universities	22	13
Institutional support for science	45	35
University community service	9	9
Promotion of the humanities	10	19
Promotion of the arts	12	19
Miscellaneous educational training and fellowships	350	335
International trade:		
Export payments on agricultural products	5	5
Export payments	101	166
Housing:		
Housing rehabilitation grants	22	38
Farm labor housing grants	2	14
Rent supplement payments [2]	163	0
Specially adapted housing for disabled veterans	8	8
Natural resources:		
Rural environmental assistance	185	150
Great plains conservation	15	16
Cropland adjustment program	77	78
Conservation reserve program	37	0
Emergency conservation measures	16	15
Transportation:		
Air carrier payments	38	57
Operating differential subsidies	194	224
Construction differential subsidies	68	238
Commerce and economic development:		
Community action	365	367
Urban renewal and neighborhood development	1,054	1,035
Model Cities	315	376
Economic development grants	174	160
Appalachian regional development	143	132
Order of magnitude total	11,801	----------

[1] The conservation programs are listed under natural resources and explained in detail in ch. V.
[2] Expressed in capitalized value; see data sheets in ch. V for additional details.

Source: "1971 Catalog of Federal Domestic Assistance;" "The Budget of the United States Government, fiscal year 1972;" "The Budget of the United States Government—Appendix, fiscal year 1972;" "Special Analyses Budget of the U.S. Government, fiscal year 1972, "Department of Treasury estimates, app. A and B. See the individual data sheets in ch. V for more specific program information.

B. Tax Subsidies and Penalties

The chief noncash type of subsidy employed by the Federal Government takes the form of tax reduction. The tax reduction is limited to those who produce, purchase, or sell certain specified types of goods or factors of production. It is a selective tax relief that is not found in the law as drafted for taxpayers in general. The investment credit of the 1960's was an instance of subsidy through tax reduction. Anyone who purchased certain types of capital goods—chiefly, long-lived machinery—could subtract from his tax otherwise due, an amount equal to 7 percent of what he paid for the capital goods. For example, a taxpayer who purchased a $50,000 new machine with a useful life of more than 7 years could subtract from his Federal income tax otherwise due, in the year of purchase, $3,500.

For a subsidy to be given through a reduction in tax there must, of course, be some tax payment already going on, which means that the total flow of money is from the private sector to the Government, opposite to the direction of flow for the usual subsidy. But with a tax subsidy this total flow of money is reduced if the taxpayer acts in the manner desired by government. Usually this desired action is an additional output of some product such as housing, or an additional input of some factor of production, such as machinery. In these cases, the flow of money at the margin of production or purchase is from government to the private sector. As the specified output or input increases, the special provision in the tax law causes the tax flow to be smaller than it would otherwise be: a subsidy is injected at the margin of the particular activity. Such stimulus at the margin is characteristic of all tax provisions that have been labeled a subsidy in this study.

The tax subsidy, like the cash payment, can be given to the taxpayer for producing less of something, say sulfur emissions, or for employing less of some factor or production. In other words, the taxpayer has to pay more tax the more he produces of the thing in question. Such tax subsidies are designed to discourage undesirable activity at the margin, in this case sulfur emissions, in contrast to the investment credit tax subsidy, which was designed to encourage desirable activity at the margin.

A tax subsidy to discourage undesirable private sector activity offers particular taxpayers an increasingly favorable total tax status as they reduce their output of the undesirable item from some specified, highly undesirable level of output of that item. For example, the rate of the ordinary corporation income tax could be reduced, from the usual 48-percent level, for any firm that decreased its sulfur emissions from the specified level. The larger the decrease in the sulfur emission the greater the tax-rate reduction, until, with sulfur emission at some very low level, perhaps a zero level, the income tax-rate reduction would cease. Once the corporation had reduced its output of sulfur emission below the specified high level, it would, of course, find that if it wanted to reverse its action, and start increasing its sulfur emission, such action would cost it increased tax money, up to the point where it would again be emitting so much sulfur that it would be subject to the usual 48-percent income tax rate.

These differences between the two types of tax subsidies should not obscure their similarities. First, both types channel income from government to the private sector when activity in this sector is altered: either increased or decreased. Second, and as a result of the first, both types put added burden on the other taxpayers who must make up the revenue loss of this tax subsidy.

Related to a tax subsidy designed to discourage a particular activity is another special tax provision that we shall refer to as a tax penalty. In this case, the particular producer in question is subject to an increasingly unfavorable total tax status as he increases his output of some undesirable item. A tax of 10 cents a pound levied on all sulfur emitted into the atmosphere, as proposed by the present administration, is an example. This penalty resembles the tax-relief subsidy just discussed above, in that the producer's tax bill is larger the larger his output of the undesirable activity, and therefore both of them tend to discourage the undesirable activity. But they differ in that the penalty does not financially burden any other members of the society; hence, we do not consider it a subsidy.

We now turn to discuss how the rate of a tax subsidy may be computed. It might be thought that there can be no problem in ascertaining the subsidy rate, but this is not always so. The rate is easy to see when the tax reduction takes the form of a tax credit, that is, a direct reduction of the tax bill by a specified percentage of the cost of the thing purchased or sold. The investment credit allowed the taxpayer to deduct from his tax 7 percent of the cost of the eligible asset he purchased. The rate of this tax subsidy was clearly 7 percent. But computation of the subsidy rate is not so simple when the tax subsidy takes the form of an extra deduction in computing taxable income, as with excess depreciation. In this case the rate of subsidy is determined, for any particular taxpayer, by the marginal income tax rate in the bracket in which his taxable income happens to fall. The difference is readily seen by supposing, in the example above, that the taxpayer is a corporation paying income tax at a marginal rate of 48 percent. Its tax reduction under the investment credit is 7 percent of the $50,000 outlay, or $3,500. If instead we are going to allow the corporation $50,000 of excess depreciation, on, say, a $1 million asset, the tax reduction is 48 percent of $50,000, or $24,000. If the corporation's net income is so small that its marginal rate of income tax is only 22 percent, the subsidy rate for excess depreciation is likewise only 22 percent, while the subsidy rate under the investment credit remains at 7 percent.

Either of these types of tax subsidy can be made the exact equivalent of a straight cash subsidy, say, a subsidy of 7 percent of the purchase price of the asset. As we have seen, one equivalent is a tax credit of 7 percent of the purchase price, provided that the basis for depreciating the asset is still what the taxpayer pays for it. Another equivalent to a 7-percent cash subsidy is excess depreciation at a certain rate (not 7 percent). Let the excess depreciation be fully allowed in the year of purchase. If the marginal income tax rate is 48 percent, the exact equivalent of a 7-percent cash subsidy is an excess depreciation allowance of 14.58 percent of the purchase price of the capital goods. This is because a 14.58-percent depreciation deduction, at a 48-percent tax rate, is equal to 7 percent.

It is more difficult to compute the exact equivalent of a cash subsidy if the subsidy takes the form of accelerated depreciation. Accelerated depreciation, unlike excess depreciation, does not increase the total depreciation allowed over the life of the capital good. It does allow more of the depreciation to be taken in the early years of use than is allowable under normal depreciation. The result is to reduce the taxpayer's bill in the early years while increasing it in the later years. The net effect is a saving in the form of interest on the delayed tax. Depending on the interest rate the firm must pay for funds, and the marginal rate of tax, depreciation can be speeded up to just that degree that makes the capitalized value of the interest saving equal to the capitalized value of the tax saving in other examples given above.

Finally, the attractiveness of purchasing capital goods could be increased, not by giving a cash subsidy or a tax credit or deduction in computing taxable income, but simply by changing the tax system so that it would bear less heavily on income earned by employing those capital goods, while not altering the total tax receipts of government. This could be accomplished by having a special low rate of income tax—or by reducing the regular income tax schedule by a certain proportion—for income deemed attributable to these capital goods, and then by making up the consequent loss of tax revenue by imposing a tax that does not strike capital goods: for example, a value-added tax of the consumption type.

To take a simple illustration, let us suppose that the encouragement is to be limited to corporations subject to a tax rate of 48 percent. If the capital good lasted forever—the leveling of a hill to provide a site for a building, for example—and yielded 10 percent a year before tax, or $5,000 a year in the case of the $50,000 investment, a reduction of the corporation tax rate from 48 percent to 41 percent would be the equivalent, in present value of income tax saved, to a 7-percent cash grant. The annual tax saving would be 7 percent of $5,000, or $350, and this, capitalized as a perpetuity at 10 percent, would have a capitalized value of $3,500.

These illustrations provide an additional insight into how to distinguish a tax subsidy from certain other tax changes. For example, we need to be able to distinguish the tax credit and tax deduction from a change in the tax structure. That there is a need for such a distinction is intuitively evident. No one is going to say that a reduction in the corporation income tax from 48 percent to 41 percent is a tax subsidy of 7 percent, since there is nothing basic or ordained in a 48-percent rate to start with. Yet the precise grounds for refusing to term this a tax subsidy, while applying that term to the tax credit, or other taxable income reductions, need to be spelled out.

Under the tax credit or the deduction in computing taxable income, while the tax rate remains at 48 percent, the taxpayer inevitably saves tax if he buys the capital good. His tax bill is bound to be lower than it will be if he does not buy the capital good. Under the change in tax structure, however, as where a consumption type of value-added tax is substituted for a reduction in the rate of the income tax, the taxpayer does not inevitably reduce the tax bill on his total income by buying more capital goods. The act of buying or not buying capital goods, in itself, does not influence his total tax bill. The tax saving is not conditioned on his purchase of capital goods; no decision faces the taxpayer under a change in tax structure.

Another way of putting it is to say that, since the taxpayer does inevitably reduce his total tax bill by purchasing capital goods under the tax credit or the deduction methods, each taxpayer has his own option whether to receive the tax relief or not. The decision whether he reduces his total tax bill or not, as a result of how he behaves in the capital goods market, is strictly up to him. And since the essence of a subsidy is to persuade a firm or household to do something because by so doing he immediately benefits himself, while altering the pattern of resource use in ways desired by government, it is reasonable to term the tax credit and the deduction provisions "tax subsidies," while denying that term to a change in the tax structure.

Among other things, the above discussion should clarify what is meant by a tax subsidy. Table 3–2 contains a list of these major Federal tax subsidies, which is both an extract from and an addition to the so-called tax expenditure budget.[4]

The tax expenditure budget provisions that were excluded were thought to be either tax welfare payments or a part of the general tax structure. The table below also contains estimates of the gross budgetary costs of these tax subsidies for fiscal year 1970 and 1971. These budgetary cost estimates are primarily Department of the Treasury estimates as contained in appendix A. Although not strictly additive, the $38 billion annual revenue loss for these programs is a good order of magnitude estimate of the gross budgetary costs of Federal tax subsidies for fiscal year 1970. These figures and the associated analysis do not take into account the Revenue Act of 1971, however, which means that current tax subsidies are substantially underestimated.[5]

---

[4] For the original explanation of the tax expenditure budget concept see "1968, Secretary of the Treasury Annual Report of the State of the Finances," pp. 326–40. For additional discussions and evaluations of this concept see the following: Stanley Surrey, "Tax Incentives as a Device for Implementing Government Policy: A Comparison with Direct Government Expenditures," Harvard Law Review, February 1970; Surrey, "Federal Income Tax Reforms: The Varied Approaches Necessary to Replace Tax Expenditures With Direct Government Assistance," Harvard Law Review, December 1970; and Henry Aaron, "Inventory of Existing Tax Incentives—Federal". Reprint 201, The Brookings Institution, Washington, D.C., 1971.

[5] For further discussion of tax subsidies see especially the study papers by Stanley Surrey, Joseph Pechman and Ben Okner, Paul Taubman and Bob Rache, Jerry Brannon, Ed Erickson, David and Attiat Ott, Charles McLure, Martin David and Roger Miller, Ken Bitterman, and Emil Sunley.

TABLE 3-2.—THE GROSS BUDGETARY COST OF MAJOR FEDERAL TAX SUBSIDIES, FISCAL YEARS 1970 AND 1971

[In millions of dollars]

Program	1970	1971
Agriculture:		
Expensing and capital gains for farming	880	82
Medical care:		
Deductibility of medical expenses	1,700	1,700
Medical insurance premiums and medical care	1,450	1,450
Manpower:		
Exclusion of military benefits and allowances	550	500
Education:		
Additional exemption for students	525	500
Contributions to educational institutions	200	200
Exclusions of scholarships and fellowships	60	60
International trade:		
Western Hemisphere trade corporations	55	50
Exclusion of gross-up on dividends of less developed country corporations	55	55
Deferral of foreign subsidiary income	170	165
Exclusion of income earned in U.S. possessions	95	90
Exemption of income earned abroad by U.S. citizens	45	40
Housing:		
Deductibility of interest on owner occupied homes	2,600	2,800
Deductibility of property taxes on owner-occupied homes	2,800	2,900
Exclusion of imputed net rent [1]	0	0
Excess depreciation on rental housing	275	255
Rehabilitation of low income housing	5	10
Natural resources:		
Capital gains treatment for cutting timber	140	130
Expensing of mineral exploration and development costs	340	325
Excess of percentage over cost depletion	1,470	980
Pollution control amortization	15	15
Capital gains treatment on coal and iron royalties	5	15
Transportation:		
Deferral of tax on shipping companies	10	10
Rail freight car amortization	0	105
Commerce and economic development:		
Individual dividend exclusion	290	280
Excess depreciation on buildings	550	500
Investment credit	2,630	910
Corporation capital gains [2]	525	425
Individual capital gains [3]	7,000	7,000
Excess bad debt reserves of financial institutions	680	380
Exemption of credit unions	45	40
Expensing of research and development expenditures	565	540
Corporate surtax exemption	2,300	2,000
Exclusion of interest on life insurance savings	1,050	1,050
Accelerated depreciation revision (ADR) [4]	0	0
Other:		
Deductability of charitable contributions	3,450	3,550
Exemption of interest on State and local debt	2,200	2,300
Exclusion of premiums on group life insurance	440	440
Net exclusion of pension contributions for employees	3,150	3,075
Deduction of self-employed pension contributions	160	175
Order of magnitude total	38,480	35,840

[1] An estimate for excluding imputed net rent has been made of $4,000,000,000 per year in Henry Aaron's study, "Income Taxes and Housing," The American Economic Review, December 1970, p. 793.

[2] The estimate includes corporate capital gains other than agriculture and natural resources, which are listed separately.

[3] The estimate for individual capital gains is taken from the "Annual Report of the Secretary of the Treasury," fiscal year 1968, p. 333. That report estimates the revenue loss for fiscal year 1968 to be in the range from $5.5 to $8 billion. The estimate in the table is the midpoint of that range.

[4] Estimate not available at this time.

Source: Classification of subsidy provisions by JEC staff with data primarily from Department of Treasury estimates as contained in app. A. Estimates represent the total of individual and corporate tax reductions, except in the case of the capital gains provision.

C. Credit Subsidies

For a number of years the Federal Government has been a large supplier of credit. Most of this credit is extended directly to the private sector of our economy with much smaller amounts going to the State and local sectors. These programs have been growing and promise to continue to grow. The Office of Management and Budget estimates that "by the close of 1972, direct loans outstanding will total $56 billion and guaranteed loans outstanding will total $167 billion—a gross total of $224 billion.[6]

[6] "Special Analyses Budget of the U.S. Government, fiscal year 1972," p. 75.

Although a great many of these credit programs are subsidies, they are not expressly stated as such. To a considerable degree this is because of the difficulty of measuring the subsidy element of a credit program. A credit subsidy, unlike most cash subsidies or tax-reduction subsidies, cannot be easily expressed as so many dollars per unit of product, or per hour worked, or as a percentage of value of input or output. That these difficulties can be dealt with, however, is reflected in the recommendations made by the 1967 "Report of the President's Commission on Budget Concepts":

> It is the Commission's recommendation that the full amount of the interest subsidy on loans compared to Treasury borrowing costs be reflected and specifically disclosed in the expenditure account of the budget, and furthermore, that it be measured on a capitalized basis at the time loans are made.[7]

This recommendation has not yet been implemented by the Executive Branch, and this section will attempt to fill some of the resulting information gap by discussing the different kinds of credit subsidies and providing crude estimates of their costs.

The subsidy of course may be a simple cash payment from government to the borrower or lender to offset all or part of the interest charges. This kind of credit subsidy is covered by the description in section A above, except that this type of grant is likely to be related to the type of debtor or the ultimate beneficiary. For example, the interest reduction payment program (235) administered by HUD makes cash grants to certain lenders who make loans to low income families to finance the purchase of housing units. In this case the assistance is conditioned on the debtor's being a low income individual and on the use of the loan for the purchase of housing. We shall refer to such cash payments as debt service payment.

The other four forms of credit subsidy differ noticeably from a direct cash payment.

First, the Government itself loans money at an interest rate below the rate at which the debtor could otherwise have obtained his loan. It is this difference that measures the benefit to the debtor. The cost to the Government may be less than this, or the Government may even profit by the transaction, depending on what the Government itself has to pay on its borrowings (see section D of chapter IV). This is none the less a subsidy, since the Government is changing the market price, here the rate of interest, in favor of the one who is subsidized. A prominent example of this type of credit subsidy is the Rural Electrification Loan Program.

Second, the Government guarantees a loan in order to assure the private sector lender that, if a certain debtor defaults on interest

[7] "Report of the President's Commission on Budget Concepts" (Washington: GPO, 1967), pp. 51–52.

and/or principal, the Government will make good the loss. The borrower is thereby enabled to obtain the loan at a lower rate of interest. The reduction in the rate is the benefit the borrower receives from the guarantee. The lender benefits by getting a larger net return on the average of all such loans, including those loans where default does occur. The cost to the Government is not likely to be precisely the same as the sum of the benefits to the borrower and lender, partly for reasons detailed in section D of chapter IV. The Farm Ownership Loans provided by the Farmer's Home Administration are an example of guaranteed loans. As noted above, these guarantees are often combined with another form of credit subsidy which is described next.

Third, the Government insures the lender against default by means of an insurance fund to which one or both parties contribute. If the insurance premium is set so low that its earnings do not cover settled claims, the Government is subsidizing the loans so insured. An example is Crop Insurance. If the premiums are adequate, but are lower than private insurance companies could afford to operate under because the Government can pool risks on a larger scale, there is no subsidy in the sense of a cash outflow from the Government. But in a fundamental sense there is a subsidy, as in the direct loan subsidy noted above, since the Government is altering the market rate or price to the advantage of the private-sector borrower.[8]

Fourth, the Government lends to a creditor who could not otherwise borrow money, no matter how high an interest rate he might undertake to pay, or how quickly he might promise to repay. The Government expects to lose something on most of these "soft" loans, and to lose everything on some of them. The Price Support Loans are probably the most prominent example of this kind of credit subsidy.

Table 3–3 is an attempt to provide a list of major Federal credit subsidy programs and estimates of their gross budgetary costs. The primary source for this table is a Department of Treasury estimate of the credit subsidy "programs" contained in table E–4, "Special Analyses, Budget of the U.S. Government, Fiscal Year 1972."[9] Table 3–3 differs from that information in that it has a more detailed program breakdown, excludes credit programs with less than $10 million in gross outlays, excludes credit subsidies to public recipients, and includes some additional estimates of debt service payment subsidies. In general, the gross loan outlays refer to loans made for the direct loan programs and to loans or payments committed for the guaranteed/insured and debt service payment programs.

[8] Somewhat analagous to insurance funds are trust funds. These too should be scrutinized for subsidies.

[9] App. B contains the information the Department of Treasury provided to the Committee as well as a mathematical explanation of how the subsidy costs were calculated for table E–4, "Special Analyses, Budget of the U.S. Government, Fiscal Year 1972," pp. 77–80.

TABLE 3-3.—GROSS BUDGETARY COSTS OF MAJOR FEDERAL CREDIT SUBSIDIES, FISCAL 1970

[In millions of dollars]

Program	Gross outlays	Subsidy costs
Agriculture:		
Emergency credit	90	6
Farm operating loans	280	8
Soil and water loans	65	17
Rural electrification loans	362	179
Rural telephone loans	135	67
Storage facility and equipment loans	50	2
Price support loans	2,338	87
Farm ownership loans [1]	256	68
Crop insurance [1]		9
Medical care:		
Health facilities construction loans [1]		52
Education:		
Higher education facilities loans	102	46
National defense student loans	217	76
College housing	184	84
Law enforcement education aid	18	4
Guaranteed student loans [1]	840	179
Higher education facility interest subsidy	120	45
International trade:		
Development loans, revolving fund	560	320
Foreign military credit sales	93	6
Liquidation of foreign military sales fund	44	3
Short-term export credit sales	209	3
Public Law 480	494	226
Export financing—direct loans and participation financing	1,569	65
Housing:		
Interest subsidy for home-ownership assistance (235) [1]		426
Interest subsidy for rental assistance (236) [1]		790
Housing opportunity allowance program		
Below market interest range loans on multifamily dwellings (221(d)(3)) [1]		69
Rural housing insurance [1]		118
Housing for elderly and handicapped	106	53
Rehabilitation fund	39	12
Rural housing direct loans	143	18
Low-rent public housing [1]		1,064
Natural resources:		
Water and sewer loans [1]		22
Commerce and economic development:		
Disaster loan fund	91	19
Development company loans	47	6
Small business loans (7a)	84	6
Small business investment company loans	56	1
Economic opportunity loans	35	1
Displaced business loans	31	5
Economic development-loans for industry	26	2
Economic development-loans for development facilities	15	3
Urban renewal fund	594	16
Order of magnitude total		4,183

[1] Program is a guaranteed or insured loan, a debt service payment, or some combination of the two. For additional details see the individual data sheets in ch. V. Cost estimates are also from the Treasury data unless otherwise noted.

Source: "1971 Catalog of Federal Domestic Assistance;" The Budget of the United States Government, Fiscal Year 1972"; "The Budget of the United States Government—Appendix, Fiscal Year 1972; Special Analyses Budget of the United States Government, Fiscal Year 1972." Department of Treasury estimates, app. B.

The measurement of the subsidy cost figures in table 3-3 is in general made by estimating the difference between what the Government must pay to obtain funds from the private sector, say 7½ percent, and what the borrower must pay for his loan from the Government or what he must pay for a private loan partially financed by Government, say 2 percent. This difference calculated over the lifetime of the loan or payment and expressed in terms of its capitalized value. In other words, we are measuring the value of the stream of payments the Government must make to offset what the credit recipient himself has not paid, over the lifetime of the loan. This is done because once the credit assistance is committed the future cost are largely predetermined and beyond Government control.[10]

On this basis, the gross budgetary cost of direct loan subsidies included in table 3-3 is approximately $1.4 billion. In addition, we have included those guaranteed and insured loans that by themselves generate budgetary costs. Examples can be found in the Farmers Home Administration insured loan programs that make a loan at a rate below the market rate, and then resell the loan to a private lender with a guarantee and at some discount, or with a guarantee accompanied by a debt service payment. Table 3-3 also includes cost estimates for these debt service payments, which are usually made in conjunction with the guaranteed or insured loans. The gross budgetary costs of the guaranteed and insured loans and debt service payments included in table 3-3 is approximately $2.8 billion.

Although these costs are not strictly additive, and much further analysis and refinement needs to be done, it appears that the gross budgetary costs of Federal credit subsidies is in the order of magnitude of $4.2 billion.[11] It is hoped that recognition of the high costs of Federal credit subsidies will stimulate the additional congressional and executive attention this area deserves.

D. Benefit-in-Kind Subsidies

A benefit-in-kind subsidy is where the Government sells to the private sector a good or service at a price below market value, or below cost in those cases where there is no readily discernible private market. It is an implicit cash payment subsidy. The effect of the benefit-in-kind subsidy could be achieved equally well by selling the good at market price or cost and then returning to the purchasers a direct cash payment equivalent to the difference between this market price and the purchase price. The benefit-in-kind subsidy demonstrates that the Government can subsidize the consumption of milk, for example, either by giving a money grant to consumers or producers, or by selling the good, milk, to consumers at a price below the market price.

It should be noted that several of the other financial forms—credit and direct-payment subsidies, for example—ultimately end up transferring a benefit-in-kind to the private sector. In the case of certain housing programs the subsidy may take the form of both credit and benefit-in-kind assistance. This means that there is often more than one way that a subsidy can be categorized. In general, we have classi-

---

[10] We did not measure these costs on an annual basis, although that may be useful in some cases, because in general such an approach is an inferior measure of Government commitment and resource impact. See the "Staff Papers of the President's Commission on Budget Concept," October 1967, and ch. VI and sec. D of ch. IV of this study for additional discussions on measuring the cost of credit subsidies.

[11] It should be noted that even these cost estimates do not include the significant budgetary cost of administering these programs and financing their associated losses. Fur further discussion of credit subsidies see especially the study papers by Murray Weidenbaum, Bob Hartman, Henry Aaron, and Rudolph Penner and Bill Silver.

fied subsidies as benefit-in-kind only if the Federal Government, or a public agent for the Federal Government, is directly involved in providing the benefit-in-kind. If some other financial technique is used by the Government to persuade one segment of the private sector to provide another segment a benefit-in-kind, we have usually used the first financial form.

In keeping with the definition of subsidy presented in chapter II, a benefit-in-kind subsidy is not a good or service provided free of charge. Goods and services provided free of charge are usually widely distributed to the society and are often cited as the logical responsibility of Government—its sine qua non. A good provided free to a limited segment of society, such as a free lunch program restricted to children from families with an income below a certain level, is certainly closer to being a subsidy, but it is not here considered a subsidy because it abandons rather than modifies the private market as the allocating mechanism.[12]

In the simplest case of a benefit-in-kind subsidy the good or service sold by the Government is also sold on the private market. When this is true the value of the subsidy is easily found by taking the difference between the market price as established by the private market and the price at which the Government is selling. An example of this simple case is the sale of army surplus equipment, such as camping gear, jackets, et cetera at prices below the prices of similar, commercially marketed goods.

It is implicit in the above example that Government contribution to total supply is too small to change market price. Frequently this will not be the case. For example, the Federal Government leases land in its national forests and national grasslands to ranchers for grazing purposes. In the absence of Government leasing the market price of leased private lands would be say, $20 per cow-month, and, if the Government competitively leases its substantial supply of lands, the new market price would be less, say $16 per cow-month. Now if the Government should withdraw its land from the private market and lease it at $10 per cow-month, but impose some other type of rationing device to restrict who gets the $10 land, there will be a private market price as well as the Government subsidy price. The new market price will depend on several factors including the elasticity of the supply and demand curves for land and the number of cows actually permitted on Government land. We can only state with certainty that it will not be less than $10 or more than $20. The appropriate measure of the subsidy is of course $6, since $16 would be the market price in the absence of the subsidy, a fact that we know only because this is a hypothetical example. These measurement problems apply to other benefit-in-kind subsidies where the Government's activities significantly effect market price.

[12] See footnote 15 of ch. II for additional qualifications.

Another example of a benefit-in-kind subsidy is provided by Government maintenance of stockpiles of certain material such as copper, steel, oil, and wheat. Historically, the justification for these stockpiles has been to provide a national supply of critical raw materials in case of emergency, and it appears these stockpiles were maintained by granting purchase subsidies to the appropriate industries. But on certain occasions, when prices were rising rapidly, large quantities have been released from these stockpiles in an effort to stabilize or reduce the rate of price increase. In such cases, the Government is selling at a price below what the market price would be and is deliberately granting a benefit-in-kind subsidy to producers and consumers of the material in question. In this instance, as in the example before, it is difficult to evaluate the actual magnitude of the subsidy.

The goods and services we have been discussing thus far have been sold in the private market, but there are also many goods and services provided by Government for which a private market could, but does not, exist—census data and tours of Hoover Dam, for example. In these cases determination of a fair market price is extremely difficult, if not impossible, and probably any final judgment would be quite arbitrary. A more appropriate basis for assessing what Government should charge for these goods and services is cost. Under this criterion goods and services are benefit-in-kind subsidies if the Government fails to charge a price sufficient to at least recover costs.

The example above possesses the characteristic that consumers are free to decide whether or not to purchase the item. The question of whether or not a benefit-in-kind subsidy is granted is therefore reasonably straightforward.

One can also cite examples of goods and services provided only by Government and about which the recipients have little choice: passports, aviation licenses, documents certifying inspection, fees for filing petitions with Government agencies and courts, and so on. In these cases Government has declared that, if one wishes to engage in certain productive or consumptive activities, one must also consume a particular service provided only by the Government. When the consumption of such goods and services is compelled by Government it may not be appropriate to regard them as subsidies.

The above discussion is applicable to the selection of particular benefit-in-kind subsidies provided by the Federal Government. A partial list of these benefit-in-kind subsidies is displayed in table 3–4. The list is extracted from the "1971 Catalog of Federal Domestic Assistance" and the "Budget of the United States Government, Fiscal Year 1972," including the "Appendix" and "Special Analyses." The cost estimates for these programs generally report costs as the obligations directly relatable to the program.[13]

[13] For further discussions of benefit-in-kind subsidies see especially the study papers by Marion Hamilton Gillim and Jeremy Warford.

TABLE 3-4.—THE GROSS BUDGETARY COSTS OF MAJOR FEDERAL BENEFIT-IN-KIND SUBSIDIES, FISCAL YEARS 1970 AND 1971

[In millions of dollars]

Program	1970 actual	1971 estimated
Food:		
School lunch	301	581
School breakfasts	11	15
Nonfood assistance	17	16
Nonschool food program	7	21
Food stamps	551	1,369
School milk program	102	103
Commodity distribution	558	513
Emergency	46	45
Medical care:		
Health insurance for the aged (medicare)	1,979	2,070
Medical assistance program (medicaid)	2,638	3,110
Education:		
Surplus property utilization	409	426
International trade:		
International trade and development policy	19	23
Foreign market development and promotion	15	17
Natural resources:		
State and private forestry cooperation	26	28
Resource conservation and development	11	15
Watershed works of improvement	66	78
Rural water and waste disposal systems	45	40
Basic water and sewer facility grants	138	150
Construction grants for wastewater treatment works	426	1,200
Transportation:		
Airport development aid program	55	170
The Federal airways system [1]	174	174
Urban mass transportation grants	133	270
National rail passenger corporation	0	40
Commerce and economic development:		
Postal service	1,510	(1)
Government-owned property		(1)
Sales to domestic ship scrappers	8	(1)
Order of magnitude total	9,245	

[1] Not estimated.

Source: "1971 Catalog of Federal Domestic Assistance"; "The Budget of the U.S. Government, Fiscal Year 1972"; "The Budget of the U.S. Government—Appendix, Fiscal Year 1972"; "Special Analyses Budget of the U.S. Government, Fiscal Year 1972," Department of Treasury estimates, app. A. and B. See the individual data sheets in ch. V for more specific program information.

Benefit-in-kind subsidies may also occur through the Federal user charge system. As stated in the governing policy document, Budget Circular No. A–25, September 1959: "A reasonable charge, as described below, should be made to each identifiable recipient for a measurable unit or amount of Government service or property from which he derives a special benefit." To the extent that charges equivalent to market value—or at least cost—are not made on such identifiable goods and services, there is a potential for a subsidy. One would have to examine the nature of the specific charge, whether there was a Government requirement for which the recipient was being charged, and so on, in order to determine if it is a subsidy; it may be more appropriate in some cases to regard the income transfer as a welfare payment.

Certain Government goods and services distributed to a restricted group free should be carefully examined in order to determine if user charges are appropriate. It may be that certain free goods and services should be reformed by converting them to subsidies, or abolishing them altogether.

A list of Federal user charges that have been specifically identified as not covering their cost is contained in table 3–5, and some of these are clearly benefit-in-kind subsidies. No attempt has been made to calculate the implicit subsidy but orders of magnitude can be obtained by comparing the "Cost" with the "Collected" column. The list makes it apparent that this area merits such more detailed investigation.

TABLE 3-5.—COST OF PROVIDING SERVICES AND AMOUNT OF USER CHARGES, FISCAL YEAR 1969, COLLECTED FOR THOSE SERVICES THAT DID NOT RECOVER FULL COSTS

[In thousands of dollars]

Agency and program	Cost	Collected
Department of Commerce:		
Patent Office:		
Examination and issuance of patents	40,784.0	23,818.0
Examination and issuance of trademarks	1,792.0	1,638.0
Department of Agriculture:		
Consumer and Marketing Service:		
Inspection and grading of grain (U.S. Grain Standards Act)	2,324.0	919.0
Inspection and grading of naval stores	24.0	7.0
Classing cotton	4,561.0	750.0
Inspection and grading of tobacco	3,332.0	0
Forest Service:		
National Forest cattle and sheep grazing	(1)	3,841.0
National grassland and land utilization project	(1)	596.0
Department of Health, Education, and Welfare:		
Social Security Administration:		
Investigation and issuance of Federal Credit Union charters	88.0	17.0
Forwarding of letters	12.0	3.3
Earnings statements furnished	226.1	147.3
Department of Interior:		
Bureau of Reclamation:		
Fee for handling employee organization dues	.2	.1
Fee for handling withholding for charitable contributions	.3	.2
Services to foreign countries for technical training and service, information, etc.	98.8	78.6
Guided tours—Hoover Dam	228.6	149.8
Bureau of Indian Affairs:		
Government quarters rented to nongovernment employees	(1)	154.0
Special services requested by purchasers of Indian timber	(1)	54.7
Land Management:		
All activities	(1)	150,843
National Park Service:		
Visitor services and facilities provided in areas administered by National Park Service	(1)	7,275.0
Department of Justice:		
Legal activities and general administration:		
Subpoenas and summons	324.0	263.0
All other process	874.0	710.0
Immigration and Naturalization Service:		
Filing petition to classify for preference	1,218.0	682.0
Filing for an appeal or reconsideration of deportation	62.0	41.0
Adjustment of status to permanent resident	1,044.0	1,001.0
For making, filing, docketing a petition for naturalization	2,616.0	1,006.0
Application for certificate of citizenship	316.0	190.0
Other services	243.0	110.0
Post Office Department:		
Registry	65,794.0	44,293.0
Certified mail	24,303.0	20,895.0
Insurance	48,252.0	45,270.0
Collect on delivery	30,654.0	15,017.0
Special delivery	76,195.0	44,276.0
Money order	72,563.0	63,799.0
Stamped envelopes	20,166.0	21,011.0
Department of State:		
Passport and visa data inadequately reported to determine category of classification and costs.		
Department of Transportation:		
Federal Aviation Agency:		
It appears certain fees for certificates, etc. are issued at less than cost but because of an error in the report it is not possible to determine which ones or the amounts involved.		
Alaska Railroad:		
New Seward Hotel	.5	.3
Healy Hotel/Dormitory	35.4	6.7
Buildings leased to others	59.5	23.6
Whittier Apartment House	14.6	5.8
Riverboats, related facilities	79.5	70.3
U.S. Coast Guard:		
Rental and operation of property	(1)	46.8
Fees for miscellaneous service	(1)	216.0
Fees for communication and transportation service	(1)	40.6

See footnote at end of table, p. 40.

TABLE 3-5.—COST OF PROVIDING SERVICES AND AMOUNT OF USER CHARGES, FISCAL YEAR 1969, COLLECTED FOR THOSE SERVICES THAT DID NOT RECOVER FULL COSTS—Continued

[In thousands of dollars]

	Cost	Collected
Treasury Department:		
Internal Revenue Service:		
Charge for narcotics order blank	102.5	18.6
Fees for enrollment to practice	55.5	43.1
Bureau of Customs:		
Examination of tea	(1)	45.0
Special Services:		
Entry of vessel	495.0	118.2
Clearance to foreign port	483.0	115.1
Issuance of permits to foreign vessels	245.7	58.5
Civil Aeronautics Board:		
Filing fees	899.3	224.8
License fees	2,757.6	689.4
Federal Communication Commission:		
Application for licenses	18,927.0	4,737.0
Court of United States:		
Filing petition	(1)	60.0
Admission to practice	(1)	13.0
Certification of court records	(1)	4.0
NASA:		
Sale of safety glasses	.2	.1
Security and Exchange Commission:		
Trust indentures	68.0	2.0
TVA:		
Assistance to study visitors and trainees	89.0	19.0
Operation of recreation areas	228.0	61.0
Youth activities camp	72.0	39.0
Lease of resort facilities	71.0	56.0

[1] Not reported.

Source: Special Studies Subcommittee, House Government Operations Committee.

E. Purchase Subsidies

A purchase subsidy occurs when the Government deliberately purchases a good or service from the private sector at a higher price than it would have to pay in the market. It does this apparently to encourage a particular private market activity. An income transfer is thus made in the form of an "extra" money payment to the private sector sellers of the good or service, and the net worth of Government declines in the process of the exchange. Necessarily, the direct recipient of the subsidy payment is a producer rather than a consumer. Examples of such subsidies are Government purchases of agricultural commodities for price support, purchases of stockpile commodities for national defense purposes, and some cases of Government procurement.

Very little is known about Government purchases above market price as a subsidy form, how extensive and costly they are across the Government, their effects on the associated private markets, and so on. Consequently, this study was unable to identify and estimate the costs of such subsidies. Our experience in defense procurement, however, would seem to indicate that such subsidies are extremely pervasive and that extensive public investigations to determine the scope and effects of this subsidy form is merited.[14]

[14] For further discussion of purchase subsidies see especially the study papers by Dave Richardson, Dale Hoover and Bruce Gardner, and Charles Trazzo.

F. Regulatory Subsidies

The term "regulatory subsidies" is coined here to describe a phenomenon that is rarely discussed under the heading of Government subsidies since the Government does not itself give out money or payments in kind. Yet it is the Government's power that makes possible the subsidy and this fact should at least be noted.

The regulatory power in question is that of setting prices restricting entry, and requiring service. If this power is so exercised that a firm is required to accept a continuing loss from serving certain customers, while being allowed to make up this loss by higher charges to other customers, it is clear that the second group of customers are being burdened to benefit this first group, much as if they paid a tax to help the first group purchase the service at profitmaking rates. Railroad and air passenger travel are examples of this case.

Alternatively, Government regulatory power may be used to subsidize producers, at the expense of consumers, as is the case with the oil import quota and other barriers to trade. In this context, it may also be appropriate to regard minimum-wage requirements as a subsidy to consumers, or factor owners, at the expense of producers.

There is no more known about this subsidy form than purchase subsidies, described in section E above, and consequently they are not accounted for in this study. There are indications that the cost of these subsidies is extremely large. For one example of just how significant such subsidies can be, and how to measure their actual cost, see Cabinet Task Force on Oil Import Control, "The Oil Import Question," Washington, D.C., Government Printing Office, 1970. This study estimates that the annual cost of the oil import quota subsidy is approximately $5 billion.[15]

---

[15] For further discussion of regulatory subsidies see especially the study papers by Richard Posner, Dave Richardson, George Eads, Charles Cicchetti, George Hilton, and Roger Noll, Merton Peck and John McGowan.

Chapter IV. THE BASIC ECONOMICS OF SUBSIDIES

This chapter is intended to explain how a subsidy works economically, and in the process to provide some guidelines for evaluating subsidies. The discussion should be considered tentative, for the basic economics of subsidies has not been comprehensively developed elsewhere. It is hoped that the discussion will provide decisionmakers not trained in economics with sufficient understanding of how a subsidy works to enable them to ask the right questions about such programs. It is also hoped that this chapter, and the study papers the committee has commissioned, will stimulate the development of comprehensive economic principles relevant for understanding and evaluating subsidies.

The approach of the chapter is quite simple and direct. Section A discusses what appear to be reasonable economic objectives of a subsidy. Sections B and C describe what are likely to be the direct effects of a subsidy under various market conditions. These effects are the focal point for ascertaining the benefits of a subsidy. Section D explains the various cost effects—budget costs, administrative costs, resource costs, and so on—that are associated with a subsidy. Finally, section E pulls together the economic objectives and effects of subsidies to facilitate evaluation of any particular subsidy.

This chapter is somewhat more technical than the other chapters and the reader may pass directly to chapter V if the areas mentioned above do not interest him. If he desires to understand how a subsidy works economically, however, he should read this chapter.

A. The Market Economy and Economic Arguments for a Subsidy

The arguments used to justify subsidies often have nothing to do with what a subsidy can actually do, economically. Generally the arguments for subsidies are also extraordinarily vague. Perhaps the most widely used justification is the assertion that the activity to be subsidized is in the "national interest," without any specification of just how it is in the national interest. An important variant of this justification is where the national interest is "national defense," a term that has been used to justify everything from the raw material stockpile to the interstate highway system to the merchant marine subsidy. An argument of roughly the same analytical merit can be found in statements that a certain activity must be subsidized because there is a great "need" for certain goods or services—without spelling out the exact nature and size of this need—and that the need can only be met by government action. Often statements about need are couched in hyperbole, such as "transportation is the lifeblood of the country," or "agriculture is what made this country great."

We would like to move the discussion away from these vague, emotional appeals to the relatively specific economic objectives that a subsidy might reasonably be expected to achieve. This is appropriate in view of the fact that a subsidy is an economic device designed to alter private markets that have in some way been found unsatisfactory. To understand why subsidies are paid, then, we must first understand what the pricing system is intended to do, and then note the ways in which it in fact fails or operates imperfectly.

The pricing mechanism operates through the actions of producers and consumers in factor markets and in product markets. It is important to distinguish between these two basic economic units, and to distinguish between these two sets of markets, because it is the interaction of these four elements that set prices, that alter prices, and through these prices control most of the private market economy. It should also be understood from the outset that a subsidy, since it is designed to alter the market system, must operate in the product or factor markets, or both.

Consumers, sometimes referred to as households, own the land, labor, and capital resources of the economy and sell these to producers in the factor market, so called because the resources are used as "factors" in the production process. They sell their labor for wages, their land for rents, and their savings for interest or profits. The amount of these factors supplied by households, in conjunction with the demand that producers have for the factors, set the factor prices that in turn determine the income of consumers and the cost of production for producers.

The household income obtained in the factor market is used to finance consumer purchases in the product market. Producers are willing to provide the products desired—which are primarily ordinary consumption items such as food, movies, housing, medical services, and the like—if they can sell their products at prices that enable them to recoup their factor costs, where profit is considered one of these factor costs. These product prices, like factor prices, are primarily set by the interaction of market supply and demand. The amount of various products that producers are willing to supply, given their factor costs, and the demand for the same products by consumers, set the prices in product markets.

The price at which a product is sold operates as a signaling mechanism. It informs the entrepreneurs, employees, and suppliers of capital what goods and services should be produced as well as how labor and capital should be allocated and combined for maximum efficiency. If consumers come to like a certain product so much that they purchase it in larger quantities than the producers had anticipated, its price tends to rise, as producers' inventories are depleted and they see that they can sell all their output at a higher price. But the very tendency for price to increase also spurs production of this good. The factors of capital and labor move from other subsectors of the market economy into this subsector where profits and wages are tending to rise as the price of the product rises. Conversely, if consumer response to a certain product is disappointing, inventories pile up and sellers tend to cut prices in order to move the merchandise; that is, to clear the market. Capital and labor factors tend to move out of this less profitable subsector into others.

The pricing mechanism is also a rationing device. The limited resources of the economy make it costly for producers to make and distribute goods and services. Consumers, on the other hand, have almost unlimited demands for the same goods and services. Who should get these limited products, and how many units should each party get? Those who get them will be those who have a relatively strong taste for the particular product and enough money income to back up the taste. The number of units they get will depend upon the price of the good. High prices will limit the amount consumers as a whole are willing to buy; low prices will find the same consumers willing to buy more. In any event, the consumer does not get an unlimited amount of the product. He is rationed in his consumption of the good by the pricing mechanism, which requires him to pay enough to cover the cost. He uses his dollars as ration coupons. The number of such ration coupons that he has to pay is determined by the cost of producing that good. The market system that operates efficiently will make a perfect adjustment when the value of the last unit of the good to the consumer is just equal to the cost of producing that unit or, as the economist puts it, where marginal cost is equal to price or marginal revenue.

The cost referred to is of course the cost of hiring labor and capital from those very same consumers in their capacity as owners of the factors of production. The market system is thus a circular sort of system. Most households operate in both markets: as consumers, buying in the product market, and as sellers of labor and capital in the factor market. From what consumers get for the sale of their services in the factor market, they purchase consumer goods in the product market. Throughout this circular system prices are the great signalers and the great rationers.

In fact, if the market system is running without imperfections, it establishes a criterion of social optimality in the production and exchange of goods and services. That criterion is efficiency, or, to put it formally, Pareto optimality, after the Italian economist Vilfredo Pareto. This condition of optimality means that the economy is operating at the maximum level of real national output for that point in time. At this level, no member of the society can be made better off without making some other member of the society worse off. The prices set by the market mechanism are adjusted so perfectly that all consumers maximize their satisfactions, producers maximize profits, and products and factors are perfectly allocated. All resources are used to their maximum efficiency.[1]

The functioning of the market system is an enormously complicated task, however, and it should surprise no one to learn that in practice the market does not accomplish its job perfectly. Even if the distribution of income is considered right to begin with—and many would cite

[1] "Maximizing" means, of course, doing the best one can, given the total amount of resources, and does not deal with the manner in which ownership of factors is distributed among households by the nonmarket things that determines this distribution: inheritance ability, the rules of the game, and so on. This distribution of factor ownership is very important because it primarily determines the distribution of income.

ethical considerations to the contrary—the market system performs unevenly. The market system's failures or imperfections are not to be found chiefly in particular individuals' avarice or ignorance. They are, unhappily, certain impersonal defects in the market mechanism itself, making the system incapable of coping with some of the aspects of its environment. Correction of these defects is an objective of public economic policy, and in some cases an appropriate objective for subsidies.

Let us begin, however, with two market defects that are not well suited to correction by subsidies.

Monopolistic power.—Competition is commonly not what economists refer to as pure or perfect. In any given industry or area there are sometimes so few firms, and some of them are likely to be so large that they do not, as the system would like them to do, simply respond to changes in prices coming from market forces outside the firm. Instead, the firm acts monopolistically setting a price itself, considering only the reactions of other firms. The tendency of these firms will be to set prices so high that the level of output will be less than if the industry were composed of a large number of firms, no one of which could influence price appreciably. In the end this means that society is deprived of the additional output it would receive under competition, thereby reducing its real economic welfare, while producers or some specialized factor owners receive excess rewards.

Despite the seriousness of monopoly market imperfections and other forms of market behavior that restrict competition, they are not generally amenable to solution through the payment of subsidies. As we have said, this market imperfection is usually characterized by a restriction of output and excess profits retained by the firm. Although per unit subsidies could be paid to expand the monopolist's output, this is likely to offend the community's sense of fairness, unless coupled with some special kind of tax that would not discourage expansion of output. Instead, the Federal Government has attempted to deal with this imperfection either indirectly through the antitrust laws or directly by making the firm a public utility.

Pure public goods.—There are some products, usually services, where if the service is provided to one person it automatically becomes available to everyone else in the relevant area. In such cases the market provides no way for anyone to effectively demand the product by offering to pay a price for it. An example is police protection of the kind and on the scale rendered by most cities. If such protection is afforded to any particular household in a given neighborhood, it is inevitably, at the same time, given to all the other households in that neighborhood. If that household should agree to pay the entire cost of the service, why should the others agree to pay anything for it? They receive it even if they pay nothing. And if that household is willing to pay only a pro rata share, how can it get all the others to agree to go along with it? Other examples are national defense, space exploration, and the enforcement of contracts.

This difficulty arises from the nonexcludability of other units of the economy from enjoying the product once it is being provided to any one unit in the neighborhood or country. The product has technical qualities that make it impossible to divide it into units that can be sold to individual purchasers in a market. Producers will have no incentive to supply such a good because they cannot exclude free riders, and any individual consumer is likely to find it too costly to carry the whole financial burden himself, quite apart from his emotional reaction that he feels put upon by paying the entire cost of a good that everyone else enjoys.

Accordingly, the decision whether to provide these "pure public goods," and if so how much to provide, must be made through some political process. The private market is unable to price and to provide such goods. This means that no subsidy can operate either, since a subsidy works through the market.

Both of the above are examples of market defects that prevent the optional allocation of resources. There are other market defects that impede the optimal allocation of resources— that is, cases where there is too much output of some goods, or not enough output of other goods—but are better suited to correction by government actions to alter the operation of that market. These market shortcomings are cases where resources are not allocated efficiently because of decreasing cost industries, a lack of information, immobility of resources, and the presence of externalities. The degree of inefficiency is so great in some cases that government intervention can make some members of the society better off without making other members worse off. Government need only "encourage" a particular reallocation of resource inputs to ensure that more national output is achieved. Such reallocation, designed to increase efficiency, may be referred to as efficiency subsidies. Let us look further at these market defects, because subsidies may be especially well suited for correcting them.

Decreasing cost industries.—The cost conditions for an entire industry may be such that if all firms expand together (and new firms enter), the increased output brings with it a sufficiently more favorable milieu so that production costs are lowered for all firms. The case at issue is not one where costs to the purchasing industry become lower because factors are sold more cheaply to it as its output increases; in other words, we bypass the argument of pecuniary increasing returns to industry scale. The focus is on the nonpecuniary benefits that arise because the growth of the industry makes a better environment for production; it may, for example, indirectly induce a higher level of education in the community.

In such a case, as the industry grows larger each firm's costs become lower for any given output per firm. Yet since no one firm is large enough to expand the industry appreciably by itself, and no one old firm can expand without running into increasing costs, the lowering of cost does not occur until an external stimulus is given, as by a subsidy. As all firms react to a subsidy by expanding output, each firm finds that, while price falls owing to the additional product put on the market by the industry as a whole, the firm's cost also fall. This fall in cost represents an increase in real economic welfare that has traditionally been used by economists, particularly in the field of transportation, as justification for a subsidy.

Imperfect information.—Lack of knowledge may impair response by labor and capital, or by consumers, to the signaling mechanism of the market. The fact that prices are tending to rise or to fall, at this or that place, may not be sufficiently known and firms may consequently produce more or less of a good than is optimal. Firms may be producing at extra cost because they do not know of existing technology or where the lowest priced inputs can be found. Unemployed workers may remain unemployed if they are not aware of the pattern of opportunities and prices in labor markets. Finally, consumers may not maximize their satisfaction if they do not know where the lowest prices prevail for the goods they desire, or if they have limited knowledge of the quality or utility of the item purchased.

Information problems may also take the form of the market's inability to assess the risk of certain ventures. A high risk means that the possible alternative outcomes of a venture, each outcome being weighted by its probability of occurring, differ markedly from one another. There is a wide range of possible outcomes. High risk usually also implies that these possible outcomes include at least one that represents a heavy loss. The market mechanism offers no sure way of peering into the future to provide an accurate listing of these various possible outcomes and to assign a correct probability to each of them. As a result, a truly balanced judgment of the prospects for consumer demand or producer costs may not be obtainable. The demand may easily be underestimated, the costs overestimated, or both. The establishment of the Rural Electrification Administration in 1936, to provide subsidies to rural citizens in the form of lower prices for electric service, was a direct result of the market's unwillingness to undertake what was believed to be too risky a project. Although the market failed to correctly evaluate the risks in that case, this kind of justification is often used for credit subsidies.

Lack of mobility.—Sluggish response, evidenced by a lack of mobility, may characterize labor or capital even if they are aware of what the market signaling mechanism is saying. Fixed investment cannot move easily even after it is clear that demand in a certain market has fallen off, as in the aerospace industry. Labor resources may be slow to move due to a lack of information about job opportunities, the time needed to retrain, prejudice, high moving expenses, and the reluctance to change life syles. As Adam Smith observed almost 200 years ago, "* * * man is of all forms of luggage the most difficult to be transported." The movement of farm labor resources out of farming has been slowed because it means moving entire families completely different life styles. The flow of labor resources into the medical field, and other areas that require significant education and training, has been slowed because the training takes time. In a sense, all of these lags can be considered market inefficiencies. Manpower and training subsidies have often been justified on the grounds that they correct these defects.

Externalities.—The perfectly functioning market system will achieve an optimum only when all costs and benefits are included in market supply and demand. In such a case, the value of the good to the consumer is just equal to its costs of production at the margin. But this will occur only if (1) those who do not pay for the good can be excluded from the satisfaction it will provide, and (2) those who suffer from the good, or are inconvenienced by the process of producing it, can find some way to pay the producer to restrict his output. If what one consumer or producer buys benefits another consumer or producer unit indirectly, or causes them discomfort, the purchaser's action is said to have an effect "external" to him, in contrast to the "internal" satisfaction he receives from the direct use of the item. These "externalities," "spillovers," or "neighborhood effects" effect persons yet the market mechanism does not price that effect and, therefore, does not provide these second parties with an opportunity to participate in the decision, by paying for part of the good, or by paying the purchasers not to use part of the good. These externalities may be related to either consumer or producer actions, termed consumption and production externalities; and they may have either positive or negative effects, termed external benefits and external costs. Let us consider some examples.

When a strip mining firm excavates the side of a mountain there are external costs that spill over to the local community in terms of eroded soil and polluted water supplies—a production externality cost. The consumer who "consumes" his car in driving from the suburbs to the central city causes congestion and air pollution costs that fall on the residents of the central city—a consumption externality cost. What is the effect of such negative externalities on the economy's performance? The effect is that resources are used to a greater extent than they would be if the full social costs were taken into account.

On the other hand, some externalities have positive effects or benefits. When a firm recycles some solid waste, such as an old automobile body, there are external benefits to the society in a cleaner environment—a production externality benefit. If a member of the community "consumes" a polio vaccination, he gains the direct benefit of improved protection against polio, and the community receives an external benefit of reduced virus carriers—a consumption externality benefit. In such cases the market underestimates the price or benefit of the good and consequently provides too little of it. If the full social benefits were taken into account more of the item in question would be either produced or consumed.

The existence of externalities, then, results in a nonoptimal allocation of society's resources. The private market's failure to account for the external benefits of certain production or consumption items will mean that not enough of it is provided. Where external costs are not taken into account too much of the item will be provided. In both cases the allocation of resources will be imperfect because individual decision units will act on the basis of private benefits and costs, which diverge from total social benefits and costs.

The market has no way to measure the social benefit or cost, however, since the individual decision units through which it operates cannot themselves weigh benefits and costs that are external to them. They cannot do so because these externalities, like public goods, cannot be rationed among those affected, so that those willing to pay will receive these external benefits (or be freed from the external discomforts), and those unwilling to pay will not. The significance of this market imperfection is great because externalities are so pervasive in our economy. Indeed, externalities are by far the greatest justification for subsidies or special taxes.

The fact that the full social costs of resources is not being paid in the case of external costs is justification for the use of taxes to reduce the level of private market output. The existence of external benefits, on the other hand, may justify the use of a subsidy to increase economic activity in that area. It is of course necessary to insure that valid external benefits are present. An increase in employment associated with the subsidy should not normally be regarded as an external benefit because that is to be expected with any increase in government outlays. Nor should we include "pecuniary benefits," such as an increase in a meat packer's business related to an irrigation project.

Factor employment.—Markets may be inadequate not just in the manner in which they allocate resources, because of the deficiencies identified above, but also in maintaining a high level of resource utilization. They may fail to utilize labor desiring to be employed, they may leave plant and equipment idle, or they may be unable to fully employ these resources while maintaining stable prices. To some extent the market imperfections described above, such as imperfect information and lack of mobility, are the cause of unutilized resources and price instability. However, inadequate aggregate demand for what the economy can supply, excessive aggregate demand, or wide fluctuations in aggregate demand, are generally considered better explanations of why resources are not fully employed. In any event, the result is that the level of output for the economy may diverge from optimal output.

But it would appear that the inability of the market economy to maintain the appropriate level of aggregate demand is a problem not well suited to correction by the subsidy instrument. A subsidy, by its nature, discriminates in favor of this or that factor of production, or this or that service. Its impact on the fiscal position of government and on aggregate demand is likely to be either small or nonexistent, because most subsidies are small in size, and also because the financing of a subsidy may well diminish economic activities in some other sector. In general, arguments that a particular subsidy will increase overall resource employment are not supportable.[2]

Of course there are a few subsidies, primarily those to encourage capital spending, that are large enough to affect aggregate demand and employment appreciably. But the investment credit of the 1960's was designed only partly for this purpose; its chief aim was to stimulate technological improvement and to "modernize" the economy by installation of new equipment. If the aim had been simply to reduce unemployment via increased aggregate demand, a subsidy to all consumer spending might well have been more effective.

A better use of the subsidy instrument in the context of unemployment would seem to be in measures designed to remedy structural imbalances, as between capital and labor, or to stimulate the use of particular types of unused labor. Some of the unemployment that characterizes large cities or isolated rural areas, or that reflects special training inadequacies, are cases in point. Manpower and training subsidies are relevant for these problems.

Distribution of income.—The result of all of the market deficiencies described above is that the economy operates less "efficiently" than it could. In these cases there is an actual breakdown in the technical operation of the economy. In contrast, the distribution of income among families and individuals that obtains from the operation of the

---

[2] Perhaps a subsidy to expenditure in general, discriminating against saving, would help restore full employment if the difficulty were traceable only to too high a marginal propensity to save. Here, however, we are stretching the term "subsidy" to its limit by applying it to a measure designed to stimulate spending of any kind.

economy cannot be evaluated on quite the same grounds. The market automatically distributes the social product according to the price or value of the factors of production each individual owns, which in turn depends upon "the laws of inheritance, the distribution of innate talents, the availability of educational opportunities, social mobility, and the structure of markets." [3] The state of distribution that results will be accepted by some and rejected by others, with no objective criteria to say who is correct.

Nevertheless, there will exist certain ethical judgments with regard to the appropriateness of the distribution of income in a society. In our society, for example, it is generally agreed that children should not go hungry, that the poor and disabled should be given assistance, and that the old should be cared for. These views reflect society's judgment that the market has the additional shortcoming of not distributing its social product in accordance with our ethical values. Certainly this shortcoming of the market system is as much a legitimate matter of concern as the previously identified technical defects.

The use of subsidies to accomplish a redistribution of income that will rectify these shortcomings must take account of three factors, two of them unfavorable to the use of subsidies for this purpose, the third favorable.

In the first place a subsidy intended to redistribute income, together with the means of financing it, result in making some persons better off, but only at the cost of making some others worse off. This is indeed different from the efficiency objective, which can, in principle at least, make some persons better off without having to make anyone else worse off. The result is that there will be a natural conflict between members of the community.

Second, if the only policy objective is to redistribute income, a subsidy is almost sure to be a relatively inefficient economic instrument. This is because a subsidy requires a consumer to purchase a specific good, in order to get some benefit from the subsidy, instead of giving him cash and allowing him to purchase the combination of goods he prefers. It is generally conceded that the individual consumer will get greater satisfaction for the same expenditure by government in the second case, and for this reason a cash welfare payment is the more efficient method for redistributing income.

Third, total community satisfaction over the redistribution of income may be higher by subsidizing particular goods than by giving straight cash payments because those who pay may have definite ideas on how those who receive should spend their aid. A subsidy for school lunches may buy more satisfaction to the donor (the taxpayer who pays for the subsidy) than would the knowledge that the low-income family is receiving an equivalent amount in cash that it could spend in any way it wanted. Because of this element of donor satisfaction subsidies may not be entirely inappropriate instruments for income redistribution. For this reason, it is necessary to elaborate on some of the difficulties of actually redistributing income via a subsidy.

Almost any subsidy, regardless of its objective, will alter the distribution of real disposable income. If everyone is fully employed to start with, a subsidy will pull capital and labor into the subsidized industry

[3] Richard Musgrave, "Public Finance" (New York, McGraw Hill, 1959), p. 17.

from a number of other industries. In the process, those who own the capital and those who supply the labor that is induced to move will be made better off; otherwise, they would not be induced to move. Consumption of the subsidized industry's output expands as a result of a decline in market price. This fall in price represents a real increase in income for those who consume this product.

There must be, correspondingly, some losers in the process. Labor and capital owners left behind in unsubsidized industries may lose, but this is uncertain; they may also gain as the price of their products rise because a smaller amount is produced. Consumers in the unsubsidized market will lose insofar as prices for the unsubsidized goods and services do rise. The sure losers, of course, from a subsidy designed to redistribute income, are the taxpayers who finance the subsidy.

It may now be clear why the final income-distribution effects of any one subsidy are so difficult to foresee. They are particularly difficult to forecast in terms of redistribution of income by income classes, rather than by occupation, location, and the like. Typically, any one household—say, one in the income class of more than $4,000 but less than $6,000—will be spending part of its income on the subsidized good, and the rest on the unsubsidized goods. Some of the households in this income group will be supplying labor to the subsidized industry, some to the unsubsidized industries. Most of the households in this income class will be struck, more or less, by whatever tax is being used to finance the subsidy. While it may be possible to determine the distribution of the direct benefits from such a subsidy by income classes, admittedly an important question in itself, it is quite difficult to determine the net redistributive effects by income classes of the subsidy together with the tax that finances it.

In general, then, the redistributive effects of any particular subsidy are likely to be: (1) uncertain as among income classes, (2) uneven within any one income class, (3) rather more ascertainable as to any one industrial class of workers or capitalists, but (4) still unsatisfactory unless the market conditions for that industry satisfy certain requirements as to elasticities of demand and supply, to be discussed in section B below.

It would be naive to leave this subject of redistribution without noting that special interests are prone to trumpet a need for subsidies on grounds of alleged economic efficiency when, in fact, their only objective, and sometimes the only likely result, is a redistribution of income in their favor. This natural desire to get something for nothing is not monopolized by any one group in the community. It explains the existence of many of the economically indefensible subsidies that can be found throughout the federal system in the United States. How such subsidies came to be is more the province of the political scientist and the sociologist. Whether they do in fact benefit the special-interest group they were claimed to serve is for the economist to estimate—sometimes these subsidies benefit certain other groups, indirectly, more than they do those who pushed for them. These questions will be considered in more detail in the compendium of special studies that will follow the present study.

There remain certain other goals or objectives of subsidies that reallocate resources, but that are not likely to increase overall efficiency. If these goals are achieved, some members of the society are bound to be made worse off as a result of the resource allocation. The major economic objectives of this category are economic growth, price stability, and a satisfactory foreign trade balance.

Economic growth.—The community may decide that it should force itself to consume less now in order to increase its current output of capital goods, so that it can thereby at some later date reap the harvest in a still larger consumption. This is the essence of economic growth. A subsidy to capital goods, as opposed to consumer goods, is one of the instruments to this end. The investment tax credit of the 1960's was a special example, for it did not apply to all capital goods.

Foreign trade.—A common argument for a subsidy is that it will help certain domestic producers compete in foreign markets and will therefore improve the balance of trade and the balance of payments. Several of the tax subsidies in the international area, and some of the direct cash subsidies such as the export payments on agriculture products, are supported on these grounds. Whether these subsidies do actually achieve their objectives, and the economic merit of these objectives, is discussed in detail in the "International Trade" Section of Chapter V.

Price stability.—In an inflationary environment certain subsidies may prove useful in holding down particular prices that for some reason are especially important to keep stable. Such subsidies have not been enacted in the United States, although they are found in certain other countries.

The discussion sketched here has attempted to reduce the scope of what can be considered reasonable economic objectives or arguments for subsidies. Certain failings of the market system that appear not well suited to correction by subsidies, such as public goods and monopoly problems, have been eliminated. Indications are that as yet there are very few subsidies large enough to affect aggregate demand and overall employment significantly. With respect to the objective of redistributing income, there are generally better ways to do this than through a subsidy. A subsidy, on the other hand, if properly designed, is often well suited to reallocating resources in order to improve economic efficiency. The final test of how appropriate a particular subsidy is for achieving any of these objectives depends, of course, on what price and output effects obtain in the private market as a result of the subsidy. The question of these price and output effects is discussed in sections B and C to follow.

B. The Incidence of a Subsidy—Price Effects

A subsidy has both price effects and output effects. The price effects are here referred to as the "incidence" of the subsidy.[4] The output effects, or quantity effects, are discussed in section C below under "The Effectiveness of a Subsidy—Output Effects."

A subsidy may be paid either to those who sell the product or to those who buy it. As we shall see later, it makes no difference, as to the effects on the buyers and sellers, which course is followed unless

---

[4] The linkage of the price effects of a subsidy with the incidence of a subsidy follows the standard terminology employed in the analysis of excise taxes on particular goods and services.

market imperfections arise. If a subsidy of so much per unit is paid to those who sell the product, the normal result is for the market price of the product to decline somewhat, though not by the full amount of the subsidy per unit. If the subsidy is instead paid to those who buy the product, the normal result is for the market price of the subsidized product to rise somewhat, though not by the full amount of the subsidy. In the paragraphs to follow, we shall assume that the subsidy is paid to those who sell the product.

Since such a subsidy, in the normal case, causes the market price of the product to decline by something less than its the full amount, there is obviously something left over for the seller. The seller, usually a business firm, will not be able to keep all of this remainder as an increase in profits. In the standard case he will have to divide this part of the subsidy with the other factors of production: the rental he pays for his building or site, perhaps the wages he pays, and the interest on loans may also increase somewhat. We shall see later why this is likely to be so. Assuming for the moment that it is so, we see that the price effects of a subsidy are divided, first between producers and consumers, and then among the various factors of production engaged in this line of business.

A particular subsidy on a certain product may cause the price of that product to fall almost by the full amount of the subsidy per unit. Very little of the subsidy is then left to divide among the factors of production. Yet the legislator may have intended the subsidy to be one that would benefit chiefly producers, not consumers. And the subsidy in this instance is being paid directly to producers. There are thus three aspects to be distinguished: legislative intent, impact (the place where the subsidy is paid by government), and incidence (what really happens to market prices). The question of intent is considered again below. The point to be made here is that the incidence may very well differ from the impact. The impact is set by law. The subsidy law stipulates to whom the subsidy shall be paid—here, to the producer, not the consumer. Yet the incidence may be almost wholly on the buyer. Note that if the impact were changed, that is if the subsidy were paid to the buyers, the incidence would in principle still be chiefly on the buyers. Changing the impact does not, except for market imperfections, alter the incidence. In the world of subsidies, incidence is something to be sought for; it is a good thing. In the world of taxes, on the other hand, nobody wants the incidence to be on him.

The same remarks apply to a subsidy that is paid as so much per unit of factor sold or factor purchased. The sellers of factors of production are the workers, the lenders, the landlords. The buyer is usually the business firm. Let us suppose that a certain rather narrowly described type of labor is subsidized so much per hour. In practice such a subsidy would probably be paid by government to the purchaser, the business firm, rather than to the seller, the laborer. In this event, what immediate price effects might be expected? In the normal case, the firm would pay a somewhat higher wage for this type of labor, but not higher by the full amount of the subsidy. The firm hiring the labor would not normally be able to keep as profit all that part of the labor subsidy not passed on the workers as higher wages. Competition would force it to relinquish part of this benefit in lower prices for the products that it makes with the aid of this factor. Again, the incidence of the subsidy is divided, between the factor that is being subsidized, the firms that are hiring it, and the consumers of the products that are made with the aid of this factor. The impact of this subsidy, however, is wholly on the business firms.

The price effects of a subsidy, its incidence, are important in determining the degree to which the subsidy redistributes income. This redistribution is one of the justifications given for enacting certain subsidies, as discussed in section A above, and should be evaluated even when it is not used to justify a subsidy. To be sure, the increase in the subsidized industry's output, or the increase in the use of the subsidized factor also has some implications for the distribution of income. The price effect, however, is usually the dominant one for income redistribution.[5]

To make the analysis above more concrete, let us suppose that a subsidy is paid to wool farmers to increase wool production; the impact of this hypothetical subsidy is on wool farmers; they are the initial beneficiaries. But supply and demand conditions in the market for wool, as influenced by the subsidy, would normally force the subsidized wool farmers to relinquish part of the benefit of the subsidy, through a fall in the market price of wool caused by the increase in output induced by the subsidy. The fall in market price will be severe if the increment to output encounters a demand that is not strong enough to absorb it readily. In that event, a large part of the benefit of the subsidy goes to the purchasers of wool and perhaps ultimately to consumers of wool products. The remainder of the subsidy benefit is likely to go in part to farmworkers and other factors of production engaged by the farmer. This occurs because the expansion of wool production is achieved by drawing additional land, labor, and capital from elsewhere into wool production by offering these factors somewhat higher prices for their services. The same higher prices will then be paid to like factors already in the wool-growing industry.

The farmer as entrepeneur and supplier of capital may therefore retain only a part of the subsidy. As a supplier of labor he may retain another part of it.

In the usual case, therefore, the outcome of a subsidy on wool is a spreading of its incidence. The wool farmer obtains somewhat more per bale of wool produced, including the subsidy he is receiving, than he would otherwise; the subsidy paid to him will not be entirely offset

---

[5] For an analysis of the redistributive effects in terms of changes in consumers and producers surpluses, see app. D.

by the consequent fall in price. But more wool is produced, unless production or marketing controls are imposed, than would be produced under no subsidy. Consequently, the prices of wool products will be lower, and the consumer of wool products is thus benefited by the subsidy paid to farmers.

Some of these consumers of wool will be in other countries, if the subsidizing country exports part of its wool. Part of the benefit of the subsidy will therefore accrue to other countries' consumers. Producers of wool abroad, however, will be disadvantaged somewhat. They must now compete with the new low price of the wool that is imported into their countries from the subsidizing country. This foreign-trade aspect of subsidies is discussed in more detail in the International Trade Section of chapter V.

As the discussion above indicates, market forces can thwart the intent of legislators by distributing subsidy benefits in ways not clearly foreseen. A subsidy paid to farmers may be intended to benefit only the farmers and their factors of production by raising the implicit price that the farmer receives for his effort, entrepreneurship, and capital, and by raising the wages of farmworkers and the prices paid for other farm factors. But in fact the subsidy may benefit consumers by causing the market price of the product to decline by a large fraction of the subsidy per unit. In the terminology adopted in Chapter II, a subsidy intended to be a factor-price subsidy turns out to be a consumer-price subsidy.

It is important to note that many farm subsidies, and other subsidies as well, are designed to decrease output of the subsidized economic activity. Farm subsidies accompanied by production controls, as is the case with feed grains and wheat in this country, are good examples. In these cases there will be less spreading of the incidence of the subsidy from its point of impact. The production controls in fact become a second source of subsidy as they themselves raise market prices.

A diagrammatic illustration of how the incidence of a subsidy will commonly be divided between producers and consumers, more or less unevenly, is given in simplified form in figure 4–1. The solid line, SS, represents the cost per unit of producing the various amounts of the product shown on the horizontal axis, in a given time period, when there is no subsidy. This cost is indicated by the height of the supply line above the horizontal axis.

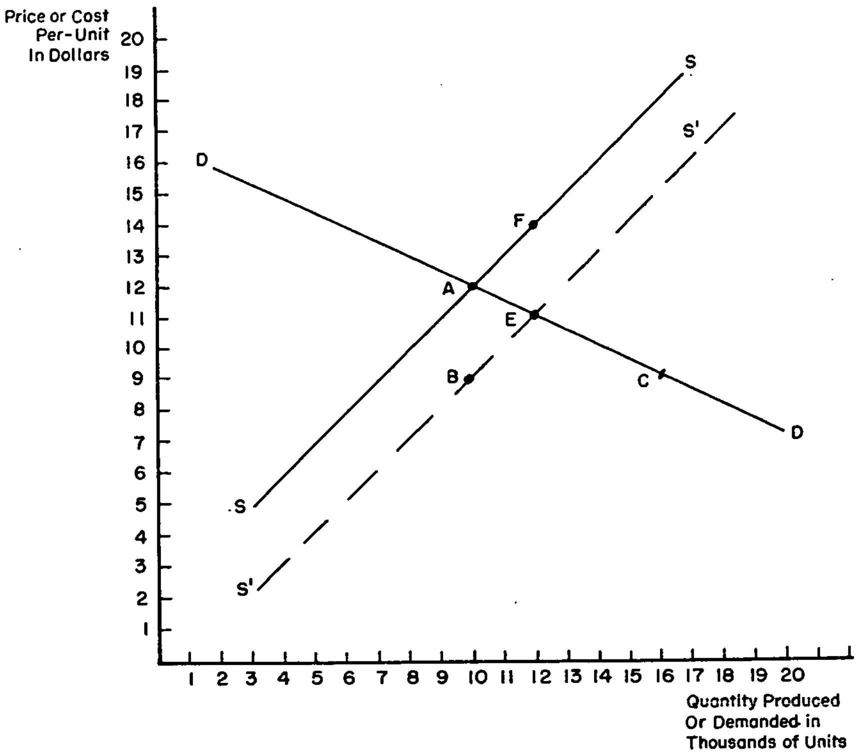


Figure 4-1. Effect of a Per-Unit Subsidy on Price and Output; Normal Case (Subsidy Paid to Producers)

For example, to produce the ten thousandth unit costs $12; to produce the eleven thousandth unit costs $13. Thus the industry is assumed to be operating under increasing cost. Each increment of output, for a given time period, costs more than the preceding one. This may be so partly because the additional land, labor, and other factors of production that must be drawn into the industry are a little less efficient in this particular field than the factors already in there. Or, if these newly entered factors are just as efficient technically—or even, possibly, more efficient—they happen to possess other desirable characteristics, say certain skills, that make them quite valuable to other industries, which will not give them up until their prices (wages, rent, etc.) are bid up considerably by the subsidized industry. Still a third possibility is that the factors already in the industry may be induced to work longer hours, but only at higher rates of pay per hour, and sometimes with decreasing efficiency as the work day is lengthened.[6]

[6] In an extreme case it is impossible to induce any expansion of output at all, no matter how high the price of the product rises. But this is a rare instance (supply is said to be perfectly inelastic) and is therefore examined in app. C. Much the same may be said of the instance where production can be so easily expanded that there is no increase in cost per unit (supply is perfectly elastic), though this is probably less rare than the other extreme case just given. Finally, there are instances where the industry as a whole can produce at lower cost as it expands its output, or where a single firm can achieve economies of scale. These instances, too, are covered in the app. C.

The demand for the product is indicated by the line DD in figure 4–1. This shows the amount of the product consumers are willing to buy at various prices in a certain time period. It assumes that factors other than price having an effect on consumer demand, such as income, tastes, and the prices of related goods, are unchanged during the period of the analysis. The quantity demanded by consumers can be seen by picking a particular price on the Y-axis and reading the graph over and down to determine the quantity that obtains on the X-axis. For example, at a price of $14 consumers will be willing to purchase 6,000 units of the product per year. As price declines, they become willing to buy more. This is the normal case.

In figure 4–1, before a subsidy is introduced, the price will be $12 a unit and 10,000 units will be the rate of production and consumption per year. At this price and this level of production, indicated by point A, the market will continually be cleared; demand at that price will equal supply at that price; and inventories will neither pile up nor melt away as long as these demand and supply (cost) conditions symbolized by DD and SS remain unchanged.

Now let a subsidy of $3 per unit of output be paid by the government to producers. For any given unit of output, indicated by the X-axis, it now costs, net, $3 per unit less than before to produce.

The industry can now produce a ten-thousandth unit at a net cost of $9, as indicated by point B. Other points can be similarly located, each point being just $3 below the corresponding point on the solid SS line. These new points are joined by the broken line, S′S′, which shows the net cost, after the $3 subsidy, of producing the unit indicated on the X-axis.

What happens to this market as a result of the subsidy? If producers were able to lower their price by the full amount of the subsidy, to $9, point C in figure 4–1 tells us that consumers will want to buy 16,000 a year at that price. But the efforts of producers to meet this demand will encounter increasing costs, for the reasons suggested above. Clearly, the industry will not supply the 16,000 units that the consumers would buy, at a price of $9, even when the $3 subsidy is taken into account so that the producers receive a total of $12 for each unit. This is because increasing costs drive the cost of producing the sixteen-thousandth unit to $18, with a net cost after the subsidy of $15, still $3 more than the producer will receive. There is a disequilibrium in the market.

Under the subsidy, the market clears again when the rate of output has been raised from 10,000 units a year to 12,000 units. As indicated by point E, where the demand line intersects the new (subsidized) supply line, consumers will take just 12,000 units if the market price is lowered to $11 (from the initial, no-subsidy market price of $12). And a market price of $11, coupled with a subsidy of $3, just covers the production cost, $14, of the twelve-thousandth unit (point F).

The $3 per unit subsidy, therefore, causes the price to the consumer to fall, not by $3, but by $1, from $12 to $11. The price to the producer, that is market price plus government subsidy, rises by $2 to $14. In this sense the subsidy has been split between buyers (consumers) and sellers (producers) in a 1-to-2 ratio, and output of the subsidized commodity has been expanded, from 10,000 units to 12,000 units. The incidence of the $3 subsidy is $1 on buyers and $2 on sellers.

Expansion of output in this subsidized industry will normally be accomplished, as suggested above, by drawing labor and capital away from other industries, save in the exceptional case where there is so much unemployment and unused capacity of just the right kinds of labor, plant, and equipment that the output of other industries need not be cut back in order to allow output to expand in the subsidized industry. In the usual case, the prices of these factors will be pulled up by this new demand for their use. The $2 of the $3 subsidy that is retained by the sellers is divided among the sellers as entrepreneurs, laborers, and capitalists themselves, and those from whom they hire labor and capital. There is nothing in figure 4–1 to show just how this $2 is thus allocated among the various parties on the supply side. To illustrate such an allocation would require a fairly elaborate specification of the components that go into making up the supply curve. Such an analysis is not attempted here.

There is a repercussion on the product prices of the other, nonsubsidized industries that must be noted. As some of the factors of production are bid away from these industries by the subsidized industry, these other industries correspondingly reduce their outputs. Their marginal costs will have risen. Consumers of their products must now pay more because they will be bidding for reduced outputs. Accordingly, prices of these other, nonsubsidized industries' products will rise somewhat.

In most instances it may be assumed that these other industry effects will be distributed widely among a large number of industries, and that their feedback on the subsidized industry can be disregarded. No single one of these other industries will experience a considerable change in output and employment. At least this is likely to be so if the subsidized industry is but a small part of the total economy. On this same assumption, we neglect the depressing effect on consumption exerted by whatever tax increase is enacted to finance the subsidy. This increment of taxation is not likely to affect the demand curve for this one subsidized industry appreciably. In certain instances, however, these assumptions must not be used because the feedback effects on the subsidized industry will be too important to ignore.[7]

Returning to figure 4–1, we note that the demand curve happens to have been drawn with a gentler slope than the supply curve. In economic terminology, at the point where the lines intersect, demand is more elastic than is the supply. That is, the demand curve is "stretching out" more as price falls than the supply curve is "stretching out" as price falls. This "streching out" is measured by what is called the coefficient of elasticity, which measures, in percentage terms, how responsive the change in the quantity of the good supplied or demanded is to a change in its price. If the coefficient is greater than one, we say that the supply or demand of the good in question is elastic. This means that 1-percent change in price is accompanied by a more than 1-percent change in amount demanded, or amount supplied. The ratio of the percentage change in quantity to the percentage change in price is not just 1 to 1; it is greater than 1 to 1. The

[7] See app. C for a discussion of some of the general equilibrium effects of a subsidy that are relevant to this and the two preceding paragraphs.

quantity supplied or demanded is relatively sensitive to price changes. If the coefficient of elasticity is less than one, we say that the supply or demand is inelastic, or relatively insensitive to price changes. A 1-percent change in price is accompanied by a less than 1-percent change in quantity demanded or supplied.

The degree of elasticity depends on the nature of the product and the characteristics of the production process. Elasticity of demand will be higher the more substitutes that are available for the product in question, and, with some exception, the more uses there are for the product itself, and the larger the proportion of the consumer's income that is spent on the product. Under these circumstances the consumer will usually react strongly to an increase in price by considerably reducing his purchases of this good, or react strongly to a reduction in price by significantly increasing his purchases.

Elasticity of supply, on the other hand, depends upon how the firm's costs change as output is increased, as determined by the technology of the industry, and by how much must be paid to draw factors of production from other industries.

For both demand and supply, elasticity depends also on the length of the time period assumed. The longer the period the more elastic, usually, are both demand and supply; they have more time to adjust.

In the example of figure 4–1, most of the subsidy benefit, $2 out of $3, goes to producers. This is to be expected, since it is the producers' supply curve that is the less elastic, at the initial point of equilibrium. Remember, it pays to be relatively inelastic in the world of subsidies.

There is, in fact, a general rule that is applicable here. The benefit of the per-unit subsidy will be divided, by market forces, between the buyer and the seller in the ratio that the elasticity of the supply curve bears to the elasticity of the demand curve, at the initial point of equilibrium.[8] This can be seen in terms of the example above:

$$\frac{\text{buyer benefit}}{\text{seller benefit}}=\frac{Es}{Ed}=\frac{1}{2}$$

Because supply is relatively inelastic this ratio is low, and most of the subsidy benefit goes to the sellers; price to the buyers is reduced by only a small portion (⅓) of the subsidy. On the other hand, when the elasticity of supply is great, while demand is inelastic, the above ratio will be large, and most of the subsidy benefit will go to the buyers in the form of a price reduction. This rule holds strictly only for a small subsidy, but when the demand and supply curves are straight lines, as in figure 4–1, the ratio found in this manner applies to a subsidy of any size.

The incidence is the same whether the subsidy is paid directly to the sellers, as in the analysis up to this point, or is paid directly to the buyers—the same, that is, in real terms. If the government pays the $3 per unit subsidy to the consumers, the

[8] The elasticity coefficient for either supply or demand is calculated by taking the ratio of the percentage change in quantity to the percentage change in price. The formula is:

$$E=\frac{\%\Delta Q}{\%\Delta P}=\frac{\frac{\Delta Q}{Q}}{\frac{\Delta P}{P}}=\frac{\Delta Q}{\Delta P}\cdot\frac{P}{Q}$$

demand line is moved up, as shown in figures 4–2. Having the additional income of this subsidy, which is received only if spent on the good being subsidized, consumers will be willing to purchase more of the good at every price, or they will be willing to pay more per unit for any given amount of the good. At a market price of $12, consumers, receiving a $3 subsidy on each unit, will now be willing to purchase 16,000 units of the good instead of 10,000, just as they were willing to purchase 16,000 units at a market price of $9 when the subsidy was not being paid directly to them. Joining all such points establishes the new level of consumer demand on line D′D′. While the industry will be anxious to increase production to meet this additional demand, increasing costs of production will cause market price to rise somewhat as output is expanded along the industry's supply curve. A new equilibrium will eventually be established at point E, where market price is $14, effective price to subsidized consumer is $11, and the rate of output has been increased to 12,000 units per year. Producers will expand their output to 12,000 units because $2 of the subsidy has been passed on to them in a higher market price of $14. Consumers will purchase the 12,000 units because, having received the $3 subsidy, they pay a subsidized price of only $11, having retained $1 of the original subsidy benefit.

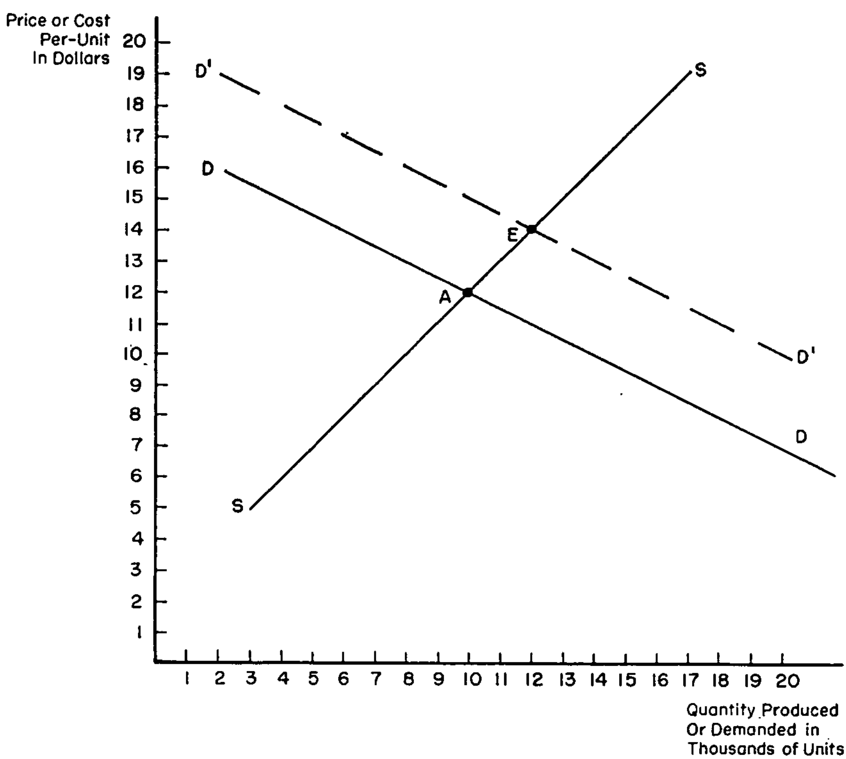


Figure 4-2. Effect of a Per-Unit Subsidy on Price and Output: Normal Case (Subsidy Paid to Buyers)

Note that when the subsidy is paid to the sellers, the market price falls; when it is paid to buyers, the market price rises. While this difference does not affect the incidence, it may be an important consideration with respect to price stability.

This simple model of how the market system controls the incidence of a subsidy is important because it provides an initial explanation of who gets the price benefits of a subsidy. The explanation has been in conceptual terms but estimates of actual market conditions and elasticities can be made for many proposed and existing subsidy programs. While this model is based on the qualifying assumptions that the market is reasonably competitive, that the supply and demand characteristics of the market are "normal," that international effects of a subsidy are not significant, and that the subsidy is small enough that it can be analyzed in partial equilibrium terms, it nevertheless has wide applicability for understanding how market forces will alter the initial impact of a subsidy payment. Those interested in pursuing the incidence of a subsidy if the qualifications above are relaxed may consult appendix C.

C. The Effectiveness of a Subsidy—Output Effects

When we speak about the output or quantity effect of a subsidy, we are referring to the increased production and use of the subsidized good, service, or factor as a result of the subsidy. This output effect is measured in unit sales, not in dollar volume of sales. The dollar volume may rise only because the market price of the item rises in response to a subsidy paid to consumers. What is in question here is not price, but physical units. If the subsidy is paid to the seller, then the dollar volume may be a good indicator of the unit sales. But it is fundamentally physical units, or some output measure related to physical units, that are of interest for the output effect.

The output effect is a measure of the effectiveness of a subsidy in reallocating resources in order to increase economic efficiency. The economic efficiency of the economy may be hampered by the market's inability to allocate resources in a way that yields maximum total output. It is then argued that an optimal subsidy should be injected into the market to correct this situation. A large increase in unit sales is both evidence that the hypothesis about the market imperfection was true and that the market defect was corrected. A very small increase in unit sales is evidence that, from the point of view of economic efficiency alone, the market imperfection was simply not significant. The chief aspect of the alleged market imperfection is to make the distribution of income different from what it would otherwise be; and, correspondingly, a subsidy exerts its chief effect in allocating incomes rather than altering the pattern of resource use.

Output effects may, admittedly, be desired in order to achieve some other economic objective, such as increased exports, or some more or less arbitrary ground not connected with the economist's concept of economic efficiency. A special interest group may persuade legislators to grant a subsidy in the hope that consumption of the industry's product, or use of the subsidized factor, will be greatly expanded. Then the output effect must be estimated carefully, to ascertain whether the aims of this special-interest group can in fact be achieved. Usually, however, a special interest group is more concerned with the price effects; they hope that the rewards of those already in the business will be increased by a subsidy that does not bring with it a fall in market price.

Subsidies for food, medical services, and housing exemplify an assumption that a market imperfection has greatly restricted the quantity of these items that is consumed by low-income households. Subsidies designed to increase the output and use of these items may conveniently be referred to as consumer-use subsidies. Those who support these subsidies on grounds of genuine market imperfection will be correspondingly disappointed if the output effect turns out to be small. They will have been proved mistaken in their appraisal of the market. Of course they may still favor the subsidy on redistributive grounds, but that is another matter.

Obviously, a subsidy will *not* be successful in increasing output in a market where supply and demand conditions prevent singificant increases. This will occur if either the supply or demand of the item is very inelastic.[9] If demand is almost perfectly inelastic, consumers will not significantly expand their purchase of the item as the price to them is lowered. Similarly, if the supply is almost perfectly inelastic, producers will not significantly expand their production as the price they receive (including subsidy) is raised. In either case, output and consumption of the item is not increased significantly.

At this point, let us venture a little into the field of general equilibrium analysis to consider some of the implications of these inelasticities. If demand is inelastic consumers of the subsidized good will themselves spend less on it than under no subsidy. Some of their income is thereby released for expenditure on other nonsubsidized goods, or for saving. The subsidy is partly dissipated—using this term to express the point of view of those who expected a large quantity effect—in spending on those other goods and in saving. Indeed, if the demand proves to be very inelastic, consumers' own expenditure on the subsidized good will be reduced by almost the total amount of the subsidy to the producers. In that case, the government might just as well take the simpler course of paying the consumers a straight cash grant, of the same amount, to be used as they wish.

Figure 4–3 illustrates this case of inelastic demand when the supply is fairly elastic, as shown by supply line S. The market equilibrium before the subsidy is enacted is at point E, where OH is the price of the good, and the quantity purchased at that price is OL. A subsidy of AB per unit is paid to producers, allowing the supply line to shift down to S_1, and causing market price to fall by almost the amount of the subsidy, from OH to OK. But the output purchased by consumers expands only from OL to ON as a result of this price decline. The net effect of the subsidy is to actually induce consumers to decrease their total expenditures on the good.[10]

---

[9] For an explanation of elasticity see section C of this chapter.

[10] Consumers formerly spent an amount equal to the area OHEL (that is the price, OH, times the number of units purchased, OL). Under the subsidy they spend only the area OKGN (the new market price, OK, times the new number of units purchased, ON). The latter area is clearly smaller than the original area. The amount by which it is smaller is shown by taking the subarea KHER, which represents the price saving on the number of units consumers were formerly buying, and subtracting the addition to expenditure on this good reflected by the subarea LRGN, that is, the additional number of units bought, times the new low price.

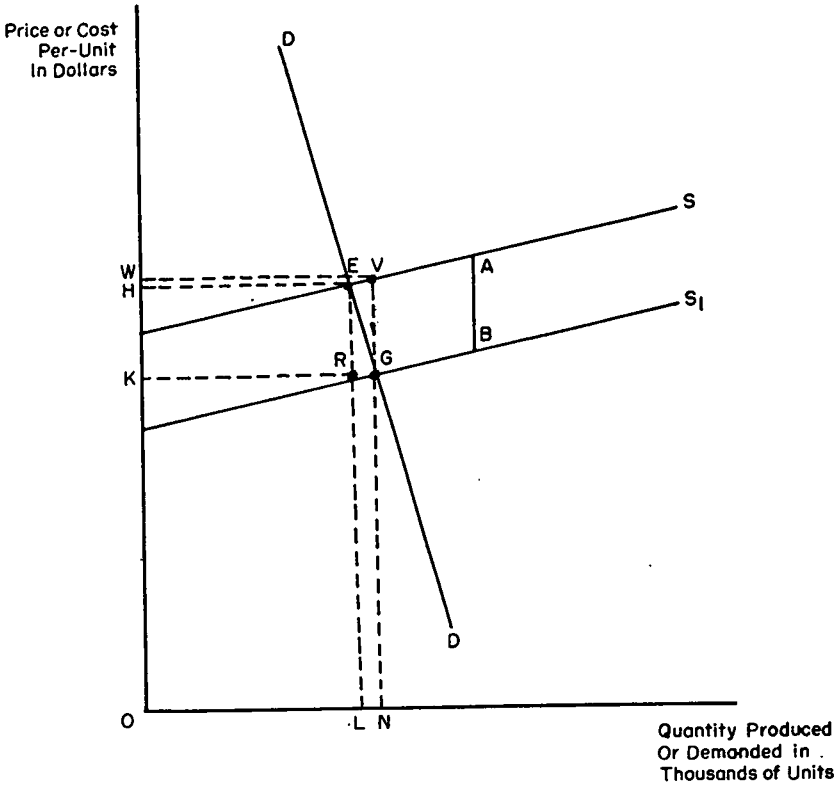


Figure 4-3. Effect of a Per-Unit Subsidy on Price and Output: Inelastic Demand Case (Subsidy Paid to Producers)

Total community spending on this subsidized good of course includes the amount of the subsidy. In the example just given, total community spending on the subsidized good is found by comparing the decrease in consumer spending with the outlay by the Government in subsidy money. The subsidy outlay is just the rate of subsidy per unit, times the number of units bought. In figure 4–3 this is KW (=AB), times KG, which gives the area KWVG. Inspection of the diagram indicates that this area, the amount paid out in subsidy, is only a little larger than the decrease in consumers' own spending on the subsidized goods.[11] Consequently, total community spending on the subsidized good increases slightly, but only because of increased government spending. This result cannot be called encouraging from the policymaker's point of view.

We turn now to the instances of very elastic consumer demand, and deal first with the case where this elasticity cannot induce a large output effect because the supply is inelastic and therefore responds little

[11] This decrease, as noted in the footnote 10, being area KHER minus area LRGN.

to price decreases. An example might be housing in an already built-up section of a city, if we are considering a period of only 1 or 2 years. In the long run, to be sure, the supply of housing in such an area can be increased. Old business buildings and low-rise residential buildings can be demolished, and new high-rise apartment houses can be erected on those sites. But in the short run the supply of housing cannot be increased markedly, no matter how much the cost of building and maintenance are reduced by a subsidy paid to landlords, or no matter how much the demand for housing is strengthened by a rent subsidy paid directly to households.

This case of elastic demand frustrated by inelastic supply is shown in figure 4–4. Market price falls only by HJ, although the subsidy is the much larger amount AB. The number of units purchased expands only from OL to OM. The major shortrun effect is to increase landlords' net incomes greatly because of the subsidy, since the fall in price, JH, is far less than the subsidy per unit, AB. The landlord's total gross income is the sum of the rentals, OJFM, and the subsidy payments, which equal area JTVF. Although the intention of the subsidy in this case was to expand the use of a consumer good, the market conditions are such that government might almost as well have given the producers a simple cash grant.

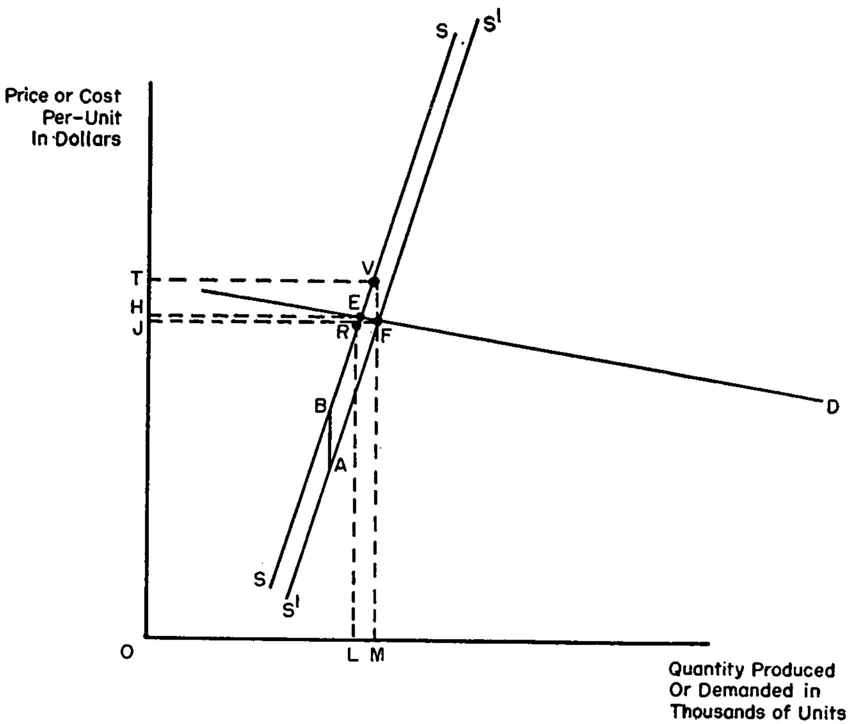


Figure 4-4. Effect of a Per-Unit Subsidy on Price and Output: Inelastic Supply Case (Subsidy Paid to Producers)

Figure 4–4 reminds us that an increase in the amount spent by consumers does not guarantee the success of a consumer-use subsidy. Consumer spending on the subsidized good increases somewhat from OHEL to OJFM. But this is primarily because the decline in consumer price has been especially small, not because the increase in output has been so large.

As the examples up to this point demonstrate, a subsidy that it is hoped will encourage consumption of a particular good may not achieve this aim under certain market conditions. If demand is very inelastic, the effect of the subsidy will be to reduce the price of the good by almost the amount of the subsidy per unit, but not to expand its output and use significantly. The policy action would accomplish little more than the alternative of a simple cash grant to buyers to be spent on anything or saved. If the supply is very inelastic, the effect of the subsidy will be much the same as the alternative of giving the sellers a simple cash grant not tied to increased production of the subsidized good.

A high degree of supply inelasticity, however, is fundamentally a shortrun phenomenon, and this is true not only for something like housing, as indicated above, but for products generally. Given enough time more capital and labor can be moved into the production of the subsidized good. Output will then respond markedly to the lower cost of production. Inelasticity may be only a shortrun affair for demand too, in many instances. A decline in the price of a good may spur consumption very little for a time, but, as those who have hitherto not purchased any of that good learn about it and its new low price, and as those who have been buying some of it get around to readjusting their household spending patterns to include more of it, demand gradually responds to the subsidy. Consumer-use subsidies should therefore not be enacted for short periods only, and the rate of subsidy should not be changed frequently, if the aim of the subsidy is to be fulfilled.

We turn then to cases more typical of the long run, where both demand and supply are moderately elastic in the neighborhood of the initial equilibrium. This outcome is illustrated in figure 4–5. Consumption now increases substantially, while market price declines appreciably. The number of units purchased increases from OL to OM. Price falls by JH, a decline that is considerable, but still a good deal less than the subsidy per unit, AB. Total consumer spending on the subsidized good increases dramatically by an amount equal to LRFM minus JHER. In this instance the increase in consumer spending exceeds the increase in spending that the subsidy itself represents (JWVF). Together, these two increases in spending reflect a substantial diversion of the economy's resources to the production of this good.

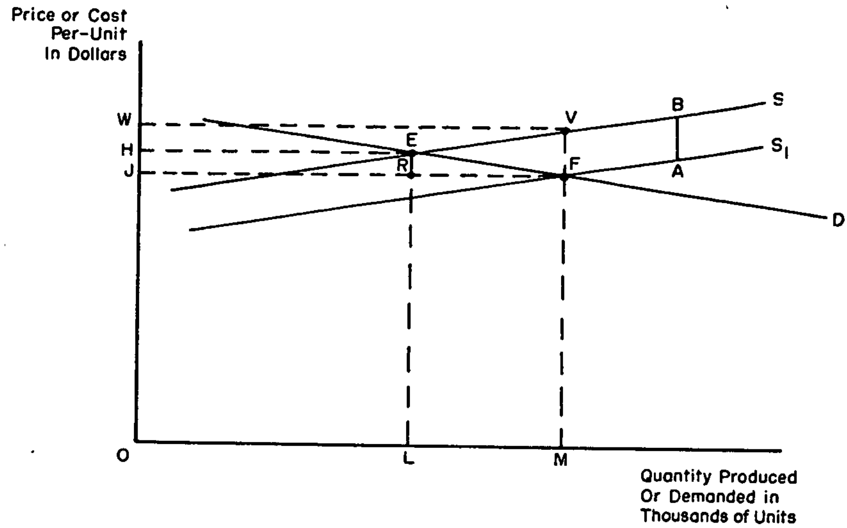


Figure 4-5. Effect of a Per-Unit Subsidy on Price and Output: Elastic Demand and Supply Case (Subsidy Paid to Producers)

A consumer-use subsidy is sometimes opposed on the grounds that it will simply drive up prices of unsubsidized goods. This can happen only if the subsidy results in a decline of consumer spending on the subsidized good as illustrated by the first case discussed above, and not necessarily even then. The decline in consumer spending on the subsidized good releases that amount of their income for spending on unsubsidized goods, or for saving. Normally some part will indeed be spent on unsubsidized goods, but this will not drive the prices of those goods up if they are in perfectly elastic supply for the range of increase in purchase. Since this range is likely to be small, something approaching perfect elasticity of supply may well obtain. In other words, consumers of the subsidized product who decrease their total spending on that product will normally scatter this released spending power among a large number of the unsubsidized goods. Their increased demand for any one good is not likely to be great, and within this modest increase in numbers of units demanded, the industries may very well be able to meet the demand by production at no higher unit cost than before.

There can be important exceptions to this conclusion, however. An example would be a group of very low-income households that were spending almost their entire income on food, clothing, and housing. Let their food purchases be subsidized, as under a food stamp program. Since their demand for food will probably be somewhat inelastic, and since their added purchases of food could hardly put the price of foodstuffs up, they would find part of their incomes released for spending elsewhere. That part of their released income spent on additional clothing will presumably have no effect on the price of clothing, since the supply of clothing can be expanded easily. But that part of their released income that is spent on housing might well be dissipated in bidding for an inelastic supply of housing. Housing rentals would rise in the short run. These low-income households might be able to bid some housing space away from families that were not under the food subsidy program. Thus the food subsidy might cause some rise in the price of housing, and some reallocation of the existing stock of housing among families, in the short run.

To make this kind of analysis complete, where economywide effects are being observed, account should be taken of the depressing effect on consumption that would be exerted by the taxes levied to finance the food subsidy program. The effects depend on the kind of taxation assumed for this purpose. In any event, prices would rise by less than indicated immediately above.

A very elastic demand for the subsidized good is evidently a good thing from the viewpoint of the expanded output and use of a consumer good. Two important qualifications must be made to this conclusion, however.

First, a very elastic demand for a particular good usually implies that the consumer has good substitutes available which he will buy if the price of the good goes up. Two slightly different types of writing paper would be an example, or even two things that are quite different technically, but that serve the same end for the consumer, as, for example, writing materials and the telephone. In these cases the subsidized good will be purchased in a greater quantity only because the substitute good is purchased in a smaller quantity. Has the Government then gained much, in its policy aims? Two goods that are close substitutes serve much the same purpose, and there may be little point to encouraging the consumption of one at the expense of the other. If a government subsidized telephone calls to relatives in an effort to strengthen the family, a consequent increase in telephone calls would be offset partly by a decrease in letter writing, and the net gain in family solidarity would be smaller than the response to the subsidy would suggest. Everything depends, however, on the end to be achieved. If Government subsidizes the first-class postal service in order to promote literacy, and if an increase in letter writing is partly at the expense of a decrease in telephone calls, this kind of substitution does not impair achievement of the government's goal. These somewhat fanciful examples simply indicate that each case of elastic demand must be studied by itself.

Sometimes, as the literacy case illustrates, what is a good substitute from the consumer's point of view is not a good substitute to the policymaker. As a further illustration of this point, we note that a subsidy on the consumption of milk may reduce children's consumption of soft drinks or even coffee or alcohol, and this shift in consumption will not dismay the policymaker, although to these particular consumers, soft drinks, coffee, or even alcohol are a fair substitute for milk. Demand for the subsidized article is elastic because there are good substitutes for it from the consumer's point of view, but the policymaker is not disturbed because from his point of view the unsubsidized items are not good substitutes.

The second qualification to the conclusion that a very elastic demand makes the commodity a good one to subsidize for expanded consumer use is that the susbidy must not be limited to an amount of the good that the consumer is already buying. If the subsidy is limited to such an amount, or to a smaller amount, it does not reduce the price to the consumer of additional units of the good beyond what he had already been buying. A food stamp program that subsidizes for any one good an amount of food smaller than that they have been buying anyway, will have no direct effect on this family's consumption of food. That family will have some income released by the subsidy to spend on anything, or to save, and it may spend a little of it on food, but that will have to be at an unsubsidized price. Such a closed-end subsidy has just the same effect as a simple cash grant. This would be the case with the ordinary food stamp program if it were granted to middle-income or high-income families.

If the intent of the subsidy is primarily to increase the use of a certain factor of production, no matter what industry it may be in—say, machinery and other equipment—the supply and demand analysis given above for consumer goods is applicable, except that the purchasers are business firms instead of households, and the thing subsidized is a producers good or other factor of production, not a consumers good. If the factor is elastic in supply, and if the business world's demand for it is elastic, the subsidy will prove successful in increasing use of the factor.

The conditions under which these factor elasticities are large are partly matters of technology and environment, and partly economic matters: expense of the factor per unit of product relative to total expense of poduction, supply conditions of rival factors, and of complementary factors, and elasticity of demand for the final product, to name only some of the more important. Each instance becomes a special case.

Otherwise, the conclusions reached above for consumer-use subsidies can be applied to factor-use subsidies and need not be repeated here.

If government wishes to further expand the use of an already subsidized consumer good or factor of production, over what would be obtained in the examples above, government need only increase the rate of subsidy per unit. If, for simplicity, we suppose that the industry produces at constant cost, the consumer-use subsidy per unit can be expressed as a percentage of that unit cost. If the rate of subsidy is raised greatly, it approaches the cost of production: it equals, say 90 percent of the cost. But it is still no different in principle from what it was at 10 percent of the cost. The good is still produced in and sold by the private sector. Consumers are rationed in their consumption of the good by the price, although the rationing is indeed not very rigorous when the price has been driven down to 10 percent of its unsubsidized level.

If we imagine the subsidy to increase to 99 percent, and if price is still the only rationing instrument, consumption expands to nearly the saturation point, beyond which consumers will refuse to take any additional amount of the good even if it is offered free of charge. For reasons given earlier, the increase in amount taken per dollar decline in price, will have slowed up greatly before the 99 percent subsidy is reached. At 100 percent the subsidy is no longer a subsidy; the government is simply distributing the goods free of charge.

But this transition hardly ever takes place. The goods and services that government dispenses free of charge are scarcely ever supplied up to the saturation point. Instead, governments ration these free services through the use of administrative rules: so many hours of schooling a day, so many days a year; a certain number of garbage and refuse pickups a week, and so on. And where the amount offered is ostensibly unlimited, as with free medical service in certain countries, the consumer must often wait in a queue a considerable length of time unless his case is urgent.

In practice then, governments ration either directly, as with the free services just mentioned, or through the pricing system of the private sector where the subsidy does not form so large a part of cost that the consumer can buy all he wants at a price near zero. The distinction between the 99 percent subsidy and the free service, both without direct rationing or queuing, does not exist in the real world.

The simple models we have described here illustrate the principle that market conditions must be taken into account when creating and evaluating subsidies that are designed to increase the output and use of a particular good or factor. A subsidy is said to be effective when it brings about additional utilization by the private sector so as to increase economic efficiency. While these models are based on the same qualifying assumptions used in "Section C—Incidence of Subsidy Benefits," they still have wide applicability for understanding the impact of subsidy payments on resource allocation. Those interested in pursuing the effectiveness of a subsidy if these simplifying assmuptions are relaxed may consult appendix C.

D. Cost of Subsidies

The benefits to be obtained from a subsidy, either through its price effects or output effects described in sections B and C above, are obtainable only at a cost. This cost is composed of three elements.

First, there is the budgetary cost, the amount of money government pays out in subsidy, less a certain amount of automatic recoupment that occurs as the existing tax system captures part of the increase in wages, profits, and rents that the subsidy creates. The gross budgetary cost, the amount paid out, is thus reduced to a net budgetary cost through this automatic partial recoupment. We may call this the net income transfer cost.

Second, there is a budgetary administratve cost, the cost of administering the subsidy and administering whatever tax or tax increase is imposed to finance the subsidy. Administrative effort uses up manpower and other resources, unlike the transfer aspect of subsidy costs, which represents the transfer of money from one group (taxpayers) to another group (subsidy beneficiaries). In this sense, the administrative costs are real costs to the economy while the transfer costs are not.

Third, the taxes used to finance the subsidy almost surely impede somewhat the efficient use of resources in the private sector. Persons and firms consume and produce in patterns and by methods that they would prefer not to adopt, but do adopt just in order to minimize their tax bills. The loss in consumer satisfaction and in productive efficiency that result from being thus induced to act in nonpreferred ways is, in the economist's term, an "excess burden." [12] Such a burden is an efficiency loss and represents an unproductive use of real national income.

It must of course be noted that subsidy recipients are induced by a subsidy to take actions other than those they would have chosen, just in order to qualify for the subsidy. But such action is desirable as part of the Government's overall plan, while tax-reducing actions by households and business firms are certainly not part of what is desired. Therefore the two sets of reactions are not on a par: one is desired, the other is not. The desired reaction, instead of creating an excess burden, increases the real national income if policy makers have made the correct economic judgments. The undesired reaction, that taken by tax-minimizing households and firms, reduces the real national income by inducing resort to relatively inefficient methods of production and less satisfying patterns of consumption. It is possible of course for a subsidy to create an excess burden, though in a reverse direction, if it is handed out with insufficient attention given to actually correcting a legitimate market imperfection, or corrects a market imperfection only by bringing about other economic distortions.[13]

The question now arises, should the Congressman or other policymaker add all three elements of cost given above, to get a total cost that is meaningful? Should he add the budget cost of net income transfers to the budgetary administrative cost and the excess burden cost? Or should he keep the net income transfer cost separate, as being not a cost in sense of using economic resources, but a transfer cost between two groups within the economy, and obtain the resource cost to the economy by adding only the administrative costs and the excess burden costs?

A good rule to start with is that the two kinds of cost should be kept separate and not added, but the problem is a bit more complex than this. The basic rule reflects the fact that the net income transfer cost is not in itself a drain on the economy's real resources of manpower, raw materials, and the like. It is, instead, a political cost in the sense that somebody, initially at least, is made worse off—he who pays more in tax than he receives in benefit from the subsidy—while somebody else is being made better off at his expense.

Even ths political cost can in principle, though hardly in practice, be wiped out if the subsidy is one that is designed to reallocate resources to make good some market imperfections, and thus increase the total real output of the economy by moving manpower, materials, and equipment into industries and places where they will be more efficient than if left to the free play of the market. Those who lose initially by the subsidy and the tax to finance it could, in principle, be compensated from this extra lump of national income with some left over to make some persons real net beneficiaries of the process. In practice, no such compensation is likely to be made, at least not completely, and so a political cost remains.

If the subsidy is used clearly for redistributive purposes and not to remedy a market imperfection, the political cost of the net income

---

[12] Ironically enough, taxpayers in the aggregate do not after all succeed in reducing their tax bill, despite recourse to tax-saving methods of consumption or production. The Government, requiring a certain amount of money, simply sets the tax rate high enough to bring in the needed revenue despite the tax-reducing actions taken by taxpayers.

[13] See, for example, Charles Schultze, "The Distribution of Farm Subsidies," The Brookings Institution (1971), app. A.

transfer becomes serious. Now there is no increase in the national income and there can be no question of compensating those who are made worse off by the subsidy-tax combination. To be sure, we might conceive of this redistribution of income as being a real good if those who have to give up some income under it are found quite willing to do so for the ethical and other intangible advantages that they see in a more equitable distribution of income. No doubt there is a certain amount of this feeling. But it would be nieve to claim that this largely explains why redistributive subsidies are enacted.

Under a redistributive subsidy, therefore, the policymaker must weigh the costs of discontent aroused in one group against the benefit accruing to the subsidized group and strike some kind of a balance, positive or negative. Alternatively, he can keep these two items separate and simply add to the real costs of administration and of excess burden something to account for the discontent of the taxpayers, to get a total cost to offset against the satisfactions received by the beneficiaries of the subsidy. It will still be somewhat like adding apples and oranges, to add the real costs of administration and the excess burden that diminishes the effectiveness of the economy as a whole, and the income transfer costs, reflected here as political costs, of those who are definitely made worse off by the subsidy with its supporting tax. But the policymaker obviously cannot ignore the costs of these income transfers in the circumstances outlined.

The efficiency loss that arises from the excess burden of a tax is difficult to compute in terms of dollars, but some rough estimates can be made. The technique of constructing such money estimates of excess burden will not be reproduced here.

Moreover, the intensive study of subsidies, as contrasted with the study of taxes, is still so much in the beginning stage that the present study can do little more, quantitatively, than present data on the gross budgetary costs without allowance even for recoupment of part of the subsidy through the existing tax system and without explicit data on the cost of administering the subsidy and taxes to finance it. Later in the chapter we do discuss under what conditions a portion of the gross budgetary costs are recouped.

Data on the gross budgetary costs are presented in chapter V below. Even there we encounter difficulties in those cases where the subsidy does not take the form of a direct cash outlay, but is instead effected through tax privileges, guarantees, loans at low rates of interest, and similar non-cash-payment techniques.

In the simplest form of subsidy, a cash outlay, there is little difficulty in measuring the gross budgetary cost. Details of payment procedure will not be covered in the present study. We therefore pass on to other financial forms of subsidy, where truly difficult conceptual issues arise in defining and computing the direct money cost of the subsidy. The first to be considered is the tax reduction subsidy.

The direct cost of a tax-reduction type of subsidy is simple to compute when that subsidy takes the form of a tax credit. (See ch. III, sec. B). The specified rate of subsidy is simply applied to the particular expenditure or other subsidy base, as with the recent investment credit in the United States where the income tax otherwise due was reduced by 7 percent of the cost of the eligible asset.

But if the tax subsidy takes the form of a deduction from taxable income, the computation of the subsidy cost is by no means straightforward.

First, the rate of tax to be used in computing the cost of the tax subsidy is not, as at first might be thought, the tax rate that is in effect under the subsidy. At least this is so if the tax rate has been raised in order to make good the loss of revenue occasioned by the tax subsidy. A simple example will illustrate this point.

In an economy of two taxpayers, A and B, each with $1,000 taxable income, for a total tax base of $2,000, let the Government initially impose a 20 percent rate of income tax to receive a total revenue of $400 ($200 from A, $200 from B). Now let a deduction be allowed to A for a charitable contribution of $400. His taxable income becomes $600 and the corresponding tax payment is $120. The aggregate of tax receipts for A and B is now only $320. The revenue loss from allowing deduction for charitable contributions is $80, that is 20 percent of the $400 of deductions.

To make up that revenue loss, however, the Government must raise the income tax rate to 25 percent. This is because the deduction has reduced the tax base from $2,000 to $1,600 and, with this new base, $400 of total tax receipts can only be raised with a 25-percent tax rate. This new rate is not appropriate for calculating the cost of the subsidy, however, because 25 percent of $400 would overestimate the revenue loss by $20.

In general, then, to compute the cost of this kind of a tax subsidy the tax rate to be applied to the amount of the deductible item is not the one that exists when that item is deductible and the Government has made up the revenue loss by raising the tax rate, but is instead the tax rates that would have existed before the item was deductible. The Federal Government's loss from the provision for such a deduction in its income tax law is overstated if it is estimated by applying to the aggregate of such deductions a weighted average rate computed from the existing income tax rate scale. This is true unless one is willing to assume that the elimination of such provisions, which involve a considerable amount of tax revenue, would not be accompanied by a lowering of the income tax rate schedule that reduces the tax base. This assumption seems not very useful since the main argument for eliminating this or other tax subsidies is that the rate schedule could thereby be lowered, with consequently better, and fairer, treatment of those who do not avail themselves of these tax-reduction subsidies.[14]

---

[14] It is possible to find the true cost of a tax-reduction subsidy of the deduction type of a single-rate income tax, even if we are not given the initial tax rate, by using the following formula. In this formula, r_s stands for the higher tax rate that is in force under the subsidy to make up the revenue loss occasioned by the subsidy, d_a is the deduction allowed to taxpayer A for the charitable contribution (or whatever else it may be), y_a is the taxable income of *A* before subtracting the deduction for charitable contribution, and y_b is the taxable income of *B*. It can be shown that the cost to the Government, in lost revenue, of the tax-reduction subsidy—this loss being denoted here by C_s—is :

For example, in the numerical example above, we have

$$C_s = \frac{d_a r_s (y_a - d_a + y_b)}{y_a + y_b}$$

$$C_s = \frac{[(400)(.25)][1{,}000 - 400 + 1{,}000]}{1{,}000 + 1{,}000} = 80$$

The derivation of this formula is given in the compendium volume to follow this study in Carl S. Shoup, "The Economic Theory of Subsidy Payments."

If the income tax rate scale is progressive, as it usually is, more than one bracket rate will have to be used to compute the revenue loss from the tax subsidy whenever the amount deducted is large enough to pull taxable income down into a lower rate marginal bracket. And recall that it is the rate schedule that applied before the deduction was allowed that is the one to utilize.

Credit subsidies pose even more complex problems of cost measurement than tax reduction subsidies, except for the simple cash payment to the lender. The other four types of credit subsidy (see ch. III, sec. C), usually do not appear in government accounts as items swelling total expenditures.

In the case of a low-interest loan, the direct cost to the Government is the amount by which the interest rate it charges falls short of the interest rate it has to pay in the market. For example, suppose that the borrower would have to pay 12 percent on the market while the Government lends to him at only 2 percent, and itself borrows from the market at 6 percent. The cost of the credit subsidy for the Government is 4 percent (6 percent less 2 percent). The benefit to the borrower, however, is in this instance 10 percent (12 percent, less 2 percent). Evidently the benefit to the borrower can be greater (or less) than the cost to the Government.

The cost to the Government in this example is 4 percent a year for as many years as the loan is outstanding. But this series of annual costs can be lumped into one larger figure for the year in which the loan is made. No entry for cost to government need then be made in the later years. The procedure to be adopted is as follows. Let us suppose that the loan is $100,000, to be repaid at the end of 10 years. Each year the Government is receiving only $2,000 a year interest. At the end of the 10th year it gets back the principal of $100,000. Meanwhile, the Government is having to borrow at a cost of $6,000 a year. The series of 10 yearly losses of $4,000 a year can be stated in terms of the present value of $4,000 a year for 10 years at 6 percent. The total money loss over the 10 years is of course $40,000, but the capitalized value of this stream of payments is less because of forgone interest payments over that time period: it comes to approximately $29,600. It will therefore be proper to enter in the Government's budget for the first year of the loan a total item of $29,600 as a credit subsidy.[15]

This procedure of estimating the capitalized value of the series of interest subsidies over the life of the loan has the advantage of making it perfectly clear, at once, just how much the subsidy actually costs the Government.[16]

A Government guarantee of a loan from one part of the private sector to another poses an even more difficult problem for estimating the direct cost of the subsidy. One method of computing the cost is

---

[15] The calculation of present value and the capitalized value of a stream of payments is explained in most elementary textbooks on economics. See, for example, Alchean and Allen, "University Economics." (California Wadsworth, 2d Ed.), pp. 206–209.

[16] An alternative method of entering the low-interest subsidy in the budget openly is to do it year by year. In each of the 10 years, in the example above, the Government's accounts would show an imputed expense of $4,000. It would match this by an imputed interest receipt of the same amount on the receipts side. It would then be just as if, each year, the borrower actually paid the Government $6,000 interest, and the Government turned right around and gave $4,000 of it back to the borrower. The disadvantage of this method is that it does not show, in the year the loan is made, the present value of the sacrifices that the Government is going to incur over the 10 years. This fact is particularly important if the loan is for a long period of time and if public attention is centered only on the interest subsidy for the first year or so.

simply to wait, and enter as an expense, the payment Government has to make because of the guarantee, in the year when it occurs. No such payment may ever be required in many cases, depending on the kind of loan that is being guaranteed. In principle, it seems more informative to adopt another method, namely, to estimate the average default to be expected and enter it for each loan as an expense in the year of guarantee. Better yet in principle, but inapplicable in practice, would be an estimate of what the taxpayers would be willing to pay to get out from under the obligation of the guarantee.

Loan insurance, as distinct from a guarantee, may cause no subsidy cost at all to the Government if the premiums that commonly go with insurance are enough to cover the average loss. But if they fall short of this there is of course a corresponding subsidy being given by the Government.

Finally, a "soft loan" supplies the most difficult problem of all for estimating the direct cost to the Government of the subsidy that is implicit in such a loan. A soft loan is one that no private sector lender would make at any interest rate because of the high risk of default. In principle, the direct cost to the Government is again what the taxpayers would be willing to pay to be free of this loan venture. More practically, a bad-debt reserve must be set up in the year the loan is made and entered as an expenditure in the Government's accounts for that year. If instead no entry is made until default occurs—as it probably, but not surely, will—the cost will not show up at that time as a Government outlay under usual methods of Government accounting. It will instead be reflected in a lower level of interest receipts or capital receipts than would otherwise obtain. It will be correspondingly less likely to be noticed than if it were entered as an expense. To so enter it in the year of default, the amount of the default must be counted as an imputed outlay and this must be matched by a corresponding entry on the receipts side for an imputed receipt. It is again as if the defaulting debtor had paid on schedule and the Government had given the money back to him.

Three other kinds of subsidies pose problems of their own for estimating the gross budgetary cost to the Government.

A benefit-in-kind subsidy exists when the Government sells a good or service to the private sector at a price below cost or market value. The amount of the subsidy in kind is that part of the cost that is not covered by the price. The chief difficulty in estimating the direct cost of this subsidy is the common problem of allocating overhead and similar costs to the item in question to obtain a figure from which the Government's receipts from sales of the item can be subtracted.

A purchase subsidy occurs when the Government intentionally pays either a producer or factor owner more for a good or factor than the market price. The cash outlay cost of such a subsidy is that portion of the Government payment, calculated on either a per unit or aggregate basis, that exceeds what the Government would have to pay without the Government purchases. The chief difficulty in estimating the costs of these subsidies is factoring out Government effects on market supply and demand, pre-subsidy, in order to obtain "true" market prices.

Regulatory subsidies too involve an allocation problem. How are we to compute the amount by which one group of consumers of a certain privately supplied service subsidizes another group of consumers of the same service, served by the same private-sector firm? A telephone company for example, although not losing money on its entire operations, may, owing in part to Government regulatory practices, be maintaining service to some customers at rates that do not cover the costs of serving these customers and making up the loss by charging other customers more than cost. The chief problem here is how to allocate the relevant overhead and other common costs among the different services.

After considering how to estimate the gross budgetary costs of the subsidy, one should turn to the related problem of how much of this cost is automatically recouped through the tax system. This depends upon the financial form used to grant the subsidy.

Part of a straight cash subsidy may be recouped by the Government in the form of an automatic increase in tax revenue as the subsidy proceeds become taxable, or as the profits, wages or rent they give rise to become taxable. Accordingly, the subsidy can then be financed by a somewhat smaller increase in tax rates or introduction of new taxes than if there were no automatic recoupment at all. Another way to put it is that the subsidy, in the aggregate and over a period of years, may not be quite as large as it looks since a portion of it may be recouped by the existing tax system. The recoupment may come from others than the original recipient of the subsidy, such as those whose profits or wages have increased by doing business with the subsidized firm or household.

This recoupment will be small or even negligible in some types of subsidy. An example is a per unit subsidy paid to producers of a consumer good that with a fairly inelastic demand and a very elastic supply.[17] The market price falls by almost the full amount of the subsidy per unit and total factor income (wages, profits, rents) of the subsidized industry increases very little. The fall in price offsets the increase in factor income brought about by the subsidy. There can be little recoupment in the form of increased tax revenue from factor income. The real income of consumers will increase as a result of the pure decline, but such changes in income are by and large not a deductible item in computing taxable income and hence there will be no increased tax revenue from this sector either.

A contrasting case where recoupment may be appreciable occurs when the demand for a subsidized consumer good is fairly elastic, while the supply is very inelastic. Now the market price declines very little when the subsidy is paid directly to the business firm. The amount sold, as in the previous example, increases very little. Almost all of the subsidy payment is kept by the factors of production in the subsidized industry instead of being relinquished to the consumers in the form of lower market prices. As the subsidy payments will presumably be included in the firms' gross incomes from which taxable net income is computed, their income tax bills will be correspondingly larger. The amount of the subsidy so recouped in this extreme case, will be almost one-half if the business income tax rate is 50 percent.

As these examples show, recoupment of some part of the subsidy through an automatic increase in revenues from a business income

[17] For an explanation of elasticity see sec. C of this chapter.

tax will depend on the elasticities of demand and supply, and may be expected to vary greatly from one sector of the economy to another. On the whole recoupment may occur often enough and in appreciable enough quantities to warrant some consideration when planning a subsidy program and estimating its direct cost. But its role should not be exaggerated.[18]

A tax reduction subsidy too can be recouped in part, under special circumstances. The 7 percent investment credit of the late 1960's did allow for some recoupment in its first version. In this version, the purchaser of a long-lived machine costing $100,000 was allowed a credit of $7,000 against his income tax in the year of purchase. But when he came to compute depreciation on the machine—say straight-line depreciation for a life of 10 years—he found that the law allowed him to deduct not one-tenth of $100,000, or $10,000 depreciation, but only one-tenth of $93,300. At an income tax rate of 50 percent, he lost thereby 50 percent of $10,000 minus $9,300, that is, $350 in that first year alone. This was because the investment credit was deemed to reduce the true cost of the machine to him by $7,000. In succeeding years he sustained a similar loss on income tax, by having his taxable base, after depreciation, somewhat larger than it would have been otherwise. Thus, a part of what the Government gave in the investment credit was recouped automatically by the reduction in allowable depreciation. The business community protested so vigorously against this particular recoupment that the law was soon changed to allow depreciation to be based on the purchase price, rather than on purchase price less the investment credit.

Accelerated depreciation is another special case. It provides a large subsidy that is effective over the early years of the life of the asset. This increase in depreciation taken in the early years is exactly offset by the decrease in depreciation in the later years; of course it means more to have the depreciation in the early years because of interest saved on the tax that now does not become due until later. One way of looking at this to say that there is a tax subsidy in the early years, followed by a partial recoupment in the later years of the asset's life—partial, because a dollar some years from now is not worth as much as a dollar now.

A tax subsidy will have no recoupment effect at all if the item in question, allowed as a special deduction to the business firm, is not taxable at all by those who receive the subsidy. An example is a gift to charity by a corporation. This is deductible by the corporation and is therefore a subsidy to the giving of such contributions, since it is not an ordinary and necessary expense of doing business that should be deductible in any case. But since the Federal Government does not tax the charitable organization that receives this money from the corporation, there is no recoupment.

The amount of the recoupment with a tax subsidy, where there is any, depends upon elasticities of demand and supply, just as it does for the cash subsidies. This is also true for credit subsidies, which are not elaborated upon here because the recoupment effects appear to be relatively minor in most cases.

---

[18] The examples above can be supplemented by illustrations that use a subsidy on producer goods rather than on consumer goods, and the analysis becomes more complex, but the general significance of recoupment of a direct cash subsidy is not much changed by this additional analysis.

In general, and for all subsidies taken together, automatic recoupment must be considered in planning the subsidy but should not be used as a justification for a subsidy. Since a subsidy transfers income from one area of the economy to another, the increase in tax receipts from one sector is the result of decreases in tax receipts from some other sector. Recoupment is therefore a money transfer that has nothing to do with any real economic benefits. Again, subsidies should be justified economically in terms of their direct effects on private market behavior and increases in real social welfare.

E. The Evaluation of Subsidies

Evaluation of a subsidy implies some comparison, however rough, of its costs with its benefits. The comparison must be made both with respect to (1) the total benefit of the subsidy and its total costs and (2) the last increment of the subsidy's benefit and the corresponding costs, or what we may refer to as its marginal costs and benefits. A subsidy may be showing an overall excess of benefit over cost yet may be partially wasteful in that it has been pushed somewhat too far and could be cut back somewhat with a decrease of cost greater than the decrease in benefit. On the other hand, a subsidy may be likewise showing an excess of total benefit over total cost yet be too small; perhaps an increase of a certain amount in the subsidy would bring an increment of benefit that would exceed this increment in cost. If this is so, efficiency would dictate that the subsidy be increased to the point where one more unit of subsidy does so little good that the cost of that increment of the subsidy exceeds the increment of benefit obtained. This marginal analysis is essential in evaluating any subsidy.

A second test, partly implied in the first, is that the subsidy be the most efficient way of obtaining the desired end. Although it may show an excess of benefit over cost, some other approach—direct free government distribution of the good, for example—may exhibit a still better relationship of benefit to cost. In that event the subsidy is relatively inefficient.

Here, in considering alternative ways of getting much the same benefit, the distinction made above between various methods of rationing proves important. Rationing by the price mechanism may be thought to put too little of the subsidized good in the hands of very low-income households even when the subsidy has reduced the market price considerably. To reduce the market price even more however, by a still larger subsidy, might expand use of the good by middle- and upper-income households so much further that the additional total cost of getting more consumption of the good by low-income households would be quite unacceptable. Direct rationing of some kind might therefore be deemed necessary in place of sole reliance on a subsidy. Certain types of medical care may illustrate this point. On the other hand, rationing by direct control may be considered too open to abuse by favoritism, or too cumbersome, and queuing might be thought unfair to those whose job demands, age or health make participating in a queue very difficult. In this event, a subsidy may show a larger surplus of social benefits over social costs than either direct rationing or queuing.

A subsidy's benefits may come chiefly through its output effects or chiefly through its price effects. Generally, though not always, the output effects are the ones to look at if an increase in economic efficiency through reallocation of the economy's resources is the important goal, while the prices effects are the more significant if the proximate goal is income redistribution. This point is important enough to warrant some further discussion, together with some recapitulation of conclusions reached in earlier sections of this analysis.

The market price effect of a subsidy paid by government directly to the producer or the factor of production is to lower the market price of the product to the purchaser or, for the factor, to lower the market price that the firm pays for it. In this last case, the usual consequence under competition will be for the market price of the product that is made with the help of this factor to decrease too. If, however, the factor's rate of reward is to be increased as a means of income redistribution, it must be able to keep the subsidy without having its market price reduced by the full amount of the subsidy. For example, if a subsidy of 50 cents an hour is paid to low-wage labor that has been getting only $1 an hour, these workers will obviously be no better off than before it competition among them forces the market rate of wage down to 50 cents an hour, so that their total reward is still only $1 an hour. If there is a strong price effect when a subsidy is paid directly to factors of production, those factors gain correspondingly little from the subsidy. If government pays the 50-cents-an-hour labor subsidy directly to the employer, instead of to the laborer, and if the employers continue to pay the laborer a market wage of only $1 an hour, the workers have obviously gained nothing from the subsidy. In this case there is no market-price effect and the workers again do not benefit. Obviously, policy aims to redistribute income to workers must have price effects the opposite to those described above.

If the desired redistribution of income is to be achieved by favoring consumers through subsidies per unit of product, an analogous rule holds. If the subsidy is being paid to the business firm, rather than to the consumer, there must be a strong market price effect to achieve this kind of redistribution. If instead, the subsidy is being paid directly to the consumer, there must be no market price effect since that effect, if any, will now be to raise the market price owing to the fact that consumers, fortified with the subsidy money paid directly to them, will bid more strenuously against one another for the good in question.

If the redistribution is intended to favor the firm the reverse of the above rules of course apply. Accordingly, to interpret the market price effects of any given subsidy, we must know whether government is paying the subsidy directly to the sellers or directly to the buyers.

If the chief goal of the subsidy is an increase in the efficiency of the economic system, through a reallocation of resources among industries, the quantity effects must be substantial. Outputs in some industries must increase, and in others decrease, or various types of factors must be moved around among industries. Generally, product output and factor use in the subsidized industries must increase and in all other industries decrease. If in fact the subsidy exerts chiefly price effects, and little or no quantity effects, it accomplishes little in reallocating resources. This fact indicates that there was indeed little need for such reallocation, in the efficiency sense, and this question is correspondingly of less significance than might at first have been supposed when the elasticities had not yet been revealed.

Economic growth is similar in that it is largely a matter of diverting labor and capital from the production of consumer goods to the production of capital goods. Obviously, a subsidy must have a strong output effect to accomplish this end: output in the capital goods industries must rise and, in a period of full employment at least, output in the unsubsidized consumer-goods industries must fall.

To improve a trade balance, a subsidy paid to exporters must have a notable quantity effect—or, if the quantity effect is only moderate, the price effect must not be great. Little or nothing is gained on foreign trade balance if an increase in physical amount exported is achieved only by a substantial fall in market price.

A decrease in unemployment is of course attested to by a strong quantity effect—here, the quantity of labor taken off the unemployment rolls.

As may well be imagined from the analysis above, the legislative intent behind a subsidy may turn out to be disappointed because actual price or quantity effects may deviate from what was desired. A subsidy may be paid to employers in a depressed area or a depressed industry, at the rate of so much per worker employed. The aim may be to redistribute income by improving the rate of wages paid to workers in that industry or that area. But if, when employers start to raise hourly wages in view of the subsidy they are receiving, they are met by a flood of workers from other areas or industries, the subsidy will exert chiefly a quantity effect, not a market-price effect. The same reasoning applies if government tries to raise the income of a particular factor in all industries, e.g., unskilled labor by subsidizing the wages of such workers wherever they may be. Again, let the subsidy be paid to the employers. If, as employers start to bid up the price of unskilled labor, they find that it is cheaper to substitute imported machinery, they will not proceed far in raising wages and there will be little price effect.

The discussion above is designed to emphasize the complexity and importance of price and quantity effects as benefits in achieving the economic goals related to subsidies. More of the debate, and the demand for analysis to support debate, should focus on estimates of the price and quantity effects as initial measures of performance for existing and proposed subsidies. Ultimately these measures of performance, particularly the output measures, will need to be made more sophisticated by taking into account multiple measures of output and attaching quality weights to the various output measures. Still, the difficulty of making these estimates is not as much of an obstacle to improving the analysis of subsidies as is the lack of attention paid to these effects in the public decisionmaking process.

Once the evaluator is clear as to the kind of benefit the subsidy is designed to yield—those benefits obtained through price effects, or those obtained through output effects, or a mixture of both—he can attempt to place a money value on the benefits so that they may be compared directly with costs. The costs we are refering to are the total costs of the subsidy as we have identified these costs in section D of this chapter, including money costs, administrative costs, and the like. No set rules have yet been developed for making that comparison and that task is not attempted here. Some of the problems, however, may be sketched briefly and some general approaches suggested. There is of course an extensive and impressive literature on cost-benefit analysis generally, but it deals largely with benefits that are priced fairly readily in the market, such as the benefits of irrigation to the farmer. Such analysis is extremely useful and should be employed whenever appropriate. But the core of the subsidy problem is to value the externalities of the private-sector output—externalities the market does not take into account and which are in general the *raison d'etre* of the subsidy.

If the goal of the subsidy is to increase the efficiency of the economic system by reallocating resources, this implies that some persons are to be made so much better off that they could compensate those who would be made worse off by the subsidy and the taxes to finance it, and still have a net gain. The money value of this net gain would seem possible of computation in principle, although perhaps difficult in practice. In principle the subsidy rate should be increased until this net money gain, after compensation paid to those made worse off, exceeds the sum of (1) the cost of administering the subsidy and the tax that finances it, and (2) the excess burden caused by that tax or the subsidy. At this point the rate of subsidy becomes too high for efficiency. The proper rate for a subsidy, then, from the viewpoint of efficiency, is found by comparing benefits and costs at the margin of the subsidy.

If redistribution of income is the goal of the subsidy, no such excess of money computed benefit over money computed cost is required to justify the subsidy. Here the subsidy admittedly makes some persons worse off and bars any compensation to them. Evidently such a subsidy can reflect only a majority opinion or the opinion of a powerful minority on an issue where there is a natural conflict of interests. Such conflicts of course involve competing power groups and can only be resolved by the political process. The economist can assist in the resolution of this conflict by informing the public and the policymaker how various programs distribute their income benefits, so that the income redistribution effects of subsidy programs can be weighed by the community's sense of fairness. Too often in the past this battle over the distribution of income via subsidy programs has favored the politically powerful because the community-at-large did not understand the income transfers that were occurring.

Another example of much the same kind is the goal of an increase in the rate of economic growth, to be achieved by increasing current investment at the cost of cutting back current consumption. This goal will of course not command unanimous support. Let us go on however, and suppose that the majority, or whoever it is that makes the decision, has agreed that some income redistribution or some increase in the rate of economic growth is desirable. They still face the question, how much of a redistribution? How much of an in the rate of growth? The point at which it appears better to stop forcing income redistribution or an increase in the rate of growth, in view of the incremental cost of redistribution or growth, will differ even among those who are committed to some degree of either of these measures. Now conflict of interests arise among the proponents of redistribution or of growth.

In addition to the difficulty of matching benefits with cost when conflicts of interest are involved, there is the problem caused by the fact that a subsidy for one purpose may impair the achievement of other goals. A subsidy for economic growth may make it more difficult to maintain a given exchange rate, or to prevent a widening of the income gap between rich and poor. If investment goods happen to be chiefly imported while consumer goods are not, a subsidy for economic growth will put pressure on the foreign exchange rate. The country may then have to devalue its currency. If investment goods, although produced domestically, are manufactured in regions that are already well off, while consumer goods are produced domestically chiefly in depressed areas, economic growth will widen the disparity between rich and poor regions. Alternatively, it may be that the only taxation practically available to finance the subsidy will bear harshly upon the poor.

In these circumstances the proponent of a subsidy for growth may unhappily find himself also an opponent of devaluation, disturbed over the gap between rich and poor regions, and desirous of achieving a less unequal distribution of disposable income. The impairment of these goals will be a real cost to him, which he must consider and weigh as best he can, along with the elements of money cost described in section D above. Our growth proponent will not vote for as high a rate of growth subsidy as he would if only the elements of money cost were on his mind.

Theoretically, there is a systematic method of so rearranging the rates of the taxes and other financial instruments employed that the increased rate of economic growth can be attained without departing from the levels already gained for the other goals.[19] But in its present stage this technique is still too simplified to be of much use to the policymaker, at least to one bent on specific goals. As matters stand, the subsidy proponent instead settles for what economists refer to as "trade-offs," a somewhat wasteful procedure, but necessary with our present lack of knowledge about the economic system. He sacrifices a certain amount of each of several goals in order to move closer to a goal that he thinks the country is much too far from.[20]

---

[19] See Carl S. Shoup, "Public Finance" (Chicago, Aldine, 1969), p. 19, and references there cited.

[20] For additional discussion of the general economics of subsidies see especially the study papers by George Break, Carl Shoup, Murray Weidenbaum, Stanley Surrey, Hendrik Houthakker, and Richard Posner.

Chapter V. SCOPE AND COST OF FEDERAL SUBSIDY PROGRAMS

As indicated in the introduction, both the extent of the impact of subsidies on the private market and the costs of these subsidies to Government and the economy are not well understood. Moreover, there is a general lack of factual information, on Federal subsidy programs. This chapter is a first step in correcting these deficiencies.

In this chapter subsidy programs have been organized according to the private sector area where they have their direct impact. The major economic areas are agriculture, food, medical care, manpower, education, international trade, housing, natural resources, transportation, and commerce and economic development. Such categorization is useful becaues it indicates what broad economic areas are to be affected, the relationship of legislative and economic objectives to the areas of impact, the magnitude of payments made to each sector of activity, the extent to which subsidies overlap, and so on. The programs have also been categorized by the financial devices used in each area. This is useful because it allows us to begin comparing alternative ways of granting subsidies in the same economic area.

Each area of economic activity has a brief introduction explaining some of the major economic arguments made for subsidies to that area and describing the financial form of the subsidies. The reader is referred to the relevant case studies for a more comprehensive treatment.

The reader should be warned that the categorization of programs by area of impact and financial instrument is in some cases extremely difficult and may yield somewhat arbitrary arrangements. The problem is that some programs have more than one area of impact and use more than one financial form. For example, certain conservation programs can be categorized in both natural resources and agriculture; public housing can be considered both a credit subsidy and a benefit-in-kind subsidy. But problems such as these yield admirably to solution as data and criteria are further refined.

The brief introductions are followed by individual data sheets for each subsidy program. These sheets provide information on administering agency, responsible public law, budget account, agency statement of objectives, financial form of the subsidy, direct private sector recipient, and crude estimates of the budgetary cost of the program. In general, this information is reproduced as reported in public documents by the responsible agency and not as evaluated by the committee staff. As is often the case with public programs, however, what is said publicly about a subsidy may hide more than it reveals. The data is presented with the understanding that it needs further refinement and elaboration.[1]

The sources for this data are primarily the "Budget of the United States Government, Fiscal Year 1972", with "Appendix" and "Special

[1] See app. F for additional details on data format.

Analyses." "1971 Catalog of Federal Domestic Assistance" (CFDA), and the Department of Treasury cost estimates and other data for credit and tax subsidies, (see appendix A and B). In general the data is deficient because the public sources of information on these programs are inadequate. There is no public source for comprehensive data on tax subsidies. Public documents reporting other subsidy forms have inadequate information on program objectives, financial form, beneficiaries, and program costs. We have attempted to note those instances where the data has been provided by the committee staff.

The deficiencies on cost data are particularly noteworthy. In the first place, the conceptual basis by which one measures the cost of a subsidy—gross budgetary cost, net budgetary cost, administrative cost, and so on—has not been thought through and consistently applied to Government accounts. Second, there are difficulties with obtaining data for even the gross budgetary cost of the Government's initial payments to the private sector. There is no public source for the gross budgetary cost of tax subsidies. For direct payment and benefit-in-kind subsidies the public budget documents are often unsatisfactory because they aggregate many programs into one account and do not consistently use one money measure of cost—in the "Special Analyses" outlays are emphasized, and in the "Appendix" obligations are used. The "1971 Catalog of Federal Domestic Assistance," which was used extensively for cost estimates because it provided data on a detailed program basis, in some cases did not include all program costs. In the case of benefit-in-kind programs, the difference between Government payments and receipts is often not identified and reported. Finally, meaningful measures for the cost of credit subsidies have not been incorporated into the budget documents.

Despite these difficulties, an attempt was made to provide crude cost estimates for the programs included in this study. Unless otherwise noted, gross budgetary cost estimates were made in the following way. The tax subsidies were measured in terms of revenue loss as estimated by the Department of Treasury. The credit subsidies were measured in terms of loans committed or made appropriately capitalized over the lifetime of the commitment, as estimated by the Department of Treasury or the JEC staff. The direct cash payments were measured in terms of annual obligations [2] as reported by the "1971 Catalog of Federal Domestic Assistance" and the "Budget of the United States Government, Fiscal 1972." The "1971 Catalog of Federal Domestic Assistance" reports this obligation figure as "the actual figure,. . . directly relatable to the type or types of assistance." The benefit-in-kind programs were also measured in obligations from the same sources, with the exception that in some cases program costs were reported as the "value of commodities distributed." [3]

The limitation inherent in both the quality of the cost data and the conceptual differences between the various measures used to estimate the cost of each financial form prevent using the cost data in a strictly

---

[2] Obligations is the term used in the budget to denote contracts signed, grant-in-aid commitments made to State and local governments, and similar actions by which the Federal binds itself to pay out funds. Outlays are actual expenditures to liquidate the obligations in the same year or in prior years. Both can be used as measures of costs and obligations was used only because the available public documents provide sufficient program details and costs only in terms of obligations.

[3] For further discussion of cost measurement see the appropriate section of ch. III and sec. D of ch. IV.

additive manner. One simply cannot add obligations, capitalized credit commitments, and revenue losses and obtain a thoroughly legitimate arithmetic total. The totals that are provided by sector, by financial form, and for the study overall are meant to be illustrative of orders of magnitude rather than exact or comprehensive measures. They are provided as a first step in the difficult task of measuring the cost of Federal subsidies.

There are also difficulties with comparing one sector with another, say agriculture and transportation, and concluding that agriculture is more heavily subsidized or assisted than transportation. For one thing, measurement problems have prevented the development of truly comprehensive and accurate estimates of the major subsidies in each area. Second, some subsidies have a direct impact in more than one area and their costs should be allocated in some fashion to both areas. Rural Environmental Assistance programs, for example, have a direct impact on both agriculture production and the conservation of natural resources. Third, some of the programs grouped together in one category, because they are designed to effect economic activity in that area, may effect that economic activity in radically different ways. Grouping the Excess Depletion Allowance and Water Bank Program together does not mean that they are both designed to encourage the conservation of natural resources and the environment. Finally, there are other forms of Government assistance, such as goods and services distributed free, that must be taken into account in order to appraise the full impact of government on a particular sector.

While there are great difficulties with measuring the cost of Federal subsidies, it is virtually impossible to obtain meaningful and comprehensive measures of their output or benefit effects. The budget document does not even make a significant attempt to present measures of benefit. The measures of benefit labeled "program accomplishments" in the "1971 Catalog of Federal Domestic Assistance" were so often without meaning that they did not seem worth reproducing. These and other deficiencies have prevented the inclusion of measures of benefit in the data that follow. Incredible as it may seem, the pervasive and costly subsidy system has been maintained with very little hard evidence that these programs yield any true economic benefits.

As the above remarks indicate, the data that follow are deficient in terms of the quality of what is included and in terms of the data that are missing. One must therefore view this chapter as only beginning the process of developing full factual information on Federal subsidy programs. Subsequent hearings and studies will be necessary to bring the full story into the public record.

Finally, it should be noted that the subsidy totals in chapter III, $63 billion, cannot be obtained by adding the economic areas in this chapter. This is because approximately $9 billion of the tax subsidies could not be clearly allocated to any specific economic area. See page 31 for a listing of these tax subsidies under the category "other."

A. Agriculture

Agricultural, or farm subsidies are here distinguished from food subsidies. Farm subsidies are designed to increase farmers' incomes, chiefly by increasing the price, including subsidy, that they receive for their crops. They operate in the area of economic activity of agricultural production. Food subsidies are intended to benefit primarily the consumers of foodstuffs, chiefly through a lowering of food market prices.

The farm subsidy is accounted for in part by a market failure originating in the high degree of unpredictability of agricultural output from a given input of labor, fertilizer, and the like, for any one year. Weather conditions and the reaction of other farmers to past swings in the market are the chief causes of this unpredictability. Farming is thus a risky business, if risk is taken in the sense of a high degree of dispersion of probability-weighted outcomes around some average outcome. This difficulty is exacerbated by the unwillingness of the market to absorb a large increase in output without a drastic fall in price—the demand for farm products usually expands less than in proportion to a change in price. Hence, the farmer may actually get less total receipts from a large crop—if all other farmers are having much the same experience—than from a small crop. In the past, such a fall in household income for a farmer has driven him to try to increase his output the following year; and, if all farmers react in much this way, a further decline in gross and net receipts may occur.

This situation of excess output has been aggravated by the rapid growth of agricultural productivity. The use of new techniques and the substitution of machinery and fertilizer for land and labor have drastically reduced the manpower requirement for agricultural production in the United States. For the U.S. farm economy as a whole, man-hour requirements per unit of output fell by 1.8 percent per year from 1910–14 to 1940–44, and have since then declined at a 5.9-percent annual rate.[4]

The result has been that agricultural output has increased faster than demand, and without any market controls, low farm prices and incomes recur. The increased work and misery that farm families undergo before incomes rise again, or before farmers are willing to leave the farm for other jobs, has been deemed too high a price to pay to obtain a free market in farm products. Farm subsidies have therefore been introduced.

Farm subsidies are commonly direct cash payments designed to persuade producers to reduce the acreage that may be used in the production of a certain commodity. The acreage restrictions reduce farm output and thereby raise market prices to the desired price support level. Wheat and grains are among the most important commodities receiving this kind of farm subsidy.

The Government also makes direct payments to farmers to both encourage certain conservation practices and to withdraw cropland from production. While these subsidies are accounted for under "Natural Resources," below, they would have to be included in any full accounting of the cost of agricultural subsidies. This includes such activities as Rural Environmental Assistance, Great Plains Conservation, Cropland Adjustment, Conservation Reserve, and Emergency Conservation Measures.

Another way the Government keeps farm prices up is by taking some of the commodity off the market through purchases, and then disposing

---

[4] Charles Schultze, "The Distribution of Farm Subsidies: Who Gets the Benefits?" (Washington: The Brookings Institution), 1971, p. 6.

of it abroad or in other ways that do not directly affect the domestic price. Typically, these programs also restrict crop acreage. The net amount of money laid out in thus supporting the market price is included here as a farm subsidy, even though no direct cash payment is made. The money payment may be in the first instance a loan to the farmer, with his crop held as collateral. But if, as in the United States, it is a no-recourse loan where the Government can look only to the collateral, not to the farmer personally for getting its money back, the loan is obviously a subsidy to the extent that the loan value is above the market value. In that case, the farmer makes no effort to pay off the loan, regarding it simply as a purchase by the Government of his crop.

Finally, farm subsidies may take the form of special tax reductions and credit assistance. It is not clear how the tax subsidy listed below, "Expensing and Capital Gains for Farming," relates to agricultural production. The credit subsidies appear to be aimed at improving the general operation and maintenance of farms rather than affecting the production of any particular commodity.

To the extent possible, the gross budgetary costs of the above agricultural system have been identified for fiscal year 1970 in table 5-1. These costs of approximately $5.2 billion are paid by taxpayers. But consumers also pay a part of the cost of price support programs through the higher agricultural prices brought about by subsidies that restrict agricultural output. These higher prices are themselves a type of subsidy paid directly by consumers to farmers. The income transfer cost of these subsidies has recently been estimated by Charles Schultze to be approximately $4.5 billion annually.[5] Thus, the total transfer cost of farm subsidies—the money transferred from taxpayers and consumers to farmers—is in the range of $10 billion annually.

In terms of their costs farm subsidies clearly rank among the most significant subsidy areas. The future, to be sure, may prove somewhat different if present agriculture policies are maintained. The family farm may be replaced in large part by capital-intensive farm "factories," and these factories might conceivably react to a decline in net income by voluntarily restricting output the following year. To this degree, farm subsidies may become less important in the decades ahead.

On the other hand, the future of farm subsidies tends to be assured by the process of capitalization of subsidies, when these subsidies attach to particular parcels of land. The privilege of growing a price-supported crop on a particular parcel of land is of course worth something. That parcel will sell at a higher price than similar parcels that have not been given such an allotment. As time passes, these subsidized parcels of land are transferred to owners who pay correspondingly high prices

---

[5] Ibid., pp. 19–24. For further discussion of agriculture subsidies, see especially the study papers written by Russell Lidman, Dale Hoover and Bruce Gardner, and Darvin Daicoff.

for the land. Loans are given to these owners by banks, or the parcels are mortgaged, on the assumption that these subsidy-induced values will continue. It becomes correspondingly difficult for Congress to reduce the subsidies in the face of protests from those who have paid full value (including the subsidy value) for the land and who have borrowed on this value. At the same time, it must be realized that the maintenance of such programs provide little or no value to new farmers who must pay the higher land prices.

TABLE 5-1.—GROSS BUDGETARY COSTS OF FEDERAL AGRICULTURAL SUBSIDIES, FISCAL YEARS 1970 AND 1971

[In millions of dollars]

Program	1970 actual	1971 estimated
Direct cash payments:		
Direct payments for commodity purchases [1]	398	316
Feed grain production stabilization	1,644	1,510
Sugar production stabilization	93	84
Wheat production stabilization	863	891
Wool and mohair payments	53	72
Cotton production stabilization	828	918
Conservation related programs [2]		
Dairy and beekeeper indemnity payments [3]		
Tax subsidies:		
Expensing and capital gains for farming	880	820
Credit subsidies:		
Emergency credit	6	
Farm operating loans	8	
Soil and water loans	17	
Price-support loans	87	
Storage facility and equipment loans	2	
Farm Ownership Loans	68	
Rural electrification loans	179	
Rural telephone loans	67	
Crop insurance [4]	9	
Order of magnitude total	5,202	

[1] As was indicated above, the correct estimate of the gross budgetary cost of this kind of farm subsidy is the difference between what Government pays for the commodities and what it sells them for. It has not been possible to make such calculations for the many commodities the Government now supports through purchases. The subsidy cost figure used above is the overall net loss for the Commodity Credit Corporation, reported in their annual Report of Financial Condition and Operation. This is a very crude proxy that probably underestimates the actual subsidy per commodity. For more detail on this program see app. D.

[2] At a minimum this would include Rural Environmental Assistance, Great Plains Conservation, Cropland Adjustment, Conservation Reserve, and Emergency Conservation Measures. The gross budgetary cost for fiscal 1970 of approximately $320,000,000 for these programs has been accounted for under "Natural resources."

[3] Although the obligations in fiscal 1970 and 1971 were not significant, they rise to $5,000,000 in fiscal 1972.

[4] This figure represents the amount by which expenses exceeded revenues for fiscal year 1970. As of June 30, 1970, the Corporation reflected a deficit of $33,700,000 as a result of expenses and indemnities exceeded revenues in past years

Source: "1971 Catalog of Federal Domestic Assistance"; "The Budget of the U.S. Government, Fiscal Year 1972"; "The Budget of the U.S. Government—Appendix, Fiscal Year 1972"; "Special Analyses, Budget of the U.S. Government, Fiscal Year 1972"; Department of Treasury estimates, app. A and B.

DIRECT PAYMENTS FOR COMMODITY PURCHASES

Administering agency	Agricultural Stabilization and Conservation Service, Department of Agriculture.
Identification	Authorization: Agricultural Act of 1949, as amended; Public Law 89-321 (Food and Agriculture Act of 1965); Public Law 90-559; 15 U.S.C. 714-714p; 7 U.S.C. 1421; 7 U.S.C. 1441; 7 U.S.C., 1781-1787; Public Law 91-524 (Agricultural Act of 1970). Budget account: 05-48-4336-0-3-999. CFDA: 10.051.
Objectives	To improve and stabilize farm income, to assist in bringing about a better balance between supply and demand of the commodities, and to assist farmers in their orderly marketing of their crops. This is accomplished through Government purchase of eligible commodities in this case, although this may also be done through nonrecourse loans.
Financial form	Direct cash payments (purchase subsidy).
Direct Recipient	Any person who, as owner, landlord, tenant, or sharecropper who is entitled to share in crops on a farm, that has history of producing is eligible. Eligible commodities are feed grains and feed grain products, wheat and wheat products, rice, rye, blended food products, dry edible beans, castor beans and oil, flaxseed, soybeans and soybean products, honey, upland cotton, extra-long staple cotton, cotton products, dairy products, peanuts, tung nuts and oil, vegetable oil products, linseed oil, rosin and turpentine, tobacco, tallow or grease, and seeds and plants.
Subsidy costs	Fiscal year 1970, $398,267,637; fiscal year 1971, $316,333,981.

FEED GRAIN PRODUCTION STABILIZATION

Administering agency	Agricultural Stabilization and Conservation Service, Department of Agriculture.
Identification	Authorization: Food and Agriculture Act of 1965, as amended; Public Law 89-321; Public Law 90-559; Agricultural Act of 1970; Public Law 91-524, title V. Budget account: 05-48-4336-0-3-999. CFDA: 10.055.
Objectives	To adjust the production of surplus crops to keep crops in balance with demand, to reduce public cost, and to make price-support programs more effective. The payments are used for production costs and to help farmers maintain their income. Producers of feed grains who participate can earn payments by setting aside an acreage from crop production equal to a specified percentage of the base and maintaining the farm's conserving base.
Financial form	Direct cash payments.
Direct recipient	Any person who as owner, landlord, tenant or sharecropper on a farm that has history of producing the commodities is eligible. Eligible commodities are wheat, corn, barley, grain sorgum, and oats.
Subsidy costs	Fiscal year 1970, $1,643,578,000; fiscal year 1971. $1,509,760,000.

SUGAR PRODUCTION STABILIZATION

Administering agency	Agricultural Stabilization and Conservation Service, Department of Agriculture.
Identification	Authorization: Sugar Act of 1948, as amended; 7 U.S.C. 1100 et seq. Budget account: 05-44-3305-0-1-351. CFDA: 10.057.
Objectives	To protect the welfare of the U.S. sugar industry, to provide U.S. consumers with ample sugar supplies at reasonable prices, and to promote and strengthen the export trade of the United States.
Financial form	Direct cash payments.
Direct recipient	Sugar beet and sugarcane producers in the continental United States, Hawaii, and Puerto Rico are eligible for payments. To be eligible, producers must (a) not harvest an acreage in excess of the proportionate share (acreage allotment) established for their farms; (b) pay all farmworkers at rates not less than those established by the Secretary of Agriculture; and (c) if they are also processors of sugar beets or sugarcane, pay fair prices for cane or beets purchased from other growers. If they employ children under 14 years or permit those 14 years and 15 years to work in excess of 8 hours per day, a $10 deduction is made from their payment for each day the child is employed.
Subsidy costs	Fiscal year 1970, $93,000,000; fiscal year 1971, $83,600,000.

WHEAT PRODUCTION STABILIZATION

Administering agency	Agricultural Stabilization and Conservation Service, Department of Agriculture.
Identification	Authorization: Food and Agriculture Act of 1965, as amended; Public Law 89-321; Public Law 90-559; Agricultural Act of 1970; Public Law 91-524, title IV. Budget account: 05-48-4336-0-3-999. CFDA: 10.058.
Objectives	To adjust the production of surplus crops to keep crops in balance with demand, to reduce public cost, and to make price-support programs more effective. The payments are used for production costs and to help farmers maintain their income. Producers of wheat who participate can earn domestic marketing certificates by setting aside an acreage from crop production equal to a specific percentage of the allotment and maintaining the farm's conserving base.
Financial form	Direct cash payments.
Direct recipient	Any person who as owner, landlord, tenant or sharecropper on a farm that has history of producing the commodities, is eligible.
Subsidy costs	Fiscal year 1970, $863,209,000; fiscal year 1971, $891,151,000.

WOOL AND MOHAIR PAYMENTS

Administering agency	Agricultural Stabilization and Conservation Service, Department of Agriculture.
Identification	Authorization: National Wool Act of 1954, as amended; Public Law 89-321; Public Law 90-559 (Food and Agricultural Act of 1965, as amended); Public Law 91-524, title III (Agricultural Act of 1970). Budget account: 05-48-5210-0-2-351. CFDA: 10.059.
Objectives	The wool program is designed, through the use of annual incentive payments, to supplement the income of growers from sheep production and thereby to encourage increased domestic production of wool at prices fair to both producers and consumers in a way that has the least adverse effects on foreign trade. It also seeks to encourage producers to improve the quality and marketing of their wool and mohair.
Financial form	Direct cash payments.
Direct recipient	Any person who owns sheep or lambs for 30 days or more and sells shorn wool or unshorn lambs during the marketing year. Any person who owns angora goats for 30 days or more and sells mohair produced therefrom.
Subsidy costs	Fiscal year 1970, $52,644,000; fiscal year 1971, $72,200,000.

COTTON PRODUCTION STABILIZATION

Administering agency	Agricultural Stabilization and Conservation Service, Department of Agriculture.
Identification	Authorization: Food and Agriculture Act of 1965, as amended; Public Law 89-321; Public Law 90-559; Agricultural Act of 1970, title VI; Public Law 91-524. Budget account: 05-48-4336-0-3-999. CFDA: 10.052.
Objectives	To adjust the production of surplus crops to keep crops in balance with demand, to reduce public cost, and to make price support programs more effective. The payments are used for production costs and to help farmers maintain their income.
Financial form	Direct cash payments.
Direct recipient	Any person who as owner, landlord, tenant, or sharecropper on a farm that has history of producing the commodity, is eligible.
Subsidy costs	Fiscal year 1970, $827,559,000; fiscal year 1971, $917,909,000.

DAIRY AND BEEKEEPERS INDEMNITY PAYMENTS

Administering agency	Agriculture Stabilization and Conservation Service, Department of Agriculture.
Identification	Authorization: Public Law 90–484, as amended and the Agriculture Act of 1970; Public Law 91–524, title 11, sec. 204. Budget account: 05–55–3314–0–1–351. CFDA: 10.053, 10.060.
Objectives	For necessary expenses involved in making payments to dairy farmers and manufacturers of dairy products who have been directed to remove their milk or milk products from commercial markets because it contained residues of chemicals registered and approved for use by the Federal Government, and to beekeepers who through no fault of their own have suffered losses as a result of the use of economic poisons which had been registered and approved for use by the Federal Government.
Financial form	Direct cash payment.
Direct recipient	Dairy farmers, dairy manufacturers, and beekeepers.
Subsidy costs	Fiscal year 1970, $200,000; fiscal year 1971, $550,000; and an increase to $5,500,000 in fiscal year 1972.

70–378—72——7

FARMING: EXPENSING AND CAPITAL GAINS TREATMENT

Authorization	(After Tax Reform Act of 1969) Section 1251—Gain from disposition of property used in farming where farm losses offset nonfarm income. Section 1245—Gain from disposition of certain depreciable property. Section 1231—Property used in the trade or business and involuntary conversions. Section 1031—Exchange of property held for productive use or investment. Section 270—Limitation on deductions allowable to individuals in certain cases, replaced by Section 183—Activities not engaged in for profit. Section 278—Capital expenditures incurred in planting and developing citrus groves.
Financial form	Tax subsidies.
Description	Farmers, including corporations, may deduct certain costs as current expenses even though these costs represent inventories on hand at the end of the year or capital improvements. For example, the cost of producing crops or raising livestock may be deducted as an expense even if not sold by the end of the tax year. Certain capital improvements are also deductible during the year incurred rather than capitalized and depreciated. This treatment also extends to the sale of orchards, vineyards and comparable agricultural activities. Although the special farm accounting rules were adopted to relieve farmers of bookkeeping burdens, these rules were used by some high-income taxpayers who were not primarily engaged in farming to obtain a tax, but not an economic, loss which was then deducted from the high-bracket, nonfarm income. In addition, when these high-income taxpayers sold their farm investment, they often received capital gains treatment on the sale. The combination of the current deduction against ordinary income for farm expenses of a capital nature and the capital gains treatment available on the sale of farm assets produced significant tax advantages and tax savings for these high-income taxpayers. "General Explanation of the Tax Reform Act of 1969," p. 90. After the Tax Reform Act of 1969, capital gains from the sale of farm assets may be taxed as ordinary income to the extent farm losses (over $25,000) previously reduced nonfarm income exceeding $50,000. This provision is much more complicated than it appears here. For additional details see the "General Explanation of the Tax Reform Act of 1969," Staff Report of the Joint Committee on Internal Revenue Taxation, December 3, 1970, pp. 89–98.
Subsidy costs	Fiscal year 1970, $880,000,000; fiscal year 1971, $820,000,000.

EMERGENCY CREDIT

Administering agency	Farmers Home Administration, Department of Agriculture.
Identification	Authorization: Sections 321 through 327 of Public Law 87–128 as amended (7 U.S.C. 1961 through 1967). Budget Account: 05–60–4104–0–3–351. CFDA: 10.404.
Objectives	To assist farmers and ranchers in continuing their normal farming and ranching operations where they are unable to obtain credit from normal sources because of losses caused by natural disasters. This includes acquiring, enlarging, improving farms, farm buildings, water development and conservation, operating loans, and replacing equipment and livestock damaged or destroyed by natural disaster.
Financial form	Credit subsidy (direct loans).
Direct recipient	Farmers or ranchers who have suffered severe property damage or crop losses due to natural disasters. These will usually lie in areas designated by the Secretary of Agriculture; however, the Secretary may make loans without regard to the designation of emergency areas to persons or corporations who have suffered severe production losses not general to the area.
Interest rate and maturity	3 percent; 2-year maturity.
Subsidy costs	Gross outlays, 1970: $90,000,000. Capitalized value at 7½ percent: $6,000,000.

FARM OPERATING LOANS

Administering agency	Farmers Home Administration, Department of Agriculture.
Identification	Authorization: Consolidated Farmers Home Administration Act of 1961, as amended, Public Law 87–128; 7 U.S.C. 1942, sec. 312. Budget Account: 05–60–4220–0–3–25. CFDA: 10.406.
Objectives	To enable operators of not larger than family farms make efficient use of their land, labor and other resources by extending credit and supervisory assistance. Loan funds may be used to: (1) purchase livestock, poultry, fur bearing and other farm animals, fish, and bees; (2) purchase farm, forestry, recreation, or nonfarm enterprise equipment; (3) provide operating expenses for farm, forestry, recreation, or nonfarm enterprise; (4) meet family subsistence needs and purchase essential home equipment; (5) make minor real estate improvements; (6) refinance secured and unsecured debts; (7) pay property tax; (8) pay insurance premiums on real estate and personal property; (9) other miscellaneous purposes.
Financial form	Credit subsidy (direct loans).
Direct recipient	Operators of not larger than family farms. Family farms are those on which a working operator and his family furnish the major portion of the labor. This decision is made on an individual basis by USDA.
Interest rate and maturity	6⅝ percent. A rate determined by the Secretary of the Treasury taking into consideration the current average market yield on outstanding marketable obligations of the United States with remaining periods to maturity comparable to the average maturity of such loans plus not to exceed 1 percent per annum as determined by the Secretary. 7-year maturity
Subsidy costs	Gross outlays, 1970: $280,000,000. Capitalized value at 7½ percent: $8,000,000.

SOIL AND WATER LOANS

Administering agency	Farmers Home Administration, Department of Agriculture.
Identification	Authorization: 7 U.S.C. 1924 sec. 304, Consolidated Farmers Home Administration Act of 1961, as amended. Budget Account: 05–60–4220–0–3–351. CFDA: 10.416.
Objectives	Through loans and supervisory assistance to facilitate the improvement, protection, and proper use of farmland by providing adequate financing for soil conservation, water development, forestation, drainage of farmland, the establishment and improvement of permanent pasture and related measures.
Financial forms	Credit subsidy (direct loans).
Direct recipient	Farm owners and farm tenants.
Interest rate and maturity	5 percent. 40-year maturity.
Subsidy costs	Gross outlays, 1970: $65,000,000. This description covers $62,143,000 of the gross outlays. The remainder of the $65 million was the Watershed Works of Improvement Loan Program. Capitalized value at 7½ percent: $17,000,000.

PRICE SUPPORT LOANS

Administering agency	Agriculture Stabilization and Conservation Service, Department of Agriculture.
Identification	Authorization: Commodity Credit Corporation Charter Act, 15 U.S.C. 714 and Agriculture Act of 1949, as amended, 7 U.S.C. 1421. Budget account: 05-48-4336-0-3-999. CFDA: 10.051.
Objectives	To stabilize, support, and protect farm income and prices.
Financial form	Credit subsidy (direct loans). Price support loans to producers are "nonrecourse." Producers are not obligated to make good any decline in the market price of the commodity they have put up as collateral. If market prices rise above support, producers can pay off their loan and market their commodity. If market prices fail to rise above support prices, producers can pay off the loan through forfeiture of collateral. If the commodity is stored on the farm the farmer is responsible for maintaining the condition of the commodity.
Direct recipient	Any U.S. producer of eligible commodities. Eligible commodities are feed grains and feed grain products, wheat and wheat products, rice, rye, blended food products, dry edible beans, castor beans and oil, flaxseed, soybeans and soybean products, honey, upland cotton, extra-long staple cotton, cotton products, dairy products, peanuts, tung nuts and oil, vegetable oil products, linseed oil, rosin and turpentine, tobacco, tallow or grease, and seeds and plants.
Subsidy costs	Gross outlays, 1970: $2,338,000,000. Capitalized value at 7½ percent: $87,000,000.

STORAGE FACILITY AND EQUIPMENT LOANS

Administering agency	Agricultural Stabilization and Conservation Service, Department of Agriculture.
Identification	Authorization: Agriculture Act of 1949, as amended; 12 U.S.C. 1134c; Commodity Credit Corporation Charter Act, as amended; 15 U.S.C. 714–714p. Agriculture Act of 1970; Public Law 91–524. Budget account: 05–48–4336–0–3–999. CFDA: 10.056.
Objectives	To complement the price support commodity loan program by providing adequate financing for storage facilities and drying equipment, thereby affording farmers the opportunity for orderly marketing of their crops.
Financial form	Credit subsidy (direct loans).
Direct recipient	Any person who, as owner, landlord, tenant or sharecropper produces one or more of the following commodities: barley, corn, grain sorghum, oats, rye, wheat, soybeans, sunflower seed, rice, dry edible beans, flaxseed and peanuts.
Interest rate and maturity	6 percent—administratively determined. 5-year maturity.
Subsidy costs	Gross outlays, 1970: $50,000,000. Capitalized value at 7½ percent: $2,000,000.

FARM OWNERSHIP LOANS

Administering agency	Farmers Home Administration, Department of Agriculture.
Identification	Authorization: 7 U.S.C. 1923, sec. 303, Consolidated Farmers Home Administration Act of 1961, as amended. Budget account: 05-60-4140-0-3-351. CFDA: 10.407.
Objectives	Through the extension of credit and supervisory assistance, assist eligible farmers and ranchers to become owner-operators of not larger than family farms; to make efficient use of the resources; to carry on sound and successful operations on the farm, and afford the family an opportunity to have a reasonable standard of living. This includes (1) enlarge, improve, and buy family farms; (2) refinance debts so as to place the farming operation on a sound basis; (3) improve, establish, or buy a farm-forest enterprise; (4) finance nonfarm enterprises including recreation on all or part of the farm; (5) buy and develop land to be used for forestry purposes.
Financial form	Credit subsidy (guaranteed and insured loans).
Direct recipient	Eligible farmers.
Interest rate and maturity	5 percent up to 0.5 percent of the unpaid balance of the loan may be charged as an insurance premium. 40-year maturity.
Subsidy costs	Gross outlays, 1970: $256,000,000. Capitalized value at 7½ percent: $68,000,000. The subsidy is brought about by FmHA provision of guaranteed loans to private lenders at less than the market rate, with these loans then sold in the open market at a discount.

RURAL ELECTRIFICATION LOANS

Administering agency	Rural Electrification Administration, Department of Agriculture.
Identification	Authorization: Rural Electrification Act of 1936, as amended; Public Law 74-605; 7 U.S.C. 901-24; 7-CRF-XVII. Budget account: 05-56-3197-0-1-352. CFDA: 10.850.
Objectives	To finance dependable, modern, central station electric service in rural areas. A small number of loans are also made for wiring of premises, plumbing, and electrical equipment and appliances. These loans are made to REA borrowers for relending to individual consumers on their lines.
Financial form	Credit subsidy (direct loans).
Direct recipient	Rural electric cooperatives, public utility districts, power companies, municipalities, and other qualified power suppliers.
Interest rate and maturity	2 percent. 33-year maturity.
Subsidy costs	Gross outlays, 1970: $362,000,000. Capitalized value at 7½ percent: $179,000,000.

RURAL TELEPHONE LOANS

Administering agency	Rural Electrification Administration, Department of Agriculture.
Identification	Authorization: Rural Electrification Act of 1936, as amended; Public Law 81–423; Public Law 87–862; 7 U.S.C. 901–903, 906–915, 921–924; 7 CRF XVII. Budget account: 05–56–3197–0–1–352. CFDA: 10.851.
Objectives	To finance the improvement, expansion, construction, acquisition and operation of telephone lines, facilities, or systems to furnish and improve telephone service in rural areas.
Financial form	Credit subsidy (direct loans).
Direct recipient	Telephone companies or cooperatives, nonprofit, limited dividend, or mutual associations, who in turn pass on services to persons in rural areas defined as any area of the United States not included within the boundaries of any city, village, or borough having a population in excess of 1,500 inhabitants, and such term shall be deemed to include both the farm and nonfarm population thereof.
Interest rate and maturity	2 percent. 33-year maturity.
Subsidy costs	Gross outlays, 1970: $135,000,000. Capitalized value at 7½ percent: $67,000,000.

CROP INSURANCE

Administering agency	Federal Crop Insurance Corporation, Department of Agriculture.
Identification	Authorization: Federal Crop Insurance Act, as amended; 7 U.S.C. 1501–0–19, Title V of the Agricultural Adjustment Act of 1938; 52 Stat. 31. Budget account: 05–52–4085–0–3–351. CFDA: 10.450.
Objectives	To improve the economic stability of agriculture through a sound system of crop insurance by providing all-risk insurance for individual farmers to assure a basic income against droughts, freezes, insects, and other natural causes of disastrous crop losses.
Financial form	Credit subsidy (insurance).
Direct recipient	Any owner or operator of farmland, who has an insurable interest in a crop in a county where insurance is offered on that crop, is eligible unless the land is not classified for insurance purposes.
Subsidy cost	Fiscal year 1970, $8,666,000. This figure represents the amount by which expenses exceeded revenues for fiscal year 1970. As of June 30, 1970, the Corporation reflected a deficit of $33.7 million as a result of expenses and indemnities that exceeded revenues in past years.

B. Food

Food subsidies are intended to increase the consumption of food by certain households, particularly those with low incomes and large numbers of children. In contrast to agricultural subsidies, they are not designed primarily to raise factor rewards in farming. Food subsidies would, perhaps, be deemed somewhat successful even if they simply lowered food prices without enhancing the consumption of food.

A farm subsidy cannot be changed to a food subsidy merely by putting the subsidy on the other side of the market, that is, handling the subsidy money directly to the household rather than to the farmer. To be sure, there are many links in the producing and marketing chain between farmer and household, and in fact there will be some difference between the ultimate incidence of the two kinds of subsidy just described. But there also may be similarities in the incidence of food and farm subsidies.

To simplify, if we supposed the farmer to be selling direct to the household, how could a subsidy on such sales be made on the one hand an agricultural subsidy or on the other hand a food subsidy? One obvious way is to treat exports and imports differently under the two regimes: exports would be excluded from the subsidy, naturally, if the subsidy were aimed at domestic consumers, and imports would be included. The reverse treatment is called for if the benefits were to go to domestic producers.

More than an international trade adjustment is needed, however, to assure that the subsidy will be chiefly a consumption subsidy rather than a production subsidy. The relevant markets must possess the appropriate elasticities. Recall that a subsidy will go chiefly to lowering net prices paid by consumers if the supply is extremely elastic, and will, at the same time, increase use of the commodity if demand is also elastic. There is nothing about a food or farm subsidy that per se changes the elasticities of the demand and supply curves as they existed before the subsidy, or as they exist ex-subsidy.

There may of course be certain aspects of both argricultural and food subsidies that increase, rather than decrease, the market price of food. The majority of U.S. agriculture programs restrict output and thereby raise the market price of related food commodities. Moreover, a food subsidy may increase the demand for food for a certain group of consumers, say those with incomes beow the poverty level, and this may raise market food prices. It is quite possible that this is what the food stamp program tends to do.

A mixed program of agricultural aid and food subsidies develops when the Government buys up part of a crop at a support price and then seeks to dispose of its stockpile to households who would not have purchased it in the first place. The Government will then sell the food to these consumers at well below market price, or distribute it free on a means-test basis and with some policing to prevent resale.

The market imperfection that is basic to food subsidies—over and above the redistributional aspects, important though they are—has to do with the cost of rearing children. There is very little in the market mechanism that makes it profitable, or even possible, for a very poor family to feed a child for 10 or 20 years at a level that will be profitable for society, in the sense that the added nutrition will more than pay for itself through the increased strength, intelligence, and health of the adult worker that the child becomes. There seems little doubt that increased nutrition in childhood among the low-income groups of the United States would result in more efficient members of the labor force in later decades; but it is not to the interest of any particular business firm to take account of this fact, nor is it to the interest of any particular consumer in the present period. Again, the political process must be used.

The major food subsidies are listed in table 5–2. These are all labled as benefit-in-kind subsidies because it is in that form that they are finally given to consumers. There appear to be no direct cash, tax, or credit forms used in conjunction with food subsidies. This fact may be disguised by the elaborate process of distributing cash and benefits-in-kind through the States, schools, welfare agencies, settlement houses, and the like. The gross budgetary costs of these food subsidies is estimated at $1.6 billion in fiscal 1970, rising rapidly to $2.6 billion in fiscal 1971.[6]

TABLE 5–2.—GROSS BUDGETARY COSTS OF FEDERAL FOOD SUBSIDIES, FISCAL YEARS 1970 AND 1971

[In millions of dollars]

Program	1970 actual	1971 estimated
Benefit-in-kind:		
National school lunch	301	581
School breakfasts	11	15
Nonfood assistance	17	16
Nonschool food program	7	21
Food stamps	551	1,369
School milk program	102	103
Commodity distribution	558	513
Emergency food and medical services	46	45
Order of magnitude total	1,593	2,663

Source: "1971 Catalog of Federal Domestic Assistance"; "The Budget of the U.S. Government, Fiscal Year 1972"; The Budget of the U.S. Government—Appendix, Fiscal Year 1972"; "Special Analyses, Budget of the U.S. Government, Fiscal Year 1972"; Department of Treasury estimates, app. A and B.

NATIONAL SCHOOL LUNCH

Administering agency	Food and Nutrition Service, Department of Agriculture.
Identification	Authorization: National School Lunch Act of 1946 as amended; 42 U.S.C. 1751–1760. Budget account: 05–34–3539–0–1–702. CFDA: 10.555.
Objectives	This program provides commodity and cash grants to State educational agencies to assist them in helping schools provide adequate school lunches. This helps to safeguard the health and well-being of children and to encourage the domestic consumption of nutritious agricultural commodities.
Financial form	Benefit-in-kind.
Direct recipient	Children of high school age and under who are in attendance at schools participating in the program. Schools desiring to participate must agree to operate a nonprofit lunch program which is available to all children regardless of race, color, creed, or national origin. Lunches must be served free or at a reduced price to children who are determined by local school authorities to be unable to pay the full price for their lunches.
Subsidy cost	Fiscal year 1970, $300,793,000; fiscal year 1971, $581,418,000.

[6] For a comprehensive discussion and analysis of food subsidies see the study paper by Marion Hamilton Gillim.

SCHOOL BREAKFASTS

Administering agency	Food and Nutrition Service, Department of Agriculture.
Identification	Authorization: Child Nutrition Act of 1966; 42 U.S.C. 1773(a); as amended by Public Law 90-302; 82 Stat. 119: 42 U.S.C. 1776. Budget account: 05-34-3539-0-1-792. CFDA: 10.553.
Objectives	To provide breakfasts to improve child nutrition.
Financial form	Benefit-in-kind.
Direct recipient	Schools drawing attendance from areas in which poor economic conditions exist and schools to which attending children must travel a long distance receive primary consideration and, if funds permit, other schools may participate. All children attending schools in which the breakfast program is operating may participate. Breakfast is served free or at a reduced price to children who are determined by local school authorities to be unable to pay the full price. Children who are able to pay the full price are expected to do so.
Subsidy cost	Fiscal year 1970, $10,877,000; fiscal year 1971, $15,000,000.

NONFOOD ASSISTANCE

Administering agency	Food and Nutrition Service, Department of Agriculture.
Identification	Authorization: Child Nutrition Act of 1960; Public Law 89-642; 42 U.S.C. 1771. Budget account: 05-34-3539-0-1-792. CFDA: 10.554.
Objectives	This program provides States with grants-in-aid to supply schools in low-income areas with equipment for storing, preparing, transporting, and serving food to children.
Financial form	Benefit-in-kind.
Direct recipient	Schools receive cash assistance that is turned into benefit-in-kind food services going to school-children under both the School Lunch and School Breakfast Programs.
Subsidy costs	Fiscal year 1970, $16,715,000; fiscal year 1971, $16,110,000.

NONSCHOOL FOOD PROGRAM

Administering agency	Food and Nutrition Service, Department of Agriculture.
Identification	Authorization: National School Lunch Act, as amended; Public Law 90-302; 42 U.S.C. 1751-1760. Budget account: 05-34-3539-0-1-702. CFDA: 10.552.
Objectives	This program provides commodities and cash grants to assist States to initiate, maintain, or expand nonprofit food service programs for children in service institutions, to improve the nutritional status of both preschool and school age children. Federally appropriated Special Food Service Program for Children funds are available to reimburse eligible institutions (day-care centers, settlement houses, recreation centers, and day camps) for food purchased for up to three complete meals and two supplemental meals daily. Financial help is also available to buy or rent necessary equipment.
Financial form	Benefit-in-kind.
Direct recipient	Children who are in attendance at institutions participating in the program. Institutions participating are public and nonprofit private institutions such as day-care centers, settlement houses, and recreation centers that provide day care for children from low income areas, or from areas with many working mothers may apply, and also institutions providing day care for handicapped children.
Subsidy costs	Fiscal year 1970, $7,258,000; fiscal year 1971, $20,775,000.

FOOD STAMPS

Administering agency	Food and Nutrition Service, Department of Agriculture.
Identification	Authorization: The Food Stamp Act of 1964; Public Law 88-525; 78 Stat. 703, 7 U.S.C. 2011-2025 (1964), as amended. Budget account: 05-34-3505-0-1-702. CFDA: 10.551.
Objectives	This program improves the diets of low-income households and expands the market for domestically produced foods by supplementing the food purchasing power of eligible low-income families.
Financial form	Benefit-in-kind. Families buy stamps or "coupons" worth more than the purchase amount which varies according to income and family size. The coupons are used for food in retail stores. The coupons may be used to buy any food for human consumption, except for items labeled as imported. Almost all grocery stores in food stamp areas are authorized to accept the coupons.
Direct recipient	Families may participate if they live in an area that has the program, are found by local welfare officials to be in need of food assistance, are receiving some form of welfare assistance, and are unemployed, part-time employed, working for low wages, or living on limited pensions. If families are not receiving welfare assistance, eligibility is based on family size and income, and their level of resources.
Subsidy cost	Fiscal year 1970, $551,002,000; fiscal year 1971, $1,369,000,000.

SCHOOL MILK PROGRAM

Administering agency	Food and Nutrition Service, Department of Agriculture.
Identification	Authorization: Child Nutrition Act of 1966, as amended, Public Law 91–295; 84 Stat. 336; 42 U.S.C. 1772. Budget account: 05-34-3502-0-1-702. CFDA: 10.556.
Objectives	This program provides assistance, in the form of reimbursement payments to encourage consumption of fluid whole milk by children in public and nonprofit private schools of high school grade and under, nonprofit nursery schools, child-care centers, settlement houses, summer camps and similar nonprofit institutions that provide for the care and training of children.
Financial form	Benefit-in-kind.
Direct recipient	All children attending schools and institutions in which the special milk program is an operation may participate in the program. All public and nonprofit private schools of high school grade and under are eligible to participate. Also nonprofit child care institutions such as nursery schools, child care centers, settlement houses, and summer camps are eligible for assistance under this program.
Subsidy cost	Fiscal year 1970, $101,527,000; fiscal year 1971, $103,316,000.

COMMODITY DISTRIBUTION

Administering agency	Food and Nutrition Service, Department of Agriculture.
Identification	Authorization: Section 32 of Public Law 320, 74th Congress, as amended; 7 U.S.C. 612c; section 416 of the Agricultural Act of 1949, as amended; 7 U.S.C. 1431; sections 6, 9, and 13 of the National School Lunch Act, as amended; 42 U.S.C. 1755, 1758, and 1761; section 8 of the Child Nutrition Act of 1966; Public Law 89-642; 42 U.S.C. 1777; Public Law 165, 75th Congress, as amended; 15 U.S.C. 713c. Budget account: 05-34-3539-0-1-702; 05-32-5209-0-2-351. CFDA: 10.550.
Objectives	To improve the diets of school children and needy persons in households and charitable institutions and other individuals in need of food assistance, and to increase the market for domestically produced foods acquired under surplus removal or price support operations.
Financial form	Benefit-in-kind.
Direct recipient	Food is made available through the states for distribution to qualifying households, individuals, schools, charitable institutions, and summer camps. Families must live in a city or county which has the program and must be certified by local welfare assistance as having inadequate income and resources. The family head may be employed, pensioned, striking, or unemployed. Upper limits of allowable income and resources vary with family size and among local jurisdictions. Only expectant or new mothers, infants, and young children from low-income families—those most subject to health problems caused by malnutrition—are eligible for individual assistance. All children in schools, service institutions, and summer camps which participate in the program may benefit from food donations.
Subsidy cost	Fiscal year 1970, $558,376,000; fiscal year 1971, $512,532,000.

EMERGENCY FOOD AND MEDICAL SERVICES

Administering agency	Office of Economic Opportunity.
Identification	Authorization: The Economic Opportunity Act of 1964, as amended by Public Law 91-177, Section 105; 42 U.S.C. 2809, Public Law 88-452. Budget account: 04-37-0500-0-1-999. CFDA: 49.005.
Objectives	To organize comprehensive efforts, in local communities, to provide adequate nutrition for all poor persons. Project grants may be used for: developing new food assistance programs; expanding existing programs, providing transportation to centers, providing medical services to those suffering malnutrition, and so on.
Financial form	Benefit-in-kind.
Direct recipient	Individuals of families who are eligible to receive services from other local OEO supported programs.
Subsidy cost	Fiscal year 1970, $46,100,000; fiscal year 1971, $45,200,000.

C. Medical Care

Considerations of equity and economic efficiency have led many to conclude that the provision of medical care by a completely private market system is somewhat unsatisfactory. Many people believe that our affluence demands that basic medical care be made available to everyone as a matter of right. But when medical prices are high low-income people will be precluded from obtaining even sufficient basic care. This produces a highly inequitable distribution of medical services among various income groups which, it is argued, is no longer acceptable. And with medical prices rising twice as fast as the general price level this problem will become even worse. Not unrelated are the inequities that arise out of an uneven geographical distribution of medical services. Thus, inner city ghetto areas and rural areas are lacking in medical care service while the more affluent regions receive more than a proportionate share. These distributional difficulties go a long way toward explaining the rationale for Federal involvement in the medical care market.

A second rationale is that the improved health of particular individuals produces benefits for all the society in increased productivity and the generally more pleasing social environment that results from a lower level of disease, more rapid recovery from accidents, and similar consequences of medical care. These positive externalities dictate that Government intervene and increase the allocation of resources for medical care over what would obtain with only private market operation.

Finally, it may be argued that the privtae market is inefficient in the sense that it takes too long to increase the supply of medical care, once there has been an increase in the demand for it. One solution to this problem is for Government to assist in the training of health manpower and in the construction of medical facilities.

One way that Government has attempted to deal with these problems is by supplanting the private market with direct Federal medical care services. The Federal Government provides direct medical care for members of the armed services and their dependents, retired veterans, merchant seamen, American Indians, and various beneficiaries of the Public Health Service. This medical care is provided free through facilities that are publicly owned and operated by staffs that are publicly employed. For some public health measures, such as compulsory vaccination, it is difficult to even imagine adequate private markets. Such direct and free provision has not been regarded as involving subsidies in this analysis, but as an alternative to subsidies. Some of this assistance may of course still constitute special benefits in that the program aids a very small percentage of the population.

The subsidy technique of reducing the price of a good is especially useful in medical care of the individual, as distinct from public health measures that affect the community generally. It is useful because of the great amount of medical care that must be supplied if it is offered to all in unlimited quantities free of charge, and because, on the other hand, any direct rationing involves too many painful decisions that may easily lead to injustices. The price mechanism, with prices suitably reduced through subsidies, can make urgent medical care available to even the poorest families, while deterring those who would otherwise overburden the system with minor or imaginary complaints. The subsidized price need not of course be the same to everyone; the subsidy can be made larger for service rendered to low-income families, or to elderly, low-income families. A differential system of prices results.

Federal medical or health care subsidies may be either consumer or producer subsidies. The major consumer programs such as Medicaid and Medicare operate to directly affect the market prices of medical care. There are also producer subsidies intended to allow some, who would not otherwise have the opportunity to do so, to enter the field of medicine. Of course some of these activities could be categorized under education or manpower training as well as here.

Table 5–3 contains a list of major medical and health care subsidies. Many of the programs presented are generalized aggregates of several smaller programs with similar characteristics. As one can see, the major subsidy forms of cash payments, benefit-in-kind, tax subsidies, and credit subsidies are all represented. As with other subsidy areas, this list is no doubt incomplete.[7]

TABLE 5-3.—GROSS BUDGETARY COSTS OF FEDERAL MEDICAL CARE SUBSIDIES, FISCAL YEARS 1970 AND 1971

[In millions of dollars]

Program	1970 actual	1971 estimates
Direct cash payments:		
Health manpower training	226	299
Mental health training and education	120	106
Education and training of health service personnel	90	109
National Institutes of Health training	190	196
Health facilities construction grants	201	170
Health professions facilities construction	146	144
Tax subsidies:		
Deductibility of medical expenses	1,700	1,700
Medical insurance premiums and medical care	1,450	1,450
Credit subsidies:		
Health facilities construction [1]		52
Benefit-in-kind:		
Health insurance for the aged (Medicare)	1,979	2,070
Medical assistance program (Medicaid)	2,638	2,110
Order of magnitude total	8,740	8,406

[1] Calculated by Joint Economic Staff, see data sheet for further details.

Source: "1971 Catalog of Federal Domestic Assistance"; "The Budget of the United States Government, Fiscal Year 1972"; "The Budget of the United States Government—Appendix, Fiscal Year 1972"; "Special Analyses, Budget of the United States Government, Fiscal Year 1972"; Department of Treasury estimates, app. A and B.

[7] The information presented in this section has not taken into account the Comprehensive Health Manpower Training Act of 1971. This act provides new assistance for construction for private nonprofit health professions schools, startup assistance for new schools of medicine and dentistry, aid to schools in financial distress, and further assistance to improve the utilization of health manpower.

HEALTH MANPOWER TRAINING

Administering agency	National Institutes of Health, Department of Health, Education, and Welfare.
Identification	Authorization: Health Professions Educational Assistance Amendments of 1965, Public Law 89–290; as amended by the Health Manpower Act of 1968; Public Law 90–490; 42 U.S.C. 292–98, 42 U.S.C. 241–42. Budget account: 09–30–0812–0–1–651. CFDA: 13.338, 13.339, 13.341, 13.342, 13.358, 13.359, 13.360, 13.361, 13.362, 13.363, 13.364, 13.366, 13.370, 13.305.
Objectives	These programs are designed to increase the supply and improve the quality of the Nation's health manpower by providing financial assistance to health profession institutions and their students. The programs are grouped around 4 general classifications of health manpower: medical, dental and related health professions, nursing education, public health education, and allied health (mostly paramedical education). Within each general area of health manpower training there are programs which provide assistance directly to the students either as grants, fellowships, or loans; and other programs which provide assistance directly to the institution for use in meeting general educational costs. In addition funds are provided in some areas for special projects involving innovation and experimentation of educational techniques.
Financial form	Direct cash payments.
Direct recipient	Depending on the nature of the individual program, either the student enrolled in the educational program or the public or nonprofit private accredited medical education institution receives cash payments for the specified educational use.
Subsidy costs	Fiscal year 1970, $225,725,000; fiscal year 1971, $298,527,000.

MENTAL HEALTH TRAINING AND EDUCATION

Administering agency	Health Services and Mental Health Administration, Department of Health, Education, and Welfare.
Identification	Authorization: Public Health Service Act, Public Law 90–602; secs. 301, 303, 433; 42 U.S.C. 241, 242a, 289c. Budget account: 09–20–0360–0–1–650. CFDA: 13.241, 13.244.
Objectives	To increase the number and improve the quality of people working directly in the mental health field or those engaged in training mental health workers. Special emphasis is given to innovative training projects training mental health workers for projects in alcoholism, drug abuse, crime and delinquency, and suicide prevention.
Financial form	Direct cash payment. In one program the funds are transferred to the institution which selects the applicants eligible for stipends (in accordance with guidelines established for that purpose). In the other program the funds are paid directly to the trainee who need only be sponsored by an appropriate educational institution.
Direct recipient	Public and nonprofit institutions providing training and education in the field of mental health and the trainee himself. The stipends must be awarded to U.S. citizens or persons lawfully admitted for permanent residence.
Subsidy cost	Fiscal year 1970, $119,903,000; fiscal year 1971, $105,861,000.

EDUCATION AND TRAINING OF HEALTH SERVICES PERSONNEL

Administering agency	Department of Medicine and Surgery, Veterans' Administration.
Identification	Authorization: "Medical omnibus" law—Veterans Hospitalization and Medical Services Modernization Amendments of 1966, title I, sec. 101, 38 U.S.C. 4101(b); 38 U.S.C. 4114(b). Budget account: 29–00–0160–0–1–804. CFDA: 64.003.
Objectives	To provide health services training in VA hospitals and clinics in cooperation with medical schools, dental schools, osteopathic schools, nursing schools, other institutions of higher learning, medical centers, and other public or nonprofit bodies.
Financial form	Direct cash payments.
Direct recipient	Student enrolled in health education programs at qualifying institutions, which in some instances include VA hospitals, receive training at VA facilities.
Subsidy costs	Fiscal year 1970, $89,936,000; fiscal year 1971, $109,463,000.

NATIONAL INSTITUTE OF HEALTH TRAINING

Administering agency	National Institutes of Health, Department of Health, Education, and Welfare.
Identification	Authorization: Public Health Service Act, title IV, pts. A–F and title III, pts. I and J; Public Law 90–602. Budget account: 09–30–0807–1–0–651; 09–30–0819–1–0–651; 09–30–0844–1–0–651; 09–30–0846–1–0–651; 09–30–0848–1–0–651; 09–30–0849–1–0–651; 09–30–0851–1–0–651; 09–30–0862–1–0–651; 09–30–0872–1–0–651; 09–30–0873–1–0–651; 09–30–0884–1–0–651; 09–30–0885–1–0–651; 09–30–0886–1–0–651; 09–30–0887–1–0–651. CFDA: 13.300, 13.302, 13.307, 13.308, 13.310, 13.311, 13.316, 13.318, 13.329, 13.334, 13.336, 13.353, 13.354, 13.355, 1.357, 13.367, 13.368, 13.373.
Objectives	In order to increase the supply and improve the quality of health manpower most of the National Institutes of Health offer a limited number of fellowships and training grants to individuals seeking training in the Institute's area of specialization. Institutes having such programs include the Allergy and Infectious Disease Institute, Arthritis and Metabolic Disease Institute, Cancer Institute, Child Health and Human Development Institute, General Medical Science Institute, Institute of Environmental Sciences, Neurological Diseases and Stroke Institute, and the National Library of Medicine. The programs may focus upon a particular area within the scope of the Institute or it may encompass training and education within the full range of each Institute's area of specialization. Excluded from consideration here are those programs which are primarily for research.
Financial form	Direct cash payments.
Direct recipient	The direct recipient will vary among the programs. In most cases the grant is made directly to a public or private nonprofit institution which provides the approved education or training. Where the program involves postdoctoral training the funds may be used by the Institution to pay the salary of the trainee. A few programs provide money directly to the trainee who only need be sponsored by an approved institution.
Subsidy costs	Fiscal year 1970, $190,000,000; fiscal year 1971, $196,000,000.

HEALTH FACILITIES CONSTRUCTION GRANTS

(Hill-Burton)

Administering agency	Health Services and Mental Health Administration, Department of Health, Education and Welfare.
Identification	Authorization: Public Health Service Act, title VI, Public Law 88–443 as amended by Public Law 91–296; 42 U.S.C. 291. Budget account. 09–20–0370–0–1–651. CFDA: 13.220.
Objectives	To assist the States in planning for and providing hospitals, public health centers, State health laboratories, outpatient facilities, emergency rooms, neighborhood health centers, long-term care facilities (nursing homes, chronic disease hopsitals and long-term units of hospitals), rehabilitation facilities, and other related health facilities.
Financial form	Direct cash payments.
Direct recipient	Grants to State and local governments, hospital districts or authorities and private nonprofit organizations whose proposed construction of health facilities is consistent with State plan for health facilities and is approved by a regional office of HEW. Approximately 44 percent of the funds are granted to public institutions, the rest private.
Subsidy cost	Fiscal year 1970, $200,576,000; fiscal year 1971, $170,212,000.

HEALTH PROFESSIONS FACILITIES CONSTRUCTION

Administering agency	National Institutes of Health, Department of Health, Education, and Welfare.
Identification	Authorization: Public Health Service Act, title VIII, part B; Health Professions Educational Assistance Act of 1963, Public Law 99–129 and related statutes. Budget account: 09–30–0812–0–1–651. CFDA: 13.340.
Objectives	In order to increase the Nation's supply of medical care, including health manpower, assistance is provided for the construction of new educational facilities and the expansion of existing facilities.
Direct recipient	Public and nonprofit schools. agencies, and organizations which provide instruction in medicine, dentistry, osteopathy, optometry, public health, pharmacy, podiatry, nursing, and veterinary medicine are eligible for grants. Prior to funding under the program, the school must demonstrate that (1) the teaching program is accredited by the appropriate national professonal association; (2) it has the required matching funds; and (3) it has clear title or leasehold interest in the site.
Financial form	Direct cash payment.
Subsidy cost	Fiscal year 1970, $146,000,000; fiscal year 1971, $144,000,000.

DEDUCTIBILITY OF MEDICAL EXPENSE

Authorization	Section 213—Medical, Dental, etc., Expenses.
Financial form	Tax subsidies.
Description	Medical expenses in excess of 3 percent of adjusted gross income and expenditures for prescribed drugs and medicines in excess of 1 percent of adjusted gross income may be deducted by individuals as itemized nonbusiness deductions. Individuals may also deduct half of the premiums paid for medical-care insurance up to a maximum deduction of $150 per year, without regard to the 3-percent limitations. The deduction beyond 3 percent of medical costs incurred may in large part be a welfare payment designed to protect taxpayers against prohibitively expensive illnesses; the provision has often been defended on these grounds. But others argue that this reduces the overall insurance costs necessary for individuals to protect themselves against such risks. Moreover, the right of individuals to deduct a portion of the costs of insurance premiums is a clear subsidy.
Subsidy costs	Fiscal year 1970, $1,700,000,000; fiscal year 1971, $1,700,000,000.

MEDICAL INSURANCE PREMIUMS AND MEDICAL CARE

Authorization	Section 104—Compensation for injuries and sickness. Section 105—Amounts received under accident and health plans. Section 106—Contributions by employer to accident and health plans.
Financial form	Tax subsidies.
Description	With certain limitations on the maximum values and means of provision, an employer may deduct the costs of providing medical and accident insurance and medical care for his employees and they may exclude such benefits from their total taxable income.
Subsidy costs	Fiscal year 1970, $1,450,000,000; fiscal year 1971, $1,450,000,000.

HEALTH FACILITIES CONSTRUCTION

(Hill-Burton)

Administering agency	Health Services and Mental Health Administration, Department of Health, Education, and Welfare.
Identification	Authorization: Public Health Service Act, title VI, Public Law 91–296; 42 U.S.C. 291. Budget account: 09–20–0370–1–651. CFDA: 13.253.
Objectives	To assist the States in the planning for and provision of hospitals, public health facilities, outpatient facilities, emergency rooms, neighborhood health facilities, emergency rooms, neighborhood health centers, long-term care facilities, rehabilitation facilities, and other related facilities.
Financial form	Credit subsidy (guaranteed loans/debt service payments).
Direct recipient	Under the redirected Hill-Burton program, Federal support for construction of inpatient health facilities such as hospitals and long-term care facilities such as hospitals would be available through guaranteed loans with interest subsidies for private, nonprofit hospitals and direct loans for facilities owned by public agencies.
Interest rate and maturity	The average length of the commitment is 25–30 years. The capitalized value was calculated at 25 years to give a conservative estimate.
Subsidy costs	Fiscal year 1971, annual cumulative payment $4,700,000. Fiscal year 1971, capitalized value at 7½ percent: $52,390,000. Fiscal year 1972, annual cumulative payment $20,600,000. Fiscal year 1972, capitalized value at 6½ percent: $251,275,000. The capitalized value was calculated on the basis of the first year payment in fiscal 1971 and the difference between the first year payment and the cumulative payment for fiscal 1972. What information there is on this program is available in "The Budget of the United States Government—Appendix, Fiscal Year 1972," p. 401.

HEALTH INSURANCE FOR THE AGED

Supplementary Medical Insurance (Medicare)

Administering agency	Social Security Administration, Department of Health, Education, and Welfare.
Identification	Authorization: Social Security Amendments of 1965, title XVIII, part B; Public Law 89–97 as amended by Public Law 90–248; 42 U.S.C. 1395 et seq. Budget account: 09–60–8004–0–7–652. CFDA: 13.801.
Objectives	Provides protection against the costs of health care to persons 65 or over who elect this coverage. The medical services covered in this program are broader than those covered in the medicare program (CFDA 13.800), and do not necessarily require the patient to be hospitalized.
Financial form	Benefit-in-kind. The regular Medicare insurance is provided without charge and funded through a self-financing trust fund. In the supplemental program an enrollee pays a monthly premium of $5.30 (increased to $5.60 effective July 1971) and the aggregate of these premiums is matched by appropriations from Federal funds.
Direct recipient	Nearly everyone 65 or over can apply for medical coverage (during specified enrollment periods). This program, like medicare, provides medical insurance to the aged. It is, however, suplemental to the regular medical care program in that the insurance coverage it provides is broader and more extensive.
Subsidy costs	Fiscal year 1970, $1,979,000,000; fiscal year 1971, $2,070,000,000.

MEDICAL ASSISTANCE PROGRAM

(Medicaid)

Administering agency	Social and Rehabilitation Service, Department of Health, Education, and Welfare.
Identification	Authorization: Title XIX, Social Security Act as amended; Public Law 89–97; Public Law 90–248; Public Law 91–56; 42 U.S.C. 1396, et seq. Budget account: 09–50–0581–0–1–999. CFDA: 13.714.
Objectives	Provides financial assistance to States for medical assistance support of the indigent and "medically needy." The States in turn must provide inpatient and outpatient hospital services, other types of laboratory and X-ray services, skilled nursing home services for individuals 21 years of age or older, physician services, and early and periodic screening diagnosis and treatment. Home care services must also be provided to those who meet eligibility requirements.
Financial form	Benefit-in-kind.
Direct recipient	Funds are transferred to State and local welfare agencies which operate under an HEW approved (medicaid) State plan and comply with all Federal regulations. Individuals receive vouchers for medical services in accordance with State and Federal regulations determining their eligibility and the amount of assistance for which they qualify.
Subsidy costs	Fiscal year 1970, $2,638,000,000; fiscal year 1971, $3,110,000,000.

D. Manpower Subsidies

Manpower subsidies are fundamentally aimed at improving the utilization of labor resources that have been persistently unemployed or underemployed. Improved utilization of this segment of the labor force is in turn desired in order to assist in the achievement of certain overall employment goals, improved labor productivity, and the reduction of poverty. Thus, it appears that Federal manpower subsidies are intended to achieve a relatively complex combination of the economic objectives of employment, efficiency, and income redistribution.

These manpower subsidies are in large part combinations of job training and job creation subsidies. Institutional training programs, such as Job Corps and Manpower Development Training, provide vocational skill instruction in a classroom setting and therefore do not directly provide jobs. On-the-job programs, such as Job Opportunities in the Business Sector and Public Service Careers, provide both training and jobs. In these cases, instead of operating the manpower program directly, the Government usually reimburses employers for the added costs of hiring and training unskilled workers. Finally, the Neighborhood Youth Corps and Operation Mainstream programs create federally subsidized jobs in the public sector that are accompanied by a relatively limited amount of job training. Although these latter programs are a mixture of government employment and subsidy, the subsidly consisting of the amount the wage exceeds the value of the labor provided to government, the entire programs have been included as subsidies here.

The previously mentioned programs all exist. It has recently been suggested that the Federal Government provide direct cash subsidies to supplement the wage rates of low-wage workers. A wage-rate subsidy would, it has been argued, directly increase the remuneration of low-wage workers and, depending upon the wage-rate responsiveness of employers, also increase employment.[8]

Manpower subsidies provide a good illustration of how a subsidy can combine several financial forms into one program. These subsidies usually provide direct cash payments and benefits-in-kind to either the employer or trainee, and in some cases to both. The institutional programs tend to provide both benefit-in-kind training services and cash stipends to trainees. On-the-job programs tend to provide direct cash payments to employers who in turn provide benefit-in-kind training services to trainees. Because of this intermingling of cash and in-kind benefits, we have generalized that the financial form of manpower subsidies is at this stage of analysis most appropriately thought of as both, and have lebeled these subsidies direct cash payments (benefit-in-kind).

Some of the programs listed under this heading might be placed under education. The difference is largely one of the nature of the external effects of the subsidy. If these effects are chiefly alterations in productivity and employment, the subsidy is better listed here. If the effects are those related to education in general, they are perhaps more

[8] See the study paper by Mike Barth for further discussion of wage-rate subsidies. See also the study papers by Ken Bitterman and Daniel Hamermesh for additional analysis of manpower subsidies.

appropriately classified under that heading. And in some cases it may be appropriate to analyze manpower and education subsidies together.

Table 5–4 contains a list of major manpower subsidy programs. In addition to the conventional manpower subsidies we have been discussing above, that distribute their benefits in cash or kind, we have included one tax subsidy that appears to be designed to encourage the employment of labor resources in military service. The gross budgetary cost of these manpower subsidies is estimated to be approximately $2.5 billion in fiscal year 1970.[9]

TABLE 5–4.—GROSS BUDGETARY COSTS OF FEDERAL MANPOWER SUBSIDIES, FISCAL YEARS 1970 AND 1971

[In millions of dollars]

Program	1970 actual	1971 estimated
Direct cash payments (benefit-in-kind):		
Job opportunities-in-business sector	221	210
Public service careers	87	94
Manpower development institutional training	321	361
Job Corps	158	160
Neighborhood Youth Corps	315	475
Operation Mainstream	51	72
Concentrated employment program	187	169
Work incentive program	86	71
On-the-job training for veterans	87	164
Veterans vocational rehabilitation	42	59
Vocational rehabilitation	436	503
Emergency employment assistance [1]		
Tax subsidies:		
Exclusion of military benefits and allowance	550	500
Order of magnitude total	2,541	2,838

[1] Program activity does not begin until fiscal 1972.

Source: "1971 Catalog of Federal Domestic Assistance"; "The Budget of the United States Government, Fiscal Year 1972"; "The Budget of the United States Government—Appendix, Fiscal Year 1972"; "Special Analyses, Budget of the United States Government, Fiscal Year 1972"; Department of Treasury estimates, app. A.

[9] The cost estimates have been made in obligations in order to be consistent with other areas. Obligations may overstate the actual expenditures made in a particular year, however, for a variety of reasons. For fiscal 1970 it is estimated that obligations will exceed outlays by approximately $300 million.

JOB OPPORTUNITIES IN THE BUSINESS SECTOR

Administering agency	Manpower Administration, Department of Labor.
Identification	Authorization: 42 U.S.C. 2571–2620, Public Law 90–636. Budget account: 12–05–0174–0–1–604. CFDA: 17.212.
Objectives	To stimulate private industry's interest in hiring and retraining the disadvantaged. In cooperation with the National Alliance of Businessmen, technical assistance and encouragement is provided to employers to hire, train, and retrain disadvantaged persons. Contracts are let to offset the added costs of counseling, related education, job training, transportation, and the full range of supportive services needed to assist disadvantaged individuals to become productive workers.
Financial form	Direct cash payments (benefit-in-kind).
Direct recipient	All private sector companies, regardless of size, are eligible to participate in this program. A special JOBS Optional component (formerly the MDTA–OJT program) is utilized by smaller employers who cannot provide a wide range of supportive services. Trainees are those poor persons who do not have suitable employment and who are either (1) school dropouts, (2) under 22 years of age, (3) 45 years of age or over, (4) handicapped, or (5) subject to special obstacles to employment.
Subsidy cost	Fiscal year 1970, $221,000,000; fiscal year 1971, $210,000,000.

PUBLIC SERVICE CAREERS

Administering agency	Manpower Administration, Department of Labor.
Identification	Authorization: Title 1B, Economic Opportunity Act 1964, as amended; 42 U.S.C. 2701 et seq.: title II. Manpower Development and Training Act of 1962, as amended: 42 U.S.C. 2571 et seq. Budget account: 12–05–0174–0–1–604. CFDA: 17.224.
Objectives	Public Service Careers provides on the job training and supportive services to enable disadvantaged persons to qualify for jobs with State and local governments and private nonprofit agencies. Funds are provided to State and local governments and private agencies which agree to hire and train disadvantaged persons for jobs. The program incorporates the New Careers program, which concentrates on increasing the critically short supply of trained subprofessional personnel in the health, welfare services, education, and other human services occupations.
Financial form	Direct cash payments (benefit-in-kind).
Direct recipient	State and local governments and private nonprofit agencies which have the capacity to carry out the program objectives. Unemployed or underemployed persons 18 years of age or older.
Subsidy costs	Fiscal year 1970, $87,100,000; fiscal year 1971, $94,000,000.

MANPOWER DEVELOPMENT INSTITUTIONAL TRAINING

Administering agency	Manpower Administration, Department of Labor; Office of Education, Department of Health, Education, and Welfare.
Identification	Authorizaton: Manpower Development and Training Act of 1962, as amended; 42 U.S.C. 2571–2670, Public Law 90–636. Budget account: 12–05–0174–0–1–604. CFDA: 17.215.
Objectives	To provide classroom occupational training, and related supportive services, for unemployed and underemployed persons who cannot obtain appropriate full-time employment.
Financial form	Direct cash payments (benefit-in-kind).
Direct recipient	Individuals who are without employment or who are underemployed and who need training or retraining to gain employment. To receive regular training allowances, an applicant must be unemployed, head of a household, or member of in which head of household is unemployed. Disadvantaged youth, age 17 through 21, may be eligible for youth allowances.
Subsidy cost	Fiscal year 1970, $321,000,000; fiscal year 1971, $361,000,000.

JOB CORPS

Administering agency	Manpower Administration, Department of Labor.
Identification	Authorization: Title I, part A of the Economic Opportunity Act of 1964, as amended, through December 23, 1967; 42 U.S.C. 2711. Budget account: 12–05–0174–0–1–604. CFDA: 17.211.
Objectives	To provide training to disadvantaged youth in a residence away from his normal environment. Enrollees receive room and board; medical and dental care; work clothing; a nominal allowance for purchase of dress clothing; a monthly living allowance of $30 minimum during an enrollee's first months of participation, and up to $50 maximum thereafter; and a readjustment allowance of $50 for each month of satisfactory service for enrollees who complete their Job Corps training or perform satisfactorily for 6 months or longer. An allotment of $25 maximum per month may be paid during the period of service to wives and dependent children of enrollees. Government matches this allotment, making a total of up to $50 for the allottee.
Financial form	Direct cash payments (benefit-in-kind).
Direct recipient	Industries, public or nonprofit agencies having the capabilities to carry out the objectives of the program; and enrollees who are 14 to 21 years old, school dropouts for more than 3 months, unable to find and hold an adequate job, but not having a history of serious criminal or antisocial behavior.
Subsidy cost	Fiscal year 1970, $158,000,000; fiscal year 1971, $160,000,000.

NEIGHBORHOOD YOUTH CORPS

Administering agency	Manpower Administration, Department of Labor.
Identification	Authorization: Economic Opportunity Act of 1964, as amended, title 1B, section 123a (1 and 2) 42 U.S.C. 2701 et seq. Budget account: 12-05-0174-0-1-604. CFDA: 17.222.
Objectives	To provide opportunities to students of low-income families to earn sufficient funds to remain in school while receiving useful work experience and to provide work experience, training, and support services for youths from low-income families who have dropped out of school to enable them to return to school or to acquire skills that will improve their employability. The Neighborhood Youth Corps has three major components: (1) an in-school component which provides part-time work for students of high school age from low-income families; (2) a summer program that provides these students with job opportunities during the summer months; (3) an out of school program to provide economically deprived school dropouts with practical work experience and on-the-job training to encourage them to return to school and resume their education, or if this is not feasible, to help them acquire skills that improve their employability.
Financial form	Direct cash payments (benefit-in-kind).
Direct recipient	The sponsor within each community must be a public or private nonprofit agency capable of planning, administering, coordinating, and evaluating the program. The in-school and summer components are open to students from low-income families, grades nine through 12 (or the equivalent 14-21 year age group). The out-of-school program is open to unemployed youth from low-income families, who are 16 to 17 years of age.
Subsidy costs	Fiscal year 1970, $315,000,000; fiscal year 1971, $475,000,000.

OPERATION MAINSTREAM

Administering agency	Manpower Administration, Department of Labor.
Identification	Authorization: Economic Opportunity Act of 1964, as amended, title 1B, section 123a(3), and title 1E, section 162a(1). Budget account: 12-05-0174-0-1-604. CFDA: 17.223.
Objectives	Provides work-training and employment activities, with necessary supportive services, for chronically unemployed poor adults who have poor employment prospects and are unable, because of age, lack of employment opportunity, or otherwise, to secure appropriate employment or training assistance under other programs.
Financial form	Direct cash payments (benefit-in-kind).
Direct recipient	State and local government agencies and private nonprofit organizations may sponsor projects under this program. Emphasis is placed on establishing projects in rural areas or towns. Trainees are adults 22 years of age or older who are chronically unemployed and have annual family income below the poverty line. Forty percent of enrollment must be adults 55 years of age or older.
Subsidy costs	Fiscal year 1970, $51,000,000; fiscal year 1971, $72,000,000.

CONCENTRATED EMPLOYMENT PROGRAM

Administering agency	Manpower Administration, Department of Labor.
Identification	Authorization: Economic Opportunity Act of 1964, as amended, section 123(a)5. Budget account: 12-05-0174-0-1-604. CFDA: 17.204.
Objectives	Concentrated employment programs are established by priority in urban neighborhoods or rural areas having serious problems of unemployment and subemployment. They coordinate and concentrate Federal manpower efforts to attack the total employment problems of the hardest hit of the disadvantaged in a way that will make a significant impact in the area. The Manpower Administration provides a flexible package of manpower programs, including outreach and recruitment; orientation; counseling and job coaching; basic education; various medical day care, and other supportive services.
Financial form	Direct cash payments (benefit-in-kind).
Direct recipient	Residents of the CEP target area who are disadvantaged.
Subsidy costs	Fiscal year 1970, $186,812,000; fiscal year 1971, $169,000,000.

WORK INCENTIVE PROGRAM

Administering agency	Manpower Administration, Department of Labor.
Identification	Authorization: The Social Security Act of 1967, as amended; Public Law 90–248, 42 U.S.C. 602. Budget account: 09–50–0576–0–1–604. CFDA: 17.226.
Objectives	To move men, women, and out of school youth, age 16 or older from the welfare rolls into meaningful permanent productive employment through appropriate training and related services. Services offered are as follows: (1) placement or on-the-job training and follow-through supportive services for the job ready; (2) work orientation, basic education, skill training, work experience and follow-through supportive services to improve employability for individuals who lack job readiness; and (3) placement in special work projects arranged by prior agreement with public or private nonprofit organizations for individuals not ready for employability development.
Financial form	Direct cash payments (benefit-in-kind).
Direct recipient	Welfare recipients covered by the aid to families with dependent children referred by welfare agencies to the local office of the State employment service.
Subsidy costs	Fiscal year 1970, $85,800,000; fiscal year 1971, $71,000,000.

ON-THE-JOB TRAINING FOR VETERANS

Administering agency	Department of Veterans Benefits, Veterans Administration.
Identification	Authorization: 38 U.S.C. 1651. Budget account: 29–00–0137–0–1–802. CFDA: 64.111.
Objectives	To make service in the Armed Forces more attractive by extending benefits of on-the-job training to those who would choose this type of educational-vocational benefit. This helps to restore lost training and vocational opportunities to those whose career was interrupted by active duty. This program is a segment of the G.I. Bill educational activity.
Financial form	Direct cash payment (benefit-in-kind).
Direct recipient	Any veteran who has served honorably on active duty for more than 180 days, part of which after January 31, 1955 or who was discharged after such date because of a service-connected disability.
Subsidy costs	Fiscal year 1970, $87,000,000; fiscal year 1971, $164,000,000.

VETERANS VOCATIONAL REHABILITATION

Administering agency	Department of Veterans Benefits, Veterans Administration.
Identification	Authorization: 38 U.S.C. 1502. Budget account: 29-00-0137-0-1-802. CFDA: 64.116.
Objectives	To train veterans for the purpose of restoring employability, to the extent consistent with the degree of disablement, lost by virtue of a handicap due to a service-connected disability. The program provides for the entire cost of tuition, books, fees, and training supplies. During training and for 2 months following rehabilitation, a veteran will be paid a subsistence allowance in addition to his disability compensation. These monthly allowances range from $118 to $210 plus $6 for each dependent in excess of two if the veteran is not receiving additional compensation for such dependents. Non-interest-bearing loans not to exceed $100 may be advanced to participants in the program. Usually no training period can exceed 4 years.
Financial form	Direct payments (benefit-in-kind).
Direct recipient	Veterans of World War II and later service who, as a result of a service-connected compensable disability are determined to be in need of vocational rehabilitation to overcome their handicap.
Subsidy costs	Fiscal year 1970, $42,050,266; fiscal year 1971, $58,775,000.

VOCATIONAL REHABILITATION

Administering agency	Social and Rehabilitation Service, Department of Health, Education, and Welfare.
Identification	Authorization: Vocational Rehabilitation Act, as amended; 29 U.S.C., chap. 4. Randolph-Sheppard Act; 20 U.S.C., chap. 6A, and 29 U.S.C. 32 and 47. Budget account: 09-50-0503-0-1-703. CFDA: 13.746.
Objectives	To provide vocational rehabilitation services to persons with mental and physical handicaps. Federal and State funds are used to cover the costs of providing rehabilitation services which include: diagnosis, comprehensive evaluation, counseling; training, reader services for the blind, interpreter services for the deaf, and employment placement. Also assist with payment for medical and related services and prosthetic and orthotic devices, transportation to secure vocational rehabilitation services, maintenance during rehabilitation, tools, licenses, equipment, supplies, and other goods and services; vending stands for handicapped persons including management and supervisory services; and assistance in the construction and establishment of rehabilitation facilities. Services are provided to families of handicapped individuals when such services will contribute substantially to the rehabilitation of such individuals who are being provided vocational rehabilitation services.
Financial form	Direct payments (benefit-in-kind).
Direct recipient	State agencies administer the vocational rehabilition services based on the presence of a physical or mental disability, the existence of a substantial handicap to employment, and a reasonable expectation that vocational rehabilitation services may render the individual fit to engage in a gainful occupation.
Subsidy costs	Fiscal year 1970, $435,999,044; fiscal year 1971, $503,000,000.

EMERGENCY EMPLOYMENT ASSISTANCE

Administering agency	Manpower Administration, Department of Labor.
Identification	Authorization: Emergency Employment Act of 1971; Public Law 92–54. Budget account: 12–05–0177–0–1–604. CFDA: 17.229.
Objectives	To provide public service employment for unemployed persons and assist State and local communities in furnishing needed public services during periods of high unemployment.
Financial form	Direct cash payments (benefit-in-kind). At least 85 percent of the total funds must be expended for wages and employment benefits to persons employed in public service jobs under the program. The remaining funds can be used for program staff and administration, training, and other manpower services. The program consists of two types of funds: regular and special employment assistance funds. The regular fund is available for obligation only when the national rate of unemployment exceeds 4.5 percent for three or more consecutive months. At least 80 percent of the funds must be apportioned among the States and within each State, taking into consideration the number of unemployed persons. The special employment assistance fund is made available to those areas with an unemployment rate of 6 percent or more for 3 consecutive months.
Direct recipient	Any unemployed or underemployed person is eligible for the program, but all significant segments of the unemployed population must be equitably served, with preference to the disadvantaged, youth, older workers, recent veterans of the Korea or Indochina wars, welfare recipients, recently displaced workers, and former participants in manpower programs.
Subsidy costs	No program activity until fiscal year 1972, when obligations for the regular fund are $750 million and $250 million for the special fund.

EXCLUSION OF MILITARY BENEFITS AND ALLOWANCES

Authorization	Sec. 112—Certain combat pay of members of the Armed Forces. Sec. 113—Mustering-out payments for members of the Armed Forces. Sec. 119—Meals or lodging furnished for convenience of the employer.
Financial form	Tax subsidies.
Description	The supplements to salaries of military personnel by provision of quarters and meals on military bases and off-base quarters allowances for military families are excluded from taxation. In addition, an exclusion from gross income for members of the Armed Forces serving in combat zones or hospitalized as the result of wounds, disease, or injury incurred while serving in such a zone (this is presently limited to personnel whose service in a combat zone was between June 24, 1940, and Jan. 1, 1955). For enlisted personnel, this exclusion is granted for all pay received for service in the combat zone or while hospitalized; for commissioned officers, the exclusion is limited to the first $200 of pay received each month. Because the size of this tax benefit is determined by the taxpayer's marginal rate, the largest subsidies go to the higher paid military personnel.
Subsidy costs	Fiscal year 1970, $550,000,000; fiscal year 1971, $500,000,000.

E. Education

Education is an outstanding example of a service that is supplied in many modes simultaneously, with and without the pricing mechanism, and by both government and the private sector. The reasons education is offered in more than one way illustrate the significance of the distinctions drawn in the present study between rationing through the price system at full-cost pricing, rationing through that mechanism at below-cost pricing (subsidies), and rationing through direct control and allocation. Moreover, rationing through direct control is in this instance coupled with compulsory acceptance of a minimum amount of this directly rationed service, or its equivalent obtained through the private school system. This fact enhances the distinction between a no-charge government service and a subsidized service.

Elementary education is offered in a manner that allows exclusion of any particular recipient of this service. In this sense, it may be said to be supplied in the marketing mode. But use of the marketing mode does not, as this example shows, necessarily imply simultaneous use of the price mechanism. It does imply some method of exclusion and of rationing the amount of service to those who are not excluded.

Private schools achieve this exclusion and rationing by using the pricing mechanism. But they combine this with direct rationing, since they do not stand ready to sell all the education that their clients might want at the announced tuition charge. The price is often subsidized for low-income households by private gifts and to some degree by government funds.

Public schools achieve exclusion and rationing almost solely by the direct control method. They obviously do not supply the full amount of education that some families would take at the zero price if a choice were given them. At the same time, the education law requires certain other families to consume more of this free good (or to buy more of it from private schools) than these families desire. They are pushed beyond their saturation level for this service for social reasons. A subsidy, by itself, obviously cannot achieve the forcing of an individual beyond his own saturation level.

Much the same holds for secondary education.

At the college and university levels few governments offer the service completely free of charge—there is no forced consumption—and the private sector plays a larger relative role than in elementary or secondary education.

The supplying of education free of charge, or its subsidization, reflects (1) a community consensus on the redistribution of income in kind by this method, and (2) an appreciation of the improved environment for everyone that comes about through the presence of educated neighbors, businessmen, customers, and fellow citizens. This benefit is an "externality"—the educating of any one individual affects others, and he cannot be expected to defray all the cost of his education since he himself receives only part of the benefit from it. The political process must be used, to reflect the sum of the individual desires to have other persons educated, and to compel them, if need be, to absorb a certain minimum amount of this good.

The role of the Federal Government in supplying education is largely restricted to giving grants to the States and local units to assist them in supplying education free of charge, and to grants or loans to private and public institutions of higher learning and their students to inject a further element of subsidy into the pricing mechanism. The first of these aids, the Federal grants to the States and local governments, do not fall within the definition of subsidy adopted for this study, since they do not exert their effects through the pricing mechanism. The second group of aids to colleges and universities and their students are subsidies, in this sense, and are described below.

As was the case in the medical area, which overlaps education and training, Federal higher education subsidies may be either consumer or producer subsidies. A wide variety of fellowship and training payments, such as Educational Opportunity Grants, National Defense Student Loans and Veterans Education Assistance, are examples of consumer subsidies for education. There are also producer subsidies intended to increase the supply and quality of higher-education manpower and facilities. These may be fellowship and training payments to instructors or aid to institutions for construction and operating costs. Research activities that do not appear to contain an aspect of training have been excluded.

A partial list of higher education subsidies is contained in table 5–5. As one can see, the major subsidy forms of cash payments, benefit-in-kind, credit subsidies, and tax subsidies are all represented. In the case of institutional aid, it has been impossible to distinguish between direct cash payments and benefits-in-kind, and in these cases the subsidy form has been labeled as direct cash payments (benefit-in-kind). The gross budgetary costs of these educational subsidies is estimated at approximately $3.5 billion for fiscal year 1970.

It is quite possible that these cost estimates significantly underestimate the total cost of subsidies to higher education. In part because a significant portion of education and training activity has been allocated to the medical care area. Another reason is that it has not been possible to identify all the subsidies in the complex education area. Identification of all fellowship and training payments as distinct from contract research has been particularly difficult. A much more complete investigation of education will be necessary before the full costs of these subsidies are determined.[10]

TABLE 5-5.—GROSS BUDGETARY COSTS OF FEDERAL EDUCATION SUBSIDIES, FISCAL YEARS 1970 AND 1971

[In millions of dollars]

Program	1970 actual	1971 estimated
Direct cash payments:		
Educational opportunity grants	162	167
Higher education work study	155	164
Science education support	120	101
Veterans educational assistance	939	1,568
Strengthening developing institutions	30	34
Higher education instructional equipment	0	7
College library resources	10	10
Higher education academic facilities construction	40	43
Foreign language and area studies	15	8
Howard University	57	38
Higher education—land-grant colleges and universities	22	13
Institutional support for science	45	35
University community service	9	9
Promotion of the humanities	10	19
Promotion of the arts	12	19
Miscellaneous educational training and fellowships	350	335
Tax subsidies:		
Deductibility of contributions to educational institutions	200	200
Exclusion of scholarship and fellowships	60	60
Additional personal exemption for students	525	500
Credit subsidies:		
Higher education facilities loans	46	
Higher education facilities interest subsidy	45	222
College housing loans	84	
National defense student loans	76	
Guaranteed student loans	179	
Law enforcement education aid	4	
Benefit in kind:		
Surplus property utilization	409	246
Order of magnitude total	3,604	

Source: "1971 Catalog of Federal Domestic Assistance"; "The Budget of the U.S. Government, Fiscal Year 1972"; "The Budget of the U.S. Government—Appendix, Fiscal Year 1972"; "Special Analyses, Budget of the U.S. Government, Fiscal Year 1972"; Department of Treasury estimates, app. A and B.

EDUCATIONAL OPPORTUNITY GRANTS

Administering agency	Office of Education, Department of Health, Education and Welfare.
Identification	Authorization: Title IV–A, Higher Education Act of 1965. Budget account: 09–40–0293–0–1–602. CFDA: 13.418.
Objectives	To enable students of exceptional financial need to pursue higher education by providing grant assistance for educational expenses.
Financial form	Direct cash payments.
Direct recipient	Institutions of higher education who in turn provide it to undergraduate students.
Subsidy cost	Fiscal year 1970, $162,205,000; fiscal year 1971, $167,070,000.

[10] For further analysis of higher education subsidies see especially the study papers written by Robert Hartman and David Mundel.

HIGHER EDUCATION WORK-STUDY

Administering agency	Office of Education, Department of Health, Education, and Welfare.
Identification	Authorization: Originally, Economic Opportunity Act of 1964, title I, pt C, Public Law 88-452; Higher Education Act of 1965, title IV, pt C, Public Law 89-329; 20 U.S.C. 1011. Budget account: 09-40-0293-0-1-602. CFDA: 13.463.
Objectives	To promote the part-time employment of students, particularly students from low-income families, who need assistance to pursue courses of study at institutions of higher education.
Financial form	Direct cash payments.
Direct recipient	Accredited (and certain other) institutions of higher education, including junior colleges and institutions which provide to high school graduates at least a 6-month course of training leading to gainful employment in a recognized occupation. Area vocational schools also may participate, but, of their students, only those who are high school graduates are eligible. Proprietary institutions of higher education also may be found eligible. How much of the subsidy involved in the work-study program accrues to the employee and how much to fellow students who receive the benefits of his work at reduced wages, is a matter for further analysis.
Subsidy cost	Fiscal year 1970, $154,650,000; fiscal year 1971, $164,321,000.

SCIENCE EDUCATION SUPPORT

Administering agency	National Science Foundation.
Identification	Authorization: National Science Foundation Act of 1950, amendments through July 18, 1968; Public Law 81-507; 64 Stat. 149; 42 U.S.C. 1861-1875. Budget account: 31-45-0100-0-1-605. CFDA: 47.009, 47.034, 47.032, 47.010, and others.
Objectives	To encourage excellence in the training of scientists needed by the Nation to keep pace with rapid advances and to promote progress in science and technology. This is to be achieved through activities that include the training and education of undergraduates, graduate students, and instructors.
Financial form	Direct cash payments (benefit-in-kind). Funds may be used for both operating costs and participant support. Operating costs may include: administrative and instructional staff, secretarial and clerical personnel, fringe benefits, office supplies, laboratory and instructional materials, field trips, and an allowance for indirect costs. Participant support may include: stipend and dependency and travel allowances.
Direct recipient	A wide variety of educational institutions and their associated students.
Subsidy costs	Fiscal year 1970, $120,180,000; fiscal year 1971, $100,641,000.

VETERANS EDUCATIONAL ASSISTANCE

Administering agency	Department of Veterans Benefits, Veterans Administration.
Identification	Authorization: 38 U.S.C. 1651. Budget account: 29-00-0137-0-1-802. CFDA: 64.111.
Objectives	To make service in the Armed Forces more attractive by extending benefits of a higher education to qualified young persons who might not otherwise be able to afford such an education; restore lost educational opportunities to those whose education was interrupted by active duty after January 31, 1955.
Financial form	Direct cash payments.
Direct recipient	Any veteran who has served honorably on active duty for more than 180 days, part of which occurred after January 31, 1955 or who was discharged after such date because of a service-connected disability.
Subsidy costs	Fiscal year 1970, $938,775,099; fiscal year 1971, $1,567,800,719.

STRENGTHENING DEVELOPING INSTITUTIONS

Administering agency	Office of Education, Department of Health, Education, and Welfare.
Identification	Authorization: Higher Education Act of 1965, title III, as amended; sections 301-306; Public Law 89-329; Public Law 80-752; Public Law 90-575; 20 U.S.C. 1051-1056. Budget account: 09-40-0293-0-1-602. CFDA: 13.454.
Objectives	To assist developing colleges, qualifying within the definition of the act, in strengthening their academic, administrative, and student services programs so that they may participate adequately in the higher education community. Developing institutions may receive funds for cooperative arrangements, national teaching fellowships, and professors emeriti. Cooperative arrangements may be between two or more developing institutions, between developing institutions and better established institutions, or between developing institutions and other agencies with whom they can share resources. National teaching fellowships are awarded to outstanding graduate students and to junior faculty members of colleges and universities to teach at developing institutions. Professors emeriti support is for professors retired from established colleges to teach and to conduct research in developing institutions.
Financial form	Direct cash payments (benefit-in-kind).
Direct recipient	A developing college or institution of higher learning.
Subsidy costs	Fiscal year 1970, $30,000,000; fiscal year 1971, $33,850,000.

HIGHER EDUCATION INSTRUCTIONAL EQUIPMENT

Administering agency	Office of Education, Department of Health, Education, and Welfare.
Identification	Authorization: Higher Education Act of 1965, title VI, Public Law 89–329, amended Public Law 89–752, amended Public Law 90–575; 20 U.S.C. 1121, 45 CFR 171.1–171.12. Budget account: 09–40–0293–0–1–602. CFDA: 13.518.
Objectives	To improve the quality of undergraduate instruction in institutions of higher education by providing financial assistance on a matching basis for the acquisition of instructional equipment, materials, and related minor remodeling.
Financial form	Direct cash payments (benefit-in-kind).
Direct recipient	Public or nonprofit institutions of higher education, including trade and vocational schools or combinations of such institutions are eligible. These institutions must offer not less than a 1-year program of training to prepare students for gainful employment in a recognized occupation as defined in the Higher Education Act of 1965, as amended.
Subsidy costs	Fiscal year 1970, none; fiscal year 1971, $7,000,000.

COLLEGE LIBRARY RESOURCES

Administering agency	Office of Education, Department of Health, Education, and Welfare.
Identification	Authorization: Higher Education Act of 1965, title II–A, as amended sections 201 to 208, 1201 to 1204; Public Law 89–329; Public Law 90–575; 20 U.S.C. 1021–1028, 1141–1144. Budget account: 09–40–0212–0–1–608. CFDA: 13,406.
Objectives	This program authorizes grants to institutions of higher education to assist and encourage them in the acquisition of library materials and thereby improve educational opportunity for students.
Financial form	Direct cash payments (benefit-in-kind).
Direct recipient	Institutions which meet the definition of an institution of higher education as stated in section 131.2(i) of the regulations (45 CFR), and meet maintenance-of-effort requirements for library purposes, and materials as stated in section 131.7 of the regulations (45 CFR).
Subsidy costs	Fiscal year 1970, $9,816,000; fiscal year 1971, $9,900,000.

HIGHER EDUCATION ACADEMIC FACILITIES CONSTRUCTION

Administering agency	Office of Education, Department of Health, Education, and Welfare.
Identification	Authorization: Higher Education Facilities Act of 1963, as amended; title I, section 103; Public Law 88–204; Public Law 89–329; Public Law 89–752; Public Law 90–575; 20 U.S.C. 701. Budget account: 09–40–0293–0–1–602. CFDA: 13,459.
Objectives	To provide grants to higher education institutions to finance the construction, rehabilitation, and improvement of undergraduate facilities.
Financial form	Direct cash payments (benefit-in-kind).
Direct recipient	Public community colleges and public technical institutes where there is an urgent need for expansion of student enrollment capacity.
Subsidy costs	Fiscal year 1970, $40,365,372; fiscal year 1971, estimate, $43,000,000.

FOREIGN LANGUAGE AND AREA STUDIES

Administering agency	Office of Education, Department of Health, Education, and Welfare.
Identification	Authorization: National Defense Education Act of 1958, title VI, section 601(a); Public Law 85–864, as amended; 72 Stat. 1593; 20 U.S.C. 511. Budget account: 09–40–0291–0–1–602. CFDA: 13.435, 13.436.
Objectives	To promote instruction in modern foreign languages and area studies critical to national needs by supporting the establishment and operation of centers and summer intensive language programs at U.S. colleges and universities.
Financial form	Direct cash payments (benefit-in-kind).
Direct recipient	Accredited American colleges and universities with appropriate resources and curriculum and students enrolled at same institutions.
Subsidy costs	Fiscal year 1970, $15,282,000; fiscal year 1971, $8,000,000.

HOWARD UNIVERSITY

Administering agency	Department of Health, Education, and Welfare.
Identification	Authorization: Department of Health, Education, and Welfare Appropriation Act, 1971. Budget account: 09–79–0106–0–1–602. CFDA: Not listed.
Objectives	For partial support of Howard University.
Financial form	Direct cash payments (benefit-in-kind).
Direct recipient	Howard University and its students and faculty.
Subsidy cost	Fiscal year 1970, $56,492,000; fiscal year 1971, $38,197,000.

HIGHER EDUCATION—LAND-GRANT COLLEGES AND UNIVERSITIES

Administering agency	Office of Education, Department of Health, Education, and Welfare.
Identification	Authorization: Morrill Act of 1862, as amended; 12 Stat. 503; 7 U.S.C. 301; Second Morrill Act of 1890, as amended; 26 Stat. 417; 7 U.S.C. 322 and 323; Bankhead-Jones Act, as amended; 49 Stat. 439; Public Law 182; 7 U.S.C. 329. Budget account: 09–40–0207–0–1–602. CFDA: 13.453.
Objectives	Grants to land-grant colleges and universities to support instruction in agriculture, mechanic arts, English, mathematics, science, economics, and specialized teacher training in agriculture, mechanic arts, and home economics.
Financial form	Direct cash payments (benefit-in-kind).
Direct recipient	Each of the 50 States, the District of Columbia, and Puerto Rico are eligible to receive grants for land-grant institutions of higher education. No awards are made directly to students.
Subsidy costs	Fiscal year 1970, $21,961,000; fiscal year 1971, $12,680,000.

INSTITUTIONAL SUPPORT FOR SCIENCE

Administering agency	National Science Foundation.
Identification	Authorization: National Science Foundation Act of 1960, amendments through July 18, 1968; Public Law 81-507; 64 Stat. 149; 42 U.S.C. 1861-1875. Budget account: 31-45-0100-0-1-605. CFDA: 47.012.
Objectives	To help maintain a strong academic base for science by assisting institutions of higher education to follow their own plans and priorities, as indicated by local circumstances, through use of these funds for direct costs of research and science education. Funds may be used at the discretion of the educational institution for the direct costs of research and science education activities. Funds may not be used for indirect costs.
Financial form	Direct cash payments (benefit-in-kind).
Direct recipient	Institutions of higher education in the United States or its territories and possessions which during fiscal year 1969, received a research award from any one of several Federal departments or agencies, other than the U.S. Public Health Service, reporting fiscal year 1969 obligations to the Committee on Academic Science and Engineering of the Federal Council for Science and Technology. In addition, grants made by the Foundation for Research Training under the programs of undergraduate research participation for college teachers will establish eligibility.
Subsidy costs	Fiscal year 1970, $44,701,000; fiscal year 1971, $34,500,000.

UNIVERSITY COMMUNITY SERVICE

Administering agency	Office of Education, Department of Health, Education, and Welfare.
Identification	Authorization: Higher Education Act of 1965. Title I; Public Law 89-329; 20 U.S.C. 1001 as amended by Public Law 90-575; 20 U.S.C. 1001, 1005, and 1006. Budget account: 09-40-0212-0-1-608. CFDA: 13.491.
Objectives	To encourage colleges and universities to assist in the solution of community problems by strengthening those community service and continuing education programs, that are designed to provide communities with problem-solving assistance. A community-service program under this act means an educational program, activity, or service.
Financial form	Direct cash payments (benefit-in-kind).
Direct recipient	Accredited institutions of higher education apply to the State agencies for program funds and to administer programs. Programs are provided in turn to community participants.
Subsidy costs	Fiscal year 1970, $9,474,389; fiscal year 1971, $9,374,403.

PROMOTION OF THE HUMANITIES

Administering agency	National Endowment for the Humanities, National Foundation on the Arts and the Humanities.
Identification	Authorization: National Foundation on the Arts and Humanities Act of 1965; Public Law 89-209 as amended by Public Law 90-348 and Public Law 91-346; 20 U.S.C. 961-3. Budget account: 31-35-0100-0-1-608. CFDA: 45.101, 45.108, 45.107, 45.106, 45.105, 45.102.
Objectives	To strengthen all levels of the educational system with increasing emphasis on support of innovative approaches to humanistic learning in institutions of higher education. Public programs in humanistic education of adults are supported. Fellowships are provided for teachers and scholars working in the area.
Financial form	Direct cash payments (benefit-in-kind).
Direct recipient	Educational institutions, nonprofit institutions, students, and instructors working in the area.
Subsidy costs	Fiscal year 1970, $9,583,000; fiscal year 1971, $18,562,000.

PROMOTION OF THE ARTS

Administering agency	National Endowment of the Arts, National Foundation of the Arts and Humanities.
Identification	Authorization: National Foundation on the Arts and Humanities Act of 1965; Public Law 89-209 as amended by Public Law 90-348 and Public Law 91-346; 20 U.S.C. 961-3. Budget account: 31-35-0100-0-1-608. CFDA: 45.001, 45.002, 45.003, 45.004, 45.005, 45.006, and others.
Objectives	Grants are made to individual artists, institutions, organizations, and State arts councils. Programs assist individual artists, sustain independent artistic institutions, increase citizen participation and enjoyment of the arts, encourage productions of cultural significance, and expand audiences for the arts.
Financial form	Direct cash payments (benefit-in-kind).
Direct recipient	Individual artists and nonprofit institutions associated with the arts.
Subsidy costs	Fiscal year 1970, $12,078,000; fiscal year 1971, $19,111,000.

MISCELLANEOUS EDUCATION AND TRAINING FELLOWSHIPS

Administering agency	Almost all executive agencies.
Identification	Authorization: Higher Education Act of 1965, National Defense Education Act of 1958, Education Professions Development Act, Education of the Handicapped Act, National Science Foundation Act of 1950, National Sea Grant College and Program Act of 1966, Radiation Control for Health and Safety Act of 1968, Atomic Energy Act of 1954, Water Quality Act of 1965 and 1970, Omnibus Crime Control and Safe Streets Act of 1968, and others. Budget account: Various. CFDA: 13.407, 13.416, 13.417, 13.425, 13.434, 13.451, 13.461, 13.462, 13.468, 13.501, 13.506, 13.507, 13.508, 13.509, 13.514, 13.740, 47.009, 16.504, 66.410, 24.017, 13.510, 66.201, 11.417, 11.418, 13.421, 13.490, 13.402, 13.473, 13.489, 13.405, 47.032, 47.019, 47.034. (This is a partial list.)
Objectives	To promote educational training generally within the higher education system. Some of these programs are aid to general educational training, others are quite specific training such as radiation specialists or nuclear engineers. They all have in common that the training occurs within the context of the higher education system and that they are specifically for training. A large amount of training, particularly of graduate students, is funded through research grants. This has been excluded here because of the difficulty in separating a payment to train for research from a payment to purchase research services.
Financial form	Direct cash payments (benefit-in-kind).
Direct recipient	Varies with individual program. In some cases grants are made directly to the student, in others the money is given to the institution which then disburses it in the form of cash payment, lower tuition, educational supplies, etc.
Subsidy costs	Fiscal year 1970, $350,000,000; fiscal year 1971, $335,000,000. These figures represent only a partial estimate of the total funds devoted to educational training. The programs included here are those readily identifiable and surely underestimate the total magnitude of these programs.

DEDUCTIBILITY OF CONTRIBUTIONS TO EDUCATIONAL INSTITUTIONS

Authorization	Section 170—Charitable, etc. Contributions and gifts.
Financial form	Tax subsidies.
Description	Contributions to nonprofit educational institutions are allowed as an itemized nonbusiness deduction for individuals. The deduction is generally limited to 30 percent of adjusted gross income for contributions to organizations, including educational institutions, supported by the general public. The exemption from taxation of money or property devoted to charitable and other purposes is based upon the theory that the Government is compensated for the loss of revenue by its relief from financial burden which would otherwise have to be met by appropriations from public funds, and by the benefits resulting from the promotion of the general welfare. The United States derives no such benefit from gifts to foreign institutions, and the proposed limitation is consistent with the above theory. If the recipient, however, is a domestic organization the fact that some portion of its funds is used in other countries for charitable and other purposes (such as missionary and educational purposes) will not affect the deductibility of the gift. (Sec. 23 (q) of the Revenue Code of 1939.)
Subsidy costs	Fiscal year 1970, $200,000,000; fiscal year 1971, $200,000,000.

EXCLUSION OF SCHOLARSHIPS AND FELLOWSHIPS

Authorization	Section 117 — Scholarships and fellowship grants.
Financial form	Tax subsidies.
Description	Recipients of scholarships and fellowships may exclude such amounts from taxable income, subject to certain limitations.
Subsidy costs	Fiscal year 1970, $60,000,000; fiscal year 1971. $60,000,000.

ADDITIONAL PERSONAL EXEMPTION FOR STUDENTS

Authorization	Section 151—Allowance of deductions for personal exemptions (e)(1)(B)(ii) refers to "student."
Financial form	Tax subsidies.
Description	Taxpayers may claim personal exemptions for dependent children over 18 who receive $600 or more of income per year only if they are full-time students. The student may also claim an exemption on his own tax return, in effect providing a double exemption one on the parents' tax return and one on the student's. Foster children were added to the definition of dependents by the Tax Reform Act of 1969 thus allowing the provision referred to above to apply to foster children when the condition of being a student is satisfied.
Subsidy costs	Fiscal year 1970, $525,000,000; fiscal year 1971, $500,000,000.

HIGHER EDUCATION FACILITIES LOANS

Administering agency	Office of Education, Department of Health, Education, and Welfare.
Identification	Authorization: Higher Education Facilities Act of 1963, Public Law 88–204, Dec. 16, 1963. 77 Stat. 363, 20 U.S.C. 741. Budget account: 09–40–4312–0–3–602. CFDA: 13.458 (1970 CFDA).
Objectives	To finance construction of academic facilities. One-fourth of development cost must be financed from non-Federal sources. Programs being replaced by higher education facilities interest subsidy.
Financial form	Credit aids (direct loans).
Direct recipient	Public or private institutions of higher education or higher education building agencies. A building agency is any agency other than the university, e.g. a State government, State agency, or private agency.
Interest rate and maturity	3 percent. 40-year maturity.
Subsidy costs	Gross outlays, 1970: $102,000.000. Capitalized value at 7½ percent: $46,000,000.

HIGHER EDUCATION FACILITIES INTEREST SUBSIDY

Administering agency	Office of Education, Department of Health, Education, and Welfare.
Identification	Authorization: Higher Education Facilities Act of 1963, as amended; title III, section 306; Public Law 90–575; 20 U.S.C. 746. Budget account: 09–40–0293–0–1–602. CFDA: 13.457.
Objectives	To provide annual interest grants to institutions of higher education and higher education building agencies to reduce the cost of borrowing from private sources for construction, rehabilitation, and improvement of academic facilities. Replaces direct loan program.
Financial form	Credit aids (debt service payment). Institutions of higher education may, after approval by the Office of Education, arrange private long-term construction financing and receive annual interest grants which will reduce the interest cost of such borrowing to the institution to 3 percent.
Direct recipient	Public or private nonprofit institutions of higher education or higher education building agencies.
Interest rate and maturity	3 percent—HEW pays any interest in excess of 3 percent. HEW assumes no liability for the principal or 3 percent of the interest. 30-year average maturity.
Subsidy costs	Fiscal year 1970 (new grant obligations), $3-793,000. Fiscal year 1971 (new grant obligations), $17,200,000. Fiscal year 1970, capitalized value at 7½ percent: $44,797,000. Fiscal year 1971, capitalized value at 6½ percent: $221,998,000.

COLLEGE HOUSING LOANS

Administering agency	Housing Production and Mortgage Credit/FHA, Department of Housing and Urban Development.
Identification	Authorization: Housing Act of 1950, as amended, title VI, Public Law 81–475, 64 Stat. 48, 77; 12 U.S.C. 1749. Budget account: 25–02–4058–0–3–602. CFDA: 14.100.
Objectives	To help colleges and hospitals finance construction or purchase of housing and related facilities.
Financial form	Credit aids (direct loans).
Direct recipient	Public or private nonprofit colleges and universities offering at least a 2-year program acceptable for full credit toward a bachelor's degree and public or private nonprofit hospitals operating nursing schools or internship and resident programs are eligible. HUD loans will be available only to institutions unable to borrow in the private market at a reasonable interest rate under the debt service grant program.
Interest rate and maturity	3 percent. Interest rate shall be the lower of 3 percent per annum or the average interest rate on all interest bearing obligations of the United States plus one-fourth of 1 percent. 40-year maturity.
Subsidy costs	Gross outlays, 1970; $184,000,000. Capitalized value at 7½ percent: $84,000,000.

NATIONAL DEFENSE STUDENT LOANS

Administering agency	Office of Education, Department of Health, Education, and Welfare.
Identification	Authorization: Title II of the National Defense Education Act of 1958, Public Law 85–864; 72 Stat. 1583–1587; 20 U.S.C. 421–429. Budget account: 09–40–0293–0–1–602. CFDA: 13.471.
Objectives	To provide low-interest, long-term loans to qualified students in need of financial assistance in order to pursue a full-time course of study at an institution of higher education.
Financial form	Credit aids (direct loans).
Direct recipient	Undergraduates and graduate students enrolled on a full-time basis at both public and private institutions of higher education.
Interest rate and maturity	Interest free while student is in school; 3 percent during repayment period. 13-year maturity.
Subsidy costs	Gross outlays, 1970: $217,000,000. Capitalized value at 7½ percent: $76,000,000.

GUARANTEED STUDENT LOANS

Administering agency	Office of Education, Department of Health, Education, and Welfare.
Identification	Authorization: Higher Education Act of 1965, as amended, title IV–B, section 421; Public Law 89–329; 20 U.S.C. 1071; 45 CFR 177, 177.1–177.44, 178. 178.1–178.44; Emergency Insured Student Loan Act of 1969; Public Law 91–95; 45 CFR 177.4. Budget account: 09–40–0293–0–1–602. CFDA: 13.460.
Objectives	This program authorizes loans for educational expenses available from eligible private lenders to undergraduate and graduate students enrolled in eligible institutions.
Financial form	Credit aids (guaranteed and insured loans).
Direct recipient	The program will vary from State to State but generally, any U.S. citizen, national or person in the United States for other than a temporary purpose, who is enrolled or accepted for enrollment on at least a half-time basis at an eligible postsecondary school.
Interest rate and maturity	Interest free while student is in school—average period of free interest is 3 years; 7 percent during repayment period. 13-year maturity.
Subsidy costs	Loans guaranteed, 1970; $840,000,000. Capitalized value at 7½ percent: $179,000,000. In Appendix B of "Public Policy for Higher Education," Brookings forthcoming, Robert Hartman discusses the somewhat unique features of this subsidy. Most of the budgetary cost of this subsidy occurs because the government pays the interest for approximately the first three years. It is interesting to note that the U.S. budget (fiscal year 1972, p. 447) carries these interest costs on a cumulative basis, labeled "interest on prior year loans," as $113 million for fiscal year 1970.

LAW ENFORCEMENT EDUCATION PROGRAM—STUDENT FINANCIAL AID

Administering agency	Law Enforcement Assistance Administration, Department of Justice.
Identification	Authorization: Section 406, Omnibus Crime Control and Safe Streets Act of 1968; Public Law 90–351; 42 U.S.C. 3741–3746, as amended by Public Law 91–644 (Jan. 2, 1971). Budget account: 11–21–0400–0–1–908. CFDA: 16.504.
Objectives	Professionalization of criminal justice personnel through higher education (including policy, courts, and corrections professions).
Financial form	Credit aids (direct loans).
Direct recipient	Accredited institutions of higher education offering at least 15 semester hours "directly related" law enforcement courses. Loans not to exceed $1,800 per academic year per student.
Interest rate and maturity	Loans are interest free while the student is in school. Loans are forgiven at the rate of 25 percent for each full year of employment in a law enforcement agency following completion of school; otherwise students must repay awards at 7 percent simple interest per annum at a quarterly rate of not less than $50 per month. Ten-year maturity.
Subsidy costs	Gross outlays, 1970: $18,000,000. Capitalized value at 7½ percent: $4,000,000.

SURPLUS PROPERTY UTILIZATION

Administering agency	Office of the Secretary, Department of Health, Education, and Welfare.
Identification	Authorization: Federal Property and Administrative Services Act of 1949, as amended; sections 203 (j) and (k); Public Law 81–152; 40 U.S.C. 484. Budget account: 09–80–0129–0–1–703. CFDA: 13.606.
Objectives	To donate all available Federal surplus personal properties and convey all available surplus Federal real properties, which are needed and usable by eligible organizations and institutions to carry out health and educational programs in their States. Conveyances are made by deed with a sale price based on the fair market value. A discount of from 50 to 100 percent based on the proposed-use program, is granted and applied against the sale price.
Financial form	Benefit-in-kind.
Direct recipient	Personal property: approved or accredited tax-supported or private, nonprofit, tax-exempt medical institutions, hospitals, clinics, health centers, schools, school systems, colleges and universities; schools for mentally retarded and physically handicapped; licensed educational radio and television stations; and public libraries. Real property: States, their political subdivisions and instrumentalities; tax-supported or nonprofit tax-exempt educational and medical institutions hospitals or similar institutions.
Subsidy costs	(Value of property) Fiscal year 1970, $409,000,000; fiscal year 1971, $426,000,000. The cast figures shown should not be regarded as entirely subsidy because some of the goods appear to be used for strictly public purposes. Nor should all the subsidy element be allocated to education since some of the activity is to assist health programs. It was not possible to break down these components.

F. International Trade

Up to this point, the analysis of subsidies has paid little attention to international trade. We must therefore extend the analysis to include those subsidies designed to change the price and quantity of exports or imports.

An excess of payment to foreigners over receipts from foreigners is a state which cannot be sustained over long periods and must therefore be remedied. Since one way to remedy the problem is to increase exports, or to limit imports, there is a widely held view that an increase in exports is good but an increase in imports is bad. This notion per se is false. As Adam Smith rightly said, "It would be too ridiculous to go about seriously to prove, that wealth does not consist in money, or in gold and silver; but in what money purchases, and is valuable only for purchasing." Likewise, the wealth of international trade is not to be found in exports but in the goods and services exports will purchase. To argue the opposite is to return to the discredited doctrine of mercantilism.

The economic justifications for correcting a payments imbalance through export subsidies is therefore funadmentally questionable. In addition, export subsidies have no direct impact on the other items in the payment account that may be causing the imbalance, such as remittances, capital flows, and military expenditures abroad. Finally, export subsidies may create the illusion that a country's exchange rate does not need adjustment because there is no imbalance in trade. Since this is not necessarily the case, a country may maintain an overvalued currency longer than it would in the absence of the subsidy.

These factors would seem to make the export subsidy an inferior device—compared to alterations in the exchange rate—for adjusting either an imbalance in payments or trade.

Policymakers, however, do not always follow this advice. This may be due to a failure to understand the limits of a subsidy and its final effects. Or it may be because the rigidities of the international monetary system make adjustment of exchange rates extremely difficult. Subsidies may be a means of manipulating exports to ease the pressure on the U.S. balance of payments under these conditions, although still not a means of curing the underlying cause of the disequilibrium. Finally, policymakers often support export subsidies not in order to improve balance-of-payments difficulties, but to increase the rewards to domestic workers and producers engaged in a particular industry. For these reasons we need to have some additional understanding of the price and output effects of export subsidies.

Export subsidies are usually producer subsidies, although the incidence may spread the benefits among producers and consumers, both at home and abroad. The entire benefit of a subsidy would remain with the domestic economy only if the foreign demand for the subsidized goods were strong enough to absorb the extra exports without any fall in price. In other words, foreign demand would have to be perfectly elastic. In this case the price domestic producers receive would be unchanged, but their cost of production would have been lowered by the amount of the subsidy, giving them the total benefit; domestic consumers of the product would not benefit at all. This situation might be realistic for some exports of a small country, but the United States is so important a supplier in the world market that we can hardly expect to enjoy perfectly elastic foreign demand curves.

Turning to the more likely situation for the United States, that is a market with both supply and demand showing less than perfect elasticity, we can expect the benefits to be split between foreign consumers, domestic consumers, and domestic producers. The more inelastic either domestic or foreign demand, the larger will be the benefit passed on to these consumers in the form of reduced prices per unit. The more elastic is total demand the greater will be the benefit retained by the producers.

Thus far we have emphasized the price effects of an export subsidy. These effects will be of prime concern to the policymaker who intends to use the subsidy to increase factor rewards to domestic producers and workers. If the subsidy is intended to increase exports, however, the output effects will be most important. The general principles developed in section C, chapter IV apply, but some elaboration may be useful.

We can picture the producer as facing two separate markets, a foreign market and a domestic market, each with its own demand curve. If the producer charges the same price to both groups of consumers, then price and output will be determined by an aggregate of the individual demand curves and the supply curve. In order to determine who consumes an increase in output, both the foreign and the domestic elasticity of demand must be known. We know from the analysis in chapter IV that if the aggregate demand curve is relatively elastic, output will be increased. To insure that an increase in total output will be consumed by foreigners, however, foreign demand must consist of a significant portion of the market and be relatively elastic. It is quite conceivable that the foreign curve could be highly elastic, but comprise such a small part of the market that it would have little effect on the aggregate curve. In this case changes in output would depend largely on the elasticity of the domestic curve and most of any increase would be consumed domestically.

This means that in order to predict the results of an export subsidy, it is essential to know the relevant elasticities. If the intent is to benefit producers, the total demand curve must be relatively elastic; if the intent is to increase exports, foreign demand must be a significant portion of total demand and relatively elastic.

While export promotion subsidies are the most obvious and unquestionable international subsidies, certain types of trade barriers and other special preferences may also be considered subsidies. Quotas and discriminatory procurement practices such as Buy American are examples. To analyze these, however, one must proceed with caution. Some of these special preferences may be more accurately described as welfare payments since the recipients are not required to yield a *quid pro quo*. In any event, these different possibilities become very complex and further analysis is left to the forthcoming study series.[11]

Familiarity with the results that can be anticipated from a given set of starting conditions should help policymakers design international subsidies which will more nearly produce the results they desire. We must return to our original conclusion, however, a nation is not made better off by giving up goods but by receiving them. And the causes of imbalances in trade cannot be fundamentally cured by either export promotion or import limitation subsidies.

Table 5–6 provides a partial list of international trade subsidies with gross budgetary costs of approximately $1 billion in fiscal year 1970. Although the list is regarded as quite incomplete, the subsidies that are identified include direct cash payments, benefits-in-kind, credit and tax assistance. How some of the tax subsidies serve international commerce is not clear, but they do not seem to fit elsewhere any better. Some of the foreign aid credit programs are included because they are tied to the purchase of U.S. exports. Import limitation subsidies are absent because they were judged to be beyond the scope of this study.

---

[11] See especially the study papers written by Peggy Musgrave, Douglas Bohi, and David Richardson.

TABLE 5-6.—GROSS BUDGETARY COSTS OF INTERNATIONAL TRADE SUBSIDIES, FISCAL YEARS 1970 AND 1971

[In millions of dollars]

Program	1970 actual	1971 estimated
Direct cash payments:		
Export payments on agricultural products	5	6
Export payments	101	165
Tax subsidies:		
Western Hemisphere trade corporations	55	50
Exclusion of gross up on dividends of less developed country corporations	55	55
Exclusion of income earned in U.S. possessions	95	90
Deferral of foreign sibsidiary income	170	165
Exemption of income earned abroad by U.S. citizens	45	40
Credit subsidies:		
Development loans, revolving fund	320	
Foreign military credit sales	6	
Liquidation of foreign military sales fund	3	
Short-term export credit sales	3	
Public Law 480	226	
Export finnancing—Direct loans and participation financing	65	
Benefit-in-kind:		
International trade and Development policy	19	23
Foreign market development and promotion	15	17
Order of magnitude total	1,183	

Source: "1971 Catalog of Federal Domestic Assistance"; "The Budget of the U.S. Government, Fiscal Year 1972"; "The Budget of the U.S. Government—Appendix, Fiscal Year 1972"; "Special Analyses, Budget of the U.S. Government, Fiscal Year 1972, Department of Treasury estimates, app. A and B.

EXPORT PAYMENTS ON AGRICULTURAL PRODUCTS

Administering agency	Consumer and Marketing Service, Department of Agriculture.
Identification	Authorization: Agricultural Adjustment Act of 1935, as amended, sec. 32; Public Law 74–320; 7 U.S.C. 612c. Budget account: 05–32–5209–0–2–351. CFDA: 10.152.
Objectives	To enable agricultural producers to retain a fair share of export markets. The subsidies are used for payment on an amount needed to make the product competitive on the foreign market.
Financial form	Direct cash payments.
Direct recipient	Representative agricultural groups may request assistance when they encounter a loss of export markets. Agricultural exporters of the designated products who participate in the program receive the subsidy.
Subsidy costs	Fiscal year 1970, $5,336,000; fiscal year 1971, $4,966,000.

EXPORT PAYMENTS

Administering agency	Export Marketing Service, Department of Agriculture.
Identification	Authorization: Wheat export program, 15 U.S.C. 714b; flour export program, 15 U.S.C. 714b; rice export program, 15 U.S.C. 714b; feed grain export program, 15 U.S.C. 714b; export wheat marketing certificate regulations, 379d (b) of the Agricultural Adjustment Act of 1938, as amended (7 U.S.C. 1379d(b)). Budget account: 05-48-4336-0-3-999. CFDA: 10.301.
Objectives	To assure that wheat, flour, rice, tobacco, and feed grains produced in the United States are generally competitive in world markets, avoid disruption of world market prices, aid the price support program by strengthening the domestic market price to producers, reduce the quantity of grain which would otherwise be taken into CCC's stocks under its price support programs, and fulfill any international obligations of the United States. Export payments are made to participants for commodities exported (wheat, wheat products, and rice) for the difference between the U.S. domestic price and the world market price of the commodity.
Financial form	Direct cash payments.
Direct recipient	Any person, individual, partnership, cooperation, association, or any legal entity engaged in the business of buying and selling grain for export and who maintains a bona fide business office for such purpose in the United States and who has an agent in such office upon whom service of process may be made. In addition, the participant must demonstrate that he is financially responsible. Export payments are made under the programs only on grain which is exported to eligible destinations. The Export Control Act of 1949 prohibits exports under these programs to Cuba, the Soviet block, or Communist-controlled areas of the Far East including Communist China, North Korea, and the Communist-controlled area of Vietnam, except under validated license issued by the U.S. Department of Commerce, Bureau of Internal Commerce.
Subsidy costs	Fiscal year 1970, $100,719,000; fiscal year 1971, $165,983,000.

WESTERN HEMISPHERE TRADE CORPORATION

Authorization	Sec. 921—Definition of Western Hemisphere Trade Corporations. Sec. 922—Special deductions.
Financial form	Tax Subsidies.
Description	Domestic corporations conducting all of their business activities (other than incidental purchases) in the Western Hemisphere, deriving at least 95 percent of gross income from sources outside of the United States and at least 90 percent from the active conduct of a trade or a business qualify as Western Hemisphere Trade Corp. and are entitled to a special deduction. The effect of this deduction is to reduce the eligible corporation's tax rate by 14 percentage points. It has been suggested that the objective of this program is to provide relief to domestic corporations trading within the Western Hemisphere which are at a considerable competitive disadvantage with foreign corporations under other tax rates which they must face. It is also argued that this provision has the favorable balance of payments effects of increasing U.S. exports more than would similar capital investment in developed countries.
Subsidy cost	Fiscal year 1970, $55,000,000; fiscal year 1971, $50,000,000.

EXCLUSION OF GROSS-UP ON DIVIDENDS OF LESS DEVELOPED COUNTRY CORPORATIONS

Authorization	Sec. 902—Credit for corporate stockholders in foreign corporation. Sec. 78—Dividends received from certain foreign corporations by domestic corporations choosing foreign tax credit.
Financial form	Tax subsidies.
Description	Income of foreign branches and subsidiaries of U.S. corporations is subject to taxation abroad. Domestic corporations receiving dividends from foreign subsidiaries may take a credit for foreign income taxes levied on the profits of the foreign subsidiary out of which the dividends were paid. But if the dividends are from an industrialized country, the domestic corporation must "gross up" the dividends in its taxable income. This means their tax base is income before deductions of foreign income taxes. On the other hand, if dividends are received from a less-developed country this is not required. Thus the parent domestic company secures the benefit both of a deduction of foreign income taxes and a credit for foreign income taxes. One possible purpose of this subsidy is indicated in the committee reports for the Revenue Act of 1962 where it states "the location of investments in such countries is an important factor in stimulating American exports to the same areas."
Subsidy costs	Fiscal year 1970, $55,000,000; fiscal year 1971, $55,000,000.

EXCLUSION OF EARNED INCOME IN U.S. POSSESSIONS

Authorization	Sec. 931—Income from sources within possessions of the United States. Sec. 932—Income from sources within Puerto Rico. Sec. 934—Limitation on reduction in income tax liability incurred to the Virgin Islands.
Financial form	Tax subsidies.
Description	Under present law, U.S. citizens or domestic corporations earning income in possession of United States generally are taxable only on their U.S. source income (plus amounts received in the United States) if they meet certain requirements. In general, these requirements are that the citizen or corporation derive 80 percent of its gross income from sources within such a possession and 50 percent of its gross income from the active conduct of a trade or business within such a possession (both of these tests being applied with respect to income received in the prior 3 years). A U.S. citizen or domestic corporation which qualifies for this treatment may exclude from its U.S. tax base gross income from sources outside the United States in the same way as nonresident aliens and foreign corporations not engaged in trade or business within the United States.
Subsidy costs	Fiscal year 1970, $95,000,000; fiscal year 1971, $90,000,000.

DEFERRAL OF FOREIGN SUBSIDIARY INCOME

Authorization	Subpart F—Controlled foreign corporations. Sec. 951—Amounts included in gross income of U.S. shareholders. Sec. 952—Subpart F income defined.
Financial form	Tax subsidies.
Description	U.S. corporations are not required currently to file consolidated returns which include the unrepatriated earnings of controlled foreign subsidiaries. The President in his 1961 message questioned the desirability of providing "tax deferral" with respect to earnings of U.S. controlled companies (except in the case of investments in less developed countries). He recommended elimination of the tax-haven device anywhere in the world, even in the underdeveloped countries, through the elimination of the tax-deferral privilege for those forms of activities, such as trading, licensing, insurance, and others, that typically seek out tax-haven methods of operation. The 1962 bill "does not eliminate tax deferral in the case of operating businesses owned by Americans which are located in the economically developed countries of the world. . . . the location of investments in these countries is an important factor in stimulating American exports. . . . Moreover . . . to impose the U.S. tax currently on the U.S. shareholders of American-owned businesses operating abroad would place such firms at a disadvantage with other firms located in the same areas not subject to U.S. tax." (Paraphrase of House Report, Revenue Act of 1962.)
Subsidy costs	Fiscal year 1970, $170,000,000; fiscal year 1971, $165,000,000.

EXEMPTION OF INCOME EARNED ABROAD BY U.S. CITIZENS

Authorization	Sec. 911—Income earned from sources outside of United States.
Financial form	Tax subsidies.
Description	For citizens of the United States, income earned abroad (up to $20,000) for each complete tax year is exempted from taxation if the taxpayer is a bonafide resident of a foreign country for an uninterrupted period that includes 1 full tax year or, if he is present there 510 days during a period of 18 consecutive months. After 3 years, of foreign residence the taxpayer may exclude up to $25,000 a tax year.
Subsidy costs	Fiscal year 1970, $45,000,000; fiscal year 1971, $40,000,000.

DEVELOPMENT LOANS, REVOLVING FUND

Administering agency	Agency for International Development.
Identification	Authorization: Foreign Assistance Act of 1961, as amended, sec. 201; 22 U.S.C. 2161. Budget account: 04–10–4103–0–3–152. CFDA: Not listed.
Objectives	To extend loans, credit, and guarantees to American or foreign individuals, businesses, financial institutions, or foreign governments in order to provide capital for projects and programs contributing to the economic growth of friendly developing countries.
Financial form	Credit aids (direct loans).
Direct recipient	Individuals, businesses, financial institutions, or foreign governments in friendly, non-Communist, less developed countries.
Interest rate and maturity	2 percent for a 10-year grace period; 3 percent for last 30 years. 40-year maturity.
Subsidy costs	Gross outlays, 1970: $560,000,000. Capitalized value at 7½ percent: $319,600,000.

FOREIGN MILITARY CREDIT SALES

Administering agency	Funds appropriated to the President.
Identification	Authorization: Foreign Military Sales Act, Public Law 90–629, 82 Stat. 1324. Budget account: 04–09–1082–0–1–057. CFDA: Not listed.
Objectives	To provide funds to finance credit sales of defense articles and services to foreign countries and international organizations.
Financial form	Credit aids (direct loans and guarantees of private loans).
Direct recipient	Countries friendly to the United States and international organizations.
Interest rate and maturity	6 percent. 7–8-year maturity.
Subsidy costs	Gross outlays, 1970: $92,500,000. Capitalized value at 7½ percent: $6,000,000.

LIQUIDATION OF FOREIGN MILITARY SALES FUND

Administering agency	Funds appropriated to the President.
Identification	Authorization: Foreign Assistance Act of 1967, sec. 201(h)(3). Budget account: 04–09–4117–0–3–057. CFDA: Not listed.
Objectives	To discharge outstanding liabilities and obligations arising from credit agreements and guaranties issued prior to June 30, 1968.
Financial form	Credit aids (direct loans and guarantees of private and Export-Import Bank loans).
Direct recipient	Borrowers from the foreign military sales fund.
Interest rate and maturity	6 percent. 7–8-year maturity.
Subsidy costs	Gross outlays, 1970: $43,800,000. Capitalized value at 7½ percent: $3,000,000.

SHORT-TERM EXPORT CREDIT SALES

Administrative agency	Commodity Credit Corporation, Department of Agriculture.
Identification	Authorization: Sec. 5(f), 62 Stat. 1072; 15 U.S.C. 714c; sec. 407, 63 Stat. 1055, as amended, 7 U.S.C. 1427; sec. 4, Public Law 89–808, 80 Stat. 1538. Budget account: 05–48–4336–0–3–999. CFDA: 10.300.
Objectives	To assist in the expansion of U.S. agricultural commodity dollar exports. Provides export financing of U.S. agricultural commodities up to a maximum period of 36 months.
Financial form	Credit aids (direct loans).
Direct recipient	Any U.S. exporter (1) who is regularly engaged in the business of buying or selling commodities and for this purpose maintains a bona fide business office in the United States its territories, or possessions, and has someone on whom service of judicial process may be had within the United States, (2) who is financially responsible, and (3) who is not suspended or debarred from contracting with or participating in any program financed by CCC on the date of issuance of his financing approval.
Interest rate and maturity	6¾ percent—administratively determined. 1.885-year maturity.
Subsidy costs	Gross outlays, 1970: $209,000,000. Capitalized value at 7½ percent: $3,000,000.

PUBLIC LAW 480

Administrative agency	Commodity Credit Corporation (through Export Marketing Service), Department of Agriculture.
Identification	Authorization: Agricultural Trade Development and Assistance Act of 1954, as amended (7 U.S.C. 1701–1710, 1721–1725, 1731–1736d). Budget account: 05–48–2274–0–1–154. CFDA: Not listed.
Objectives	To facilitate international trade, convertibility of currencies, and promote the stability of American agriculture, stimulate private economic enterprise in friendly countries.
Financial form	Credit aids (direct loans).
Direct recipient	Countries friendly to the United States, individuals both foreign and domestic engaged in agricultural trade.
Interest rate and maturity	2½ percent—For countries interest will be at rates determined by the Secretary of the Treasury but not less than the minimum required by sec. 201 of the Foreign Assistance Act of 1961, as amended, for loans made under that section. For individuals interest will be at rates equivalent to the average cost of funds to the U.S. Treasury, as determined by the Secretary of the Treasury, on outstanding marketable obligations of the United States having maturities comparable to maturities of credits extended under this section. 33-year maturity.
Subsidy costs	Gross outlays, 1970: $494,000,000. Capitalized value at 7½ percent: $226,000,000.

EXPORT FINANCING—DIRECT LOANS AND PARTICIPATION FINANCING

Administering agency	Export-Import Bank of the United States.
Identification	Authorization: Export-Import Bank Act of 1945, as amended. Budget account: 30–48–4027–0–3–152. CFDA: 31.004.
Objectives	To aid U.S. commercial banks and U.S. exporters to capture large projects abroad and to sell to overseas purchasers products with large unit costs. To supplement private sources of financing where the private financial source is unwilling or unable to assume the political and commercial risks under current conditions; to extend credit on terms longer than those private lenders can provide; and to enable U.S. supplier to provide terms on major projects competitive with those offered by Government-sponsored export financing institutions in other exporting countries.
Financial form	Credit aids (direct loans).
Direct recipient	Foreign purchasers of U.S. goods and services.
Interest rate and maturity	6.3 percent. 7½-year maturity.
Subsidy costs	Gross outlays, 1970: $1,569,000,000. Capitalized value at 7½ percent: $65,000,000.

INTERNATIONAL TRADE AND DEVELOPMENT POLICY

Administering agency	Business and Defense Services Administration, Department of Commerce.
Identification	Authorization: 15 U.S.C. 1051, 1511, 1512, 171; 1950 Reorganization Plan No. 5, sec. 4, 64 Stat. 1263; Department of Commerce Appropriation Act, 1971. Budget account: 06-30-1800-0-1-506. CFDA: Not listed.
Objectives	International activities of the Department of Commerce are promotional, informational, and policy formulation programs designed to advance and protect U.S. foreign commerce. In response to the continuing serious balance-of-payments problems, current emphasis is on activities that stimulate and assist U.S. industry to expand current export activity and to develop foreign markets for long-term export sales. These programs are a major positive element of the national effort to bring our balance of payments into durable equilibrium.
Financial form	Benefit-in-kind: The U.S. provides trade center facilities and other services to business firms.
Direct recipient	U.S. participants in international trade.
Subsidy costs	Fiscal year 1970, $19,390,000; fiscal year 1971, $22,806,000.

FOREIGN MARKET DEVELOPMENT AND PROMOTION

Administering agency	Foreign Agricultural Service, Department of Agriculture.
Identification	Authorization: Title 1, sec. 104(b), Agricultural Trade Development and Assistance Act of 1954 (Public Law 480). Title VI, Agricultural Act of 1954 (Public Law 690). Budget account: 05-36-2900-0-1-355; 05-36-2901-0-1-355. CFDA: 10,600.
Objectives	To create, expand, and maintain markets abroad for U.S. agricultural commodities. The grants may be used for trade servicing, consumer promotion, market research including service and short-range analysis. Types of campaigns and activities and amounts of funds are subject to annual marketing plans approved by FAS.
Financial form	Benefit-in-kind.
Direct recipient	Cooperator preference is given to nonprofit U.S. agricultural trade groups which are industry-wide or nationwide in membership and scope. Private firms are eligible when designated by nonprofit trade organization to act in its behalf or the agreement will not otherwise be undertaken by a nonprofit trade organization.
Subsidy cost	Fiscal year 1970, $15,399,000; fiscal year 1971, $16,999,000.

G. Housing

Housing stands as one of the most complicated subsidy area. because there is such a wide range of justifications for these subsidies. Housing subsidies are justified on the grounds that they will correct one or more of the following alleged market deficiencies: an unacceptable distribution of income, negative externalities, a lack of information, the presence of monopoly elements, lags in the supply adjustment of housing, locational problems associated with racial discrimination, and short-term fluctuations in the credit markets. While all of these are important, let us discuss three of them in more detail.[12]

First, the market cannot take account of the harm done to others as a result of an inadequate supply of housing for the households in question. The crowded and unsanitary conditions of our urban areas are associated with and probably contribute to an increase in crime, ill health, and social unrest, to name only a few of the consequences, all of which affect unfavorably the rest of the community. But there is no market mechanism by which the rest of the community can buy itself free of these disadvantages by inducing the households in question to purchase more and better housing. The political process and public subsidies may therefore be used.

Second, even if those households with inadequate housing could and were willing to pay for better housing, the response on the supply side may be long in coming in most urban areas. The slow or inelastic supply response of housing for the poor in an already built-up urban area stems from: (a) the scarcity and high cost of land in such an area, (b) the high cost of demolition to make way for a greater amount of dwelling accommodation on a given site, (c) the relatively low level of new housing production possible because of the durable nature of housing and the existing organization of the housing industry, (d) the technical difficulty of constructing adequate new "old" housing, i.e., housing which low- and moderate-income families can afford, (e) the length of time it takes for an increase in demand for new housing and a consequent increase in amount of new housing, which would allow all existing housing to move down one price or rent grade in the market, and so increase the supply of old housing that the poor could afford, and (f) the great dependency upon credit which acts against sustained high-level production of housing over a long period.

Thus, the situation is that used housing, which the well-to-do are willing to leave for the poor, can be produced only by first building new housing for the well-to-do. This is the operation of the filter down strategy of housing the poor that tends to characterize the U.S. situation.[13]

Operation of the filter-down process, however, is dependent upon market forces in an economy of rising incomes. It can only operate if prices and rents are declining relative to incomes. This can come about through a decline in house values, prices, and rents; a rise in incomes; or a combination of the foregoing.

In order for housing prices and rents to decline there has to be a growth in the housing inventory in excess of demand, that is, a growth in the proportion of housing available for sale or rent on the market. When the excess of supply over demand becomes great enough to cause a decline in residential property values and rents, however, there may be a decline in confidence of mortgage lenders and equity investors in residential property values. The consequent curtailment of mortgage credit for all types of housing and of equity investment in rental housing serves to curtail effective demand and production

---

[12] For a detailed discussion of such market problems see Henry Aaron, "Shelter and Subsidies," (Brookings Institution, forthcoming).

[13] See Anthony Downs, "Housing the Urban Poor: The Economics of Various Strategies," in "American Economic Review," September 1969, for further discussion of various Government strategies for providing housing to the poor.

of housing. An ensuing sharp housing decline may even contribute to a general economic recession which further weakens housing demand, as in the early thirties. Under such circumstances, the filtering down process tends to slow down or come to a halt (even though vacancies increase along with a decline in housing prices and rents).

Similarly, curtailment of housing production and the filtering process may come about during tight money periods, when there is a short supply of housing and property values are rising. If, due to restrictive mortgage financing, annual housing production is reduced below the level necessary to meet requirements to accommodate the increases in the number of households and replacement of units lost from the supply through various causes, there is a decrease in the proportion of units available for rent or sale. This causes property values to rise. If the accompanying prices and rent rises outpace the income increases of those residing in substandard housing, it becomes more difficult for them to obtain standard housing via the filtration process. The rise in rents and homeowner costs places better housing out of the economic reach of many low- and moderate-income families.

Third, the slow and cost-sensitive supply response of the market also contributes to price increases for low-income housing in our major cities, where such price increases have been precipitated by waves of immigration from rural areas. This immigration has, in effect, so increased the demand for housing that for any given amount of housing a higher price must be offered in the market. This combination of continued immigration of low-income households, and a supply that responds slowly to the additional demand they represent, seems to have contributed to a significant increase in the price of housing services for low-income households in urban areas.

Given the above considerations, housing subsidies are argued for as means to either reduce the price of housing for low-income households, and alter the distribution of income in their favor, or to increase the quantity and quality of housing, so as to improve the efficiency of the market, and thereby to reduce the negative externalities associated with inadequate housing. In either case, the subsidy is designed as a consumer subsidy. This is not to say that none or only a little of the housing subsidy benefit accrues to producers or factory owners associated with housing; indeed, it is likely that the markets will generally shift some of the benefit to these groups.

Housing subsidies appear as (*a*) cash subsidies on behalf of occupants to privately owned rental housing and to special groups developing and operating housing for low- and moderate-income families; (*b*) special tax provisions to both homeowners and landlords to encourage the production and use of housing; (*c*) government credit subsidies—to both homeowners and landlords—direct loans at below-market interest rates and loan guarantees combined with cash payments; or (*d*) the provision of inkind housing services through government-owned housing. As one can see, the complexity of housing subsidies is increased by the numerous and complicated subsidy forms used.

Direct cash payments by themselves are not a common form of Federal housing subsidy. There are a few one-time annual grants such as Farm Labor Housing Grants. The most significant example is the Rent Supplement Program, where cash payments are made to a project owner to make up the difference between what a low-income tenant will pay and the full economic rent. Because rent supplement contracts are long-term commitments their budgetary costs are most appropriately measured as those costs Government pays over the lifetime of the commitment, that is, on a capitalized basis.

Several provisions of the Internal Revenue Code may be the most important housing subsidies currently administered by the Federal Government. The income in-kind that a homeowner receives by living in his own home escapes the income tax system and, together with the deductibility from Federal taxes of mortgage interest and property taxes, provide taxpayers with an incentive to acquire a home rather than rent. In addition, rental housing depreciation provisions are supported on the grounds that they encourage the production and use of housing.

Also of great importance are the credit subsidies that are used to encourage homeownership, repair, or rental for a specifically targeted group. A relatively small number of these are loans made directly by the Government, such as housing for the elderly and for the rehabilitation of homes in urban renewal areas. More important are the loan guarantees either granted alone, in which case they confer substantial benefits on recipients but usually small or no budgetary costs to Government, or granted in combination with long-term partial debt service payments, in which case their benefits also bring about large Government budgetary costs. As was the case with rent supplements, such partial debt service payments are long-term contracts and their budgetary costs are most appropriately measured as those costs that Government pays over the lifetime of the commitment, again, on a capitalized basis. The Interest Subsidy for Rental Assistance (236), and Interest Subsidy for Homeownership Assistance (235), are the two most important examples.

A large part of the new low-priced housing is supplied by government itself and may therefore be appropriately thought of as a benefit-in-kind subsidy, to the extent that it is offered below market price or cost. It may also be considered a credit subsidy because, while local housing authorities actually own and operate the public housing facilities, the Federal Government funds the subsidy through annual contributions to the housing authorities to meet a large part of their debt service requirements. Again, the long-term contracts associated with these subsidies make it appropriate to measure their costs on a capitalized basis.

Table 5-7 contains a list of housing subsidies in the forms discussed above. The estimated gross budgetary costs of these programs in fiscal year 1970 was $8.4 billion. That total includes $2.6 billion as the value of annual mortgage interest deductions, $2.8 billion as the value of property tax deductions by owners of owner-occupied housing, and $275 million as the annual value of depreciation deductions on rental housing. Thus, $5,675 million is accounted for by tax subsidies which go to the owners of housing properties.

Most of the other approximately $3 billion represent credit or cash subsidies explicitly designed to assist specially targeted groups in the purchase or rental of housing. Moreover, the cost figures of $3 billion are the budgetary cost of the commitments of the Federal Government in fiscal 1970 to make future year annual subsidy payments over the lifetime of the contract commitment, that stream of costs measured in terms of its worth in fiscal 1970; that is, on a capitalized basis. The budgetary cost of the commitment is thus capitalized into a present value for the year of commitment, no part of the commitment's cost being recorded in any future year. This puts the full cost of the Government's commitment into the year in which the decision and the commitment about the subsidy is made. As we have previously argued, this is superior to representing the cost of such long-term subsidies in terms of their first-year payments.[14]

As one can see, both the objectives, forms, and costs of housing subsidies make this a very complex subsidy area. Our brief introduction to the area should be followed by a careful reading of the appropriate papers in the forthcoming study series.[15]

---

[14] See the 1967 "Report of the President's Commission on Budget Concepts" for further discussion on the merits of measuring the cost of long-term credit subsidies on a capitalized basis. See also sec. C of ch. III and sec. D of ch. IV of this study.

While the cost of long-term housing subsidies should be measured on a capitalized basis, the cost of housing subsidies relative to the other subsidy areas in this study may be somewhat inflated because certain other long-term subsidies have not been measured on a capitalized basis. The proper way to correct this difficulty is to express the cost of all long-term subsidy commitments on a capitalized basis.

Finally, the above remarks should not be construed to mean that the annual payments associated with a subsidy commitment are of no value. These cost estimates should be available as well. Strange as it may seem, however, not even the annual subsidy payments associated with the Government commitment made in a particular year are presently available in the U.S. Budget. What is available is the annual. cumulative subsidy payment, which represents the Government's payment for the commitment made in the present year and in all prior years. See the "Budget of the United States Government—Appendix, Fiscal 1972," p. 521.

[15] See especially the study papers written by Henry Aaron, Paul Taubman and Bob Rache, George von Furstenberg, Frank De Leauw and Sam Leaman, Rudolph Penner and Bill Silber, and Henry Schechter.

TABLE 5-7.—GROSS BUDGETARY COST OF FEDERAL HOUSING SUBSIDIES, FISCAL YEAR 1970

[In millions of dollars]

Program	1970 actual
Direct cash payments:	
Housing rehabilitation grants	22
Farm labor housing grants	2
Rent supplement payments [1]	163
Specially adapted housing for disabled veterans	8
Tax subsidies:	
Deductability of interest on owner-occupied homes	2, 600
Deductability of property taxes on owner-occupied homes	2, 800
Depreciation on rental housing	275
Rehabilitation of low-income housing	5
Exclusion of imputed net rent [2]	-----
Credit subsidies: [3]	
Interest subsidy for home-ownership assistance (235)	426
Interest subsidy for rental assistance (236)	790
Housing opportunity allowance program	0
Below market interest rate loans on multifamily dwellings (221(d)(3))	69
Rural housing insurance	118
Housing for elderly and handicapped	53
Rehabilitation loan fund	12
Rural housing direct loans	18
Low-rent public housing	1, 064
Order of magnitude total	8, 425

[1] The rent supplement program is estimated on a capitalized basis.

[2] The revenue loss associated with imputed net rent has not been included in the totals because the exclusion of imputed income has not been accounted for in other areas of the study. In a 1970 article entitled "Income Taxes and Housing," the American Economic Review, Henry Aaron estimated the 1966 cost of this subsidy provision to be $4 billion.

[3] All the credit subsidies are estimated on a capitalized basis. As in other areas, the direct loan program costs were estimated by the Department of the Treasury and are contained in app. B. The subsidy costs estimates for 235, 236, rent supplements and public housing are made from HUD data contained in Senate Appropriations Committee hearings for fiscal 1970 (p. 784) and "The Budget of the U.S. Government, Fiscal 1972." HUD's estimate of total payments to be made for the minimum commitment was adjusted, according to actual units committed as reported on p. 130 of the budget, this aggregate number was then divided by the minimum years of commitment, and this stream of payments expressed as a capitalized value. See the individual data sheets for additional details.

Source: "1971 Catalog of Federal Domestic Assistance"; "The Budget of the U.S. Government, Fiscal Year 1972"; "The Budget of the U.S. Government—Appendix, Fiscal Year 1972": "Special Analyses, Budget of the U.S. Government, Fiscal Year 1972"; Department of Treasury estimates, apps. A and B.

HOUSING REHABILITATION GRANTS

Administering agency	Community Development, Department of Housing and Urban Development.
Identification	Authorization: 42 U.S.C. 1406, Housing Act of 1949, sec. 115 as added by the Housing and Urban Development Act of 1965, sec. 106(a); Public Law 59–117; 42 U.S.C. 1452G Housing Act of 1964, as amended, sec. 312; Public Law 85–560. Budget account: 25–06–4035–0–3–555. CFDA: 14.305.
Objectives	To provide funds to individuals and families who own residences and to owners and tenants of nonresidential properties in neighborhood development programs, urban renewal, code enforcement or to owner-occupants of residential property in certified areas.
Financial form	Direct cash payments.
Direct recipient	Individuals and families who own residences and owners and tenants of nonresidential properties in neighborhood development programs. When grantee's income exceeds $3,000 per year, the grant may be reduced if the housing expense is less than 25 percent of his income. To be eligible the borrower must have an income within the limitations prescribed by the HUD Secretary for projects financed with BMIR mortgages.
Subsidy costs	Fiscal year 1970, $22,300,000; fiscal year 1971, estimate $37,800,000.

FARM LABOR HOUSING GRANTS

Administering agency	Farmers Home Administration, Department of Agriculture.
Identification	Authorization: Housing Act of 1949, as amended, secs. 514 and 516; Public Law 89–117 and 89–754; 42 U.S.C. 1484 and 1486. Budget account: 05–60–2004–0–1–352. CFDA: 10.405.
Objectives	To provide decent, safe, and sanitary low-rent housing and related facilities for domestic farm laborers.
Financial form	Direct cash payments.
Direct recipient	States, political subdivisions of States, and certain nonprofit organizations and other public organizations may qualify for grants. Grants are available when there is a pressing need and when there is a reasonable doubt that such facilities could be provided without grant assistance. Facilities are then provided to those who are classified as farm laborers.
Subsidy cost	Fiscal year 1970, $2,134,000; fiscal year 1971, $3,700,000.

RENT SUPPLEMENT PAYMENTS

Administering agency	Housing Production and Mortgage Credit/FHA, Department of Housing and Urban Development.
Identification	Authorization: Housing and Urban Development Act of 1965; Public Law 89–117; 12 U.S.C. 1701(s). Budget account: 25–02–0139–0–1–555. CFDA: 14.149.
Objectives	To make good quality rental housing available to low-income families at a cost they can afford. HUD/FHA makes payments to owners of approved multifamily housing rental projects to supplement the partial rental payments of eligible tenants. Assistance covers the difference between the tenant's payment and the market rental. Rent supplements may be provided in conjunction with interest reduction programs such as sec. 221(d)(3), sec. 236, and sec. 202.
Financial form	Direct cash payments.
Direct recipient	Eligible sponsors include nonprofit, cooperative, builder-seller, investor-sponsor, and limited-distribution mortgagors. Families must be within the income limits prescribed for admission to public housing in order to qualify for benefits under this program.
Subsidy cost	Fiscal year 1970, $163,000,000. HUD data contained in Senate Appropriation Committee hearings for fiscal year 1970 (p. 784) estimated that the total number of units to be supported in 1970 would be 84,600, the total estimated payments to be made would be $2,517,000,000, and the average number of years the payments would be made to be 39. Using the actual number of units supported as listed in "The Budget of the U.S. Government, Fiscal Year 1972" (p. 130), 17,000, a proportional estimate was made of the total payments. This aggregate figure was then expressed in terms of annual payments and the cost of this stream of payments was capitalized at 7½ percent over 39 years.

SPECIALLY ADAPTED HOUSING FOR DISABLED VETERANS

Administering agency	Department of Veterans Benefits, Veterans Administration.
Identification	Authorization: Public Law 80-702; 38 U.S.C. 801-805. Budget account: 29-00-0137-0-1-802. CFDA: 64.106.
Objectives	To assist certain totally disabled veterans in acquiring a suitable housing unit, with special fixtures and facilities made necessary by the nature of the veteran's disabilities. The program provides 50 percent of the cost to the veteran of the housing unit, land, fixtures, and allowable expenses, not to exceed $12,500. The money may be used for assistance in (a) construction of a suitable home on land to be acquired by the veteran, or (b) construction of a home on suitable land he owns, or (c) remodeling his existing home if it can be suitably adapted, or (d) for application against an outstanding mortgage on a specially adapted home he owns.
Financial form	Direct cash payments.
Direct recipient	Veterans with permanent, total, and compensable disabilities based on service after April 20. 1898. It must be medically feasible for the veterans to reside in the proposed or existing housing unit, and in the locality.
Subsidy costs	Fiscal year 1970, $7,800,000; fiscal year 1971, $7,500,000.

DEDUCTIBILITY OF INTEREST ON OWNER-OCCUPIED HOMES

Authorization	Sec. 163 of Internal Revenue Code.
Financial form	Tax subsidies.
Description	Owner occupants of homes may deduct mortgage interest as itemized nonbusiness deductions. This provision dates back to the Revenue Act of 1918, when the deductibility of interest payments for conventional business expenses was expanded. It is now also widely held that this tax provision provides encouragement to homeownership, which it is argued in beneficial to both the community and the individual. The present law allows the deduction of interest paid, except on indebtedness incurred for the purchase of tax-free obligations or securities. This is difficult of administration, for in many cases it is impossible to tell for what purpose indebtedness is incurred. A man, for example, may have a mortgage on his house and have $1,000 in the bank. He borrows $1,000 and buys a Liberty bond and makes a payment on his mortgage. For what purpose was the $1,000 borrowed? The proposed bill allows the deduction of all interest paid in excess of the amount of interest received free from income tax. This is easy of administration and carries out the general purpose of the existing law. (Quote from House report on the Revenue Act of 1918.)
Subsidy costs	Fiscal year 1970, $2,600,000,000; fiscal year 1971, $2,800,000,000.

DEDUCTIBILITY OF PROPERTY TAXES ON OWNER OCCUPIED HOMES

Authorization	Section 164 of Internal Revenue Code.
Financial form	Tax subsidies.
Description	This provision of the tax code was a part of the original 1913 Revenue Act. The act stated that: "Third, all National, State, county, school, and municipal taxes paid within the year, not including those assessed against local benefits." It appears that taxes were excluded as the result of legislators attempting to find an appropriate definition of net income. It is now also widely held that this tax provision provides encouragement to homeownership, which it is argued is beneficial to both the community and the individual.
Subsidy costs	Fiscal year 1970, $2,800,000,000; fiscal year 1971, $2,900,000,000.

DEPRECIATION ON RENTAL HOUSING

Authorization	Sec. 167(f)—Depreciation.
Financial form	Tax subsidies.
Description	The owners of rental housing may claim in early years depreciation in excess of straight-line depreciation. The 1969 Tax Reform Act limited the depreciation allowance to 125 percent declining balance depreciation for used residential property. Five-year amortization for the rehabilitation of low-income rental housing was also provided for.
Subsidy costs	Fiscal year 1970, $275,000,000; fiscal year 1971, $255,000,000.

REHABILITATION OF LOW-INCOME HOUSING

Authorization	Sec. 167(k) of Internal Revenue Code.
Financial form	Tax subsidies.
Description	To encourage rehabilitation of buildings for low- and moderate-income rental housing, the act allows taxpayers to elect to compute depreciation on rehabilitation expenditures which are made after July 24, 1969, under the straight line method over a period of 60 months, if the additions or improvements have a useful life of 5 years or more. This rapid depreciation is limited to expenditures made prior to Jan. 1, 1975, in order to provide an opportunity for the Congress to evaluate the effectiveness and cost of the new incentive. It is available only for low-income rental housing where the dwelling units are held for occupancy for families or individuals of low or moderate income, consistent with the policies of the Housing and Urban Development Act of 1968. The 60-month rule does not apply to hotels, motels, inns, or other establishments, where more than one-half of the units are used on a transient basis. To qualify for the 60-month depreciation, the aggregate rehabilitation expenditures as to any housing may not exceed $15,000 per dwelling unit and the sum of the rehabilitation expenditures for two consecutive taxable years—including the taxable year—must exceed $3,000 per rental unit. (Quote from the staff report of the Joint Committee on Internal Revenue Taxation, p. 182.)
Subsidy costs	Fiscal year 1970, $5,000,000; fiscal year 1971, $10,000,000. These are calendar year estimates taken from the staff report on the Joint Committee on Internal Revenue Taxation and probably overestimate the fiscal year revenue loss.

EXCLUSION OF IMPUTED NET RENT

Authorization	Sec. 61 of the Internal Revenue Code is where income is defined so as to exclude imputed net rent.
Financial form	Tax subsidies.
Description	The tax system discriminates in favor of those who own homes by making their tax liability less than those who rent. Those who rent pay taxes on all their income, including that portion of their income spent on rent. Those who own their homes receive part of their income in kind, by living in their home, but this income is not reflected in any market transaction, and, therefore, it escapes the income tax system. If the homeowner were to rent his home, or use the equity in his home to purchase other securities, he would have to pay taxes on the income generated. Homeownership makes it possible to avoid such taxes because the income tax system has been defined so as to exclude the in-kind income generated from the asset of an owner-occupied home. Again, it is widely held that this aspect of the tax law encourages homeownership.
Subsidy costs	Fiscal year 1970, $4,000,000,000; fiscal year 1971, $4,000,000,000. This subsidy cost figure is taken from Henry Aaron's study, "Income Taxes and Housing," the American Economic Review, December 1970, p. 793.

INTEREST SUBSIDY—FOR HOMEOWNERSHIP ASSISTANCE (235)

Administering agency	Housing Production and Mortgage Credit/FHA, Department of Housing and Urban Development.
Identification	Authorization: National Housing Act as amended, sec. 235. Budget account: 25–24–0139–1–1–555. CFDA: 14.105.
Objectives	To make homeownership more readily available to lower income families by providing monthly payments to lenders of FHA insured mortgage loans on behalf of the lower income families or by making it possible for a nonprofit organization or public body to finance the acquisition and the rehabilitation of housing that will be sold to lower income families.
Financial form	Credit aids (insured loans and direct cash payments).
Direct recipient	The subsidy is paid to the lender. Eligible sponsors are private nonprofit organizations and public bodies that have been approved by HUD. Families eligible to apply for mortgage insurance and receive the benefits of the subsidies must fall within certain income limits and other criteria as determined by locality on a case-by-case basis.
Interest rate and maturity	6 percent. 30-year maturity.
Subsidy costs	Fiscal year 1970, $426,000,000. HUD data contained in Senate Appropriation Committee hearings for fiscal year 1970, (p. 784) estimated that the total number of units to be supported in 1970 would be 126,000, the total estimated payments to be made would be $676,000,000, and the average number of years the payments would be made to be 17. Using the actual number of units supported as listed in "The Budget of the U.S. Government, Fiscal Year 1972" (p. 130), 143,000, a proportional estimate was made of the total payments. This aggregate figure was then expressed in terms of annual payments and the cost of this stream of payments was capitalized at 7½ percent over 17 years.

INTEREST SUBSIDY FOR RENTAL ASSISTANCE (236)

Administering agency	Housing Production and Mortgage Credit/FHA, Department of Housing and Urban Development.
Identification	Authorization: National Housing Act, as amended, sec. 236. Budget account: 25–02–0139–0–1–555. CFDA: 14.103.
Objectives	To provide good quality rental and cooperative housing for persons of low and moderate income by providing interest reduction payments in order to lower their housing costs.
Financial form	Credit aids (insured loans and direct cash payments).
Direct recipient	Subsidy is paid to the lender. These include nonprofit, cooperative, builder-seller, investor-sponsor, and limited-distribution sponsors. Public bodies do not qualify as mortgagors under this program. Families and individuals, including the elderly and handicapped, eligible to receive the benefits of the subsidies must fall within certain income limits as determined locally. The assistance payments are passed on to the tentant in the form of reduced rental.
Interest rate and maturity	2 percent. 35-year maturity.
Subsidy costs	Fiscal year 1970, $790,000,000. HUD data contained in Senate Appropriation Committee hearings for fiscal year 1970 (p. 784) estimated that the total number of units to be supported in 1970 would be 118, the total estimated payments would be $1,424,000,000, and the average number of years the payments would be made to be 21. Using the actual number of units supported and listed in "The Budget of the U.S. Government, Fiscal Year 1972" (p. 130), 132,000, a proportional estimate was made of the total payments. This aggregate figure was then expressed in terms of annual payments and the cost of this stream of payments was capitalized at 7½ percent over 21 years.

HOUSING OPPORTUNITY ALLOWANCE PROGRAM

Administering agency	Federal Home Loan Bank Board.
Identification	Authorization: Emergency Home Finance Act of 1970, title I; Public Law 91-351; 12 U.S.C. 1437. Budget account: None. CFDA: 71.001.
Objectives	To assist upwardly mobile, moderate-income families, where annual incomes are too great to allow them to participate in HUD's subsidized housing programs, but whose annual incomes are also insufficient to allow them to obtain conventional mortgage loans, to obtain such loans. The assistance, which is in the form of a $20 allowance for a period of not more than 60 months, can be applied only to the contractually required monthly payment on a 25- to 30-year first mortgage for the purchase of a single family home or condominium unit.
Financial form	Direct cash payments.
Direct recipient	Any family consisting either of two married persons living together or a head of household with at least one dependent person may apply for a HOAP allowance. Eligible families may not have incomes in excess of the HOAP regular family income limits. Borrowers may not use HOAP to refinance their present homes. Rental properties are not eligible.
Subsidy costs	Not available at this time.

BELOW MARKET INTEREST RATE LOANS ON MULTIFAMILY DWELLINGS 221(d)(3)

Administering agency	Housing Production and Mortgage Credit/FHA, Department of Housing and Urban Development.
Identification	Authorization: National Housing Act, as amended in 1954, sec. 21; Public Law 560; 12 U.S.C. 1715(1). Budget account: 25-02-4070-0-3-556. CFDA: Not listed. This is not the program described in 14.137.
Objectives	To provide good quality rental or cooperative housing within the price range of low- and moderate-income families.
Financial form	Credit aids (guaranteed and insured loans). Private bankers would make loans to qualified builders at 3 percent because the Government National Mortgage Association (GNMA) would purchase the mortgage at par.
Direct recipient	Credit assistant would go to nonprofit, cooperatives, builder/sellers who in turn would provide dwellings at rents below market value.
Interest rate and maturity	2-3 percent. 35- 40-year maturity.
Subsidy costs	Fiscal year 1970, $69,000,000. HUD data contained in Senate Appropriation Committee hearings for fiscal year 1970 (p. 784) estimated that the total number of units to be supported in 1970 would be 19,300, the total estimated payments would be $135,000,000, and the average number of years the payments would be made to be 20. This aggregate figure was then expressed in terms of annual payments and the cost of this stream of payments was capitalized at 7½ percent over 20 years.

RURAL HOUSING DIRECT LOANS

Administering agency	Farmers Home Administration, Department of Agriculture.
Identification	Authorization: Housing Act of 1949, as amended, sec. 502; Public Law 89–117 and 42 U.S.C. 1484 and 1486; 7 CFR 1822.1–1822.17. Budget account: 05–60–4141–0–3–352. CFDA: 10.410.
Objectives	To assist rural families to obtain decent, safe, and sanitary dwellings and related facilities. The loans may be used for: construction, repair, or purchase of housing; provide necessary and adequate sewage disposal facilities for the applicant and his family; purchase or install essential equipment which upon installation becomes part of the real estate; buy a minimum adequate site on which to place a dwelling for applicant's own use.
Financial form	Credit aids (direct loans.)
Direct recipient	Owners of a farm or nonfarm tract or a rural resident or a nonrural resident of low or moderate income who works in the rural area and will, when the loan is closed, become the owner of a nonfarm tract of minimum adequate size. Must also be a citizen of the United States or reside in the United States after being legally admitted for permanent residence and have adequate and dependably available income to meet his operating and family living expenses, including taxes, insurance, and maintenance, and repayments of debts including the proposed loan. The recipient must be without sufficient resources to provide on his own account the necessary housing, buildings, or related facilities, and be unable to secure the necessary credit from other sources upon terms and conditions which he reasonably could be expected to fulfill.
Interest rate and maturity	6¼ percent. 33-year maturity.
Subsidy costs	Gross outlays, 1970: $143.000.000. Capitalized value at 7½ percent: $18,000,000.

HOUSING FOR ELDERLY AND HANDICAPPED

Administering agency	Housing Production and Mortgage Credit/FHA, Department of Housing and Urban Development.
Identification	Authorization: Housing Act of 1959, sec. 202, Public Law 86–372; 73 Stat. 654; sec. 24 CFR, sec. 236.40(b) for conversion to a 236 project. Budget account: 25–24–4115–0–3–555. CFDA: 14.102 (1970 CFDA).
Objectives	To assist the development of housing for the elderly or the handicapped. Loans cover the development costs of new or rehabilitated rental housing and related facilities for the elderly or handicapped.
Financial form	Credit aids (direct loans).
Direct recipient	Private nonprofit corporations, limited profit sponsors, consumer cooperatives, certain public bodies or agencies that are not receiving financial assistance from the U.S. Government exclusively under the 1937 Housing Act.
Interest rate and maturity	3 percent. Interest shall be the lesser of 3 percent per annum or the average annual interest rate on all interest-bearing obligations of the United States plus one-fourth of 1 percent. 50-year maturity.
Subsidy costs	Gross outlays, 1970: $106,000,000. Capitalized value at 7½ percent: $53,000,000.

REHABILITATION LOAN FUND

Administering agency	Community Development, Department of Housing and Urban Development.
Identification	Authorization: 42 U.S.C. 1452b, Housing Act of 1964, as amended, sec. 312, Public Law 88-560, 78 Stat. 769, 790. Budget account: 25-12-4036-0-3-555. CFDA: 14.305.
Objectives	To provide funds to individuals and families who own and occupy residences and to owners and tenants of nonresidential properties. Financial assistance is available to rehabilitate property located in federally assisted code enforcement areas, urban renewal areas, areas where there is a rehabilitation or code enforcement plan or areas determined to be uninsurable because of physical hazards under the program of property insurance for riot-affected areas.
Financial form	Credit aids (direct loans).
Direct recipient	Loans may be made to owners or tenants of properties in urban renewal, neighborhood development, and code enforcement project areas, certified areas, and certain other areas covered by fair access to insurance requirements (FAIR) plans where properties are uninsurable due to physical hazards. To be eligible the borrower must have an income within the limitations prescribed by the HUD Secretary for projects financed with BMIR mortgages insured under section 221(d)(3) of National Housing Act.
Interest rate and maturity	3 percent. 20-year maturity.
Subsidy costs	Gross outlays, 1970: \$39,000,000. Capitalized value at 7½ percent: \$12,000,000.

LOW-RENT PUBLIC HOUSING

Administering agency	Housing Production and Mortgage Credit/FHA, Department of Housing and Urban Development.
Identification	Authorization: U.S. Housing Act of 1937, as amended; Public Law 75-412; 42 U.S.C. 1401-1435. Budget account: 25-02-0139-01-555. CFDA: 14.146.
Objectives	To provide decent, safe, and sanitary low-rent housing and related facilities for families of low income through authorized public agency ownership. To assist local housing authorities in providing low-rent housing by (1) acquiring existing housing from the private market (acquisition); (2) procuring construction by competitive bidding where the housing authority acts as the developer (conventional); or (3) letting contracts to private developers (turnkey).
Financial form	Credit aids (debt services payments). Annual contributions are made to housing authorities to meet debt service requirements. Additional contributions are available for certain operating and maintenance expense in order to maintain income at or below 25 percent of tenant income.
Direct recipient	Local housing authorities acting in behalf of individuals and families who reside in, work in, or otherwise use the affected areas.
Interest rate and maturity	The interest rate is variable with the market based on a formula rate determined by the Secretary of the Treasury, taking into consideration the current average rate on outstanding marketable obligations of the United States. Average maturities: 8 months for temporary loans, 40 years for permanent financing.
Subsidy costs	Fiscal year 1970, $1,064,000,000.

RURAL HOUSING INSURANCE

Administering agency	Farmers Home Administration, Department of Agriculture.
Identification	Authorization: Housing Act of 1949, as amended, section 502; Public Law 89-117 and 42 U.S.C. 1484 and 1486; 7 CRF 1822.1-1822.17. Budget Account: 05-60-4141-0-3-352 CFDA: 10.410
Objectives	To assist rural families to obtain decent, safe, and sanitary dwellings and related facilities. The loans may be used for: Construction, repair or purchase of housing; provide necessary and adequate sewage disposal facilities for the applicant and his family; purchase or install essential equipment which upon installation becomes part of the real estate; buy a minimum adequate site on which to place a dwelling for applicant's own use.

RURAL HOUSING INSURANCE—Continued

Financial form	Credit aids (guaranteed and insured loans)
Direct recipient	Owners of a farm or nonfarm tract or a rural resident or a nonrural resident of low or moderate income who works in the rural area and will, when the loan is closed, become the owner of a nonfarm tract of minimum adequate size. Must also be a citizen of the United States or reside in the United States after being legally admitted for permanent residence and have adequate and dependably available income to meet his operating and family living expenses, including taxes, insurance, and maintenance, and repayments of debts including the proposed loan. The recipient must be without sufficient resources to provide on his own account the necessary housing, buildings, or related facilities, and be unable to secure the necessary credit from other sources upon terms and conditions which he reasonably could be expected to fulfill.
Interest rate and maturity	6¼ percent—interest credits may be granted to lower income families which will reduce the effective interest rate paid to a low of 1 percent, depending on the size and income of the applicant family. 33-year maturity.
Subsidy costs	Gross outlays, fiscal year 1970 $978,000,000. Capitalized value at 7½ percent: $118,000,000. The subsidy is brought about by the sale of guaranteed loans to private lenders. Since these loans have or will earn less than the market rate of interest, they must be sold at a discount, or the sale must be accompanied by an interest subsidy sufficient to induce purchasers to pay the face value. See Henry Aaron, "Federal Housing Subsidies," in the forthcoming JEC study papers for a more detailed explanation of this program.

H. Natural Resources

Subsidy programs in the area of natural resources are a little harder to conceive of than subsidies to say manpower, housing, or medical care. This is primarily because the existence of a functioning private market is easily discernible in the latter case but much less so in the former. It is hard to imagine a market dealing with pollution and only slightly less difficult when one turns to the general area of natural resources. Nevertheless, markets that effect the utilization of our national resources do exist and are subsidized by Federal programs. As one might expect, the objectives and effects of these subsidies are quite diverse and may in some cases even be in conflict.

The Federal Government makes cash payments and provides benefit-in-kind subsidies to landowners, largely farmers, in order to alter the manner in which they use their land and related natural resources. Examples of such cash subsidies are Rural Environmental Assistance, Great Plains Conversion, Cropland Adjustment, and Resource Conservation and Development. In large part, the purpose of these programs is to withdraw agricultural land from production, thereby raising agriculture prices, and in this way they serve as agricultural subsidies.

These programs are also natural resource subsidies in the sense that they are designed to decrease the use of natural resources in economic production. On the other hand, aspects of these programs such as irrigation development may encourage increased resource use and agricultural production.

Perhaps some of the tax provisions listed below are even more clear-cut examples of subsidies designed to encourage the use of natural resources. The subsidies to timber, oil, and other minerals appear to provide incentives to use these resources in greater amounts and instead of other alternatives. To what extent these incentives work, and to what degree they are merited, are matters for further analysis and investigation.[16]

In contrast to those subsidies designed to encourage either the conservation or use of natural resources, are those designed to affect pollution. The area of pollution is perhaps clarified by calling it a pollution control market rather than simply a pollution market. Pollution control then involves easily understandable concrete economic activities. On the one hand there is the entire area of researching and analyzing the causes of pollution and the logical extension of that, the development of techniques and technologies to reduce pollution once the causes are understood. Beyond the research and development phase there is implementation. Generally the person, firm, or municipality causing the pollution does not have to bear more than a small fraction of the total costs their pollution is placing upon society. As a result they will not voluntarily bear the cost of employing pollution equipment when the return to them of using such equipment is either nonexistent or minuscule compared to such costs.

Of course, there are many possible ways of encouraging or coercing a polluter to use abatement equipment and one of these ways is to subsidize its use, thus reducing the cost of such equipment to the polluter and making its utilization more attractive. Most of the Federal subsidy programs dealing with pollution attempt to do just that either by providing a tax credit on pollution abatement equipment or by providing funds to be used for the purpose of constructing or purchasing such equipment. Two examples are Pollution Control Amortization and Construction Grants for Waste Water Treatment Works.

An alternative to the above subsidies would be a subsidy paid directly to polluters per unit of pollution reduction, or a tax penalty charged per unit of pollution generated. Neither type of incentive presently exists. The latter approach has been advocated by the Joint Economic Committee because it has several advantages over the alternative techniques. First, a charge is fair because it places the burden of the social cost of pollution on those who cause it. Second, a charge is an incentive for the polluter to minimize pollution, at every level of pollution, because such action will reduce his costs. Third a charge is efficient because it allows the production alternative necessary to achieve a given level of environmental quality. Fourth a charge is flexible since it can be imposed even when there is uncertainty over pollution control costs, and then adjusted as it is determined what level of charge will be necessary to achieve a particular level of en-

---

[16] See the study papers by Edward Erickson and Emil Sunley for an analysis of these tax provisions. For treatment of the other subsidy forms in the natural resources area see Hugh Macaulay and Darwin Daicoff.

vironmental quality. Finally, a charge would provide revenue to the Government that could be used to further pollution control in other areas.

Table 5–8 contains a list of natural resource subsidies, which taken together had a gross budgetary cost of approximately $3 billion in fiscal 1970. This is likely to underestimate the degree of subsidization to this area because some programs related to natural resources have been categorized under other areas such as agriculture. Moreover, numerous programs that appear to be subsidies have been omitted because of difficulties in measuring the subsidy element. Examples are Federal reclamation projects, certain Tennessee Valley Authority activities, mineral exploration and development assistance, and the provision of grazing rights on Federal land. A more complete investigation of natural resources will be necessary before the full costs of subsidies in this area have been determined.

TABLE 5–8. GROSS BUDGETARY COST OF FEDERAL NATURAL RESOURCE SUBSIDIES, FISCAL YEARS 1970 AND 1971

[In millions of dollars]

Program	1970 actual	1971 estimated
Direct cash payments:		
Rural environmental assistance	185	150
Great Plains conservation	15	16
Cropland adjustment	77	78
Conservation reserve	37	0
Emergency conservation measures	16	15
Water bank program	0	0
Tax subsidies:		
Capital gains treatment for cutting timber	140	130
Expensing of mineral development costs	340	325
Excess of percentage over cost depletion	1,470	980
Pollution control amortization	15	15
Capital gains treatment on coal and iron royalties	5	15
Credit subsidies:		
Water and sewer loans	22	0
Benefit-in-kind:		
State and private forestry cooperation	26	28
Resource conservation and development	11	15
Watershed works of improvement	66	78
Rural water and waste disposal systems	45	40
Basic water and sewer facility grants	138	150
Construction grants for wastewater treatment works	426	1,200
Order of magnitude total	3,034	

Source: "1971 Catalog of Federal Domestic Assistance"; "The Budget of the U.S. Government, Fiscal Year 1972"; "The Budget of the U.S. Government—Appendix, Fiscal Year 1972"; "Special Analyses, Budget of the U.S. Government, Fiscal Year 1972"; Department of Treasury estimates, app. A.

RURAL ENVIRONMENTAL ASSISTANCE

Administering agency	Agricultural Stabilization and Conservation Service, Department of Agriculture.
Identification	Authorization: The Soil Conservation and Domestic Allotment Act, approved Feb. 29, 1936, secs. 7 to 15, 16(a), and 17, as amended; Public Law 74–46; 16 U.S.C. 590d, 590g–590o, 590p(a), and 590q. Budget account: 05–44–3315–0–1–354. CFDA: 10.050.
Objectives	To stimulate and help farmers, ranchers, and woodland owners (primarily through cost-sharing) to carry out approved soil, water, woodland, and wildlife conservation practices, and agriculture-related water, air, and land pollution abatement practices, to assure wise use and adequate protection of the Nation's agricultural lands, help achieve additional conservation on land now in agricultural production, and improve man's total environment, with direct benefits to the public. The pollution abatement and conservation practices are to be used on agricultural land and must be performed satisfactorily and in accordance with applicable specifications. The pollution abatement and wildlife conservation practices must also conserve soil or water.
Financial form	Direct cash payments.
Direct recipient	Any person who as owner, landlord, tenant, or sharecropper on a farm or ranch, including associated groups, bears a part of the cost of an approved pollution abatement or conservation practice is eligible to apply for cost-sharing assistance.
Subsidy costs	Fiscal year 1970, $185,000,000; fiscal year 1971, $150,000,000.

GREAT PLAINS CONSERVATION

Administering agency	Soil Conservation Service, Department of Agriculture.
Identification	Authorization: Soil Conservation and Domestic Adjustment Act and Agriculture Adjustment Act of 1938, as amended by the Great Plains Act of Aug. 7, 1956, Public Law 84–1021 and Public Law 86–793, approved Sept. 18, 1969, and Public Law 91–118, approved Nov. 18, 1969. Budget account: 05–20–2268–0–1–354. CFDA: 10.900.
Objectives	Maintain resource base by assisting farmers, ranchers, and others install conservation plans for whole operating units through a program of scheduled technical assistance and long-term contractual cost sharing that will bring improved stability to the Great Plains area by converting lands unsuited for cropping to other uses and arrest deterioration of crop and grazing lands.
Financial form	Direct cash payments.
Direct recipient	Anyone in keeping with the above objective who has control of land for the period of the contract running from a minimum of 3 years to a maximum of 10 years.
Subsidy cost	Fiscal year 1970, $15,426,000; fiscal year 1971, $16,158,000.

CROPLAND ADJUSTMENT PROGRAM

Administering agency	Agricultural Stabilization and Conservation Service, Department of Agriculture.
Identification	Authorization: Food and Agriculture Act of 1965, 7 U.S.C. 1838. Budget account: 05-44-3335-0-1-351. CFDA: Not listed.
Objectives	To divert cropland from the production of certain crops to more needed uses that will promote the development and conservation of our soil, water, forest, wildlife, and recreational resources. The program also helps farmers establish, protect, and conserve open spaces and natural beauty, and prevent air and water pollution.
Financial form	Direct cash payments.
Direct recipient	Producers of eligible crops.
Subsidy costs	Fiscal year 1970, $77,200,000; fiscal year 1971, $77,800,000.

CONSERVATION RESERVE PROGRAM

Administering agency	Agricultural Stabilization and Conservation Service, Department of Agriculture.
Identification	Authorization: Soil Bank Act of 1956. Budget account: 05-44-3369-0-1-351. CFDA: Not listed.
Objectives	To bring total crop acreage more nearly in line with demand by withdrawing cropland from production and to establish and maintain sound conservation practices on the land withdrawn.
Financial form	Direct cash payments.
Direct recipient	Landowners who agree to withdraw land from production.
Subsidy costs	Fiscal year 1970, $37,250,000; eliminated in fiscal year 1971.

EMERGENCY CONSERVATION MEASURES

Administering agency	Agricultural Stabilization and Conservation Service, Department of Agriculture.
Identification	Authorization: Public Law 85-58 (Third Supplemental Appropriation Act, 1957). Budget account: 05-44-3316-0-1-354. CFDA: 10.054.
Objectives	To enable farmers to perform emergency conservation measures to control wind erosion on farmlands, or to rehabilitate farmlands damaged in wind erosion, floods, hurricanes, or other natural disasters. Emergency cost-sharing is limited to new conservation problems created by natural disasters which if not treated will impair or endanger the land; materially affect the productive capacity of the land; represent damage which is unusual in character and, except for wind erosion, is not the type which would recur frequently in the same area; and will be so costly to rehabilitate that Federal assistance is or will be required to return the land to productive agricultural use.
Financial form	Direct cash payments.
Direct recipient	Any person who as owner, landlord, tenant, or sharecropper on a farm or ranch, including associated groups, bears a part of the cost of an approved conservation practice is eligible to apply for cost-share conservation assistance.
Subsidy costs	Fiscal year 1970, $15,913,000; fiscal year 1971, $15,000,000.

WATER BANK ACT PROGRAM

Administering agency	Agricultural Stabilization and Conservation Service, Department of Agriculture.
Identification	Authorization: Water Bank Act, Public Law 91–559. Budget account: 05–44–3320–0–1–351. CFDA: Not listed.
Objectives	To preserve, restore, and improve the wetlands of the Nation, and thereby to conserve surface waters, to preserve and improve habitat for migratory waterfowl and other wildlife resources, to reduce runoff, soil and wind erosion, and contribute to flood control, to contribute to improved water quality and reduce stream sedimentation, to contribute to improved subsurface moisture, to reduce acres of new land coming into production and to retire lands now in agricultural production, to enhance the beauty of the landscape, and to promote comprehensive water management planning.
Financial form	Direct cash payments.
Direct recipient	Owners and operators of wetlands.
Subsidy costs	This is a new program scheduled to go into effect in 1972 at an annual cost of $10,000,000.

CAPITAL GAINS TREATMENT FOR CUTTING TIMBER

Authorization	Sec. 691—Gain or loss in the case of timber, coal, or domestic iron ore (a) election to consider cutting as sale or exchange, (b) disposal of timber with a retained economic interest.
Financial form	Tax subsidies.
Description	The gain on the cutting of timber is taxed at the rates applicable to long-term capital gains, rather than at ordinary income rates. However, if losses are in excess of the gains, they are treated as ordinary losses. The Revenue Act of 1943 extended sec. 117(j) treatment to income from the cutting or other disposition of timber. It had been observed that, under the 1942 legislation, a taxpayer might obtain capital gains treatment for gains realized on the sale of timber sold outright as a stand, although he would receive ordinary income tax treatment on income derived from cutting the timber. Moreover, gain from the sale of timber, however disposed of, was regarded as accruing over a relatively long period during which the trees matured and, therefore, as not properly taxable in full in the single year in which the gain was realized. ("The Federal Tax System: Facts and Problems", Joint Economic Committee, 1964, p. 69.)
Subsidy costs	Fiscal year 1970, $140,000,000; fiscal year 1970, $130,000,000.

EXPENSING OF MINERAL EXPLORATION AND DEVELOPMENT COSTS

Authorization	Sec. 616—Development expenditures. Sec. 617—Deduction and recapture of certain mining exploration expenditures.
Financial form	Tax subsidies.
Description	Certain capital costs necessary to bring a mineral deposit into production may be deducted as current expenses rather than spread over the useful life of the property. Included in this category are the intangible drilling costs of oil and gas wells and the cost of developing other mineral deposits, such as mine shafts, tunnels, and stripping. It is held by advocates that this subsidy provides a desired incentive for mineral exploration.
Subsidy costs	Fiscal year 1970, $340,000,000; fiscal year 1971, $325,000,000.

70-378—72——12

EXCESS OF PERCENTAGE OVER COST DEPLETION

Authorization	Sec. 611—Allowances of deduction for depletion. Sec. 612—Basis for cost depletion. Sec. 613—Percentage depletion.
Financial form	Tax subsidies.
Description	Extractive industries may choose between two methods of recovering capital costs invested in the development of natural resources. Under one method, actual outlays to the extent not immediately expensible may be deducted as "cost depletion" over the productive life of the property, much as other businesses may take deductions for the depreciation of capital goods. Alternatively, businesses in the extractive industries may deduct a prescribed percentage of gross income (at rates ranging from 27.5 percent for oil and gas to 5 percent for certain minerals, but not more than 50 percent of net income) where such "percentage depletion" exceeds "cost depletion." Percentage depletion is not limited to the cost of the investment as is cost depletion. The basis for "cost depletion" is reduced to the extent certain costs are recovered through expensing of exploration and discovery costs and intangible drilling costs. There is no comparable reduction in "percentage depletion" to allow for costs which are allowed as expenses. The Tax Reform Act of 1969, reduced the rate to 22 percent for oil and gas (formerly 27.5 percent) and also reduced the rate to 22 percent for minerals which were formerly in the 23-percent category. Minerals which were in the 15-percent category were reduced to 14 percent. Percentage depletion was adopted in 1926, when the prior allowances based on discovery value in the case of oil and gas proved difficult to administer and produced varying results. At that time, it was recognized that percentage depletion could permit taxpayers to recover amounts in excess of their investments. This was deemed justified on the ground it would have the beneficial effect of stimulating exploration for, and discovery of, new reserves of vitally needed oil and gas * * * In adopting the act, the Congress concluded that if percentage depletion rates are viewed as a needed stimulant at the present time, they were higher than needed to achieve the desired increase in reserves. (General Explanation of the Tax Reform Act of 1969, p. 156.)
Subsidy costs	Fiscal year 1970, $1,470,000,000; fiscal year 1971, $980,000,000.

POLLUTION CONTROL AMORTIZATION

Authorization	(After 1969 Tax Reform Act) Sec. 169—Amortization of pollution control facilities.
Financial form	Tax subsidies.
Description	This program was first introduced in the 1969 Tax Reform Act and will last until December 31, 1974. Certified facilities with a normal useful life of 15 years or less may be amortized over a period of 60 months. The Congress recognized that an important challenge facing our Nation is the problem of environmental pollution. Congress has addressed itself to the air and water pollution problem in legislation which it has passed in recent years. In order to deal effectively with the Nation's air and water pollution problem, however, it concluded a significant part of the task must be met by private industry. In effect, private industry is being asked to make an investment which, in part, is for the benefit of the general public. It also has been estimated that existing factories which attempt to curb pollution effectively through the addition of antipollution equipment may face significant increases in capital costs. Moreover, expenditures for pollution control equipment generally do not result in any increase in the profitability of a plant. In the past, companies which installed antipollution equipment involving property of a type for which the investment credit was available received, in effect, an incentive through this credit for dealing with the pollution problem. The repeal of the investment credit, therefore, would have an undesirable effect on the efforts made by private industry to combat pollution were not another type of incentive to be made available. To deal with the undesired effect on pollution control of repealing the investment credit and at the same time to deal with the increasing air and water pollution problem facing the Nation, the Congress concluded that it was appropriate to provide an incentive to private industry for antipollution efforts. It concluded, however, that it was more appropriate to permit the rapid recovery of the costs involved than to permit a return in excess of total costs. (This and the previous three paragraphs are quoted from the "General Explanation of the Tax Reform Act of 1969," p. 207–8.)
Subsidy cost	Fiscal year 1970, $15,000,000; fiscal year 1971, $15,000,000.

CAPITAL GAIN TREATMENT OF ROYALTIES ON COAL AND IRON ORE

Authorization	Section 631—Gain or loss in the case of timber, coal or domestic iron ore. (c) Disposal of coal or domestic iron ore with a retained economic interest.
Financial form	Tax subsidies.
Description	Royalties from coal or iron ore deposits are treated as capital gains. The committee believes that the tax treatment now available with respect to coal royalties also should be extended to iron ore royalties as well. The capital gains treatment was made available in the case of coal royalties in part at least to encourage leasing, and therefore production, at a time when the coal industry was facing strong competition from other forms of fuel energy. Today, domestic iron ore production also generally is decreasing. The capital gains treatment provided by this bill should encourage domestic leasing of iron ore properties to operators, and therefore should improve the position of domestic iron ore production relative to foreign production. (House report on Revenue Act of 1964.)
Subsidy costs	Fiscal year 1970, $5,000,000; fiscal year 1971, $15,000,000.

WATER AND SEWER LOANS

Administrative agency	Farmers Home Administration, Department of Agriculture.
Identification	Authorization: Consolidated Farmers Home Administration Act of 1961, 7 U.S.C. 1926, as amended, sec. 306. Budget account: 50–60–4140–0–3–352. CFDA: 10.418.
Objectives	To provide basic human amenities, alleviate health hazards, and promote the orderly growth of the rural areas of the Nation by meeting the need for new and improved rural water and waste disposal systems. Funds may be used for the installation, repair, improvement, or expansion of the rural water system including distribution lines, well, pumping facilities, and costs related thereto. The installation, repair improvement, or expansion of a rural waste-disposal system including the sewer-lines, waste collection, and treatment of all wastes including solid wastes.
Financial form	Credit aid (Guaranteed and insured loans).
Direct recipient	Public or quasi-public bodies and corporations not operated for profit which will serve residents of open country and rural towns and villages up to 5,500 populations. Water and sewer services are then provided at less than full cost or market value.
Interest rate and maturity	5 percent—The Secretary of Agriculture shall retain out of payments by the borrower a charge at a rate determined by the Secretary from time to time equivalent to not less than one-half of 1 percent per annum on the principal unpaid balance of the loan, as an insurance premium. 40-year maturity.
Subsidy costs	Gross outlays, 1970: $82,000,000. Capitalized value at 7½ percent: $22,000,000. The subsidy is brought about by FmHA provision of guaranteed loans to private lenders at less than the market rate, with these loans then sold in the open market at a discount.

STATE AND PRIVATE FORESTRY COOPERATION

Administering agency	Forest Service, Department of Agriculture.
Identification	Authorization: Forest Pest Control Act of June 25, 1947. (16 U.S.C. 594-1 to 594-5). Clarke-McNary Act of June 7, 1924, section 1, as amended, section 2, as amended and supplemented. Budget account: 05-96-1100-0-1-402; 05-96-1101-0-1-402; 05-20-1066-0-1-401; 05-20-1036-0-1-401; 05-20-1067-0-1-401; 05-20-1069-0-1-401. CFDA: 10.650.
Objectives	To provide maximum benefits to the people of this Nation by furthering the protection, sound management, and wise use of non-Federal forest and certain nonforested watershed lands.
Financial form	Benefit-in-kind. Programs are used to provide the following assistance, normally through State forestry agencies and/or soil and water conservation districts for protection, management, and development of State, local, and privately owned forest land, and to build for rural America new and greater opportunities. (1) Forest fire prevention and control; (2) forest insect and disease control; (3) timber growing and timber harvesting; (4) timber stand improvements and tree planting; (5) utilization and marketing of forest products; (6) multiple use planning of forest land resources; (7) forest tree improvement; (8) planning, development environment, improvement and rural industrialization; (9) watershed protection, improvement, and flood prevention on forest and wildlands; (10) emergency flood prevention caused by natural disasters: (11) protection of rural lands against fire in national emergency; (12) technical services for Federal cost-sharing and loan programs on forest land.
Direct recipient	State forestry and other State agencies, local governments and organizations, private woodland owners, and private forest industries.
Subsidy cost	Fiscal year 1970, $26,144,000; fiscal year 1971, $27,662,000.

RESOURCE CONSERVATION AND DEVELOPMENT

Administering agency	Soil Conservation Service, Department of Agriculture.
Identification	Authorization: Food and Agriculture Act of 1962; Public Law 87-703; 76 Stat. 607; 7 U.S.C. 1010, 1011 (supp. V) 1959-1963; Public Law 91-343; 7 U.S.C. 1011(e); Public Law 74-46. Budget account 05-20-1010-0-1-354. CFDA: 10.901.
Objectives	Assist local people to initiate and sponsor program for developing and carrying out long-range program of resource conservation and development, develop dynamic rural community with satisfactory level of income and pleasing environment through planned improvement of resources, and create a favorable investment climate attractive to private capital.
Financial form	Benefit-in-kind. Roughly two kinds of benefits are provided. Cash payments are made to private contractors to construct irrigation channels, ponds, dams, etc. on a cost sharing basis with local public groups. But the projects are in many cases strictly on private lands so that the direct recipients are private individuals. Moreover, technical assistance in the form of surveying and design of projects is also provided to private individuals. Some of the projects are on public lands for public purposes.
Direct recipient	The private individuals in those cases where the project or technical services are provided to these individuals. The general public where in fact the project is a public project.
Subsidy cost	Fiscal year 1970, $11,101,000; fiscal year 1971, $15,075,000. This figure may overestimate the subsidy cost because purely public programs are included.

WATERSHED WORKS OF IMPROVEMENT

Administering agency	Soil Conservation Service, Department of Agriculture.
Identification	Authorization: Watershed Protection and Flood Prevention Act; Public Law 83–466, 68 Stat. 666; Public Law 1018, 84th Congress, Public Law 90–361. 82 Stat. 250 and related statutes. Budget account: 05–20–1067–0–1–401. CFDA: 10.904.
Objectives	Provide technical and financial assistance in carrying out works of improvement to protect, develop, and utilize the land and water resources in small watersheds.
Financial form	Benefit-in-kind. Roughly two kinds of benefits are provided. Cash payments are made to private contractors to construct irrigation channels, ponds, dams, etc. on a cost sharing basis with local public groups. But the projects are in many cases strictly on private lands so that the direct recipients are private individuals. Moreover, technical assistance in the form of surveying and design of projects is also provided to private individuals. Some of the projects are on public lands for public purposes.
Direct recipient	The private individuals in those cases where the project or technical services are provided to these individuals. The general public where in fact the project is a public project.
Subsidy cost	Fiscal year 1970, $66,417,000; fiscal year 1971, $78,084,000.

RURAL WATER AND WASTE DISPOSAL SYSTEMS

Administering agency	Farmers Home Administration, Department of Agriculture.
Identification	Authorization: Consolidated Farmers Home Administration Act of 1961, as amended, sec. 306; 7 U.S.C. 1926. Budget account: 05–60–2066–0–1–352. CFDA: 10.418.
Objectives	To provide basic human amenities, alleviate health hazards and promote the orderly growth of the rural areas of the Nation by meeting the need for new and improved rural water and waste disposal systems. Funds may be used for the installation, repair, improvement, or expansion of a rural water system including distribution lines, well, pumping facilities and costs related thereto. The installation, repair, improvement, or expansion of a rural waste disposal system including the sewer lines, waste collection, and treatment of all wastes including solid wastes.
Financial form	Benefit-in-kind. Water and sewer services are provided at less than full cost.
Direct recipient	Farmers and other rural residents who are served by the disposal systems.
Subsidy cost	Fiscal year 1970, $44,800,000; fiscal year 1971, $40,000,000.

BASIC WATER AND SEWER FACILITY GRANTS

Administering agency	Community Development, Department of Housing and Urban Development.
Identification	Authorization: Housing and Urban Development Act of 1965, sec. 702, as amended; Public Law 89-117, 79 Stat. 451, 489. 42 U.S.C. 3101. Budget account: 25-12-0125-0-1-553. CFDA: 14.301.
Objectives	To provide grants to construct water and sewer facilities. The facility system must be part of the comprehensively planned development of the area. Funds may be used to construct facilities to store, supply, treat, purify, or distribute water and sanitary sewer and storm sewer systems.
Financial form	Benefit-in-kind. Reduced cost services are provided to those who use the water and sewer system.
Direct recipient	Cities, towns, counties, Indian tribes, or public agencies or instrumentalities of one or more States or one or more municipalities which have the legal authority to plan, finance, construct, and operate the facility.
Subsidy costs	Fiscal year 1970, $137,944,000; fiscal year 1971, estimate, $150,043,000.

CONSTRUCTION GRANTS FOR WASTEWATER TREATMENT WORKS

Administering agency	Water Quality Office, Environmental Protection Agency.
Identification	Authorization: Federal Water Pollution Control Act, as amended; grants for construction, sec. 8; Public Law 84-600, as amended; by Public Law 87-88, 89-753, 91-224, and 91-439; 33 U.S.C. 466, et. seq.; 18 CFR, pt. 601, sub-pt. B. Budget account: 20-00-0103-0-1-401. CFDA: 66.400.
Objectives	To accelerate joint programs of waste treatment works construction by providing grants for part of the eligible construction costs of State, municipal, intermunicipal, or interstate agencies. Grants under this program are limited to the construction of waste treatment works, including intercepting and outfall sewers, by eligible, applicants. Collector sewers and water supply systems are not eligible for grant assistance. Grants cannot be made to a project or portion thereof treating 100-percent industrial wastes.
Financial form	Benefit-in-kind. Water and sewer services are provided at less than full cost or market value.
Direct recipient	The household and industrial users in the affected area. It is estimated that "between 40 and 60 percent of the waste loads treated by municipal plants comes from industrial sources. The Federal grants for the construction of such a plant therefore represent a heavy subsidy to industry and encourages plant owners to treat their wastes in municipal plants." From Charles Schultze, et al., "Setting National Priorities, the 1972 Budget" (Washington: Brookings, 1971), p. 243.
Subsidy costs	Fiscal year 1970, $425,600,000; fiscal year 1971, $1,200,000,000. These figures may well overestimate the cost of the subsidy in terms of the difference between receipts and expenditures for the services at the local levels, but these receipts do not accrue to the Federal Government.

I. Transportation

Certain types of transportation—not transportation in general—are sold at prices that do not cover total costs and the Government makes up the difference. The seller may be a private sector firm, a State or local government, or the Federal Government itself. The major subsidized modes are ocean shipping, air transportation, and urban mass transit of various kinds (bus, subway, and railroad).

Other types of transportation are assisted by free Government supply of part of the requisites for such transportation. Government supplies highways free of direct charge but not the automobiles to run on them; it also supplies inland waterways free without the boats and barges to run on them. In these cases queuing is the rationing instrument employed instead of market prices.

These remarks have abstracted from the gasoline tax and similar user charges. If they are taken into account, the "free" highway system becomes a service that is to some extent sold at, and rationed by, a price, though a price that clearly more than covers the cost of certain segments of the highway network while falling far short of covering the cost of other segments. Some users of the service are in this manner required to subsidize others. It has not been possible to estimate the income transfer cost of these subsidies in this study.

On the other hand, the users of inland waterways pay no user charges to cover the costs of the facilities and services provided to them free. Instead, general taxpayers support the inland waterways in excess of $250 million annually.[17] We have in this case a special benefit that is provided free—or one could say subsidized 100 percent—to those who operate the 20,000 towboats and barges that use this waterway system. This example dramatically illustrates the need for a thorough review of those goods and services the Government presently provides free, to determine if free distribution is merited, or if a more equitable and efficient distribution of resources can be achieved by converting the free good or service to a subsidy by establishing user charges.

The subsidized transportation modes may be supported or come about for any of several reasons.

Certain transportation subsidies are a product of inflation and in this sense are inadvertent, not having been planned or even anticipated by anyone. A private monopoly of some mode of transportation, being commonly subject to regulation, can be prevented from raising the fare to match a general increase in prices and costs, while being compelled to continue service as long as its working capital holds out, perhaps for many years. Such a restriction is the more likely to be imposed if users of the service have no close substitutes for it and find the service essential to earning a living without changing either job or residence. When replacement or maintenance can no longer be deferred, the owners of the system sell it or abandon it to the government, which then must inject massive subsidies if it is not to raise the price of transport. This has been a common occurence with subway and bus service in large metropolitan cities.

If the government itself owns the infrastructure and vehicles, resistence to a rise in fare will be expressed directly at the polls, especially

[17] The Budget of the U.S. Government, fiscal 1972, p. 124.

by low-income riders. The poor do not like the price system because they are poor, and do not intend to allow it to remove from them a redistribution of real income in their favor that has been effected by an inflation-caused lag of prices behind cost of replacement and maintenance. Urban mass transportation subsidies are therefore often supported as an in-kind means of protecting or improving the income distribution position of low-income groups such as the elderly.

Supporters of a particular mode may also argue that they should be subsidized because other modes already receive large amounts of government aid. Rail subsidization is in part supported to offset what is considered to be a misallocation of resources in a neighboring field, the highways, which are said by some to be obtaining too much of the economy's resources through subsidization and free supply.

Subsidization of transport may be justified in some instances on the grounds of economic efficiency where decreasing costs are important. If price is set at marginal cost per unit, it will not cover total cost. To set price above marginal cost, however, is to exclude those who are willing to pay the cost they individually cause by using the facility, and this exclusion is prima facie a waste of available resources. Under these circumstances economic efficiency can be increased by subsidizing the lumpy, nonmarginal elements of cost, with the requirement that the enterprise accept all the traffic that is ready to pay marginal costs. It is not evident, however, that this particular argument has in fact influenced policymakers appreciably in the transport field.

Transportation is so prevasive in its influence that many other arguments are often used in behalf of one or several modes. Mass transit subsidies are urged because they will reduce the economic cost of congestion and pollution. Ocean and air transport subsidies are often claimed to be beneficial because they reduce the need for foreign exchange. And it is not uncommon for most of the modes to be supported on the grounds that subsidization will promote capital investment, economic growth, employment, and the general commerce. To what extent any of these and the earlier justifications are satisfactory is a matter that will be pursued further in the relevant study papers.

Table 5-9 provides a partial list of transportation subsidies and their gross budgetary costs. The approximately $670 million budget cost for fiscal 1970, and even the $1.2 billion estimate for fiscal 1971, no doubt understates resources allocated to transportation subsidies. In part this is because there has been no measurement of the subsidy involved in those transport modes distributed free. It is also because we have not been able to estimate the costs of the many regulatory subsidies that characterize this area of activity. Finally, some transportation subsidies may have been included in other areas such as Commerce and Economic Development. A full accounting of the cost of transportation subsidies must await further analysis.[18]

[18] See especially the study papers written by Jeremy Warford, George Eads, William Tye, and George Hilton.

TABLE 5-9.—GROSS BUDGETARY COSTS OF FEDERAL TRANSPORTATION SUBSIDIES, FISCAL YEARS 1970 AND 1971

[In millions of dollars]

Program	1970 actual	1971 estimated
Direct cash payments:		
Air carrier payments	38	57
Operating-differential subsidies	194	224
Construction-differential subsidies	68	238
Tax subsidies:		
Deferral of tax on shipping companies	10	10
Rail freight car amortization	0	105
Benefit-in-kind subsidies:		
Airport development aid program	55	170
The Federal airways system [1]	174	174
Urban mass transportation grants	133	270
National Rail Passenger Corp	0	40
Order of magnitude total	672	1,288

[1] Estimated in expenditures rather than obligations.

Source: "1971 Catalog of Federal Domestic Assistance"; "The Budget of the U.S. Government, Fiscal Year 1972"; "The Budget of the U.S. Government—Appendix, Fiscal Year 1972"; "Special Analyses, Budget of the U.S. Government, Fiscal Year 1972"; Department of Treasury estimates, app. A.

AIR CARRIER PAYMENTS

Administering agency	Civil Aeronautics Board.
Identification	Authorization: Federal Aviation Act of 1958, as amended, sec. 406; Public Law 72–763, as amended by Public Laws 76–145 and 80–942; 42 U.S.C. 1376. Budget account: 30–24–1236–0–1–501. CFDA: 26.001.
Objectives	CAB fixes rates of subsidy compensation to promote the development of air transportation to the extent and quality required for the commerce of the United States, the Postal Service and the national defense.
Financial form	Direct cash payments. Subsidy is provided to cover the carrier's operating loss incurred under honest, economical and efficient management and to provide it an opportunity to earn a fair share (after taxes) on investment used and useful in the air transportation services.
Direct recipient	An air carrier holding a certificate authorizing the transportation of mail by aircraft under the Federal Aviation Act of 1958, as amended upon the air carrier's application and justification of the need thereof.
Subsidy costs	Fiscal year 1970, $37,784,000; fiscal year 1971, $57,241,000.

OPERATING-DIFFERENTIAL SUBSIDIES

Administering agency	Maritime Administration, Department of Commerce.
Identification	Authorization: Title VI of the Merchant Marine Act, 1936, as amended; 46 U.S.C. 1171–1183. Budget account: 06–70–1709–0–1–502. CFDA: 11.504.
Objectives	To promote the development and maintenance of the U.S. Merchant Marine by granting financial aid so as to equalize the cost of operating a U.S.-flag ship with the cost of operating a competitive foreign-flag ship.
Financial form	Direct cash payments.
Direct recipient	Title VI of the act provides for the payment of operating-differential subsidy on a vessel or vessels to be used in a foreign service in the foreign commerce of the United States, which has been declared to be essential by the Maritime Administrator under section 211 of the act. Operating subsidy is based on the difference between the fair and reasonable cost of certain items of operating expense and the estimated cost of the same items of expense if the vessels were operated under foreign registry.
Subsidy costs	Fiscal year 1970, $193,917,000; fiscal year 1971, $223,800,000.

CONSTRUCTION-DIFFERENTIAL SUBSIDIES

Administering agency	Maritime Administration, Department of Commerce.
Identification	Authorization: Title V of the Merchant Marine Act, 1936, as amended, 46 U.S.C. 1151–1161. Budget account: 06–70–1708–0–1–502. CFDA: 11.500.
Objectives	To promote the development and maintenance of the U.S. merchant marine by the granting of financial aid to equalize the cost of construction of a new ship in a foreign shipyard.
Financial form	Direct cash payments (benefit-in-kind). Depending upon who is viewed as the direct recipient, the shipbuilder or the ship operator, the subsidy is either a cash payment or a benefit in kind. Under the present means of assistance, the operator and the Government enter into a contract with the shipbuilder under which the Government pays to the shipbuilder the sum of the construction differential, with the operator paying the balance of the domestic cost of the vessel. In the first instance the subsidy is a direct cash payment to the shipbuilders; in the second instance it is a benefit-in-kind subsidy to shipowners.
Direct recipient	U.S.-flagship operators or U.S. shipyards for construction of ships to be used in foreign trade.
Subsidy costs	Fiscal year 1970, $67,774,000; fiscal year 1971, $237,990,000.

DEFERRAL OF TAX ON SHIPPING COMPANIES

Authorization	Sec. 954—Foreign Base Company Income (b) (2).
Financial form	Tax subsidies.
Description	Certain companies which operate U.S.-flag vessel on foreign trade routes receive an indefinite deferral of income taxes on that portion of their net income which is used for shipping purposes, primarily construction, modernization, and major repairs of ships. Another exception from the application of foreign base company income is provided for income derived from the use (including the hiring and leasing) of aircraft or vessels used in foreign commerce or services directly related to the use of the aircraft or vessels. This exception was provided by your committee primarily in the interest of national defense. In this regard it was believed desirable to encourage a U.S.-owned maritime fleet and U.S.-owned airlines operating abroad. (Senate Report on the Revenue Act of 1962.)
Subsidy cost	Fiscal year 1970, $10,000,000; fiscal year 1971, $10,000,000.

RAIL FREIGHT CAR AMORTIZATION

Authorization	Sec. 184—Amortization of certain railroad rolling stock.
Financial form	Tax subsidies.
Description	This program was first introduced in the Tax Reform Act of 1969. It provides for 5-year amortization of rolling stock in service before January 1, 1975. Repeal of the investment credit may affect the ability of the railroads to continue their present investment programs at the same pace. Because of the importance to the economy of a healthy railroad industry and the existence of the present shortage of freight cars, the committee believes that an alternative form of incentive to encourage continuation of the present level of investment is needed. (Senate Committee Report on Public Law 91–172.)
Subsidy costs	Fiscal year 1970, none; fiscal year 1971, $105,000,000.

AIRPORT DEVELOPMENT AID PROGRAM

Administering agency	Federal Aviation Administration, Department Department of Transportation.
Identification	Authorization: Airport and Airway Development Act of 1970; Public Law 91–258, 84 Stat. 219 et seq. Budget account: 21–20–8106–0–7–501. CFDA: 20.102 (partial).
Objectives	To assist public agencies in the development of a nationwide system of public airports adequate to meet the needs of civil aviation. Grants can be made for: (1) land acquisition, (2) site preparation, (3) construction, alteration, and repair of runways, taxiways, aprons, and roads within airport boundaries, and (4) construction and installation of lighting utilities and certain offsite work. Grants may not be made for the construction of hangars, parking areas for automobiles, or for buildings not related to the safety of persons on the airport.
Financial form	Benefit-in-kind.
Direct recipient	Users of airports and airport facilities. This includes commercial airlines, passengers, and the owners of private aircraft.
Subsidy costs	Fiscal year 1970, $54,900.000; Fiscal year 1971, $170,000,000. The airport development aid program replaced the grant-in-aid program under the Federal Airport Act. The fiscal year 1970 cost numbers represent this earlier program under Budget account 21–20–9988–0–1–501, fiscal year 1971 budget.

THE FEDERAL AIRWAYS SYSTEM

Administering agency	Department of Transportation, Federal Aviation Administration.
Identification	Authorization: Airport and Airway Development Act of 1970; Public Law 91–258. Budget account: 21–30–1306–0–1–501: 21–20–1305–0–1–501; 21–20–1301–0–1–501. CFDA: None.
Objectives	Establish a trust fund to operate, maintain and expand the Federal airways system. This includes such activities as: operation of the daily 24-hour traffic control system, and maintenance engineering services related to operating the traffic control system, and acquisition and construction of such related facilities as control towers and navigation facilities.
Financial form	Benefit-in-kind.
Direct recipient	Users of airports and airport facilities. This includes commercial airlines, passengers, and the owners of private aircraft.
Subsidy costs	Fiscal year 1970, $174,000,000; fiscal year 1971, $174,000,000. The subsidy cost figure represents the difference between expenditures for the civil share of the Federal airway system and revenues from user charges for fiscal 1971. In other words, the trust fund has not been self-supporting .We have used the fiscal 1971 data for fiscal 1970 on the assumption that the revenue and expenditure conditions did not drastically change between those 2 periods. The revenue and expenditure data is taken from Jeremy J. Warford, "Public Policy Toward General Aviation" (Washington: The Brookings Institution, 1971) pp. 58–68.

URBAN MASS TRANSPORTATION GRANTS

Administering agency	Urban Transportation Administration, Department of Transportation.
Identification	Authorization: Urban Mass Transportation Act of 1964 and related laws, as amended through Oct. 15, 1970; Public Law 88–365; 78 Stat. 302; 49 U.S.C. 1601 et seq. and Public Law 91–453. Budget account: 21–32–4119–0–3–503. CFDA: 20.500.
Objective	Assist State and local public agencies in providing adequate public transportation for all segments of the population; encourage application of new technology; encourage transit improvement programs consistent with regional goals and objectives. Acquisition, construction, reconstruction or improvement of facilities and equipment for use in public transportation service in urban areas. Excludes maintenance, repairs and other operating costs and ordinary governmental or nonprofit operating costs. Transportation may be by bus, rail or other conveyance, providing service for the public as general or special service.
Financial form	Benefit-in-kind. Only public agencies are eligible as applicants; but private transportation companies may participate through contractual arrangements with public agencies. Service benefits are then passed on to users of the transportation facilities provided.
Direct recipient	Producers and users of the transportation facilities provided.
Subsidy costs	Fiscal year 1970, $132,675,000; fiscal year 1971, $269,700,000.

NATIONAL RAIL PASSENGER CORPORATION

Administering agency	Federal Railroad Administration, Department of Transportation.
Identification	Authorization: Rail Passenger Service Act of 1970, Public Law 91–518. Budget account: 21–30–0704–0–1–503. CFDA: Not listed.
Objectives	The Rail Passenger Service Act of 1970 (Public Law 91–518) authorized the creation of a National Railroad Passenger Corp. which will assume responsibility for providing rail passenger service over a designated network on May 1, 1971. The corporation is to be a for-profit corporation, and its purpose is to develop modern, fast, and efficient rail service to meet the Nation's intercity passenger transportation needs. The corporation will not be an agency or establishment of the U.S. Government.
Financial form	Benefit-in-kind.
Direct recipient	The corporation, private carriers, and users of the rail passenger service over the designated network.
Subsidy costs	Fiscal year 1970, none; fiscal year 1971, $40,000,000.

J. Commerce and Economic Development

Unlike the other sections of this study that bring together the subsidy programs related to a single market, such as manpower or housing, the programs in this section are those that aim at somewhat more general assistance to business enterprise, economic development, and the general commerce (excluding transportation). Although generally producer subsidies, the programs identified in this section are not exclusively so and a more complete accounting of producer subsidies would require the inclusion of many programs identified in other sections.

Credit subsidies are the primary means of assisting and encouraging small business. These are usually direct loans, or combinations of direct and private loans, to finance plant construction or the acquisition of machinery, to assist displaced business, to encourage the establishment of plants in areas of relatively poor economic development, and so on. Some of the tax provisions also aid small business, such as the corporate surtax exemption, but far more of these subsidies appear to be aimed at encouraging all business, economic development, and the general commerce. The Investment Credit for example, has generally been justified on the grounds that it would encourage investment in plant and equipment and thereby stimulate improved economic development for the nation.

Broader still than the tax subsidies are those programs designed to encourage the economic growth and development of a particular region or community. The programs are usually packages of specific subsidies that are administered through State or local governments. The Community Action Program, for example, has special projects in health, education, housing, family planning, economic development, employment, and day care. As one can see from the above, these programs are also usually combinations of consumer and producer subsidies. These programs also tend to combine the financial forms of direct cash payments and benefit-in-kind. Finally, although some portions of these programs are not subsidies, they are included as subsidies here until such time that a complete breakdown of the programs is available.

The postal subsidy is also included in this section because it has in part been justified as an encouragement for the wide circulation of parcels, journals, and other forms of communication. In the past, perhaps more than today, this encouragement was related to the desire to provide an incentive to read and write and thereby promote literacy. The postal subsidy may also be the inadvertent result of operating cost increases related to general inflation in the economy.

Table 5–10 contains a list of major commerce and economic development subsidies. The gross budgetary costs of these programs were approximately $20 billion in fiscal 1970, primarily because of the large tax subsidies to business. Subsequent study papers will provide detailed analysis of some of these subsidies.[19]

---

[19] See the study papers by Joseph Pechman and Ben Okner, Gerard Brannon, Martin David and Roger Miller, and Charles McClure.

TABLE 5-10.—GROSS BUDGETARY COSTS OF FEDERAL COMMERCE AND ECONOMIC DEVELOPMENT SUBSIDIES, FISCAL YEARS 1970 AND 1971

[In millions of dollars]

Program	1970 actual	1971 estimated
Direct cash payments (benefit-in-kind):		
Community action	365	367
Urban renewal and neighborhood development	1,054	1,035
Model cities	315	376
Economic development grants	174	160
Regional action planning commissions [1]	0	35
Appalachian regional development	143	132
Tax subsidies:		
Individual dividend exclusion	290	280
Investment credit	2,630	910
Corporation capital gains	525	425
Individual capital gains	7,000	7,000
Excess bad debt reserves of financial institutions	680	380
Exemption of credit unions	45	40
Expensing of research and development expenditures	565	540
Corporate surtax exemption	2,300	2,000
Exclusion of interest on life insurance savings	1,050	1,050
Excess depreciation on buildings	550	500
Credit subsidies:		
Disaster loan fund	19	
Development company loans	6	
Small business loans	6	
Small business investment company loans	1	
Economic opportunity loans	1	
Displaced business loans	5	
Economic development-loans for industry	2	
Economic development-loans for development facilities	3	
Urban renewal fund	16	
Benefits-in-kind:		
Postal service	1,510	
Sales to domestic ship scrappers	8	
Goverment owned property	0	0
Order of magnitude total	19,263	

[1] See detailed description following.

Source: "1971 Catalog of Federal Domestic Assistance"; "The Budget of the U.S. Government, Fiscal Year 1972"; "The Budget of the U.S. Government—Appendix, Fiscal Year 1972"; "Special Analyses, Budget of the U.S. Government, Fiscal Year 1972"; Department of Treasury estimates, app. A.

COMMUNITY ACTION

Administering agency: Office of Economic Opportunity.

Identification: Authorization: 42 U.S.C. 2781 et seq., Economic Opportunity Act of 1964 as amended. Title II; Public Law 88–452. Budget account: 04–37–0500–0–1–999. CFDA: 49.002.

Objectives: To mobilize and channel the resources of private and public organizations and institutions into antipoverty action and to increase the participation of the poor in these activities. Funds are primarily used for projects in health, education, housing, family planning, economic development, employment, day care, community organization, and other services.

Financial form: Direct cash payments/benefit-in-kind.

Direct recipient: Grants to Community Action Agencies, which are either public or nonprofit private organizations. Assistance is to be passed on to low-income families and individuals of all ages in low-income urban and rural areas.

Subsidy costs: Fiscal year 1970, $365,000,000; fiscal year 1971, $367,000.000

URBAN RENEWAL AND NEIGHBORHOOD DEVELOPMENT

Administering agency	Community Development, Department of Housing and Urban Development.
Identification	Authorization: Title I of the Housing Act of 1949, as amended (42 U.S.C. 1450 et seq), and sec. 314 of the Housing Act of 1954, as amended (42 U.S.C. 1452a). Budget account: 25-12-4035-0-3-552. CFDA: 14.306, 14.307.
Objectives	Several approaches have been developed to treat slum, blighted, and deteriorating areas. These include conventional urban renewal projects, code enforcement, demolition activities, interim assistance for blighted areas, rehabilitation grants in areas certified for renewal in the near future, and a newer approach involving annual action and funding techniques through Neighborhood Development Programs. Taken together, the various urban renewal activities provide for clearance and redevelopment, rehabilitation, code enforcement, preservation of historic structures, and replacement or installation of community facilities such as schools, libraries, fire stations, and parks. The urban renewal program also provides financial assistance and counseling to homeowners and businessmen in renewal areas so that they may rehabilitate their properties, or, if necessary, find suitable residences elsewhere.
Financial form	Direct cash payments (benefit-in-kind).
Direct recipient	Funds generally flow through a local public agency such as a local or county renewal agency or housing authority to the businesses and individuals who reside in, work in, or otherwise use the affected area.
Subsidy costs	Fiscal year 1970, $1,053,655,000; fiscal year 1971, $1,035,000,000.

MODEL CITIES

Administering agency	Community Development, Department of Housing and Urban Development.
Identification	Authorization: Demonstration Cities and Metropolitan Development Act of 1966, title I as amended, Public Law 89-754. Budget account: 25-18-0133-0-1-551. CFDA: 14.300.
Objectives	To provide financial and technical assistance to enable cities of all sizes to plan, develop, and carry out locally prepared and scheduled comprehensive city demonstration programs containing new and imaginative proposals to rebuild and revitalize large slums and blighted areas.
Financial form	Direct cash payments (benefit-in-kind).
Direct recipient	Any municipality, county, or other public body having general governmental powers (or two or more public bodies jointly) is eligible to be a model city. Limited to 150 cities which have already been selected. Services or other assistance is then provided to neighborhood residents, organizations or other organizations in the targeted area.
Subsidy costs	Fiscal year 1970, $315,345,000; fiscal year 1971, $375,500,000.

ECONOMIC DEVELOPMENT GRANTS

Administering agency	Economic Development Administration, Department of Commerce.
Identification	Authorization: 42 U.S.C. 3131, 3135, 3141, 3161, 3171. Public Works and Economic Development Act of 1965; Public Law 89–136, as amended. Budget account: 06–10–2030–0–1–507. CFDA: 11.300.
Objectives	To assist the construction of public facilities needed to initiate and encourage long-term economic growth in designated geographic areas where economic growth is lagging behind the rest of the Nation. Qualified projects must fulfill a pressing need of the area and must: (1) tend to improve the opportunities for the successful establishment or expansion of industrial or commercial plants or facilities, or (2) otherwise assist in the creation of additional long-term employment opportunities, or (3) benefit the long-term unemployment and members of low-income families or otherwise substantially further the objectives of the Economic Opportunity Act of 1964.
Financial form	Direct cash payments (benefit-in-kind).
Direct recipient	States, local subdivisions thereof, Indian tribes, and private or public nonprofit organizations or associations representing a redevelopment area or a designated economic development center are eligible to receive grants. These grants may be used for such facilities as access roads to industrial parks or areas, railroad sidings and spurs, public tourism facilities, vocational schools, flood control projects, site improvements for industrial parks, and other activities that provide both public and private benefits to the business and residents of the area.
Subsidy costs	Fiscal year 1970: $173,899,000; fiscal year 1971, $160.003.000.

REGIONAL ACTION PLANNING COMMISSIONS

Administering agency	Department of Commerce
Identification	Authorization: Title V of the Public Works and Economic Development Act of 1965, as amended. (79 Stat. 564). Budget account: 06-15-2100-0-1-507. CFDA: 38.001, 28.001, 52.001, 48.001, 63.001.
Objectives	The regional development programs are intended to enable States and other entities to take maximum advantage of Federal grant-in-aid programs for the construction or equipping of facilities or the acquisition of land, and to coordinate the national regional economic development effort. Five Commissions covering all or parts of 20 States have been established in the Coastal Plains, Four Corners, New England, Ozarks, and Upper Great Lakes section of the Nation.
Financial form	Direct cash payments (benefit-in-kind).
Direct recipient	State and other entities within the region, generally any political subdivision or private or public nonprofit organization. These entities in turn provide public and private benefits similar to the Appalachian and Economic Development Programs.
Subsidy cost	Fiscal year 1971, $34,477,000; fiscal year 1972, $36,547,000. This figure represents current program levels and estimates as reported in "The Budget of the U.S. Government—Appendix, Fiscal Year 1972", p. 236.

APPALACHIAN REGIONAL DEVELOPMENT

Administering agency	Appalachian Regional Commission.
Identification	Authorization: Appalachian Regional Development Act of 1965, as amended; Public Law 89-94; 90-103; 91-123; 40 App. U.S.C. 1-405. Budget account: 04-02-0090-0-1-507. CFDA: 23.001.
Objectives	To stimulate substantial public investments in public facilities that will start the region on its way toward accelerated social and economic development; to help establish a set of institutions in Appalachia capable of permanently directing the long-term development of the region; and on a joint Federal-State-local basis, to develop comprehensive plans and programs to help accomplish the overall objects of Appalachian development. Among the specific areas of economic activity assited are: health and nutrition, vocational, education, housing, mine area restoration, access roads, and so forth.
Financial form	Direct cash payments, benefits-in-kind.
Direct recipient	Private nonprofit organizations, limited dividend organizations, or private persons who benefit from the services or facilities provided. The recipient will depend on the specific program.
Subsidy cost	Fiscal year 1970, $143,399,000; fiscal year 1971, $132,281,000. Obligations for the Appalachian development highway system have been deducted from the total obligations as reported in this budget account.

INDIVIDUAL DIVIDEND EXCLUSION

Authorization	Sec. 116.—Internal Revenue Code.
Financial form	Tax subsidies.
Description	Individual income taxpayers may exclude up to $100 of dividends from income subject to tax. In 1954 when the present dividend credit and exclusion were adopted, the committee report indicated that these relief measures were provided because the earnings of a corporation are taxed twice, once as corporate income and again as dividend income when paid out to the shareholders (Conference Report Life Insurance Company Income Tax Act of 1959). This provision has over the years also been supported on the grounds that it encouraged medium taxpayers to own stock.
Subsidy costs	Fiscal year 1970, $290,000,000; fiscal year 1971, $280,000,000.

INVESTMENT CREDIT

Authorization	Sec. 38.—Investment in certain depreciable property. Sec. 46.—Amount of credit. Sec. 47.—Certain dispositions, etc. of sec. 38 property.
Financial form	Tax subsidies.
Description	Prior law provided a 7-percent tax credit (3 percent for public utility property) with respect to qualified investment. In general terms, the investment credit was available with respect to (1) tangible personal property; (2) other tangible property (not including buildings and structural components) which was an integral part of manufacturing, production, etc., or which constituted a research or storage facility; and (3) elevators and escalators. In addition, the property had to be depreciable property with a useful life of 4 years or more. New property fully qualified for the credit, but in the case of used property only an amount up to $50,000 could be taken into account in any year. Property with a useful life of from 4 to 6 years qualified for the credit to the extent of one-third of its cost. For property with a useful lift of 6 to 8 years, qualification was with respect to ⅔ of the investment, and for property with an estimated useful life of 8 years or more, the full amount qualified ("General Explanation of the Tax Reform Act of 1969," p. 187). The Tax Reform Act of 1969 repealed the investment credit but provided transitional riders, which explain the continued revenue loss reported below. These transitional rules allowed contracts entered into before Apr. 19, 1969, for property placed in service through the end of 1975, to be sufficient justification for the full credit. Initially, it was generally felt that the investment credit would encourage investment in those types of plant and equipment to which it applies and encourage economic expansion generally when it applies to a broad spectrum. It was repealed in 1969 on the grounds that continued availability of the investment credit during an inflationary period served to offset the effect of anti-inflationary fiscal and monetary policies.
Subsidy costs	Fiscal year 1970, $2,630,000,000; fiscal year 1971, $910,000,000.

CORPORATION CAPITAL GAINS

Authorization	(After Tax Reform Act of 1969) Sec. 1201.—Alternative tax, (a) Corporations, (Sec. 582, Bad debts, losses, and gains with respect to securities held by financial institutions).
Financial form	Tax subsidies.
Description	Capital gains of corporations are subject to a tax of 25 percent while the rate applicable to other corporate income above $25,000 is 48 percent. Since the corporate tax structure is not graduated (as in the case for individuals) but is computed on the basis of a normal tax of 22 percent of taxable income and a surtax of 26 percent of that part of the taxable income which exceeds $25,000, usually only those corporations with taxable incomes in excess of $25,000 (on which the tax rate would be 48 percent, apart from the effect of the surcharge) used the alternative tax. Because it limited the availability of the alternative capital gains tax for individuals, Congress decided it would also be appropriate to raise the corporate alternative capital gains tax rate. Moreover, it is not clear that a corporation's capital gains are essentially different from its other business income. In addition, since corporations are not subject to graduated tax rates, they usually do not encounter the problem of having bunched income which has accrued over more than a 1-year period and which is taxed in 1 year at steeply graduated rates ("General Explanation of the Tax Reform Act of 1969", p. 168). The Tax Reform Act of 1969 increased the capital gains tax rate for corporations to 28 percent in 1970 and 30 percent in 1971 and subsequent years. It also stipulated that net gains of financial institutions on sale of bonds are to be treated as ordinary income rather than capital gain.
Subsidy costs	Fiscal year 1970, $525,000,000; fiscal year 1971, $425,000,000.

INDIVIDUAL CAPITAL GAINS

Authorization	Sec. 1014.—Basis of property acquired from a decedent. Sec. 1201.—Alternative tax. Sec. 1202.—Deduction for capital gains.
Financial form	Tax subsidies.
Description	The tax treatment of capital gains for individuals involves a significant amount of tax subsidies. There are two major aspects to the treatment of capital gains of individuals. One, if the owner of appreciated capital assets dies, the capital gains tax is not applied to appreciation which would have been taxable had he sold the assets just before death. Heirs who receive appreciated property from the decedent and who subsequently sell the property are subject to capital gains tax only on appreciation occurring after they acquired the property. Thus the appreciation on assets held until death is never taxed under the income tax. Second, as to realized gains, half the gains from the sale of capital assets held more than 6 months is excluded from income, and in no case is the tax rate applicable to such capital gains allowed to exceed 25 percent.
	The Tax Reform Act of 1969 made certain changes in some of the lesser provisions of the capital gains tax treatment of individuals. For example, treatment of income from the sale of certain things, such as memorandums and letters by a person whose efforts created them, transfer of franchises, trademarks, and trade names where the transferor retains significant rights, was changed from capital gains treatment to ordinary income tax treatment. Another aspect of the act was to eliminate some of the choices regarding treatment of long-term gains. It also increased the applicable rates.
	There are a wide variety of objectives and reasons for the granting of special capital gains treatment, many of which would not be universally agreed upon. However, the provision has often been supported on the grounds that capital gains treatment is to prevent undesirable barriers to the exchange and free-flow of capital assets.
Subsidy costs	Fiscal year 1970, $7,000,000,000; fiscal year 1971, $7,000,000,000. The estimate for individual capital gains is taken from the "Annual Report of the Secretary of the Treasury, Fiscal Year 1968", p. 333. That report estimates the revenue loss for fiscal year 1968 to be in the range from $5,500,000,000 to $8,000,000,000. The above estimate is approximately the midpoint of that range.

EXCESS BAD DEBT RESERVES OF FINANCIAL INSTITUTIONS

Authorization	Sec. 160—Bad debt. Sec. 585, Sec. 586, and Sec. 593—Reserves for losses on loans.
Financial form	Tax subsidies.
Description	Commercial banks, mutual savings banks, building and loan associations, and cooperative banks are permitted to set aside bad debt reserves based on stipulated fractions of deposits, of loans outstanding, or of taxable income before computation for bad debts. The amounts set aside typically greatly exceed actual loss experience and reasonable expectations as to future losses. The Tax Reform Act of 1969 reduced the gap between actual losses (measured by past experience) and the amount which could be set aside. For additional details on the effect of the Revenue Act of 1969 see the "General Explanation of the Tax Reform Act of 1969," pp. 137–144.
Subsidy costs	Fiscal year 1970, $680,000,000; fiscal year 1971, $380,000,000.

EXEMPTION OF CREDIT UNIONS

Authorization	Sec. 501—Exemption from tax on corporations, certain trusts, etc. (c) list of exempt organizations (14) credit unions.
Financial form	Tax subsidies.
Description	Credit unions are exempt from Federal income tax. The justification for this provision appears to go back to earlier treatment in the tax law that exempted the income of mutual savings banks, building and loan associations, and cooperative banks. The principal argument was that such institutions did not really have income that could be taxed. This was based on the theory that both the borrowers and the investors are members of the association and that the interest paid by the borrowers on their loans is really only paid to themselves as members of the association. In other words, it was argued that the mutuality of the borrowing and the investing members is such that no income exists. Such tax treatment was eliminated for these institutions in the Revenue Act of 1951 but continued for credit unions.
Subsidy costs	Fiscal year 1970, $45,000,000; fiscal year 1971, $40,000,000.

EXPENSING OF RESEARCH AND DEVELOPMENT EXPENDITURES

Authorization	Sec. 160—Bad debt. Sec. 585, Sec. 586, and tures.
Financial form	Tax subsidies.
Description	Expenditures by businesses for research and development (R. & D.) are carried out to find new products or processes, to reduce costs, or for other purposes. In nearly all cases, benefits from such expenditures will accrue for well over 1 year. For tax purposes business may deduct all R. & D. expenditures in the year during which they are incurred, or they may amortize them over not less than 5 years. To eliminate uncertainty and to encourage taxpayers to carry on research and experimentation . . . these expenditures, incurred subsequent to Dec. 31, 1953 may, at the option of the taxpayer, be treated as deductible expenses . . . also . . . a taxpayer may elect to capitalize . . . and if no other means of amortization is provided, may write them off over a period of 60 months . . . (Senate Finance Committee Report, Revenue Act of 1954.)
Subsidy costs	Fiscal year 1970, $565,000,000; fiscal year 1971, $540,000,000.

CORPORATE SURTAX EXEMPTION

Authorization: (After 1969 Tax Reform Act.) Sec. 1561—Limitations on certain multiple tax benefits in the case of certain controlled corporations. Sec. 279—Interest on indebtedness incurred by corporation to acquire stock or assets of another corporation. Sec. 453—Installment method. Sec. 1232—Bonds and other evidences of indebtedness. Sec. 249—Limitation on deduction of bond premium on repurchase. Sec. 385—Treatment of certain interests in corporations as stock or indebtedness.

Financial form: Tax subsidies.

Description: Corporations pay income tax at the rate of 22 percent on all taxable income plus a surtax of 26 percent on taxable income in excess of $25,000 (excluding the temporary surcharge). Each corporation therefore enjoys a surtax exemption of $25,000. The surtax exception was adopted to benefit small businesses (General Explanation of the Tax Reform Act of 1969, p. 120).

Large corporate organizations have been able to obtain substantial benefits from these prior law provisions by dividing income among a number of related corporations. Since these are not in reality "small businesses" it is difficult to see why they should receive tax benefits intended primarily for small business, whether or not they have incorporated the businesses separately for business, as distinct from tax, reasons ("General Explanation of the Tax Reform Act of 1969", p. 120).

The 1969 Tax Reform Act therefore restricted somewhat the use of this tax advantage by eliminating (over a 6-year period) multiple-surtax exemptions in the case of related corporations. It also makes interest deductions unavailable when "debt" with substantial equity characteristics is used to acquire other corporations.

Subsidy costs: Fiscal year 1970, $2,300,000,000; fiscal year 1971, $2,000,000,000.

EXCLUSION OF INTEREST ON LIFE INSURANCE SAVINGS

Authorization: Sec. 61—Gross income defined—and case of *Fleming* (241F2d78,356 U.S. 260) holding interest added to principal sum of insurance policy not to be income at the time added.

Sec. 101—Certain death benefits.

Financial form: Tax subsidies.

Description: Life insurance policies other than term policies, generally have a savings element in them. Savings in the form of policyholders reserves are accumulated from the premium payment, and interest is earned on these policyholders' reserves. Such interest income is neither taxable as it accrues nor as an element of death benefits.

Subsidy costs: Fiscal year 1970, $1,050,000,000; fiscal year 1971, $1,050,000,000.

EXCESS DEPRECIATION ON BUILDINGS

Authorization	Sec. 167—Depreciation. Sec. 1250—Gain from disposition of certain depreciable realty.
Financial form	Tax subsidies.
Description	To the extent that allowable depreciation for tax purposes exceeds the rate at which assets actually depreciate, business tax liabilities are deferred. Businesses may employ a variety of depreciation schedules for tax purposes, some of which cause a much larger part of asset values to be written off in early years of the asset's useful life than do the schedules used by businesses in their financial statements. The costs cited below are for the schedules which allow building depreciation more rapidly than straightline depreciation. The costs associated with depreciation methods on rental housing is listed under housing. The prior tax treatment of real estate was used by some high-income individuals as a tax shelter to escape payment of tax on substantial portions of their economic income. The rapid depreciation methods allowed made it possible for taxpayers to deduct amounts in excess of those required to service the mortgage during the early life of the property. Moreover, because accelerated depreciation usually produced a deduction in excess of the actual decline in the usefulness of property, economically profitable real estate operations were normally converted into substantial tax losses, sheltering from income tax economic profits and permitting avoidance of income tax on the owner's other ordinary income, such as salary and dividends. Later, the property could be sold and the excess of the sale price over the remaining basis could be treated as a capital gain to the extent that the recapture provisions did not apply. ("General Explanation of the Tax Reform Act of 1969," p. 181.) The 1969 Tax Reform Act curtailed some of these tax advantages by reducing the depreciation allowances. For example, the 200-percent declining balance method was restricted to new residential housing, where it formerly was available to certain other types of new construction as well. The act also tightened the law with respect to recapturing capital gains to the extent that they represent deductions taken under accelerated depreciation, and with respect to the use of accelerated depreciation on used realty. It is usually suggested that excess depreciation will stimulate modernization and expansion of industrial capacity with resulting economic growth and increased production.
Subsidy costs	Fiscal year 1970, $550,000,000; fiscal year 1971, $500,000,000.

DISASTER LOAN FUND

Administering agency	Small Business Administration.
Identification	Authorization: Small Business Act, as amended; Public Law 85–536, as amended; Disaster Relief Act of 1970, secs. 231, 234, and 237; 15 U.S.C. 636(b), (1), (2), and (4). Budget accounts: 32–45–4152–0–3–506; 32–45–4153–0–3–506. CFDA: 59.002, 59.008.
Objectives	To provide loans to restore victims of economic injury caused by floods, riots, or civil disorders or other catastrophies to, as nearly as possible, predisaster condition. Funds may be used to repair or replace damaged or destroyed realty, machinery, and equipment, household and other personal property. Funds may also be used to pay current operating costs and liabilities which the concern could have paid if the disaster had not occurred.
Financial form	Credit subsidy (direct loans).
Direct recipient	Individuals, business concerns, churches, private schools, colleges and universities, and hospitals who have suffered physical property loss as a result of a disaster which occurred in an area designated as eligible for assistance by the administration.
Interest rate and maturity	3 percent. Maximum of 6 percent pursuant to statutory formula related to yields on Government obligations set periodically based on monthly certification from Treasury; 10½-year maturity.
Subsidy costs	Gross outlays, 1970: $91,000,000. Capitalized value at 7½ percent: $19,000,000.

DEVELOPMENT COMPANY LOANS

Administering agency	Small Business Administration.
Identification	Authorization: Small Business Investment Act of 1958, as amended, title V; Public Law 85–699; as amended; 72 Stat. 696; secs. 501 and 502; 15 U.S.C. 695–696. Budget account: 32–45–4154–0–3–506. CFDA: 59.013.
Objectives	Through these programs, Federal funds are made available to local and State development companies to provide long-term loans to small business concerns located in their areas. Both State and local development companies are corporations chartered for the purpose of promoting economic growth within specific areas. Loans to local development companies are for the purchase of land, machinery, and equipment for constructing, expanding, or modernizing buildings.
Financial form	Credit subsidy (direct loans).
Direct recipient	A State development company must be incorporated under a special State law with authority to assist small businesses throughout the State. Loans are available to local development companies which are incorporated under general State corporation statute, either on a profit, or nonprofit basis, for the purpose of promoting economic growth in a particular community within the State. Loans are not available to local development companies to provide small businesses with working capital or for refinancing purposes.
Interest rate and maturity	5½ percent. Administratively determined. Average maturities: 18-year maturity for local development companies; 10-year maturity for State development companies.
Subsidy costs	Gross outlays, 1970: $47,000,000. Capitalized value at 7½ percent: $6,000,000.

SMALL BUSINESS LOANS

Administering agency	Small Business Administration.
Identification	Authorization: Sec. 7(a) of the Small Business Act, Public Law 85–536; 72 Stat. 384; 15 U.S.C. 636(a). Budget account: 32–45–4154–0–3–506. CFDA: 59.012.
Objectives	To finance plant construction, conversion, or expansion and to finance facilities, machinery, supplies, or materials, working capital.
Financial form	Credit subsidy (direct loans).
Direct recipient	A small business which is independently owned and operated and which is not dominant in its field. For manufacturers, average employment not in excess of 250; wholesalers, annual sales not over $5 million: and retail and service concerns, revenues not over $1 million.
Interest rate and maturity	5½ percent 7¼-year maturity.
Subsidy costs	Gross outlays. 1970: $84,000,000. Capitalized value at 7½ percent: $6.000,000.

SMALL BUSINESS INVESTMENT COMPANY LOANS

Administering agency	Small Business Administration.
Identification	Authorization: Small Business Investment Act of 1958, as amended; Public Law 85–699; 15 U.S.C. 661 et seq.; 13 CFR chap. I, subchap. B, part 107. Budget account: 32–45–4154–0–3–506. CFDA: 59.011.
Objectives	To improve and stimulate the national economy in general and the small business segment in particular. To promote private sector financial aid to small business in areas experiencing high levels of unemployment, low income, and poverty. Promote business opportunities for minority enterprise, establishment of minority owned and operated SBIC's, and viability and growth of small business.
Financial form	Credit subsidy (direct loans).
Direct recipient	Any chartered small business investment concern having a combined paid-in capital and paid-in surplus of not less than $150,000, and having evidence of sound, profitable operations, and having active and prudent management.
Interest rate and maturity	7¼ percent. Pursuant to statutory formula related to yields on Government obligations set periodically based on monthly certification from the Treasury.
Subsidy costs	Gross outlays, 1970: $56,000,000. Capitalized value at 7½ percent: $1,000,000.

ECONOMIC OPPORTUNITY LOANS

Administering agency	Small Business Administration.
Identification	Authorization: Economic Opportunity Act of 1964, as amended, secs. 401–404; Public Law 88–452, as amended; 78 Stat. 526, 42 U.S.C. 2901, 2902, 2905, 2906. Budget account: 32–45–4154–0–3–506. CFDA: 59.003.
Objectives	To provide management assistance and loans to low-income or socially or economically disadvantaged persons for small businesses. Loans and assistance are available for existing and potential businesses.
Financial form	Credit subsidy (direct loans).
Direct recipient	People with low incomes or people who due to social or economic disadvantage have been denied the opportunity to acquire adequate business financing through normal lending channels on reasonable terms. Funds must not otherwise be available on reasonable terms, nor be used to indiscriminately relocate the business.
Interest rate and maturity	6½ percent. A rate not less than (1) a rate determined by the Secretary of the Treasury, taking into consideration the average market yield on outstanding Treasury obligations of comparable maturity, plus (2) such additional charge, if any toward covering other costs of the program as the Administrator of SBA may determine to be consistent with its purposes: Provided, however, That the rate of interest charged on loans made in redevelopment areas designated under the Area Redevelopment Act shall not exceed the rate currently applicable to new loans made under section 2505 of this title.
Subsidy costs	Gross outlays, 1970: $35,000,000. Capitalized value at 7½ percent: $1,000,000.

DISPLACED BUSINESS LOANS

Administering agency	Small Business Administration.
Identification	Authorization: Small Business Act, as amended, sec. 7(b)(3); Public Law 87–70, section 305(a); 75 Stat. 167; 15 U.S.C. 636(b)(3). Budget account: 32–45–4154–0–3–506. CFDA: 59.001.
Objectives	To assist small businesses in continuing in business, in purchasing a business, or in establishing a new business if such concern has suffered substantial economic injury as a result of its displacement by or location in or being near a federally aided project.
Financial form	Credit subsidy (direct loans).
Direct recipient	Small businesses which have suffered substantial economic injury as the result of displacement by, or location in, adjacent to, or near, a federally aided urban renewal program or a highway project or any other construction constructed by or with funds provided in whole or in part by the Federal Government. Not allowable are speculation; nonprofit seeking enterprise; paying off principals or unsecured creditors; holding real property primarily for sale or investment; agricultural activity; monopoly.
Interest rate and maturity	5¾ percent. 17¾-year maturity.
Subsidy costs	Gross outlays, 1970: $31,000,000. Capitalized value at 7½ percent: $5,000,000.

ECONOMIC DEVELOPMENT—LOANS FOR INDUSTRY

Administering agency	Economic Development Administration, Department of Commerce.
Identification	Authorization: 42 U.S.C. 3142, 3161, 3171. Public Works and Economic Development Act of 1965; Public Law 89–136, as amended by Public Law 90–103 and 91–123. Budget account: 06–10–2031–0–1–507. CFDA: 11.301.
Objectives	To encourage private investment by providing low-interest long-term loans to help businesses expand or establish plants in redevelopment areas for projects that cannot be financed through banks or other private lending institutions on terms which will permit accomplishment of the project. Loans may be used for the acquisition of fixed assets only.
Financial form	Credit subsidy (direct loans).
Direct recipient	Any individual, private or public corporation or Indian tribe, provided that the project to be funded is physically situated in an area designated as eligible under the act at the time the application is filed.
Interest rate and maturity	6¼ percent. Loans shall bear interest at a rate not less than a rate determined by the Secretary of the Treasury taking into consideration the current average market yield on outstanding marketable obligations of the United States with remaining periods to maturity comparable to the average maturities of such loans, plus additional charge, if any, toward covering other costs of the program as the Secretary may determine to be consistent with its purpose. 18.6-year maturity.
Subsidy costs	Gross outlays, 1970: $26,000,000. Capitalized value at 7½ percent; $2,000,000.

ECONOMIC DEVELOPMENT—LOANS FOR DEVELOPMENT FACILITIES

Administering agency	Economic Development Administration, Department of Commerce.
Identification	Authorization: 42 U.S.C. 3141, 3135, 3161, 3171, Public Works and Economic Development Act of 1965; Public Law 89–136, as amended by Public Law 90–103 and 91–123. Budget account: 06–10–2030–0–1–507. CFDA: 11.300.
Objectives	To assist the construction of public facilities needed to initiate and encourage long-term economic growth in designated geographic areas where economic growth is lagging behind the rest of the Nation. Qualified projects must fulfill a pressing need of the area and must: (1) tend to improve the opportunities for the successful establishment or expansion of industrial or commercial plants or facilities, or (2) otherwise assist in the creation of additional long-term employment opportunities, or (3) primarily benefit the long-term unemployed and members of low-income fomilies or otherwise substantially further the objectives of the Economic Opportunity Act of 1964.
Financial form	Credit subsidy (direct loans).
Direct recipient	Residents and business firms in the region.
Interest rate and maturity	5¾ percent. A rate determined by the Secretary of the Treasury taking into consideration the current average market yield on outstanding marketable obligations of the United States with remaining periods to maturity comparable to the average maturities of such loans less not to exceed 0.5 percent per annum; 31.9-year maturity.
Subsidy costs	Gross outlays, 1970: $15,000,000. Capitalized value at 7½ percent: $3,000,000.

URBAN RENEWAL FUND

Administering agency	Community Development and Planning Management, Department of Housing and Urban Development.
Identification	Authorization: Title I of the Housing Act of 1949, as amended; 42 U.S.C. 1450–1468a; Public Law 81–171. Budget account: 25–12–4034–0–3–552. CFDA: 14.307.
Objectives	To assist local communities in the elimination of slums and blighted or deteriorated or deteriorating areas in preventing the spread of slums, blight or deterioration, and in providing maximum opportunity for the redevelopment, rehabilitation, and conservation of such areas by private enterprise.
Financial form	Credit subsidy (direct loans).
Direct recipient	Local public agencies which can be a local or county renewal agency or housing authority, or a local or county department of government—depending upon State enabling legislation.
Interest rate and maturity	2 percent. Variable with the market based on a formula rate, determined by the Secretary of the Treasury taking into consideration the current average rate on outstanding marketable obligations of the United States as of the last day of the month preceding the issuance of such notes or other obligations; 6-month maturity.
Subsidy costs	Gross outlays, 1970: $594,000.000. Capitalized value at 7½ percent: $16,000,000.

POSTAL SERVICE

Administering agency	U.S. Postal Service.
Identification	Authorization: 39 U.S.C. 2101–2202, Postal Reorganization Act of 1970, Public Law 91–375. Budget account: 28–00–4020–0–3–505. CFDA: Not listed.
Objectives	The postal subsidy is intended to provide certain types of services at charges less than their costs. Congress has specifically authorized by legislation that certain classes of mail should be provided at reduced rates, for example, the cost of mail service to nonprofit organizations. Similarly, Congress has authorized the provision of special services and public service operations. Examples of these include collect-on-delivery and maintenance of postal facilities in rural areas too small to be self-supporting.
Financial form	Benefit-in-kind.
Direct recipient	Users of the postal services which are specifically subsidized and those authorized reduced rates.
Subsidy costs	Fiscal year 1970, $1,510,000,000. This figure is in outlays and estimates the difference between the expenditures and receipts for U.S. postal for fiscal 1970. See "The Budget of the U.S. Government, Fiscal Year 1972", p. 125.

SALES TO DOMESTIC SHIP SCRAPPERS

Administering agency	Maritime Administration, Department of Commerce.
Identification	Authorization: Merchant Marine Act of 1936; 46 U.S.C. 1158. Budget account: None. CFDA: Not listed.
Objectives	Not specified by the authorizing statute.
Financial form	Benefit-in-kind.
Direct recipient	Domestic purchasers of scrap ships.
Subsidy costs	$8,400,000. This figure represents the amount GAO estimates to be the minimum loss incurred by the United States annually because the surplus reserve fleet vessels were sold to domestic scrappers instead of foreign scrappers. Domestic sales were 97 vessels in 1969, 123 in 1970, and are expected to continue for the next several years at about 100 vessels per year.

GOVERNMENT-OWNED PROPERTY HELD BY CONTRACTORS

Administering agency	Department of Defense and Office of Emergency Preparedness.
Identification	Armed services procurement regulation 13–301 and related sections of the ASPR's. Budget account: Unknown. CFDA: None.
Objectives	It is alleged to be Department of Defense policy to require contractors to furnish all facilities for the performance of Government contracts. However, exceptions are made if the contract is in a Government-owned but contractor-operated plant on a cost-plus fixed-fee basis; for use in the production of items related to a mobilization plan: when the Secretary of Defense decides that the defense contract cannot be fulfilled by any other means; or the Secretary of Defense decides that the provision of such facilities is in the public interest; or, finally, the contractor himself provides some proof that he is financially unable to fulfill the contract without assistance from the Government.
Financial form	Benefit-in-kind. There are roughly five classes of material that are included: industrial plant and equipment (IPE), other equipment such as furniture and office machines, materials, real property such as plants, and special tooling and test equipment.
Direct recipient	Defense contractors. The 25 largest contractors and the amount of such equipment they hold is as follows (in millions): International Telephone & Telegraph Corp., $1,277.7; General Dynamics Corps., $836.6; General Electric Co., $532.2; Olin Corp., $452.9; Lockheed Aircraft Corp., $340.3; North American Rockwell Corp., $337.4; Hercules, Inc., $324.4; Martin Marietta Corp., $274.8; Boeing Co., $269.2; Day & Zimmerman, Inc., $266.7; Mason & Hanger, Silas Mason, Inc., $266.6; McDonnell Douglas Corp., $252.2; Ling-Temco-Vought, Inc., $246.4; Chrysler Corp., $222.6; RMK–BRJ Construction Co., $217.7; General Motors Corp., $215.5; E. I. du Pont de Nemours & Co., $208.7; Global Associates, $202.1; Uniroyal, Inc., $199.5; Tenneco, Inc., $193.5; Sperry Rand Corp., $180.6; AVCO Corp., $155.9; Thiokol Chemical Corp., $148.2; Teledyne, Inc., $136.8; Holston Defense Corp., $128.5.
Subsidy costs	Government-owned property in the hands of contractors totaled $14.6 billion as of June, 1970. The amount of the annual subsidy is the difference between the value of the equipment used in a particular year, plus some payment for the reduced uncertainty that results from the Government providing the equipment, minus what the firm pays in rental for the equipment. No rent is paid if the equipment is used for defense production. If the IPE equipment is used for commercial purposes more than 25 percent of the time, some rent must be charged but at the present time there is no adequate data on rentals or utilization. It has therefore not been possible to estimate the subsidy cost at this time. (For further details see speech by Senator Proxmire, "Congressional Record," S4283, Apr. 1, 1971.)

APPENDIXES

Appendix A. SUPPORTING DATA FOR TAX SUBSIDY ESTIMATES

THE DEPARTMENT OF THE TREASURY,
Washington, D.C., May 22, 1971.

Hon. WILLIAM PROXMIRE,
Chairman, Subcommittee on Economy in Government, U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: In your September 21, 1970, letter you requested revenue cost estimates of so-called "tax subsidies" for fiscal years 1970 and 1971 for inclusion in your pending study of Federal subsidy programs.

Mr. Jerry Jasinowski of your staff has indicated to us the various special tax provisions he considers subsidies. Our staff has prepared revenue cost estimates for the selected provisions and these are enclosed.

I should point out that there is considerable conceptual controversy over what is and what is not a tax subsidy. In no way should the enclosed information be interpreted as Treasury's identification of tax subsidies.

Furthermore, the estimates are prepared on an individual basis for each item on the assumption that the item would be eliminated from the law without any other changes in the law with respect to the other items. If two or more changes in the law are made, the aggregate revenue effect will frequently not equal the sum of the revenue effects of the individual changes. Accordingly, the costs of the items are not additive.

Sincerely yours,

MURRAY L. WEIDENBAUM.

EFFECT[1] OF SELECTED TAX PROVISIONS[2]

[Dollars in millions]

Item	Fiscal years 1970 Corporations	1970 Individuals	1970 Total	1971 Corporations	1971 Individuals	1971 Total
Exclusion of benefits and allowances to Armed Forces personnel		550	550		500	500
Exemption for certain income earned abroad by U.S. citizens		45	45		40	40
Exclusion of income earned by individual in U.S. possessions		10	10		10	10
Western Hemisphere trade corporations	55		55	50		50
Exclusion of gross-up on dividends of less-developed country corporations	55		55	55		55
Exclusion of income of controlled foreign subsidiaries	170		170	165		165
Exclusion of income earned by corporations in U.S. possessions	85		85	80		80
Farming: Expensing and capital gain treatment			880			820
Timber: Capital gain treatment for certain income			140			130
Expensing of exploration and development costs	340		340	325		325
Excess of percentage over cost depletion			1,470			980
Capital gains treatment of royalties on coal and iron ore			5			5
Investment credit			2,630			910
Depreciation on buildings (other than rental housing) in excess of straight line			550			500
Dividend exclusion		290	290		280	280
Capital gains: Corporation (other than agriculture and natural resources)	525		525	425		425

See footnotes at end of table, p. 205.

EFFECT[1] OF SELECTED TAX PROVISIONS[2]—Continued

[Dollars in millions]

Item	Fiscal years 1970 Corporations	1970 Individuals	1970 Total	1971 Corporations	1971 Individuals	1971 Total
Bad debt reserves of financial institutions in excess of actual	680		680	380		380
Exemption of credit unions			45			40
Deductibility of interest on consumer credit		1,700	1,700		1,700	1,700
Expensing of research and development expenditures	565		565	540		540
$25,000 surtax exemption	2,300		2,300	2,000		2,000
Deferral of tax on shipping companies	10		10	10		10
Rail freight car amortization				105		105
Deductibility of interest on mortgages on owner-occupied homes		2,600	2,600		2,800	2,800
Deductibility of property taxes on owner-occupied homes		2,800	2,800		2,900	2,900
Depreciation on rental housing in excess of straight line			275			255
Disability insurance benefits		120	120		130	130
Provisions relating to aged, blind, and disabled:						
Combined cost for additional exemption, retirement income credit, and exclusion of OASDHI for aged		2,800	2,800		2,950	2,950
Additional exemption for blind		10	10		10	10
Sick pay exclusion		105	105		105	105
Exclusion of unemployment insurance benefits		350	350		200	400
Exclusion of workman's compensation benefits		210	210		210	210
Exclusion of public assistance benefits		50	50		50	50
Net exclusion of pension contributions and earnings:						
Plans for employees		3,150	3,150		3,075	3,075
Plans for self-employed persons		160	160		175	175
Exclusion of other employee benefits:						
Premiums on group term life insurance		440	440		440	440
Deductibility of accident and death benefits		25	25		25	25
Medical insurance premiums and medical care		1,450	1,450		1,450	1,450
Privately financed supplementary unemployment benefits		15	15		20	20
Meals and lodging		170	170		170	170
Exclusion of interest on life insurance savings		1,050	1,050		1,050	1,050
Deductibility of charitable contributions (other than education)		3,450	3,450		3,550	3,550
Deductibility of medical expenses		1,700	1,700		1,700	1,700
Deductibility of child and dependent care expenses		25	25		25	25
Deductibility of casualty losses		80	80		80	80
Excess of standard deduction over minimum		3,800	3,800		3,000	3,000
Pollution control amortization			15			15
Additional personal exemption for students		525	525		500	500
Deductibility of contributions to educational institutions		200	200		200	200
Exclusion of scholarships and fellowships		60	60		60	60
Exclusion of certain veterans[1] benefits		600	600		650	650
Exemption of interest on state and local debt			2,200			2,300
Deductibility of nonbusiness state and local taxes (other than on owner-occupied homes)		5,100	5,100		5,600	5,600

[1] Estimates are prepared on an individual basis for each item on the assumption that the item would be eliminated from the law without any other changes in the law with respect to the other items. If 2 or more changes in the law are made, the aggregate revenue effect will frequently not equal the sum of the revenue effects of the individual changes. Accordingly, the cost of the items are not additive.

[2] The specific tax provisions were selected by the staff of the Joint Economic Committee.

Appendix B. SUPPORTING DATA FOR CREDIT SUBSIDY ESTIMATES

THE DEPARTMENT OF THE TREASURY,
Washington, D.C., March 12, 1971.

Hon. WILLIAM PROXMIRE,
Chairman, Subcommittee on Economy in Government, U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: In your September 21, 1970 letter you requested estimates of credit program subsidies for your pending study of Federal subsidy programs. Such estimates have since been provided for major subsidized credit programs in a new table E–4 in Special Analysis E of the 1972 Budget.

In response to a request from Mr. Jerry Jasinowski of your staff I am enclosing (1) an expanded version of table E–4 which shows credit subsidy calculations for a number of major subsidized programs which were included in the agency totals shown in table E–4 but were not specifically identified and (2) a table showing similar calculations for a number of minor subsidized direct loan programs which were not included in table E–4. We have also reviewed minor subsidzed guaranteed and insured loan programs which were not included in table E–4, and we have concluded that subsidy calculations for these programs would not be useful since they are financed on an essentially self-supporting basis.

An explanation of the basis for the enclosed subsidy calculations appears on pp. 77–80 of the Special Analyses, Budget of the United States Government, Fiscal Year 1972. I would like to emphasize, in particular, the statement on page 78 that the estimates are illustrative rather than exact or comprehensive measures and that they are a first step toward the difficult task of meeting the widespread interest in the measurement of the cost of loan subsidies.

I hope this information will be of use to you in your study of Federal subsidy programs.

Sincerely yours,

MURRAY L. WEIDENBAUM,
Assistant Secretary for Economic Policy.

Enclosures.

TABLE 1.—ESTIMATED INTEREST SUBSIDY COSTS AND BENEFITS OF MAJOR DIRECT LOANS MADE AND GUARANTEED AND INSURED LOANS COMMITTED IN 1970

[In millions of dollars]

Agency and program	Gross loan outlays, fiscal year 1970	Borrower loan terms [1] (percent/years)	Subsidy if rate were 7½ percent		Subsidy if rate were 9½ percent	
			1st full year	Capitalized value	1st full year	Capitalized value
I. DIRECT LOANS						
Funds appropriated to the President.						
Security assistance	136	6/10	1	9	3	20
Development assistance	906	2/40 [2]	50	517	68	609
Agriculture:						
Commodity Credit Corporation:						
Price support	2,338	3½/1	94	87	140	128
Public Law 480	494	2½/33	19	226	27	272
Rural Electrification Administration	497	2/33	20	246	29	290
Rural electric	362	2/33	15	179	21	211
Rufal telephone	135	2/33	6	67	8	79
Farmers Home Administration	578	(3)	7	49	16	100
Soil, water and watershed	65	5/40	1	17	3	26
Farm operating	280	6⅝/7	2	8	5	26
Emergency credit	90	3/2	3	6	4	8
Rural housing	143	6/33	1	18	4	40
Health, Education, and Welfare:						
Capital for student loans (NDEA)	217	0/13 [4]	16	76	21	95
Higher education facilities	102	3/40	4	46	6	57

See footnotes at end of table, p. 208.

70–378—72——15

TABLE 1.—ESTIMATED INTEREST SUBSIDY COSTS AND BENEFITS OF MAJOR DIRECT LOANS MADE AND GUARANTEED AND INSURED LOANS COMMITTED IN 1970—Continued

[In millions of dollars]

Agency and program	Gross loan outlays, fiscal year 1970	Borrower loan terms [1] (percent/years)	Subsidy if rate were 7½ percent: 1st full year	Subsidy if rate were 7½ percent: Capitalized value	Subsidy if rate were 9½ percent: 1st full year	Subsidy if rate were 9½ percent: Capitalized valu
I. DIRECT LOANS—Continued						
Housing and Urban Development:						
Urban renewal	595	2/1½	16	16	22	21
Low-rent public housing	720	0/⅔	36	34	46	43
College housing	184	3/40	7	84	10	102
FHA fund	135	5¼/30	2	28	5	46
Housing for elderly	106	3/50	4	53	6	63
Veterans Administration: Insurance policy loans	195	4/10	4	30	7	44
Export-Import Bank	1,569	6.3/7½	12	65	32	169
Equipment and service loans	1,095	5.9/7½	11	63	26	134
Commodity loans	67	6/1	1	1	2	2
Discount loans	146	7/2.85	1	1	3	6
Other	260	(3)	(5)	(5)	(5)	(5)
Small Business Administration:						
Business and investment fund	279	6.2/11	2	18	6	41
Displaced business loans	31	5⅛/17¾	1	5	1	8
Economic opportunity loans	35	6⅝/7½	(6)	1	1	3
Small Business Investment Co. loans	56	7¼/10	(6)	1	1	5
Small business loans under sec. 7(a)	84	5½/7½	1	6	2	11
Development company loans	47	5½/18		6	1	12
Other	25	(3)	(6)	(5)	(6)	(5)
Disaster loan fund	91	3/11	3	19	4	26
Total, major subsidized direct loans	9,142		297	1,603	448	2,126
II. GUARANTEED AND INSURED LOANS						
Agriculture:						
Farmers Home Administration:						
Rural housing insurance	987	6.3/33	10	118	27	270
Agricultural credit insurance	703	5/40	15	187	28	283
Farm ownership	256	5/40	5	68	10	103
Water and sewer	82	5/40	2	22	3	33
Other	365	(3)	(5)	(5)	(5)	(5)
Health, Education, and Welfare:						
Student loan insurance	840	0/13 [4]	63	179	80	268
Higher education facilities	120	3/28	4	46	6	58
Public institutions	80	3/30	3	32	4	40
Private institutions	40	3/25	1	14	2	18
Housing and Urban Development:						
Urban renewal	569	1.6/⅔	22	21	30	28
Low-rent public houding	1,517	0/40	114	1,039	144	1,128
Interim financing	3,529	0/⅔	176	168	224	210
College housing	202	3/31	9	81	11	102
Public institutions	165	3/32½	6	68	9	85
Private institutions	37	3/25	1	13	2	17
Mortgage insurance (subsidized)	3,228	2/34	133	1,628	189	1,914
Below market rates	296	3/40	11	135	16	165
Other	2,932	2/35	122	1,493	173	1,749
Export-Import Bank: Portfolio sales	406	5.8/4.5	5	17	10	35
Total, major subsidized, guaranteed, and insured loans	12,101		551	3,484	749	4,296

[1] If terms vary these are estimated averages. Interest rates include insurance premiums where these are charged.
[2] Interest rate shown is for 1st 10 years only. Rate is 3 percent for last 30 years.
[3] Various interest rates and maturities.
[4] Zero interest rate applies only while student is in school plus 9 months (average period 3 years); thereafter rate is on direct loans, 7 percent for insured loans.
[5] Not available. Includes loan repurchases not allocated by program.
[6] Less than $500,000.

TABLE 2.—ESTIMATED INTEREST SUBSIDY COSTS AND BENEFITS OF OTHER DIRECT LOANS MADE IN 1970

[In millions of dollars]

Agency and program	Gross loan outlays, fiscal year 1970	Borrower loan terms [1] (percent/years)	Subsidy if rate were 7½ percent		Subsidy if rate were 9½ percent	
			1st full year	Capitalized value	1st full year	Capitalized value
Agriculture:						
Commodity Credit Corporation:						
Export credit sales	209	6¾/2½	1	3	4	9
Storage facilities	50	6/5	(2)	2	1	4
District of Columbia:						
Capital outlay loans	89	6¼/30	1	11	2	24
Repayable advances	40	0/½	2	1	2	2
Commerce:						
Economic Development Administration:						
Development facilities	15	5¾/31.9	(2)	3	(2)	5
Industrial development	26	6¼/18.6	(2)	2	1	5
Housing and Urban Development:						
Public facility loans	44	5⅜/40	1	10	2	16
Rehabilitation fund	39	3/20	1	12	2	16
Justice: Law enforcement education	18	0/10 [3]	1	4	2	5
Transportation: Highway advances	3	0/5	(2)	1	(2)	1
General Services Administration: Surplus property sales	44	7/9	(2)	1	1	4
Veterans' Administration:						
Loan guarantee revolving fund	198	8½/25	−2	−18	2	15
Direct loan fund	115	8½/30	−1	−11	1	10
Total, other direct loans	890		4	21	20	116

[1] If terms vary these are estimated averages. Interest rates include insurance premiums where these are charged.
[2] Less than $500,000.
[3] Zero interest rate applies only while student is in school plus 9 months (average period 3 years): thereafter rate is 7 percent on direct loans.

The following equations were used to estimate interest subsidies in table E–4. Estmated interest subsidy costs and benefits of major direct loans made and guaranteed and insured loans committed in 1970 (in millions of dollars).

Subsidy 1st full year

Direct loans

$S_1 = P_1 - P_2$

where:

S_1=Subsidy on direct loans

P_1=Payment at Treasury interest rate (7½% or 9½%)

P_2=Payments at Borrower rate

$$P\left(\frac{i}{1-\frac{1}{(1+i)N}}\right)G$$

P=Payment

i=interest rate[1]

G=Gross loan outlay

N=Number of years[2]

Guaranteed and insured loans

$P_2 = P_3 - P_2$

where:

S_2=Subsidy on guaranteed and insured loans

P_3=Payment at market interest rate

P_2=Payment at borrower interest rate

[1] U.S. interest calculation.
[2] One payment per year assumed.

Capitalized value of subsidy

$$C=S\left(\frac{1-\frac{1}{(1+i)N}}{1}\right)$$

where:
S=1st full year subsidy
i=interest rate
Treasury borrowing rate for direct loans
Market rate for guaranteed and insured loans

Source: Office of Management and Budget.

Appendix C. SOME SPECIAL CASES OF INCIDENCE AND EFFECTIVENESS [1]

For those readers whose interest in the subjects of incidence and effectiveness extends beyond the more common cases discussed in sections B and C of this chapter, this appendix analyzes some, though by no means all, of the special cases. Price effects and output effects will be discussed together.

PARTIAL VERSUS GENERAL EQUILIBRIUM ANALYSIS OF SUBSIDIES

A subsidy may apply to only one particular product or to a very narrowly defined factor of production, and may therefore directly affect only a small part of the total economy. An example might be a subsidy to wages in a small declining industry. In this case no one part of the rest of the economy will feel the indirect effect of this subsidy very much. These indirect effects will be diffused over a wide range of nonsubsidized products and factors. We can therefore, in this case, ignore the changes in prices and quantities in these nonsubsidized sectors. We can also ignore the feedback on the market for the subsidized product or factor. Finally, we can even ignore the effects of whatever tax is levied to finance the subsidy, if we assume that the tax is not concentrated on the subsidized factor or product, or on any closely allied factors or products. Demand and supply curves for the industry in question, as they stand without the subsidy, are all that are needed to estimate the relevant price and output effects of the subsidy.

Quite in contrast is the case where the subsidy is broadly based—a subsidy on all wages for example.[2] The indirect effects on the rest of the economy will be substantial and cannot be ignored. The "rest of the economy" in this case is land, capital, and the Government itself. Moreover, the particular tax or taxes by which this general wage subsidy is to be financed must be stipulated. General equilibrium analysis must be employed.

Even in an in-between case where the subsidy is neither very narrow nor economywide, partial equilibrium analysis may suffice for a rough and incomplete estimate of the effects of the subsidy. But for a truly useful analysis, some attention must be paid to the effects in the nonsubsidized sectors. This means something approaching general equilibrium analysis.

If the thing subsidized is a product rather than a factor, and consumption is drawn toward the subsidized industry, factors move into that industry from the rest of the economy. The prices of factors that remain in the nonsubsidized sectors and prices of the nonsubsidized goods will be altered by this outmigration to the subsidized sector, so will the amounts produced of the nonsubsidized goods. The distribution of real disposable income among income classes and geographic regions will be greatly affected by these developments in the nonsubsidized sectors, both on the sources side and the uses side: sources, in the sense that owners of the factors that remain in the nonsubsidized sectors will experience changes in factor prices and hence in incomes as well as in amount of factor use; and uses, in the sense that consumers of those nonsubsidized products will be affected. Sources and uses effects on distribution of income will of course also be experienced in the subsidized sector. Finally, the taxes that are imposed to finance the subsidy will affect sources if levied on incomes, or uses if levied on sales.

If the subsidy applies only to one factor, the general equilibrium analysis must take into account the resulting substitution of the subsidized factor for nonsub-

[1] This appendix is based largely on, and is in parts a verbatim reproduction of, Carl S. Shoup, Public Finance (Chicago: Aldine, 1969), pp. 153–161, 273–279. Permission for such reproduction has been granted by the copyright holder.

[2] See, for example, Alan R. Prest, "The Role of Labour Taxes and Subsidies in Promoting Employment in Developing Countries," International Labour Review, vol. 103, No. 4, April 1971, especially p. 321; and Alan Peacock and G. K. Shaw, "Fiscal Measures To Improve Employment in Developing Countries," Public Finance, No. 3, 1971.

sidized factors. Thus, if unskilled labor in general is subsidized there will be a tendency for firms to substitute it for skilled labor. This action will tend to raise the marginal productivity and hence the wage rates of the nonsubsidized labor that remains employed, and tends to reduce the marginal productivity and hence the market wage rate as computed before the subsidy of the unskilled workers. The end result depends on the supply of and demand for the factors concerned. But the possibility of factor substitutability must always be considered in such general equilibrium analysis.

The text of this study employs partial equilibrium analysis for the most part. This is the best way of introducing the effects of a subsidy. The more complex analysis that takes into account the effects outside the subsidized sector, and of the tax levied to finance the subsidy, is deferred to a later study. However, the reader will be interested in the monograph of Carl S. Shoup, "The Economic Effects of Subsidies," in the study series following the present study.

MONOPOLY

Under imperfect competition, whether of the monopoly, oligopoly, or monopolistic competition variety, production of the individual firm stops short of the point where its average cost curve reaches a minimum. If it prices its product on an average-cost basis, it sets its price above its marginal cost and thereby excludes some purchases that it could supply at a marginal cost less than its price. This practice is an inefficient use of the economy's resources. It can be shown that under these circumstances, but with the firm induced to price at marginal cost by a lump-sum subsidy conditioned on the firm increasing output to some optimal point, total welfare will be increased.[3] This conclusion must be qualified, but not necessarily abandoned, in a world where the market under consideration is not the only instance of imperfection in the economy (the "second-best" problem).

If a monopoly is given a per unit subsidy, as has been supposed for competitive firms in the analysis in the text, instead of a lump-sum subsidy as suggested above, the question arises whether the results found for the competitive case can be carried over without change to the monopoly case. The answer is, that in general they cannot, and that in fact, the possible outcomes are more numerous in the monopoly case. For example, if the monopolist's marginal cost is increasing at the initial point of equilibrium, as it must in the case of perfect competition, a per unit product subsidy may cause the monopolist to react in a manner such that the market price to the buyer actually falls by more than the subsidy—an outcome not possible under competition, unless the industry operates under decreasing cost. On the other hand, the monopolist may use his market power to restrict output in a way that will prevent market price from falling as much as the subsidy. It would seem likely that conditions of imperfect competition will in general prevent a spreading of the incidence.

AD VALOREM STUDY

For simplicity in exposition, the type of subsidy assumed up to this point has been one where the payment is so much per unit of output or per unit of factor. Instead, the subsidy might be a certain percentage of the marginal cost, or, more likely, a certain percentage of the produce or factor price. Essentially the conclusions reached above remain unchanged under an ad valorem subsidy that is equivalent to a per unit subsidy with two qualifications.

First, an ad valorem subsidy, if it is set at a certain percentage of the market price and is paid to the seller (not the buyer), decreases per unit of output as output increases and market price falls. On the other hand, if the ad valorem subsidy is expressed as a percentage not of market price but of what the seller receives, including the subsidy itself, it becomes large per unit as output increases, in the usual instance of increasing costs. The results to follow from these two types of ad valorem subsidy will therefore not be precisely the same in numerical terms. No such distinction appears in the case of per unit subsidy. Similar reasoning is applicable to an ad valorem subsidy paid to buyers (market price then rises, under the subsidy).

Second, the question of the comparative effects of the two types of subsidy is ambiguous unless one specifies exactly what is meant by "equivalent to." It may mean any one of the following: (*a*) the ad valorem rate is equal to the per unit

[3] See William Vickey, "Microstatics" (New York: Harcourt, Brace & World, 1964), pp. 249–259.

rate at the presubsidy equilibrium price; (*b*) the ad valorem rate is equal to the per unit rate at the new equilibrium price under the subsidy; (*c*) the two subsidies, at their respective and now presumably different equilibria, are equal in total money disbursed.

CAPITALIZATION OF A SUBSIDY

A subsidy that is tied to the use of a particular producer good that is durable and not readily reproducible, say a certain parcel of agricultural land, for example, will tend to become capitalized in the price of that producers good for possible resale. Anyone buying that parcel of land from the one who owned it when the use-subsidy was announced can, like the original owner, look forward to a stream of benefits from the Government in the form of the subsidy. He will therefore offer a price for that parcel of land higher than otherwise. Given competition among would-be buyers, the price of the land will rise by an amount equal to the present value of the future stream of monetary payments that will come with possession and use of it.

If of two parcels of land, one has been allotted a quota, in the sense that the Government promises to pay a subsidy of so much per unit of produce from this parcel of land (up to some ceiling, in practice), while the other parcel has not been allotted a quota, the first parcel will normally sell for more than the second. The excess sales price will equal the discounted value of the flow of benefits represented by the Government subsidy. This value will be difficult to compute, and since the computation requires forecasting, buyers will accordingly differ in their ideas as to what it should be. Nevertheless there will be some roughly estimated minimum that most will probably agree on, and this minimum excess will serve as a basis not only for a seller's reservation price, but also for a mortgage (along with the rest of the value of the parcel).

If buyers have bought and lenders have granted loans on this parcel of land on the assumption that the Government's subsidy program is not going to be changed in the near future, these capitalized expectations become a powerful force opposing any reduction in the subsidy. The Government will be accused of injuring innocent vested interests if it proposes to reduce or abolish the subsidy paid on this parcel of land. The case is analogous to that of the tax on land, where a large unexpected increase in the tax is opposed on the grounds of unfairness to those who have purchased or lent on what they consider an implicit promise by the Government to make no such radical change.

This problem arises of course only with a subsidy payment that stretches over time, and is linked with a virtually nonreproducible durable good that has been sold or hypothecated after the subsidy has been introduced. The problem is therefore not widespread, but it is intense where it does occur and is a partial explanation of why some types of subsidy seem virtually unassailable after a certain length of time has passed. Agricultural subsidies are the most important area where this problem occurs.

Appendix D. CHANGES IN CONSUMERS AND PRODUCERS SURPLUS WITH A SUBSIDY

Subsidies have not been evaluated, in section E above, in terms of their effects on consumers surplus and producers surplus, for three reasons.

First, the total amount paid in subsidy will always exceed the sum of the increment in consumers surplus and the increment in producers surplus, at least except under pronounced conditions of decreasing cost[1] where producers surplus is negative to begin with. A subsidy, like an excise tax, imposes an "excess burden" in this sense. The subsidy may nevertheless be justified because of the increases in welfare it causes by mitigating the effects of market failure, an event that is not reflected in consumers or producers surplus in conventional supply-demand diagrams. The subsidy may also achieve other goals that are not reflected in these diagrams: redistribution of income, increase in exports, and the like. Figure D–1 presents the conventional "triangle" analysis, common in explanations of excess burden of excise taxes, in a form applicable to a subsidy.

Second, the meaning of producers surplus, from a welfare point of view, is less clear than is the concept of consumers surplus. Producers surplus is essentially economic rent. It is not self-evident that an increase in economic rent always reflects an increase in welfare.

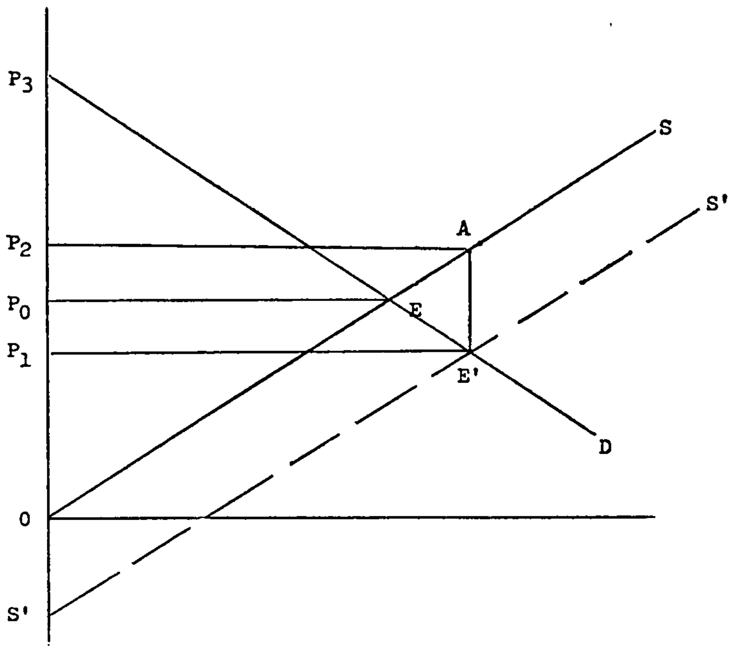
Third, the *ceteris paribus* assumptions become of doubtful validity as the supply-demand curves are followed back to their intersections with the y-axis (the price axis). Increments or decrements of consumers surplus or producers surplus near the point of initial equilibrium carry more meaning than the entire surplus areas.

The analytical issues involved here are of course more complex than these brief remarks suggest. They are treated at somewhat greater length in one or more of the papers in the study series to follow.

---

[1] See the compendium paper by Carl Shoup for a treatment of the decreasing cost case where the conclusions cited above do not necessarily hold true.

FIGURE D-1



OS	= supply before subsidy
S'S'	= supply with subsidy
P_0	= intial price
E	= intial equilibrium
P_1	= market price with subsidy
E'	= equilibrium with subsidy
AE'	= subsidy per unit
P_1P_2AE'	= total subsidy
P_0P_3E	= consumers surplus before subsidy
P_1P_3E'	= consumers surplus with subsidy
P_1P_0EE'	= increment in consumers surplus
OP_0E	= producers surplus before subsidy
OP_2AE	= producers surplus with subsidy
P_0P_2AE	= increment in producers surplus with subsidy
P_1P_2AEE'	= sum of increments of surpluses with subsidy

$P_1P_2AE'-P_1P_2AEE'$ = subsidy minus sum of increments of surplus = AEE'

Appendix E. AGRICULTURAL STABILIZATION AND CONSERVATION SERVICE—COMMODITY CREDIT CORPORATION

INVENTORY TRANSACTIONS, BY PROGRAM AND COMMODITY, FISCAL YEAR 1971

Program and commodity	Value										
	Beginning inventory July 1, 1970	Purchases	Collateral acquired	Other additions or deductions (net) [1]	Cost of sales	Cost of other dispositions [2]	Ending inventory July 30, 1971	Sales proceeds	Other recoveries [3]	Inventory carrying charges [4]	Net gain or loss on commodity inventory operations
PRICE SUPPORT PROGRAM											
Basic commodities:											
Corn	$293,246,296	$266,155	$20,114,177	$381,978	$208,946,139	$1,029,027	$102,737,172	$256,131,605	$112,328	$22,052,71/	$24,216,049
Corn products	2,077	5,846,576				5,847,575	1,078		1,343	9,511	[5] 5,855,743
Cotton, extra long staple	17,391,551		303,212		10,417,378	2,548	7,274,836	9,118,814	59,281	233,647	[5] 1,475,479
Cotton, upland	207,828,919		128,076,201	[5] 2,578	294,340,913	444,693	41,116,935	309,060,580	2,031,903	10,345,526	5,961,350
Peanuts, farmers' stock	36,105	193,627	212,725	[5,6] 2,344	165,524		274,588	78,042		282,504	[5] 369,986
Peanuts, shelled		25,079,136		4,589	24,034,831		1,048,893	12,826,824		1,125,718	[5] 12,333,726
Rice cereal		43,430				43,196	234			9	[5] 43,205
Rice, milled	364,779	[5] 971		11,049,485		11,412,270	1,023		69,266	1,069,407	[5] 12,412,411
Rice, rough	40,989,905	3,900,789	14,691,299	[5,7] 9,222,659	2,914,293	126,373	47,318,668	2,994,948	9,320	4,640,349	[5] 4,676,747
Tobacco, owned			185,228		185,228			185,228			
Wheat	405,294,554	[5] 1,126,820	212,333,666	665,636	128,264,614	530,109	488,372,312	166,643,352	477,583	62,010,101	[5] 23,683,888
Wheat flour	4,866	30,323,871				30,328,738			3,087	57,901	[5] 30,383,552
Wheat products, other	37,036	6,592,916			342,199	6,275,451	12,301	342,199	652	126,979	[5] 6,401,778
Total basic commodities	965,196,094	70,586,400	375,916,510	2,110,149	669,611,123	56,039,984	688,158,045	757,381,595	2,764,767	101,954,374	[5] 67,459,119
Designated nonbasic commodities:											
Barley	43,107,007	114,852	15,558,940	[5] 123,628	32,271,087	19,478	26,366,606	24,152,914	19,838	10,562,116	[5] 18,679,930
Grain sorghum	172,961,442		14,614,742	[5] 261,690	107,951,769	618,937	78,743,787	126,038,572	603,358	26,117,250	[5] 8,046,026
Honey	433,531	5,181	40,676	151.462	627,497	2,592	761	650,902		26,182	[5] 5,370
Milk and butterfat:											
Butter	97,141,409	200,001,479		2,798,435	73,380,708	81,319,675	145,240,940	72,779,330	337,173	6,398,345	[5] 87,982,225
Butter oil				[8] 454,983		454,983				5,144	[5] 460,128
Cheese	95,115	34,202,033		248,341	4,120,714	28,986,682	1,438,093	4,230,665	48,017	1,067,890	[5] 29,896,603
Milk, dried	36,404,298	149,181,189			112,844,215	47,449,841	25,291,431	107,981,466	153,593	5,555,677	[5] 57,714,673
Oats	73,892,134	4,257,535	42,319,881	6,145	6,979,575	172,491	113,323,629	8,214,299	100,900	24,295,701	[5] 23,132,569
Oats, rolled	932	3,115,819				3,086,432	30,319		407	72,863	[5] 3,158,888
Rye	17,366,822	1,412,746	10,577,797	21,178	3,954,511	13,463	25,410,569	4,285,214	10,008	5,091,389	[5] 4,764,140
Tung oil	9,887,319		1,449,099	1,058	1,423,716	15,595	9,898,165	1,067,439		180,149	[5] 552,023
Total designated nonbasic commodities	451,290,013	392,290,838	84,561,137	3,296,286	343,553,797	162,140,175	425,744,304	349,400,805	1,273,299	79,372,712	[5] 234,392,580

Other nonbasic commodities:											
Beans, dry edible	873,053	16,537	58,330	[5] 7,358	34,199	407,669	498,694	54,690	5,461	122,211	[5] 503,928
Castor oil	4,316,528	[5] 5,300			1,992,583		2,318,643	2,174,636		50,239	131,813
Cottonseed meal	105,828				74,535	31,292		51,106	399	[5] 3,320	[5] 51,001
Cottonseed oil, refined	1,512,925			1,791	1,508,134	6,582		1,607,064		[5] 28,459	120,806
Cottonseed oil refined (Salad oil and shortening)	77,329	17,821,410				17,893,784	4,955		2,511	254,749	[5] 18,146,022
Flaxseed	47,756,299	2,893,000	35,497,226	[5] 11,767,345	2,561,095	263,570	71,554,514	2,554,127	218,398	5,365,548	[5] 5,417,688
Linseed oil	9,494,350			4,108,942	3,563,779		10,039,513	2,199,797		346,017	[5] 1,709,000
Soybeans	377,406,031	[5] 6,372,168	150,791,326	[5] 2,526,339	510,354,464	791,372	8,153,012	534,805,357	341,436	7,867,438	16,133,517
Vegetable oil products		4,695,697				4,695,697			12,083	42,389	[5] 4,726,003
Total other nonbasic commodities	441,542,345	19,049,177	186,346,883	[5] 10,190,309	520,088,792	24,089,970	92,569,333	543,446,780	580,290	14,016,814	[5] 14,168,506
Exchange commodities:											
Strategic and other material	35,502			76,949	112,451			124,584		16,710	[5] 4,578
Total price-support program	1,858,063,955	481,926,416	646,824,531	[5] 4,706,924	1,533,366,164	242,270,131	1,206,471,683	1,650,353,765	4,618,357	195,360,612	[5] 316,024,784
SUPPLY PROGRAM											
Feed for Government facilities		80,412			80,412			81,216			804
Seeds and plants								119			119
Seeds, foundation	218,066	145,493			157,613	2,825	203,120	194,601		8,484	25,676
Total supply program	218,066	225,905			238,025	2,825	203,120	275,937		8,484	26,600
COMMODITY EXPORT PROGRAM											
Blended food products	684,105	30,141,381			30,238,510	24,515	562,461	30,846,304	3,871	3,871	583,278
Corn products	206,740	8,495,049			8,641,082	[5] 894	61,601	8,814,767		23,912	150,667
Cotton products		280,420			280,420			286,056			5,636
Oats, rolled		4,060,629			4,060,543	86		4,142,160	152	5,670	76,013
Soya flour		25,350			25,350			25,859		417	92
Vegetable oil products	304,551	34,312,659			34,298,230	260	318,719	34,987,627	47	1,857	687,326
Wheat flour	793,762	43,075,269			43,625,638	5,634	237,758	44,502,51[illegible]	4,703	12,581	863,361
Wheat products, other		22,048,542			22,031,750	203	16,588	22,474,588	1,483	10,122	433,995
Total commodity export program	1,989,159	142,439,302			143,201,525	29,806	1,197,129	146,079,877	10,258	58,433	2,800,370
OTHER											
Cheese [6]		3,077,072				3,070,284	6,788		3,228	69,112	[5] 3,136,167
Total all programs	1,860,271,181	627,668,696	646,824,531	[5] 4,706,924	1,676,905,716	245,373,047	1,207,878,721	1,796,709,580	4,631,845	195,496,643	[5] 316,333,981

See footnotes at end of tablu, p. 219.

Program and commodity	Unit of measure	Quantity: Beginning inventory July 1, 1970	Purchases	Collateral acquired	Other additions or deductions (net)[1]	Sales	Other dispositions[2]	Ending inventory June 30, 1971
PRICE SUPPORT PROGRAMS								
Basic commodities:								
Corn	Bushel	262,943,600	[5] 238,109	19,242,941	[5] 395,455	188,538,613	863,850	92,150,518
Corn products	Pound	46,766	116,341,106				116,364,984	22,888
Cotton, extra long staple	Bale	71,452		1,814		42,840	11	30,415
Cotton, upland	do	1,906,124		1,066,061		2,602,451	3,975	365,759
Peanuts, farmers' stock	Pound	310,543	1,566,946	1,631,393	[5,6] 33,430	1,365,294	35,066	2,075,092
Peanuts, shelled	do		149,567,383		33,430	144,986,861	[5] 295,678	4,909,630
Rice cereal	do		120,084				119,436	648
Rice, milled	Hundredweight	38,530	[5] 101		1,179,294		1,217,612	111
Rice, rough	do	8,335,555	744,869	2,801,411	[5,7] 1,902,001	587,239	21,036	9,371,559
Tobacco, owned	Pound			226,139		226,139		
Wheat	Bushel	301,168,256	[5] 794,786	161,207,849	[5] 784,005	90,592,691	319,480	369,885,143
Wheat, flour	Pound	82,210	491,663,030				491,745,240	
Wheat products, other	do	269,571	60,198,405			2,428,278	57,950,694	89,004
Total basic commodities								
Designated nonbasic commodities:								
Barley	Bushel	48,596,950	151,880	17,743,339	[5] 94,202	35,954,610	16,216	30,427,141
Grain sorghum	do	163,204,766		15,109,168	[5] 387,909	99,570,186	529,840	77,825,999
Honey	Pound	3,186,968	21,686	321,098	[5] 62,488	3,442,305	19,053	5,906
Milk and butterfat:								
Butter	do	139,262,621	288,113,453		[5] 700,928	103,718,183	113,467,972	209,488,991
Butter, oil	do				[5] 471,240		471,240	
Cheese	do	174,566	60,068,175		325,152	7,422,221	50,669,361	2,476,311
Milk, dried	do	133,256,578	470,707,788			390,615,192	134,901,595	78,447,579
Oats	Bushel	118,914,371	6,572,880	69,749,364	[5] 385,802	10,763,703	264,098	183,823,012
Oats, rolled	Pound	14,328	47,724,564				47,237,520	501,372
Rye	Bushel	16,761,372	1,368,547	10,252,189	[5] 54,249	3,765,488	12,885	24,549,486
Tung oil	Pound	39,639,140		5,651,341	4,303	5,689,698	56,809	39,548,277
Total designated nonbasic commodities								
Other nonbasic commodities:								
Beans, dry edible	Hundredweight	106,428	2,145	6,633	[5] 313	4,168	51,863	58,862
Castor oil	Pound	29,333,000	500			13,557,518	[5] 354	15,776,336
Cottonseed meal	do	3,298,764				2,323,350	975,414	
Cottonseed oil, refined	do	12,493,774			15,115	12,526,577	[5] 17,668	
Cottonseed oil, refined (salad oil and shortening)	do	398,831	85,831,362				86,205,533	24,660
Flaxseed	Bushel	16,651,484	1,110,880	13,572,062	[5] 3,593,345	925,238	89,436	26,726,470

Linseed oil	Pound	80,000,000			36,390,000	30,775,594		85,614,406
Soybeans	Bushel	145,484,627	[5] 2,458,258	58,827,415	[5] 601,547	197,829,011	224,250	3,198,976
Vegetable oil products	Pound		21,991,987				21,991,987	
Total other nonbasic commodities								
Exchange commodities: Strategic and other material								
Total price-support program								
SUPPLY PROGRAM								
Feed for Government facilities	Hundredweight		17,200			17,200		
Seeds and plants	Various							
Seeds, foundation	Pound	452,469	277,036			302,819	14,240	412,446
Total supply program								
COMMODITY EXPORT PROGRAM								
Blended food products	Pound	9,084,500	359,663,920			361,899,605	259,350	6,589,465
Corn products	do	5,100,000	177,300,919			181,074,754	[5] 42,585	1,368,750
Cotton products	do		196,514			196,514		
Oats, rolled	do		67,603,976			67,615,476	[5] 11,500	
Soya flour	do		249,950			249,950		
Vegetable oil products	do	1,764,379	189,826,014			189,746,064	485	1,843,844
Wheat flour	do	19,157,670	969,869,901			983,588,021	32,700	5,406,850
Wheat products, other	do		529,971,703			529,593,003	[5] 20,550	399,250
Total commodity export program								
OTHER								
Cheese [9]	Pound		5,107,200				5,096,520	10,680
Total all programs								

[1] Includes the net of over-deliveries, premiums, under-deliveries and discounts resulting from warehousing operations; the net change in value and quantity of inventory exchanged or in process of exchange; processing and packaging costs and related quantitative gains and losses in processing operations; the cost of materials acquired under Barter operations and other items which are footnoted individually.

[2] Includes the cost of commodities donated in the amount of $240,817,176. Also includes the net reduction to inventory involving storage and transit losses and gains as they are disclosed.

[3] Includes the claims established against warehousemen, carriers and others when they are determined to be liable for storage and transit losses. Establishment of the amount of the claim does not necessarily occur in the same accounting period as the recognition of the loss from inventory.

[4] Includes storage and handling expense and transportation expense.

[5] Denotes decrease of loss.

[6] Processed into price-support shelled peanuts.

[7] Processed into price-support milled rice.

[8] Processed from price-support butter.

[9] Acquired pursuant to provisions of sec. 709 of the Food and Agriculture Act of 1965.

Note: Inventories of commodities as shown in this report include commodities committed to sale or otherwise obligated.

Appendix F. DATA FORMAT INFORMATION

The individual program writeups generally follow the format on the data sheet below. The interest rate and maturity line is of course dropped for noncredit subsidies. Because of a lack of information, the tax subsidy format is more drastically altered to only include the authorization, description, and subsidy costs. The sections following the tax authorization refer to the Internal Revenue Code; the descriptions include both an explanation of how the tax subsidy works and a statement of objective if available; the tax subsidy cost is measured in revenue loss.

A sample of the standard data format follows below.

PROGRAM TITLE

Administering agency	This is the department and its subdivision responsible for managing the particular program.
Identification	Authorization: This is the legal authority upon which the subsidy is based. Budget account: This is the identification code listed in the budget. CFDA: This is the number(s) of the program as listed in the "1971 Catalog of Federal Domestic Assistance."
Objectives	These are the goals toward which the managing agency indicates the program is directed.
Financial form	The basic financial forms of a subsidy are direct cash payments, tax liability reductions, credit aids, and benefit-in-kind. Additional information is placed in parenthesis when it can be helpful.
Direct recipient	This is the first private recipient to feel the impact of the subsidy.
Interest rate and maturity	This information is included only for credit aids. The interest rate is the rate used to calculate the subsidy. Where rates vary within a program, the one listed is an estimated average. Where insurance premiums are charged, they have been included in the interest rate. Information on the insurance premium is included where applicable. The maturity is the average time period for which the loan is made. This is the time period used in calculating the subsidy.
Description	This has been included for tax subsidies in lieu of objectives and direct recipient. Of course there is no administering agency, budget account or CFDA.
Subsidy costs	This is an approximation of the fiscal year 1970 money outlays or obligations associated with the program. For credit aids this will include both the gross loan outlays in fiscal year 1970 and the capitalized value of the loan if the Government borrowing rate were 7½ percent.

EDITOR'S NOTE.—This illustrates the way each program should have been printed. Identification was run together instead of being printed as three parts because of an error which was not corrected due to a lack of time.

Appendix G. LIST OF SPECIAL STUDY PAPERS

GENERAL

George F. Break	"Subsidies as an Instrument for Achieving Public Economy Goals."
Carl S. Shoup	"The Economic Theory of Subsidy Payments."
Stanley S. Surrey	"Tax Subsidies as a Device for Implementing Government Policy: A Comparison With Direct Government Expenditures."
Murray L. Weidenbaum	"Subsidies in Federal Credit Programs."
Richard A. Posner	"Subsidization by Pricing in the Regulated Industries."
Hendrick S. Houthakker	"The Control of Special Benefit Programs."

AGRICULTURE

Dale M. Hoover and Bruce L. Gardner.	"Price Support Programs and the Size Distribution of Income."
Russell Lidman	"The Distribution of Benefits of U.S. Farm Programs: A Case Study for 1969."
Dale M. Hoover	"Cotton Allotments and Their Impact on Farmer's Income."

FOOD

Marian Hamilton Gillim	"An Economic Analysis of Federal Food Subsidies."

EDUCATION

Robert W. Hartman	"Subsidies in Federal Higher Education Aid Programs."
David S. Mundell	"Federal Aid to Higher Education—An Analysis of Federal Subsidies to Undergraduate Education."

MANPOWER

Michael C. Barth	"Universal Wage Rate Subsidy: Benefits and Effects."
Daniel S. Hamermesh	"Manpower Subsidies: Current Programs and Policy Questions."
Kenneth Bitterman	"Alterantive Tax Subsidies for the Training and Employment of the Unemployed."

INTERNATIONAL

Douglas R. Bohi	"Export Credit Subsidies and U.S. Exports: An Analysis of U.S. Eximbank."
Peggy B. Musgrave	"Tax Preferences to Foreign Investment."
J. David Richardson	"The Subsidy Aspects of "Buy American" Policy in Government Purchasing."

HOUSING

Henry Aaron	"Federal Housing Subsidies."
Frank deLeeuw and Sam H. Leaman.	"The Section 23 Leasing Program."

George M. von Furstenberg	"The Distribution of Federally Assisted Rental Services Over Regions and States."
Rudolph G. Penner and William L. Silber.	"Federal Housing Credit Programs: Costs, Benefits, and Interactions." "Federal Housing Subsidy Programs."
Henry B. Schechter	"Subsidies, Tax Law, and Real Estate Investment."
Paul Taubman and Bob Rasche.	

NATURAL RESOURCES

Hugh H. Macaulay	"An Evaluation of Subsidies for Water Pollution Abatement."
Emil M. Sunley, Jr	"The Federal Tax Subsidy of the Timber Industry."
Edward W. Erickson and Stephen M. Millsaps.	"Taxes, Goals, and Efficiency: Petroleum and Defense."
Darwin W. Daicoff	"An Analysis of Conservation in Agriculture."

TRANSPORTATION

Jeremy J. Warford	"Subsidies to General Aviation."
William B. Tye	"The Capital Grant as a Subsidy Device: The Case of Urban Mass Transportation.
George W. Hilton	"The Costs to the Economy of the Interstate Commerce Commission."
Gerald R. Jantscher	"The Cost of Federal Maritime Subsidies."
George C. Eads	"A Subsidization of the Local Service Airlines."

TAX SUBSIDIES

Joseph A. Pechman and Benjamin A. Okner.	"Individual Income Tax Erosion by Income Class."
Gerard M. Brannon	"The Effects of Tax Incentives for Business Investment: A Survey of the Economic Evidence."
David J. and Attiat F. Ott	"The Tax Subsidy Through Exemption of State and Local Bond Interest."
Charles E. McLure	"The Income Tax Treatment of Interest Income Earned on Savings and Life Insurance."
Martin H. David and Roger F. Miller.	"The Lifetime Distribution of Capital Gain Subsidies."

OTHER

Roger G. Noll, Merton J. Peck, and John J. McGowan.	"Subsidization Through Regulation: The Case of Commercial Television Broadcasting."
Charles L. Trozzo	"Subsidy Aspects of the Stockpile of Strategic and Critical Materials."