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        Title II of the Public Works Employment Act of 1976,
known as the antirecession assistance or countercyclical
program, represents one component of the Federal Government's
response to severe downturns in economic activity. The aim of
the program is to offset destabilizing actions of State and
local governments during recessions and, in particular, to
maintain basic services customarily provided with emphasis on
the wages and salaries of public employees. Since local
governments generally experience less budgetary disruption
during a recession than State governments because their revenue
sources and expenditures are less sensitive to economic
conditions than State revenues and expenditures, the present
allocation of two-thirds of the funds to local governments and
one-third the State governments may not be appropriate for
effective targeting of antirecession aid.   Findings/Conclusions:
The present antirecession assistance program is not a
particularly effective tool for stimulation of the economy
during a downturn, and there is serious disagreement over the
sensitivity to cyclical changes of the program's trigger.
Although recession does not necessarily lead to State and local
destabilizing actions, the combination of recession and
inflation may provoke a response from those governments that
runs counter to Federal fiscal policy. The antirecession
assistance allocation does roughly correspond to the incidence
of secular decline in a jurisdiction, but if it is the intent of
the Congress to provide assistance to meet such problems, a
formula more specifically tailored to secular decline could be
devised. (Author/SC)

REPORT TO THE CONGRESS

BY THE COMPTROLLER GENERAL OF THE UNITED STATES

Antirecession Assistance-- An Evaluation

This report is an economic analysis of one aspect of the Federal Government's response to severe downturns in economic activity-- Title II of the Public Works Employment Act of 1976.

The aim of the program is to offset with Federal funds the destabilizing fiscal actions of State and local governments during recessions and, in particular, to maintain basic services customarily provided with the emphasis placed on the wages and salaries of public employment.

NOVEMBER 29, 1977

B-146285

To the President of the Senate and the
Speaker of the House of Representatives

This report is an evaluation of the Federal antirecession
assistance to State and local governments as implemented under
title II of the Public Works Employment Act of 1976 (Public
Law 94-369). The specified aim of the program is to offset
with Federal funds the destabilizing fiscal actions of State
and local governments during recessions and, in particular,
to maintain basic services customarily provided with the em-
phasis placed on the wages and salaries of public employment.

Our analysis indicates that the present antirecession
assistance program is not the most effective tool to stimulate
the U.S. economy during a downturn. There continues to be
considerable discussion concerning the appropriateness of the
program trigger which is a 6-percent national unemployment
rate. In the view of some policymakers, the present trigger
is not sufficiently sensitive to cyclical changes in the
economy. The present antirecession assistance formula does
not appear to allocate Federal funds in proportion to the
needs of State and local governments according to our measure
of budgetary disruption.

The allocation of antirecession assistance to State and
local governments does roughly correspond to the incidence
of long-term economic decline in a jurisdiction, but this
was not the primary objective of the legislation. If it is
the intent of the Congress to provide assistance to meet the
problem of long-term secular decline, a more specifically
tailored formula can be devised.

We made our review pursuant to section 215(a) of title II
of the Public Works Employment Act of 1976 (Public Law 94-369).

We are sending copies of this report to the Secretaries of the Treasury, Commerce, and Labor; Chairman, Council of Economic Advisers; Chairman, Advisory Commission on Intergovernmental Relations; the Director, Congressional Budget Office; and the Director, Office of Management and Budget.

Comptroller General
of the United States

D I G E S T

Title II of the Public Works Employment Act
of 1976 (known as the antirecession assist-
ance or countercyclical program) represents
one component of the Federal Government's
response to severe downturns in economic
activity. The aim of the program is to off-
set destabilizing fiscal actions of State
and local governments during recessions and,
in particular, to maintain basic services
customarily provided with the emphasis
placed on the wages and salaries of public
employees.

In evaluating the current legislation
(title II of Public Law 94-369), which au-
thorized the distribution of $1.25 billion
over five quarters from July 1976 through
September 1977 for antirecession assistance,
the following questions are addressed.

1. Is the provision of aid to State and
   local jurisdictions timely so that it is
   an effective tool to counter economic
   recession?

2. What is the magnitude of destabilizing
   fiscal actions by State and local govern-
   ments during an economic downturn?

3. Is the aid targeted effectively so that
   it is directed to those State and local
   jurisdictions suffering most acutely
   from the impact of the economic downturn?

4. Is a jurisdiction's level of excess un-
   employment (defined under the current leg-
   islation to be any rate above 4.5 percent)
   the best indicator of the impact of the
   recession on the State and local govern-
   ment? Is the level of excess unemployment
   a useful and accurate measure by which to
   allocate aid to the more than 39,000 State
   and local general-purpose governments?

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cover date should be noted hereon.

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5. Is the effect of a recession a less serious prob. m for State and local governments than the long-term problems associated with secular decline? Is the antirecession assistance program an effective response to secular decline?

6. Is the money distributed under the antirecession assistance program being spent by State and local governments (a) quickly enough to have the desired stimulative effect on the national economy, and (b) in a manner consistent with the legislative objective of maintaining basic services and public employment?

This report is concerned with the first five of these questions; the sixth question is addressed in other GAO reports on the impact of antirecession assistance on State, county, and city governments.

TRIGGERING ANTIRECESSION ASSISTANCE

The debate over the choice of a proper trigger for the program is difficult to resolve because some policymakers favor a trigger that maintains the program until the economy has made a full recovery. Others would terminate expenditures at the point that a partial recovery is attained.

The use of a national unemployment rate of 6.0 percent is consistent with the full recovery but not the partial recovery approach. To date, none of the triggers that have been suggested reconcile these two competing views of the proper use of Federal funds to stimulate the economy through State and local government expenditures. There are other questions that can be raised regarding the effectiveness of this program, compared with other fiscal tools, in pursuing the goal of stimulation of the lagging economy.

DESTABILIZING ACTIONS BY
STATE AND LOCAL GOVERNMENTS

Available evidence indicates that recession
alone does not necessarily lead to procyclical
(destabilizing) actions by State and local
jurisdictions, such as raising taxes or cut-
ting expenditures at a time when the Federal
Government wishes to stimulate economic ac-
tivity. There are indications, however,
that the combination of recession and infla-
tion, which occurred in the 1974-75 economic
downturn, can lead to procyclical actions by
those governments.

TARGETING COUNTERCYCLICAL ASSISTANCE

Antirecession aid should be based on the
budgetary disruption suffered by the juris-
dictional government as a result of the
recession. Local governments generally
experience less budgetary disruption during
a recession than State governments because
their revenue sources and expenditures are
not as sensitive to economic conditions as
State revenues and expenditures are. There-
fore, the present allocation of two-thirds
of the funds to local governments and
one-third to State governments may not be
appropriate for effective targeting of anti-
recession aid. The present formula, by
utilizing absolute levels of unemployment
rather than changes in unemployment rates,
provides assistance to States and communi-
ties that (1) have little need for such
assistance, or (2) are receiving aid for
the wrong reasons and out of proportion to
their need for such aid. This distribution
scheme is oriented to those States and com-
munities affected more by secular (long-term)
decline than by cyclical disruption. If the
allocation formula were modified by using
changes in unemployment rates during a reces-
sion, the aid would be targeted more effec-
tively to jurisdictions suffering the ill
effects of an economic downturn.

However, such a formula would not be suf-
ficient as a targeting device because changes
in unemployment rates are not a sufficient
measure of the recession's impact on the fis-
cal condition of State and local governments.

EXCESS UNEMPLOYMENT AS AN INDICATOR
OF RECESSION-BASED DISRUPTION

The level of excess unemployment in a State
or locality does not necessarily correspond
to the impact of the recession on that jur-
isdiction. Whatever its impact on the com-
munity, excess unemployment is not neces-
sarily proportional to the budgetary disrup-
tion suffered by State and local governments
during an economic downturn. The level of
unemployment is also ineffective as an allo-
cation mechanism to the more than 39,000 State
and local governments because of the limited
statistical reliability of the data for
smaller jurisdictions. This is demonstrated
by the assignment of the same unemployment
rates to very different types of communities--
such as those with differing economic situa-
tions within the same metropolitan area.

THE ANTIRECESSION ASSISTANCE
PROGRAM AND SECULAR DECLINE

Long-term decline is a serious economic prob-
lem for certain regions in the country and
especially for large cities. This secular
decline is clearly documented by losses in
employment in these communities. High un-
employment rates frequently correspond to
long-term decline, and, as a result, the
antirecession assistance tends to favor
jurisdictions with secular problems. But
there are also deficiencies with the allo-
cation scheme as a device for targeting aid
to communities faced with secular decline.

SUMMARY OF FINDINGS

1. The present antirecession assistance pro-
   gram is not a particularly effective tool
   for stimulation of the economy during a
   downturn, and there is serious disagree-
   ment over the appropriateness of the pro-
   gram's trigger. For some policymakers,
   the present trigger is not sufficiently
   sensitive to cyclical changes in the
   economy.

2. Although recession does not necessarily lead to State and local destabilizing actions, the combination of recession and inflation may provoke a response from those governments that runs counter to Federal fiscal policy.

3. The present antirecession aid formula does not allocate aid in proportion to the needs of State and local governments as measured by recession-induced budgetary disruption. This reflects the fact that the level of excess unemployment is a measure of limited statistical reliability for jurisdictions and, even if statistically reliable, does not necessarily correspond to the impact of a recession on State and local government budgets.

4. The antirecession assistance allocation does roughly correspond to the incidence of secular decline in a jurisdiction; but if it is the intent of the Congress to provide assistance to meet such problems, a formula more specifically tailored to secular decline can be devised.

C o n t e n t s

APPENDIX

APPENDIX

Chapter

ABBREVIATIONS

AFDC   Aid to Families with Dependent Children

CBO   Congressional Budget Office

DRI   Data Resources Inc.

GRS   General Revenue Sharing

GNP   gross national product

JEC   Joint Economic Committee

NBER   National Bureau of Economic Research

SSI   Supplemental Security Income

INTRODUCTION

AN EVALUATION OF ANTIRECESSION ASSISTANCE

Title II of the Public Works Employment Act of 1976 (known as the antirecession assistance or countercyclical revenue sharing program), authorized the distribution of $1.25 billion over five quarters, from July 1976 through September 1977, for antirecession assistance. This program represents one component of the Federal Government's response to the recent recession. The aim of the program is to offset destabilizing fiscal actions of State and local governments during recessions and, in particular, to maintain basic services customarily provided with the emphasis placed on the wages and salaries of public employees.

Antirecession assistance is just one of several deral programs (including the Comprehensive Employment and raining Act, the Public Works and Economic Development Act, and the Local Public Works Act) that utilize national and local unemployment rates to (1) trigger Federal activity, (2) determine the extent of Federal assistance to be provided, and (3) determine the distribution pattern of aid to State and local governments. Indeed, title II is the smallest of such programs, which in aggregate will distribute approximately $16 billion in calendar year 1977. But the objectives of each program are different; therefore, for reasons of clarity and the statutory requirement that we evaluate this particular program, this report focuses primarily on antirecession assistance.

Although there is a certain fuzziness or possible internal inconsistency in the stated objectives of the antirecession assistance legislation, we believe that a thorough program evaluation requires that we determine, to the extent possible, the objectives of the legislation and assess the program in light of those objectives. Thus, this evaluation of the antirecession assistance program focuses on three basic questions. The first of these issues is the extent to which the Congress wishes to use the State and local sector as a vehicle for fiscal stimulation and the appropriate trigger for turning such stimulus on and off. The second concerns the problem of effective targeting of the assistance; that is, how to allocate aid to those State and local governments most severly affected by a national recession. The third question concerns both the distinction between recession-related budgetary difficulties of State and local governments and their long-term (secular) economic problems and the appropriate allocation scheme for ameliorating long-term problems. For purposes

of evaluation, the report draws a clear distinction between recessionary and secular influences on the financial position of State and local governments. In practice, these influences often tend to reinforce one another.

STATE AND LOCAL BUDGET PROBLEMS

An evaluation of antirecession assistance must take into account the financial situation of State and local governments as well as overall fiscal policy objectives of the Federal Government. Almost all State and local officials face difficulties in developing balanced annual budgets which meet the demand for public services. It is important to determine the extent to which these difficulties represent serious fiscal problems (that is, the inability to provide legally mandated or essential services) rather than merely painful choices between competing perceptions of the public interest.

State and local budget difficulties have both expenditure and revenue components. On the expenditure side are demands for increased public services as well as recent inflationary pressures on operating costs. On the revenue side are both economic and political limits to the feasibility of broadening the tax base and increasing tax rates. Both expenditure and revenue difficulties are especially severe in older communities. While State and local officials have identified new sources of revenue and increased the rates of existing taxes, they have also tried to limit expenditure growth most often through curtailment of capital expenditures and maintenance and through hiring freezes and sometimes layoffs of public employees.

The Federal response

Over the past 20 years, Federal funds have risen from 10 percent to nearly 25 percent of the revenues available to other governmental units. An important component of this increase has been the General Revenue Sharing program which provides approximately $6 billion per year to State and local governments.

The 1974-75 recession highlighted the budget problems of State and local governments, which resulted in a presumption that the recession was the major cause of those difficulties In addition, the recession served to underscore the relationship between the performance of the national economy and the economic performance of the State and local sector, with impacts on both expenditures and revenues of that sector.

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In some jurisdictions, the recession was undoubtedly the source of major problems. For others, however, the recession-related problems were relatively slight. And for a third group, to attribute the fiscal problems primarily to the recession, with the implication that an improvement in the national economy will ultimately resolve these difficulties, may be to fail to understand the real source of the problems--long-term economic decline.

OVERVIEW OF THE REPORT

The first part of the report deals with the stabilization aspects of the program and addresses the problem of optimal timing (triggering) of the program funds for counter-recessionary purposes. It also estimates the overall macroeconomic impact of the legislation. In addition, it includes an analysis of the issues to be addressed in arriving at an empirical measure of the fiscal behavior of the State and local sector during a recession.

The second part of the report concerns the problems associated with directing the funds to those jurisdictions having the most severe needs (targeting) and provides an analysis of the overall effectiveness of the antirecession assistance program in targeting funds efficiently.

In May 1977, as part of the Tax Reduction and Simplification Act of 1977, the Congress modified and extended the authorization for antirecession assistance. Title VI of that act extended the program through September 30, 1978, and increased the quarterly authorization as well as the authorization for the entire program. The timing and targeting of the original legislation were left unchanged. Thus, the analysis of these elements of the original program are applicable to the current version.

CHAPTER 2

THE TIMING OF ANTIRECESSION ASSISTANCE

TIMING OF THE STIMULUS

To serve as an effective stimulus during a recession, title II funds should be provided when the economy is weakening and creating conditions which force State and local governments into destabilizing behavior (that is, increasing taxes or cutting expenditures at the same time that the Federal Government is attempting to stimulate the economy through tax cuts and expenditure increases). Conversely, the funds should be withdrawn when the national economy is recovering and additional stimulation is no longer required or when such stimulation would begin to fuel inflation.

Any automatic economic stabilizer should be turned on and off by a "trigger," which is an economic variable closely related to changes in overall economic conditions. An effective trigger should be a variable whose timing is also coincident with changes in the fiscal conditions of State and local governments. Moreover, the trigger must have a critical level at which funds are provided when the recession is sufficiently severe and withdrawn when recovery has progressed to the point where further stimulation is not warranted. The present program uses the national unemployment rate as the trigger variable, with a level of 6 percent as the critical value for turning the program on and off.

Advocates of such automatic stabilizers as the antirecession program argue that stabilizers are an effective countercyclical tool because they go into operation more promptly than discretionary policies. But there is a danger if the trigger chosen for the automatic stabilizer does not turn the program on and off at appropriate times. If the program turns on too late or turns off too soon, the program may not provide sufficient stimulus.

Evaluation of the trigger for the antirecession assistance program is complicated by differences in opinion regarding effective timing, particularly in regard to turning the program off. Should the program be turned off only after the economy has undergone substantial recovery and is approaching full employment, or should the program be turned off sooner to preserve fiscal discipline and to reduce the potential for inflationary pressures? However that question is answered, there seem to be two essential elements for any program of antirecession assistance. First, after the program is turned

on, the amount of assistance distributed should increase as the level of national economic activity declines, that is, as the recession becomes more severe. Second, the program should turn off when the level of economic activity reaches some predetermined recovery level.

The unemployment rate as trigger

An analysis was made of the 6-percent unemployment rate as a trigger for the program, and its relationship to the National Bureau of Economic Research peaks and troughs of the four most recent recessions. In each case, the trigger would not have turned the program on until well into the downturn. In the case of the most recent recession, this trigger maintains the program well into the recovery. As a result of structural changes in the national labor markets, which include much higher participation rates for women, the attainment of unemployment rates at 6 percent or below may be difficult to achieve without socially unacceptable rates of inflation.

Alternative triggers

A similar analysis on other economic variables compared their behavior as triggers with that of the 6-percent unemployment rate. If the full employment gap (the difference between the potential and the actual output of the economy) was used, the program would have been turned on earlier. If a two-quarter increase in the gap were required to start the program, this trigger would have started the program at or before the cycle peak, that is, at the beginning of or just before the downturn. But the use of this trigger also presents problems turning the program off requiring some reconciliation between those who wish to continue the program until full recovery is achieved and those who fear the inflationary consequences if antirecession assistance is not discontinued at an earlier point in the recovery.

Similar analyses were performed using the index of production, the level of real private wages and salaries, and the level of real personal income. In all cases, a consecutive two-quarter decline in the variable acted as the program trigger. Again there were problems associated with the suggested alternatives, particularly from the perspective of those who favor continuation of an antirecession program until full recovery has been achieved.

Findings regarding alternative triggers

None of the alternative variables suggested for use as
a trigger in such a program reconciles the two competing views
as to the appropriate timing in the use of Federal funds to
stimulate the economy through assistance to State and local
governments. The present use of a national unemployment rate
of 6 percent as an antirecession program trigger is consist-
ent with the full recovery approach but not with the partial
recovery approach.

MEASURING THE MACROECONOMIC IMPACT OF TITLE II

There is reason to believe that either increased direct
Federal spending or Federal tax reductions would have a more
rapid impact on the economy during a recession than using
the State and local sector as an intermediary. The indirect
stimulation through the State and local governments, as in
title II, is burdened by a number of built-in lags. Among
these are the delays resulting from the collection of data
from the potentially eligible jurisdictions, the calculations
of program allotments, the payment process, and the decision
process by the State and local governments before the money
can be spent.

An attempt was made to estimate the impact of title II
payments on the unemployment rate, on GNP, and on the number
of jobs "created" in State and local governments per billion
dollars of program expenditure. The DRI macroeconomic fore-
casting model was used to develop these estimates. While
there are limitations to the validity of these estimates,
the findings are worth noting. There appears to be a billion
dollar increase in GNP by the third quarter after startup of
the program but no further impact. State and local govern-
ments do increase their expenditures slowly, but at no time
does the increase reach even 50 percent of the sum distrib-
uted; most of the additional funds initially increase the
surplus or reduce the deficit of the State and local sector.

Interestingly, this stimulation finding is consistent
with recent national income accounts data on the surplus/
deficit position of the State and local sector of the economy.
The impact of the recession is documented by the record 1975
aggregate deficit of $6.2 billion. However, beginning in the
third quarter of 1976 and continuing through the last quarter
for which data are available (the second quarter of 1977),
the sector has achieved a net surplus in each quarter. This
surplus has been generated by governments holding expendi-
tures nearly constant while receipts were rising in response
to improving economic conditions.

Thus in the short run antirecession assistance has been accompanied by the augmenting of surpluses. By itself, this does not mean that the program had little stimulative effect. To the extent that this use of title II funds contributes to the rapid accumulation of surpluses, thus reassuring State and local officials, and allows anticipation of a return to more normal rates of growth in aggregate expenditures, the program will have increased the pace of recovery.

While it can be argued that it is politically more feasible to build surpluses by using Federal funds rather than by further increasing taxes or cutting expenditures, still to the extent that the title II funds substituted for such tax hikes or spending cuts the net impact of the program was stimulative.

Simulations of alternative Federal stimulative policies, that is, tax reductions or increased direct expenditures, produced small reductions in the national unemployment rate and increases in employment of almost twice the magnitude of the grants-in-aid program. However, State and local governments under these alternatives achieve only small improvements in their net financial position, and each of these alternatives eventually generates a small increase in the rate of inflation.

Finally, whatever the stimulative impact of title II (or any proposed alternative), the efficiency issue associated with the system of allocation of assistance remains a major component of a comprehensive evaluation of the program.

DESTABILIZING ACTIONS BY STATE AND LOCAL GOVERNMENTS

During the period 1960-75, the State and local sector has been growing faster than any other major sector of the economy. The result of this rapid growth is that the share of total GNP attributable to State and local activities has increased from 6.1 percent in 1956 to 13.7 percent in 1976, a level that is 70 percent higher than that of the direct Federal share of GNP.

Of these increased State and local budgets, 25 percent has been financed by Federal aid. In addition, State and local governments' reliance on personal and corporate income taxes and on general sales taxes has increased. These sources of revenue are much more sensitive to fluctuations in national economic activity than are the more traditional property taxes.

The combination of these two trends has created a situation of concern during periods of economic downturn. If State and local revenues are seriously affected by a recession, the

sector is a sufficiently large component of the national economy that its budget actions could have significant economywide impacts. The economic sensitivity of State and local revenues, possibly leading to the drawing down of surpluses, expenditure cuts, and tax increases, generated renewed concern for the fiscal behavior of the State and local sector during the 1974-75 recession.

The cyclical behavior of State and local governments

The total effect of State and local government fiscal behavior should be assessed by considering both the revenue and expenditure sides of the budget. But the mere size of surpluses or deficits is not sufficient to explain the economic activity of the sector, since it does not distinguish between those activities over which the decisionmakers have control and those over which they have no control. For example, decreased personal income tax receipts or increased welfare expenditures resulting from a recession can be labeled automatic or nondiscretionary. The predicted effect of these automatic changes is countercyclical--working to dampen the extent of the downturn. In contrast, changes in State and local revenue collections resulting from deliberate changes in tax rates or bases, as well as deliberate changes in expenditures, can be labeled discretionary changes. Such changes may work to increase the seriousness of the downturn. This distinction between automatic and discretionary components of the budget is important for understanding the behavior of State and local governments during a recession.

A decrease in the level of economic activity automatically causes nondiscretionary changes in the budget; revenues are lower than expected and expenditures higher. These changes may then lead governments to make discretionary changes in the budget, such as drawing down surpluses, borrowing, raising taxes, or cutting expenditures. The automatic part of the budget is the driving force, and changes in the discretionary parts of the budget are responses to changes in the automatic part. A similar pattern in the opposite direction occurs during an increase in economic activity. In this way, changes in the level of economic activity indirectly cause changes in the discretionary parts of State and local budgets.

State and local budgets conversely have an impact on the level of economic activity. This impact is the sum of the automatic and the discretionary parts of the budget. The net effect, of course, depends on the sensitivity of automatic receipts and expenditures to changes in the level of economic activity and the magnitude of discretionary responses to these automatic changes, given the legal and

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financial ability of governments to borrow and the level of their accumulated surpluses.

A historical review of State and local budget behavior

Recent concerns that the State and local sector of the economy may behave in a procyclical manner, intensifying problems associated with Federal efforts to stabilize the economy, revive a concept first popularized in 1944 and labeled the "perversity hypothesis." During the 1960s, this hypothesis was rejected in favor of another that argued that State and local government behavior was becoming increasingly countercyclical. Available evidence indicates that the procyclical behavior by some State and local governments during the 1974-75 recession was the product not simply of the recession but of the combination of recession and inflation.

The Joint Economic Committee survey

A recent survey by the Joint Economic Committee (JEC) provides a first approximation of the magnitude of destabilizing State and local tax and expenditure changes. However, the JEC survey did not establish the overall direction of change for total State and local receipts and expenditures during the recession; rather it demonstrated only that the sector was at least less countercyclical than it otherwise might have been. This is an important finding and a cause for concern but not necessarily an indication that the sector generally behaves in a procyclical manner.

There are two other problems of note with the JEC study. First the survey did not distinguish between discretionary and nondiscretionary budget changes, which means that the study does not succeed in measuring the influences of downturns in national economic activity on the State and local sector. Second, the study did not consider the extent to which the tax increase or expenditure cuts may represent a response to long-term trends rather than to a cyclical downturn in the national economy.

The problem in perspective

The limitations of the JEC survey make it difficult to determine the appropriate level of Federal response to recession-based fiscal problems of State and local governments. It is also difficult to determine the extent to which State and local budget cuts are socially desirable in that they squeeze "fat" out of budgets that have grown too large. This creates problems for the efficient distribution (targeting) of antirecession assistance as well as for determination of the optimal size of the total program.

CHAPTER 3

TARGETING ANTIRECESSION ASSISTANCE--

THE DISTRIBUTION OF TITLE II FUNDS

INTRODUCTION

The distribution formula allocates antirecession assistance to State and local governments using a formula based on the jurisdiction's General Revenue Sharing allocation adjusted for the extent of unemployment in excess of 4.5 percent. It was partially on the basis of its monthly availability and its perceived timeliness that the level of unemployment was selected as a weighting factor measuring recessionary impact. Another reason for using unemployment data was their availability for a large number of jurisdictions, approximately 1,500.

But there are problems associated with the use of unemployment rates as a basis for targeting antirecession assistance. The first of these is the questionable reliability of the data themselves, particularly those assigned to jurisdictions of less than 50,000 population. Also, there are questions regarding both the sensitivity of the unemployment level to short-run changes in the level of economic activity and the extent of State and local government budgetary disruption resulting from a recession.

The title II formula was constructed (1) by using the difference between the local unemployment rate and the norm of 4.5 percent as a measure of the jurisdiction's "excess unemployment," (2) by establishing a 4.5 percent local unemployment rate as a cut-off below which a jurisdiction would receive no assistance, and (3) by using this derived "excess unemployment" indicator as a weight to be multiplied by the local General Revenue Sharing allocation.

The present distribution of antirecession assistance funds

Our assessment of the distribution of title II funds employs an index system in which the allocation to a jurisdiction is related to its allocation of General Revenue Sharing Funds. On the State level, the most striking aspect of the present allocation is the great range of payments among the States when compared to the General Revenue Sharing distribution. With some exceptions, the States with the highest indexes are populous, primarily urban States, while those

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with the lowest indexes are smaller, heavily agricultural States. On a regional basis, the States of the Northeast receive proportionally the greatest amount of assistance, and the States of the North Central and South receive proportionally the least.

A sample of local jurisdictions indicates that the major beneficiaries under the present targeting formula are the largest jurisdictions. But in comparing the allocations to different types of local communities (growing, formerly growing, and declining cities; various types of suburbs; and rural communities), the most notable finding is the variance within each category of communities.

For the cities and the rural jurisdictions, this variance is indicative of the substantial differences in economic conditions in different parts of the country and of the impact of those differences on unemployment rates. The figures for the various categories of suburbs similarly reflect the economic variations across the country. But they also are a function of the assignment of the same unemployment rates to large numbers of communities in the same metropolitan area, no matter what the differences in economic conditions and actual unemployment levels among those suburbs. The use of these assigned unemployment rates also creates or exaggerates differences among similar types of suburban communities in different metropolitan areas.

These factors greatly limit the conclusions that can be drawn from the sample. Certain tendencies can be highlighted, however. The most important of these is that declining cities consistently benefit under the title II formula in comparison with other cities and with suburban and rural jurisdictions. Also, large cities fare relatively better under the present formula, with few exceptions, than do the suburban communities of the same metropolitan area.

An alternative distribution formula

The original antirecession assistance proposal called for the use of the change in unemployment rates for a particular jurisdiction between the peak of the cycle and a specific recessionary quarter for which funds have been appropriated. Conceptually, this method of utilizing the unemployment rate should be more sensitive to the actual impact of the recession than is the use of the unemployment rate in excess of 4.5 percent, since the change in unemployment from peak to trough would to a large extent hold constant the impact of secular trends on the unemployment rate.

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A hypothetical distribution based on comparative unemployment data (available for only 22 States) indicates that the use of change in unemployment rather than unemployment in excess of 4.5 percent would result in a very different allocation of antirecession assistance funds. Specifically, most of the States of the South would receive proportionally much more assistance under a weighting scheme utilizing changes in unemployment than they would under General Revenue Sharing, while most of the States of the Northeast would receive substantially less than they would under General Revenue Sharing. This is virtually the opposite result of the present targeting formula.

Although changes in unemployment levels may not be the best indicator of short-term changes in economic activity, they are more sensitive to cyclical changes than are absolute levels of unemployment in excess of 4.5 percent. If the objective of the Congress is to ameliorate the impact of the recession on the State or local economy, a formula weighted by changes in unemployment would be more appropriate than the present formula. However, such a formula would not be sufficient as a targeting device because changes in unemployment rates are not a sufficient measure of the recession's impact on the fiscal condition of State and local governments.

BUDGETARY DISRUPTION: A CONCEPTUAL
APPROACH TO TARGETING ASSISTANCE

If a major purpose of antirecession assistance is to ameliorate the impact of an economic downturn on State and local governments, that aid should be based on the actual budgetary disruption suffered by the jurisdictional government as a result of the recession. Cyclical budgetary disruption should be measured as the automatic changes in expenditures and revenues caused by economic recession. These changes should not include secular phenomena nor discretionary changes undertaken by State and local governments. In brief, it is suggested that each jurisdiction's need for compensation be determined as a function of its recession-induced increase in transfer payment expenditures (the nondiscretionary expenditure changes) and some portion of the absolute value of its recession-induced decrease in revenues (the nondiscretionary revenue changes). A calculation based on this criterion can be carried out and the results compared with those obtained with the present targeting mechanism.

Cyclical components of the budget

On the expenditure side, the automatic changes resulting from a recession are concentrated in the major transfer programs: Aid for Families with Dependent Children (AFDC), Medicaid, General Assistance, Supplementary Security Income, and Unemployment Compensation. Because State and local budgets are relatively unaffected by increased expenditures for Unemployment Compensation and Supplemental Security Income and because data limitations prevent inclusion of General Assistance payments, this analysis employs changes in payments for AFDC and Medicaid as the measure of recession-based expenditure disruption.

On the revenue side, the single major source of budgetary disruption is the jurisdiction's own tax revenues. The impact of a recession on user charges; on utility, liquor store, and insurance trust fund revenues; and on Federal aid is less direct and more difficult to measure. For that reason, this analysis employs changes in the jurisdiction's own tax revenues as the measure of recession-based revenue disruption.

Estimates of cyclical budget disruption

The calculations of budgetary disruption made in this analysis should be considered preliminary; further work would be necessary for a complete analysis of the concept.

In terms of expenditure disruption, most States do not require local financial participation for the non-Federal share of AFDC or Medicaid payments. On the revenue side, local governments in general have less cyclically sensitive tax revenues because they tend to rely heavily on the property tax. (Some large local jurisdictions are exceptions to this generalization because they have instituted local income or sales taxes.) In view of these considerations, a calculation of budget disruption would likely show local governments to be considerably less cyclically sensitive than States. This argument suggests that the title II allocation of two-thirds to local governments and one-third to State governments is not appropriate for effective targeting of anti-recession assistance.

A comparison of the incidence of budgetary disruption in the 50 States with allocations to those States under the General Revenue Sharing formula demonstrates a wide discrepancy between the impact of a recession on States and the manner in which General Revenue Sharing funds are allocated. This suggests that the Congress was correct in deciding that

the General Revenue Sharing formula is inadequate for target-
ing funds on the basis of the recession's impact on State and
local budgets.

A similar comparison of the incidence of budgetary dis-
ruption in the 50 States with allocations to those States
under title II suggests that the present targeting scheme
for antirecession assistance also does not closely correspond
to the measured impact of the recession on State and local
budgets. This leads to the conclusion that the level of
excess unemployment is not a particularly effective measure
of the actual impact of an economic downturn on State and
local budgets and thus is not an effective device by which
to target antirecession assistance. A direct measure of
cyclical budgetary impact would be a more appropriate
mechanism for allocating antirecession assistance.

CHAPTER 4

AN ANALYSIS OF SECULAR BUDGETARY DISRUPTION

One of the difficulties in evaluating the antirecession assistance program is determining whether the program provides aid to State and local governments that are adversely affected by economic recession or to those units adversely affected by long-term economic decline or some combination of the two. Much of the State and local political pressure for Federal aid is prompted by secular decline in the economies of many central cities and some States and the accompanying budgetary burdens.

POLICY PERSPECTIVES ON SECULAR DECLINE

Secular decline is an economic process which has generally not been experienced in advanced industrialized countries, except in rural and depressed areas where development relied upon such land-based production as agriculture or mining. For the most part, therefore, deliberate Federal regional growth policies have been predominantly tailored for rural areas: the Appalachian Regional Commission and the Tennessee Valley Authority.

Until quite recently, rural economic stimulation programs had no counterpart urban economic growth program aimed at overall strengthening of the local economy. Even now, with the exception of the Community Development Corporation program, urban programs tend to be targeted toward specific structural problems like poverty, low labor productivity, poor housing, and diminished public services.

THE PUBLIC SECTOR IMPACT OF SECULAR DECLINE

The decline in population and economic activity in central cities creates serious problems for local budgets. Even if decline leads to lower long-run average costs for public services, a painful transition period accompanies economic decline, during which average costs may actually rise. Coupled with a diminished tax base, such transitional costs can create severe budget problems for local governments.

This adjustment problem is primarily a result of the fixed nature of public sector capital stock, which cannot be retired or written off without budgetary consequences. In the case of urban decline, the exodus of jobs and population produces significant diseconomies in the public sector as the city's physical plant operates below capacity. Furthermore,

the maintenance costs of the capital stock, constructed with a denser population in view, fall on the resources of fewer employers and residents.

The public sector budget experiences consequences of economic decline in several ways. First, large-scale outmigration results in unused capacity. Frequently, bonding for this physical plant is not yet paid off and, despite the decline in usage, the fixed charges remain at their earlier levels. Second, the loss of jobs, population, and sales depresses the levels of revenue the city is able to raise from property, income, and sales taxes. Moreover, as budget pressure results in public employment cutbacks, higher taxes and poorer services, more people and employers are encouraged to leave and the problems are exacerbated.

FEDERAL POLICY OPTIONS IN RESPONSE TO SECULAR BUDGETARY DISRUPTIONS

There are numerous Federal policy options that could be pursued in response to this problem. The Federal Government could ignore the secular disruption and leave the local government to respond in a manner that will accelerate the decline. At the other end of the spectrum of policy options, the Federal Government could assume the costs of maintaining services at previous levels.

Between these two extremes, one option is for the Federal Government to adopt a policy that will prevent the second round outmigration in response to an initial budgetary deterioration. This view suggests that in the long run State and local expenditures should decline in proportion to tax revenues, but it would not require expenditures to decrease as quickly as tax revenues in the short run. Thus, the Federal Government would provide short-run aid to declining jurisdictions during periods of decline but would withdraw such aid as expenditures decreased in proportion to tax revenues. Such transition aid would be similar in concept to transitional aid to unemployed workers through such Federal programs as job retraining or tax relief for relocation.

An alternative option would be for the Federal Government to compensate the local jurisdiction fully for the excess capital costs and marginal tax increases incurred as a result of outmigration of private activities. Such a policy could be implemented in conjunction with some sort of device that would induce firms to consider public capital costs in their relocation decisions in the same way that they now consider private capital costs. An example of such a device

would be the levying of a "fine" on relocating firms in proportion to the costs of the public capital that would go unused due to their relocation. This option would be aimed at prevention of initial, as well as second round, outmigration.

A MEASURE OF SECULAR DECLINE

To fashion a comprehensive public policy for addressing secular decline, a measure of the phenomenon is needed. Since there is no effective measure of total regional output (the local equivalent of GNP), we are required to use one or more inputs as the variables. For this analysis, we have selected changes in employment as a good proxy for economic growth or decline.

Data comparing the growth in employment in each State with the national growth in employment over the same 10-year period indicate that the States of the Northeast and North Central regions have had much smaller increases in employment than the States of the South and the West. Similar data for the sample of local jurisdictions mentioned earlier indicates that declining cities and rural communities had proportionally the least amount of growth in employment from 1960 to 1970. Indeed, every one of the declining cities (defined as those experiencing a population decline) had an absolute decrease in employment over the 10-year period. Also noteworthy are the differences found among types of suburbs. Specifically, stable and working class suburbs had employment growth rates below the national average while all other types of suburbs had employment growth rates substantially greater than the national level.

ANTIRECESSION ASSISTANCE AND SECULAR DECLINE

A comparison of the actual distribution of antirecession assistance funds to the measure of secular changes shows clearly that the title II allocation formula tends to assist jurisdictions experiencing long-term economic problems. Of particular note is the success of the title II formula in directing funds to States of the Northeast region and to declining cities as a group.

But the comparison also documents enough exceptions to this general relationship to demonstrate that the title II allocation system is not fully reliable in targeting aid to governments of communities experiencing secular decline. On the State level, for example, the present approach provides substantial assistance to States in the West, which have had rapid growth in employment, but little to those of the North

Central region, which have experienced less than average growth in employment. On the local level, the title II formula does not differentiate among various types of suburban communities even though rates of employment growth vary substantially among them. Also, the present formula is unresponsive to the declining economic situation of rural communities.

This analysis indicates that the title II formula, based on unemployment rates in excess of 4.5 percent, is somewhat effective at targeting funds to jurisdictions experiencing secular decline. But its utility as a targeting mechanism is seriously diminished by the use of unemployment rates as the indicator. First, unemployment is not as valid a measure of secular phenomena as changes in actual employment. Second, unemployment data, particularly for smaller jurisdictions, is not as reliable as employment data. Finally, under title II, the amount of funds to be distributed diminishes as the national unemployment rate decreases and terminates when the national rate goes below 6 percent, despite the fact that jurisdictions facing secular problems will continue to experience many of those same problems after the national economy has fully recovered.

Thus, for both conceptual and data reasons, the title II allocation formula has serious limitations. We believe that a formula specifically designed to aid areas of secular decline and based on a conceptually more direct measure of that decline (such as a relative decline in employment) would be more successful in directing assistance to jurisdictions facing long-term economic difficulties.

CHAPTER 5

SUMMARY

SUMMARY OF FINDINGS

1. The present antirecession assistance program is not a particularly effective tool for stimulation of the economy during a downturn. There is serious disagreement regarding the appropriateness of the program's trigger which, in some policymakers' view, is not sufficiently sensitive to cyclical changes. We reviewed several alternative triggers, however, and did not find one which was markedly superior.

2. Although recession does not necessarily lead to State and local destabilizing actions, the combination of recession and inflation may provoke a response from those governments that runs counter to Federal fiscal policy.

3. The present antirecession assistance formula does not allocate aid in proportion to the needs of State and local governments as measured by recession-induced budgetary disruption. This reflects the fact that the level of excess unemployment is a measure of limited statistical reliability for jurisdictions and, even if it were reliable, it would not necessarily correspond to the impact of a recession on State and local government budgets.

4. The antirecession assistance allocation does roughly correspond to the incidence of secular decline in a jurisdiction; but if it is the intent of the Congress to provide assistance to meet such problems, a formula more specifically tailored to secular decline can be devised through use of an allocating mechanism that measures only the long-term effects rather than the combined effects of cyclical and secular difficulties.

SUMMARY OF ISSUES

There are three important policy issues raised in this report. The first concerns the timing of the program expenditures. The choice of a trigger requires the Congress to decide the extent to which it wishes to use the State and local sector as a vehicle for stimulating the economy during a recession. It also requires a decision on when the stimulus should start and how long into a recovery it should continue. Little is known about the relative efficiency of different stimulative tools, and the issue is not resolved in this report.

Targeting is the second major issue. Title II uses unemployment rates for both triggering and targeting. We believe this has significant disadvantages in terms of both statistical accuracy and conceptual appropriateness, given the goals of the program.

We believe a different basis for targeting antirecession assistance can be developed, one that relies on identifying those elements in the budgets of State and local governments that are most severely affected by an economic downturn. Certain taxes that are sensitive to income and certain major income transfer programs appear to constitute the principal sources of "budget disruption." We believe that an allocation mechanism could be designed to target money on the basis of disruption resulting from fluctuations in these elements of revenues and expenditures. More work would be required to develop the details of such a system.

The third issue also involves the present title II targeting mechanism and its lack of distinction between cyclical and long-term economic problems. The present formula appears to be more responsive to long-term decline of cities and regions than to the problems resulting from cyclical budget disruption. If this is determined to be an appropriate objective, however, we believe that a different method of allocating Federal funds would be more responsive to the problem.

AGENCY COMMENTS

The Treasury Department commented (see app. II) that the report provides a useful discussion of a number of conceptual issues surrounding the antirecession fiscal assistance program as contained in title II of the Public Works Employment Act of 1976. Treasury does not believe there are any avoidable delays in processing and availability of unemployment data used to determine allocations for the program.

Treasury agrees with the conclusion of the report that there are lags in program impact which result from delays on the part of States and localities in spending funds. Treasury attributes these delays to the realities of State and local budgetary processes.

Treasury concurs in the report's discussion of program triggers and agrees that it provides insight into the complexities of designing such a program. In regard to the targeting issue, Treasury argues that it is difficult to reconcile economic stimulus goals with State and local budgetary disruption

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due to economic recession. However, Treasury does agree with our finding that the formula has been responsive to the needs of areas suffering from long-term economic decline.

OTHER REVIEW

A panel of recognized experts from government, the academic community, and the private sector was convened to review and comment on the report in draft form. The panel comments were taken into careful consideration in the preparation of the final report.

TECHNICAL ANALYSIS

This appendix represents a considerably longer and more technical discussion of the analysis summarized in the preceding chapters. All of the major points and much of the discussion in the main body of the report is repeated here and additional detail is provided. The appendix may be read in its entirety or those portions dealing with aspects of the analysis of particular interest to the reader may be singled out for separate attention.

CHAPTER 1

INTRODUCTION

Title II of the Public Works Employment Act of 1976 (known as the antirecession assistance or countercyclical revenue sharing program) represents one component of the Federal Government's response to its perception of the fiscal problems of State and local jurisdictions. This program must be evaluated in the general context of the financial situation of State and local governments, as well as in light of the Federal Government's overall fiscal policy objectives.

STATE AND LOCAL BUDGETARY PROBLEMS

Almost all State and local officials face difficulties in putting together annual budgets which respond to the demand for public services and which meet the legal requirement for revenue to equal or exceed expenditures. These officials recognize the reluctance of taxpayers to increase the pro- portion of their incomes levied to cover the costs of govern- ment operations. It is essential to ascertain the extent to which these budgetary difficulties represent serious fiscal problems (in the sense that the governments involved do not have sufficient resources to provide services that are either legally mandated or basic and essential to the community's well-being) rather than merely painful choices between com- peting perceptions of the public interest.

The perceived budgetary difficulties confronting State and local officials have both expenditure and revenue com- ponents. On the expenditure side, there are demands for substantially increased public services and for an alloca- tion of more services to meet the needs of low-income residents. The budgetary impact of these increased demands for public services has been intensified during the past several years by inflation, which has increased the costs of providing both traditional and expanded services. The most serious effect of inflation is in the area of public employee wages, particularly at the local level where serv- ices tend to be labor intensive. This combination of gen- eral inflation and increased labor costs has been a major component in creating expenditure pressures on State and local governments.

On the revenue side, State and local governments have substantially increased their tax efforts in order to generate sufficient income to pay for expanded and improved--and more costly--public services. These increased efforts have included

the introduction of new kinds of taxes, as well as the imposition of higher rates for existing taxes. Many local governments, for example, have substantially increased their property tax rates but at the same time have proportionally decreased their reliance on the property tax by instituting other forms of broad-based taxes, especially local sales and income taxes.

Despite this increased effort, many State and local jurisdictions have difficulty generating sufficient revenue to keep pace with rising expenditures. At the local level, charter and statutory limitations on tax rates--as well as, in many instances, the requirement of voter approval for tax rate increases--limit the ability to increase revenues to keep pace with the increased demand for and cost of public services. Even where there are no legal impediments to tax increases, there are important political limits on this course of action.

The problem of generating sufficient revenues has been especially severe in older communities. These jurisdictions have been losing population and jobs and have experienced only minimal growth--if not actual decline--in their tax bases. Since the costs to these governments of providing public services have not decreased along with the deterioration of the tax base, the fiscal pressures have become quite intense.

The response of State and local officials to this financial and political dilemma has been, wherever possible, to favor limits on expenditure growth rather than tax increases. Hiring freezes in many departments, including police and fire, are common; and some jurisdictions have even had to resort to layoffs of public employees in their efforts to balance the budget. Many governments have been forced to curtail repair of streets, maintenance of public buildings, and replacement of equipment, as well as to decrease their support for recreation, parks, and cultural institutions. And yet, most have still found it necessary to seek new sources of revenue in order to achieve balanced budgets.

THE FEDERAL RESPONSE

These budgetary difficulties have been apparent at the State and local levels since the beginning of the 1970s. However, when the Congress enacted General Revenue Sharing in 1972, a program was set in place which transferred approximately $6 billion of Federal funds per year to State and local governments. The program reflected the outcome of a

debate which focused on the long-term advantages of
transferring Federal funds to State and local governments,
and it had the effect of temporarily alleviating many of
these budgetary problems.

The onset of the 1974-75 recession once again empha-
sized the budgetary difficulties of some State and local
governments, contributing to the presumption that the reces-
sion was the major cause of these difficulties. In addition,
the recession served to highlight the interrelationships
between the economic performance of the State and local sec-
tor and the performance of the national economy. State and
local government expenditures, revenues, and budgets inter-
relate with changes in the level of national economic ac-
tivity. State and local expenditures accounted for 13.2 per-
cent of the Gross National Product (GNP) in 1976, and changes
in these expenditures have a major impact on GNP. As a result
of this new awareness, the antirecession assistance program
was conceived in part as a short-run stabilization tool.

Any evaluation of the antirecession assistance program
must consider the factors that underlie the interrelationship
between State and local government fiscal behavior and the
level of national economic activity. An increase in State
and local revenues (mainly tax collections) can lead to
further declines in economic activity (be contractionary) if
the economy is in a recession. This is referred to as a
procyclical action--one which tends to extend the business
cycle. An increase in State and local government expendi-
tures can be expansionary if the economy is in a recession.
This would be considered a countercyclical action.

A recession brings changes in the level of personal in-
come, sales, corporate profits, and other economic indicators
and can lead to declines in State and local revenues. From
the individual government perspective the combination of
recession and inflation in 1974-75 intensified the same un-
comfortable budgetary choices that had plagued them a few
years earlier. For many jurisdictions what counted was not
whether their budget balancing actions would impact negatively
on the national economy but whether a Federal-aid program
could be efficiently designed so as to relieve them of the
burden of having to make socially undesirable expenditure
cuts or tax rate increases. Because of these more micro con-
cerns, the antirecession assistance program has had to be
concerned with both the timing of expenditures for stabiliza-
tion purposes and the targeting of expenditures to achieve
efficiency goals.

In evaluating the Federal response to the difficulties of particular State and local governments, it is essential to recognize the substantial economic, political and philosophical differences among the thousands of jurisdictions across the country. Tax base, tax effort, and the potential for growth vary significantly among States and among communities within each State. The legal and political contexts in which budget and tax decisions are made also vary substantially and have a significant impact on the ability of State and local officials to deal with budgetary difficulties. Finally, differences in philosophy regarding the proper role of government and differences in community taste for public services play an important role in determining the local response to budget problems.

In some jurisdictions, the recession was undoubtedly the source of some significant problems. For others, however, the recession-related problems were relatively slight and this type of Federal assistance may have placed financial burdens on the national level that could have been met on the State and local level. For other jurisdictions, to attribute their very real fiscal problems solely or even primarily to the recession, with the implication that an improvement in the national economy will ultimately resolve these problems, is to fail to understand the real source of the problems and thus, perhaps, to encourage inappropriate response to those problems.

OVERVIEW OF THE REPORT

The analysis and evaluation of the program that follows is divided into two distinct parts. The first part (chs. 2 and 3) deals with the stabilization aspects of the program, addressing the problem of optimally timing (triggering) the expenditures for counterrecessionary purposes. It also estimates, through the use of simulation techniques, the overall macroeconomic impact of the legislation. In addition, this part of the report includes an analysis of the issues that must be addressed and the problems that must be overcome in arriving at an empirical measure of the total and individual countercyclical behavior of the State and local jurisdictions. In the second part of the report (chs. 4, 5, and 6), the various problems associated with targeting these moneys are analyzed, and an assessment is made regarding the overall effectiveness of the antirecession assistance program in targeting funds efficiently. It is anticipated that for some readers targeting problems may be of more interest than the timing issues. Both sets of problems are important, and the program may not accomplish its objective if either the

timing or targeting of expenditures is inappropriate. (Note:
In May 1977, as part of the Tax Reduction and Simplification
Act of 1977, the Congress modified and extended the authori-
zation for countercyclical assistance. In title VI, Inter-
governmental Antirecession Assistance, the program was ex-
tended through September 30, 1978. The maximum amount au-
thorized for the five quarters beginning July 1, 1977, was
$2.25 billion. Furthermore, the allocation formula for each
quarter's authorization was increased to $125 million plus
$30 million multiplied by the number of one-tenth percentage
points by which the seasonally adjusted national unemployment
rate exceeded 6 percent. This increased funding makes the
evaluation in this report even more important, particularly
since the timing and targeting components of the original act
were left unchanged.)

CHAPTER 2

THE PROGRAM AND ITS OBJECTIVE

Intergovernmental antirecession assistance is a new
Federal program aimed at offsetting destabilizing fiscal ac-
tions of State and local governments during economic down-
turns. The program is the result of congressional concern
that public sector layoffs and expenditure reductions or
tax rate increases, which result from fiscal problems due
to recession and inflation, work at cross-purposes with Fed-
eral stabilization programs.

The legislation being evaluated here (title II of the
Public Works Employment Act of 1976--Public Law 94-369)
authorizes the distribution of $1.25 billion, over a 5-
quarter period, from July 1976 through September 1977, to
State and local governments for the maintenance of basic
services customarily provided with the emphasis placed on
the wages and salaries of public employees. The program
makes use of both national and local unemployment rates as
indexes of need in an attempt to assure that only govern-
mental units in areas with serious budgetary problems re-
ceive money and receive it only during times of economic
hardship.

The approach to fiscal policy embodied in the act merits
careful review because it represents a new attempt by the
Federal Government to increase the number of automatic stab-
ilizers in the economy, through use of program expenditure
formulas that are "triggered" by fluctuations in some measure
of the level of national economic activity. The potential
usefulness of the approach has been discussed for some time
in the economic stabilization literature, though usually in
terms of possible ways to automatically alter either the Fed-
deral income tax rate structure or the extent of public works
expenditures in response to fluctuations in macroeconomic
activity. Usually such proposals have economic stabiliza-
tion as their primary or only objective. In this instance,
the situation is more involved.

ANTIRECESSION ASSISTANCE AS A FISCAL TOOL

It is certainly true that State and local expenditure
cuts or tax rate increases during a recession could prove
destabilizing to the entire economy. It is equally true that
increased Federal aid to these levels of government that is
properly timed and efficiently targeted could mitigate the
destabilizing effects by preventing public sector layoffs

or tax rate increases. For these reasons, an evaluation of
countercyclical revenue sharing required an assessment of
the efficiency with which the program is able to both counter
economic recession and also maintain public services and
employment. The program may fail to achieve these objectives
if either the timing or the targeting of expenditures is in-
appropriate. Our assessment of title II begins with an anal-
ysis of the timing or triggering question.

Ideally, title II funds should be provided when the
economy is weakening and is generating conditions which force
State and local governments into destabilizing behavior. The
funds would be withdrawn when those conditions no longer apply.
The program is "turned on and off" in accordance with changes
in a national economic variable (the trigger variable) which
should be closely related to changes in overall economic con-
ditions. There are two important aspects of the trigger
variable. First, one must choose a variable whose timing is
coincident with changes in the fiscal conditions of State
and local governments. The present program uses the national
unemployment rate. Second, one must choose a critical value
for the trigger so that funds are provided when the recession
is sufficiently severe. The present program uses a 6-percent
unemployment rate as the critical value. When the actual
national unemployment rate rises above 6 percent, funds are
provided; when below 6 percent, funds are not provided. Data
on the trigger variable should be available frequently (quar-
terly or even monthly), and should be available soon after
the quarter elapses, and subsequent adjustments in the data
should be minor.

This approach is different than what is usually termed
discretionary fiscal policy in that the timing of the pro-
gram's operation is determined by some prespecified procedure
rather than by any deliberate action by policymakers at the
time of a perceived crisis.

Traditionally, the Council of Economic Advisers (CEA)
has been an advocate of automatic stabilization. Quoting
from its annual report for 1963:

> "Automatic fiscal stabilizers increased the stab-
> ility of the economy * * *. Any weakening in
> private spending will reduce incomes, causing
> tax revenues to fall and transfer payments to
> rise. Thus, disposable incomes will decline less
> than pre-tax incomes, and will be potentially
> cushioned against the decline in private demand
> * * *. The greater the extent to which a fall in

government revenues cushions the decline in
private incomes, the less the flow of spending
for output will be curtailed. Automatic stab-
ilization operates in reverse when private de-
mand increases. Additional income is generated,
but part of it is siphoned out of the spending
stream in higher payments and lower transfers."

Thus, a progressive tax structure and transfer payments
generated by unemployment compensation and welfare programs
are said to contribute to economic stability. Advocates
argue that automatic stabilizers constitute our first line
of defense against the business cycle and that automatic
stabilizers go into operation more promptly than discretion-
ary policies. According to this argument, time is not lost
in recognizing the onset of recession, in debating the most
appropriate course of action, and in enacting legislation.

Advocates also assert that so-called discretionary ef-
forts at "stabilizing" economic activity have, in practice,
contributed to instability because of the difficulties in-
herent in trying to decide on appropriate actions.

On the other hand, there is always a danger that the
trigger chosen to control an automatic stabilization program
does not turn the program on and off at appropriate times.
If the program turns on too quickly or turns off too slowly,
the program may cause or contribute to inflation. If the
program turns on too late or off too soon, the program may
not provide sufficient counterrecessionary stimulus.

There are different dispositions toward the timing of
this program, particularly toward turning it off. The
principal difference of opinion concerns the stage of the
recovery at which the program should be turned off. Should
it be turned off only after the economy has undergone sub-
stantial recovery and is approaching "full employment" (sub-
sequently called the full recovery approach)? Alternatively,
should the program be turned off somewhat sooner to preserve
fiscal discipline and to possibly prevent the inflation that
might occur if the program were left on until "full" employ-
ment" (subsequently called the partial recovery approach)?
This difference of opinion is clearly a question of differing
perceptions of the length of time the State and local sector
should be used to provide fiscal stimulus to the economy.

The different approaches may initially appear to be
consistent with different types of trigger variable. Trigger
variables can be divided into two categories, relative and

absolute. Relative variables compare the actual level of
some economic indicator with some desired level. The un-
employment rate, which compares the actual level of em-
ployment with the total size of the labor force, is a rela-
tive trigger variable, and the GNP gap is another. The
actual levels of wages and salaries, personal income, or
employment would be absolute trigger variables. There is
some indication that proponents of the full recovery approach
prefer relative trigger variables and proponents of the
partial recovery approach prefer absolute trigger variables.
Proponents of the full recovery approach argue that the
program should not be turned off so long as the unemployment
rate continues above 6 percent, and some have proposed main-
taining it until the GNP gap is reduced to levels consistent
with much lower unemployment rates. Proponents of the partial
recovery approach have maintained that the program should be
turned off when the absolute level of the variable (in real
terms) attains its maximum level of the last peak (before
the downturn started). For example, if the actual levels
of wages and salaries were the trigger variable and they
achieved their previous peaks, the programs would be turned
off. However, it should be noted that, due to growth in the
the size of the labor force and productive capacity, there
would be an increase in the full employment level of wages
and salaries, so that the program would be turned off before
full employment was reached even if the real value of wages
and salaries at the previous peak represented a full employ-
ment situation.

Technically, preferences of proponents of either the
full recovery approach or the partial recovery approach can
be satisfied by either relative or absolute trigger variables.
This is because relative variables can be easily converted
into absolute variables, and vice versa. For example, the
rate of unemployment can be converted into the level of
employment by adjusting for the size of the labor force; the
actual level of wages and salaries can be converted into a
relative variable by dividing by an estimated full employment
level of wages and salaries.

Moreover, the program can have the same timing with any
variable if the trigger value is selected appropriately. For
example, if full employment (at a 4 percent unemployment rate)
were achieved at the peak of the last cycle and the labor
force had grown by 2 percent since then, a 4 percent unemploy-
ment rate trigger level would be equivalent to a trigger level
2 percent greater than the level of employment at the last
peak. Either measure should satisfy a proponent of the full
recovery approach. Similarly, suppose that the full employ-
ment level of wages and salaries had been achieved during the

last peak, that the potential level or full employment level
of wages and salaries had increased by 6 percent since then,
but that the program was cut off when the actual level of
wages and salaries reached their last peak value--this would
be equivalent to using a relative trigger variable and setting
its value at 94 percent of the potential level of wages and
salaries at a new full employment level of output.

Operationally, however, it might be easier for proponents
of the full recovery approach to relate their perference to a
full employment level of their trigger variable, and it might
make it more salable to say the program is staying on until
the goal is achieved (that is, the program is remaining on
because the unemployment rate is above 6 percent or the GNP
gap is greater than zero). Similarly, it might be more
palatable for proponents of the partial recovery approach
to say that the program has turned off when the actual level
of wages and salaries have achieved their previous peak,
despite the fact that this is less than they could currently
attain, or to say that the actual level of employment has
achieved its previous peak, despite the fact that it could
now be higher because the labor force has grown.

For any trigger variable, the program could be turned on
or off not only by relating the actual value of the trigger
variable to a trigger level, but by considering a change in
the direction of the value of the variable. For example,
the program could be turned on if the level of wages and
salaries or the unemployment rate decreased for two consecu-
tive quarters and turned off if they increased for two con-
secutive quarters. This approach runs the danger of treating
small changes in direction the same as large changes. For
example, a naive application of the approach would have the
program turned on if the level of wages and salaries decreased
by 0.1 percent or by 8 percent for two consecutive quarters,
the effects of these two situations would be very different.
In addition, small changes in direction are more likely to
reverse themselves quickly and a naive application could lead
to rapid on-and-off changes in the program.

If the program never turned off once it was turned on
and if the dollar value of the program were constant and in-
dependent of the severity of the recession, it would be
equivalent to general revenue sharing. There seem to be two
essential elements of antirecession assistance. First, it
should turn off when the level of economic activity reaches
some predetermined recovery level. Second, after the program
is turned on, the dollar value of the program should increase
as the level of national economic activity declines, that is
when the recession becomes more severe.

ASSESSING ALTERNATIVE TRIGGERS

Alternative triggers for the antirecession assistance program have been suggested, and it seems helpful to relate each potential trigger to the common base of GNP reference cycles established by the National Bureau of Economic Research (NBER). Under the NBER classifications system, a peak is the point at which the downturn began and a trough is the point at which the economy began a new sustained rise in GNP. Defined in this way, the dates of the peaks and troughs for the business cycles from 1956 to date are:

Recession	Peaks	Troughs
1957-58	August 1957	April 1958
1960-61	April 1960	February 1961
1969-70	December 1969	November 1970
1969-75	November 1973	March 1975

Figure 1 traces the path of economic activity over the period, and the NBER cycles are delineated by two vertical lines. The first vertical line in each pair marks the peak (the beginning of a downturn); the second establishes the trough (the beginning of an upturn). For our latest and most severe post-war recession, real GNP fell from the fourth quarter of 1973 through the first quarter of 1975 and did not regain its previous peak until the first quarter of 1976.

The unemployment rate as a trigger

In three of the four cycles since 1956, the unemployment rate reached 6 percent approximately one quarter before the trough (fig. 2). During the 1969-70 recession it did not reach that level until well past the trough. Assuming a minimal lag of one month in activating the program, moneys could be expected to reach jurisdictions at about the time the economy begins its upturn. Such a trigger might hasten the recovery but seems unlikely to dampen the downturn--except insofer as the existence of the trigger causes State and local governments to alter their budget behavior during the downturn in anticipation of Federal funds.

In the present case, program expenditures did not begin until November of 1976 because funds were not appropriated until October 1976. As of April 30, 1977, approximately 50 percent of the initial program funds had been spent by the State and local jurisdictions. Apparently, with the unemployment rate as the trigger for the program, it is unlikely that the moneys will be spent within three or four

GNP IN 1972 PRICES

FIGURE 1

UNEMPLOYMENT RATE
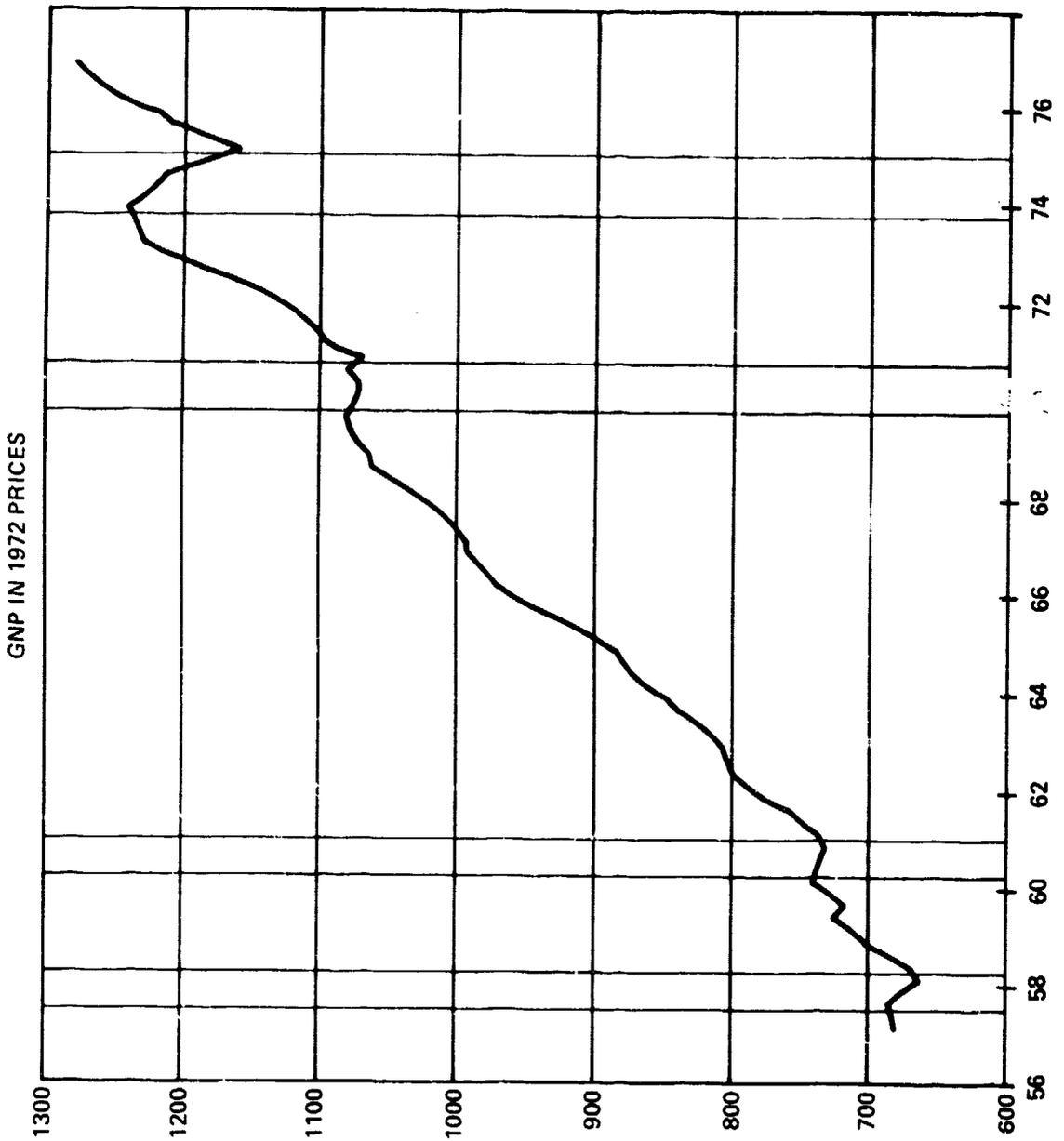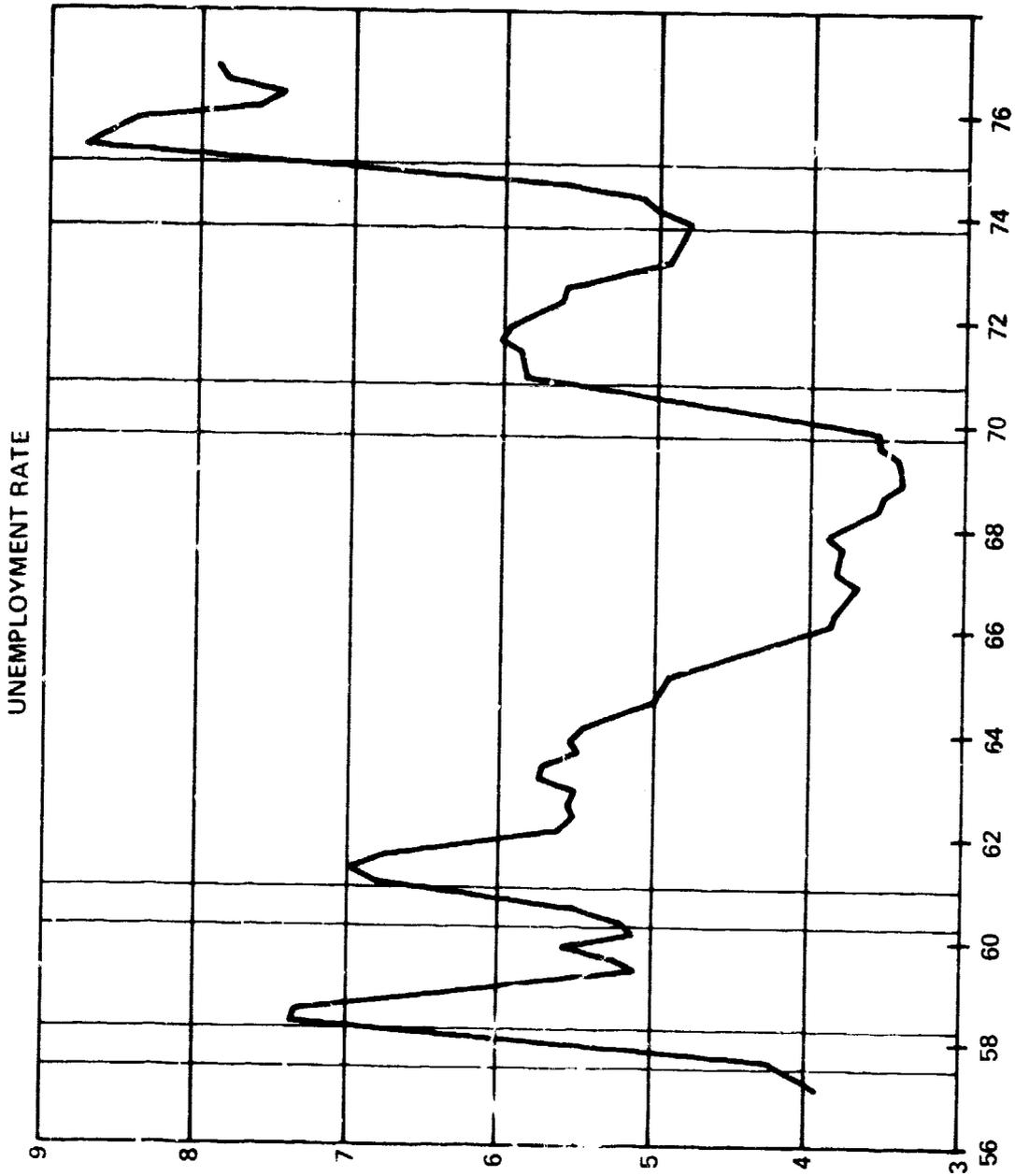
FIGURE 2

quarters of the beginning of the recession This observation
alone does not negate the value of the program. It is quite
possible that the effects of a recession on State and local
budgets are not immediate and a lag of three or four quarters
between the onset of recession and the receipt of funds is
not excessive. To repeat, from the standpoint of economic
stabilization objectives, the stopping point can be just as
important as the starting point. The 6-percent unemployment
rate trigger would, in this instance, maintain the program
well into the recovery. Indeed, structural changes in U.S.
labor markets which include much higher participation rates
for females and teenagers may make the attainment of unemploy-
ment rates below 6-percent difficult to achieve without
socially unacceptable price inflation--and a 6-percent un-
employment rate is not forecast for the economy before 1979.

     This situation makes the reconciliation of the views of
full recovery and partial recovery proponents difficult to
achieve if the unemployment rate is the program trigger.

Full employment gap as a trigger

     If the policymaker focuses attention on the full em-
ployment output gap (the difference between actual GNP and
the potential output of the economy) and views the program
as one way to provide fiscal stimulus to reduce that gap,
then the present trigger may be appropriate. Increases in
the gap have tended to precede the peak in the business cycle.
If a two-quarter increase in the gap were required to start
the program, this trigger would have started the program at
or before the cycle peaked. The problem then becomes when
to stop the expenditure of funds. If the program were stopped
when the gap just begins to narrow, it would shut off expendi-
tures before recovery was complete and fall short of full em-
ployment. Continuing the program until the gap was reduced
to zero would mean, in the present instance, an indefinite
extension of expenditures because of the persistence of high
national unemployment rates. Clearly, any use of the gap as
a program trigger should take account of structural and
bottleneck problems in the economy if the full recovery or
partial recovery views are to be reconciled.

     One possible further problem with the gap as a trigger
is its volatility. The two-quarter rule would have yielded
"false signals" in 1962-63, 1966-67, and 1969, in the sense
that it would have called for program expenditures when no
sustained drop in real GNP developed. In 1969, it would
have activated the program about three quarters before the
cycle trough and in that case could have actually fueled
the upturn of the previous cycle. (See fig. 3.)

DIFFERENCE BETWEEN POTENTIAL AND ACTUAL GNP
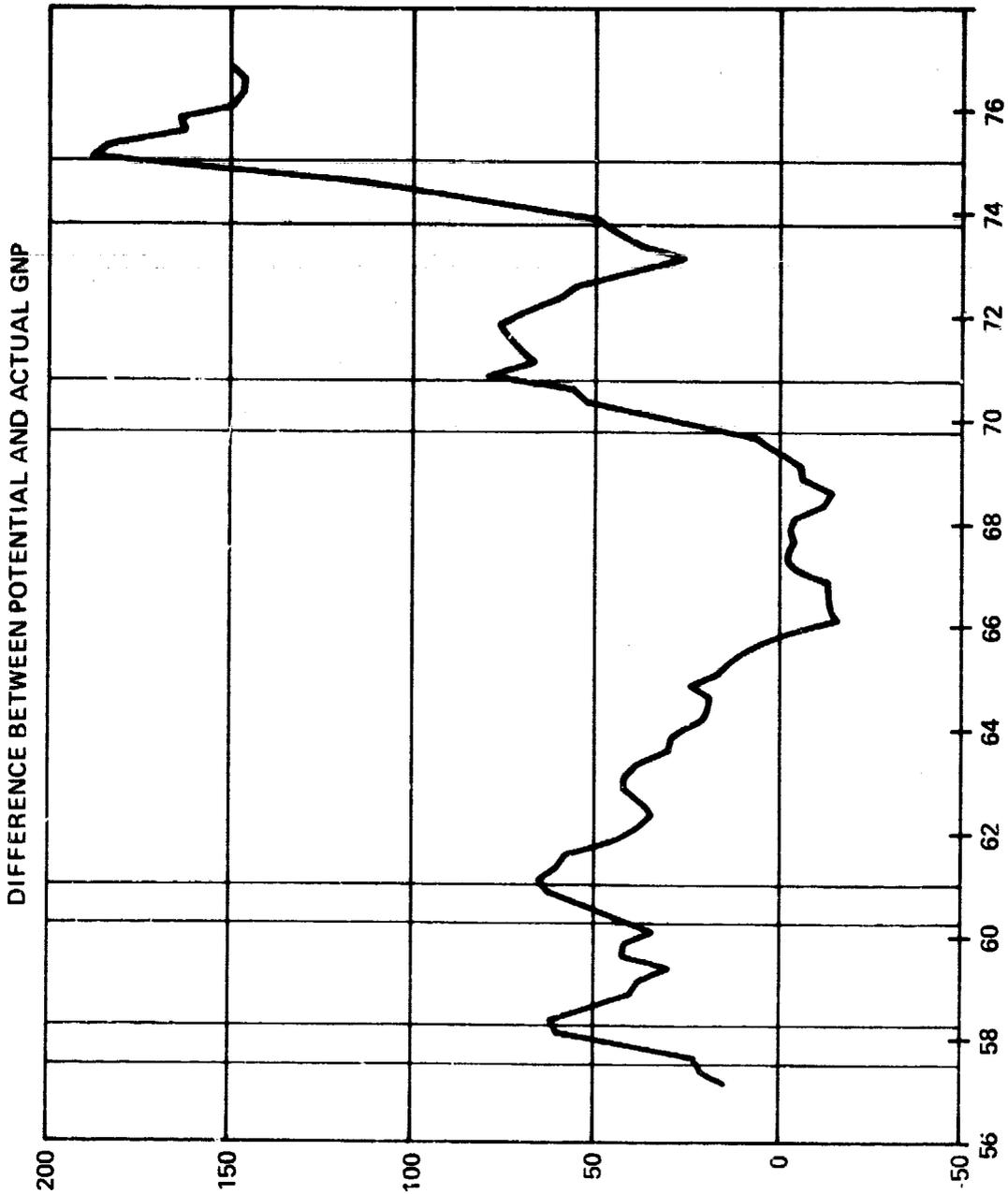
FIGURE 3

Once again the policy perspective is critical. If title
II is to expend funds only during officially defined recessions,
then the gap is superior to the unemployment rate as a program
trigger only insofar as it calls for program expenditures
earlier in the downturn.

Other economic indicators as triggers

A number of additional prospective triggers have been
suggested. Three possibilities, for which there are good and
timely data series, are the Index of Industrial Production,
Private Wages and Salaries, and Personnel Income. As with
the unemployment rate and the full employment gap, the discus-
sion of these three candidates focuses on timing--that is
when a particular series starts and stops the program; duration
or how long the program would be in effort if a particular
trigger is used; and the number of false signals generated
by the trigger, or the number of times a prospective trigger
starts the program outside the four cycles.

Such absolute trigger variables are often associated with
a directional criterion, that is, the program would be turned
on after these variables declined for two consecutive quarters.
The possible limitations of the directional criterion are dis-
cussed above. Also, as discussed above, such absolute trigger
variables may be more acceptable to proponents of the partial
recovery approach than to full recovery proponents. In what
follows, this discussion uses a consecutive two-quarter fall
in the value of the trigger to start the program and the pro-
gram ends when the trigger value reaches its previous peak.

As a starting device, the index of production would have
performed no better than a reasonable rule 1/ applied to the
unemployment rate during the first three cycles and worse
during the most recent recessions. The average duration of
program expenditures would have been four to six quarters
over the four cycles; however, there is one false signal in
1966-67 which is perhaps the result of tight monetary policy
in that period.

A consecutive two-quarter decline in the level of real
private wages and salaries would have started the program
before the trough in all but the 1970-71 recession. The
average duration of the programs would have varied from a
short three quarters in the 1961 cycle to about 8 quarters
in 1974-75 cycle. (See fig. 4.)

1/In the least restrictive instance such a rule applied to the
  unemployment rate would specify changes above 4 percent.

REAL PRIVATE WAGES AND SALARIES
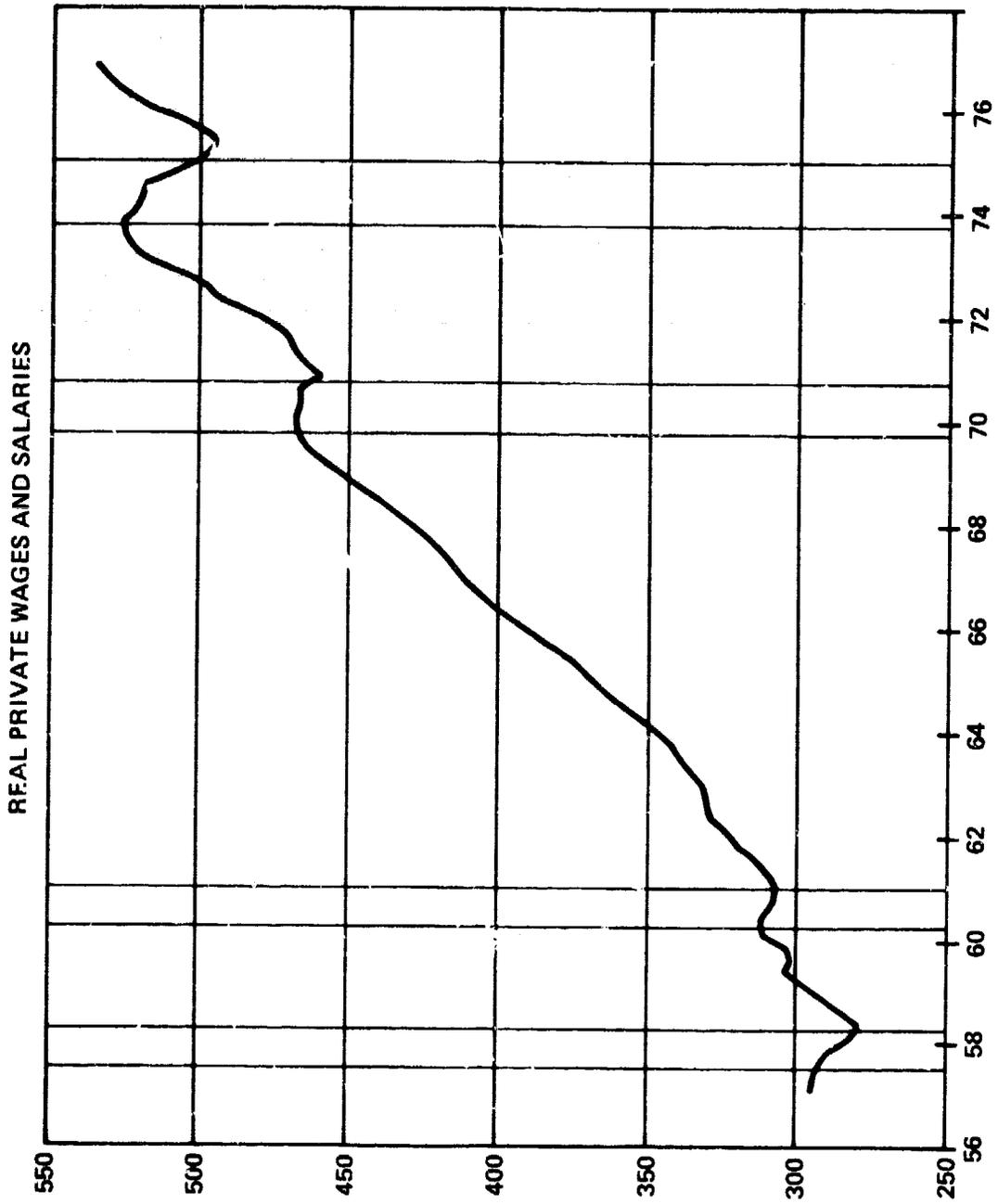
FIGURE 4

The use of real personal income as a trigger, whether
including transfer payments or, more logically, excluding
them, also presents problems. Personal income excluding
transfer payments typically turns down shortly after the
peak of the cycle and continues to decline, bottoming out
with the cycle trough. However, during the 1970 recession,
only a one-quarter decline at the cyclical trough was recorded,
which means that use of this indicator would not have initiated
the program during that downturn. In the earlier recession
duration of an aid program triggered by real personal income
excluding transfer payments would have been relatively short,
two to three quarters. The one exception to this pattern is
in the most recent recession, when it would have resulted in
a program of at least 2 years duration. The use of real per-
sonal income including transfer payments as the trigger be-
haves in the same manner, except that the duration of the
program would be shorter.

Other aspects of the triggering problem

The program trigger can be and has been used to determine
the rate of program expenditures. In the present program
there is a notch effect at the trigger level; that is, when
the value of the trigger variable surpasses the trigger level,
the program increases from zero to a fixed and substantial
amount. Then the size of the program increases in propor-
tion to the amount by which the actual value of the trigger
variable exceeds the trigger level. This type of program
is shown in figure 5.
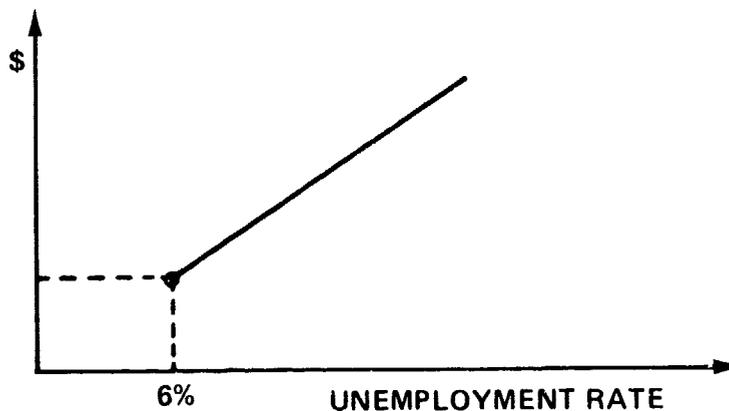
FIGURE 5

An alternative type of program would be one with a "soft landing" as shown in figure 6. The distinguishing features of this type of program are that it would turn on gradually and increase more than in proportion to the amount by which the actual trigger variable exceeded the trigger value. This would make small variations in the actual trigger variable around the trigger level less critical because there would be no notch effect in the funds provided. It would also provide more than proportionally increasing funds during serious recessions.
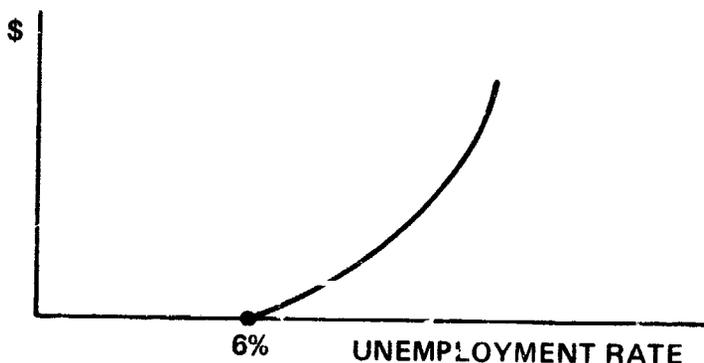
FIGURE 6

MEASURING THE MACROECONOMIC IMPACT OF TITLE II

The Federal Government can stimulate the economy directly through tax reductions or increased spending without using the State and local sector as an intermediary. There is reason to believe that the impact on the economy would be felt more rapidly through a direct approach. If the stimulus is implemented indirectly through State and local governments, as in title II, there are a number of built-in lags beyond those already discussed. For example, there are lags in collecting data from all States and local governments, calculating program allotments, and making payments. There are also lags in spending the funds because the State and localities must go through their own processes of deciding how to spend the money. Our field surveys, discussed in another report, indicate that Federal payments were first made in the autumn of 1976. It appears that significant portions were neither appropriated nor spent by the States and localities by March 1, 1977.

In addition to these lags, which might be minimized through better program administration or stringent regulations on the timing of expenditures, the overall stimulative effect of title II depends on the methods by which the Federal Government raises the funds and what the State and local governments do with the funds.

Different ways to finance the program

To illustrate some of the potential differences in the direct initial macroeconmic impact of title II, four simple cases can be described.

1. If the Federal Government reduces its other expenditures or increases its taxes to raise the funds and the State and local governments use the funds to avoid expenditure reductions or tax increases, the net effect of title II would be neutral. A decrease in other Federal expenditures (or an increase in taxes) would simply make possible an equivalent increase in State and local expenditures (or avoid a tax increase).

2. If the Federal Government borrows the funds and the State and local governments use the funds to retire debt, the effect would also be neutral. Federal borrowing would be used to reduce State and local borrowing. It seems unlikely, how- ever, that very many State and local governments would retire debt during such a recessionary period.

3. If the Federal Government reduces its other expendi- tures or increases its taxes to raise funds and the State and local governments use the funds to retire debt, the effect of the bill would be contractionary. Total government spending would decrease, or total government taxes increase.

4. If the Federal Government borrows the funds and the State and local governments use the funds to increase expendi- tures or avoid tax increases, the net effect of the bill would be stimulative.

The fourth case is usually presumed in discussions of counterrecessionary stabilization policies. However, two caveats regarding this presumption should be noted. First, if such a program were to channel funds on a continuing basis rather than being terminated as the economy improves, then any of the four situations might occur. Second, the degree of economic stimulation is difficult to measure--even during severe recession--because thousands of State and local governments, with varying financial conditions, will react differently to the program. For example, a few may actually retire debt with the aid received and thus reduce the overall stimulative effect.

There have been attempts to estimate the impact of title II payments on the unemployment rate, on GNP, and on the number of jobs "created" in State and local govenments per billion dollars of program expenditures. There are limitations to these estimates.

In brief, there are two basically different ways to go about modeling the response of the economy to a title II program. The first uses what can be labeled a partial equilibrium approach and attempts to specify a single-equation relationship between Federal grants-in-aid and the level of State and local expenditures and then estimates the parameters of that equation with available time-series data. A ceteris paribus estimate is then made of the effect of a given change in the level of Federal grants-in-aid on the level of State and local expenditures. The effect of that change in expenditures on the level of State and local employment or total employment is estimated on the basis of other historical and technical information. The Congressional Budget Office (CBO) used this approach in its study on "Temporary Measures to Stimulate Employment" in which it estimated that within a year 72,000 to 100,000 jobs are created for every $1 billion expended in title II.

> "In cases where historical experience is available * * * estimates are derived from statistical models. For public service employment and special assistance to State and local governments, estimates were made on the basis of assumed cost per job and different assumptions about the amount of budget substitution or displacement. Second-round effects due to increased spending by the program participants and equipment purchases were derived from statistical models." 1/

The advantage of the approach is that it provides an opportunity to specify substitution effects and employment multiplers which can be specific to the type of program being studied. For example, to the extent that separate studies reveal that grants-in-aid for public employment involve greater substitution of Federal for State and local revenues than do general-purpose grants-in-aid, this phenomena can be incorporated into the analysis, the disadvantage of the approach is that it does not take into account the many

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1/Congressional Budget Office, Temporary Measures to Stimulate Employment: An Evaluation of Some Alternatives, Sept. 2, 1975, p. 68.

feedback effects on the economy that a general equilibrium exercise attempts to address.

The second approach makes use of a large macroeconomic forecasting model in which the State and local sector is but one section. The value of State and local expenditures are a determinant of, and are determined by, other functional relationships in the model. The obvious advantage of such an approach is that it allows the policymaker to simulate a broader range of macroeconomic impacts. A limitation is that the large-scale commercial models that contain endogenous State and local sectors, which might be used for policy simulation, are designed primarily for short-term forecasting of the entire economy. Therefore, the specification of the State and local sector within such models is aimed at minimizing the variance in those forecasts--not in providing considerable detail on the behavior of the State and local sector in response to particular types of grants-in-aid programs. The result is that using such models to simulate program results yields only "ball park" estimates of the program's impact. The alternative, building an entire macromodel for simulation, is not possible with the time and resource constraints inherent in any program evaluation of this type.

Despite this limitation such models may be useful for they allow the policymaker to compare the impact of alternative fiscal policies on various measures of economic performance. The following simulations compare a new Federal grants-in-aid program with a Federal individual income tax cut and with an increase in non-defense-related Federal procurement and employment expenditures. The size of each of the three programs was set at $3.25 billion per quarter, since evidence indicates that in such simulations a lower level of funding would produce statistically unreliable results because of the size of the expected error in some individual equations in the model. The simulation assumes that the spending or taxing stimulus was maintained over the period studied. (Note: The Data Resources Inc. model, which includes an endogenous State and local government expenditure sector, was used for these simulations.)

Table 1 shows the results of the three simulations. An increase in Federal grants-in-aid equivalent to the title II program appears to have no measurable impact on the national unemployment rate. Using the number of jobs, a related but somewhat different statistic, a minor impact does occur. The simulation results imply that $1 billion expenditure would generate 19,000 jobs after six quarters. This result is much smaller than that attributed to the program in the CBO study cited above, where $1 billion was estimated to create nearly

100,000 jobs. An increase of $1 billion in GNP occurs by the
third quarter, but the stimulus has no further impact. State
and local governments respond to the new grants by slowly in-
creasing expenditures; however, at no time do those expendi-
tures reach even 50 percent of the increase in grants-in-aid.
Because of the extended reaction time, most of the additional
funds initially increase the surplus or reduce the deficit
of the State and local sector. The Federal Treasury recoups
only about one-sixth of the new grants-in-aid spending.

In contrast, both of the other policies result in small
reductions in the unemployment rate and increases in employ-
ment of almost twice the magnitude of the grants-in-aid program.
Direct changes in Federal expenditures have the largest and
most immediate impact on GNP, while tax reductions bring about
the most dramatic change in disposable income. In both cases,
State and local governments achieve only small improvements in
their net financial position. However, under either of these
alternative policies, the higher level of economic activity
does generate a noticeable increase in Federal revenue and
eventually a small increase in the rate of inflation.

Table 1

Estimates of Impacts of Alternative Federal Fiscal Policy

Changing Grants-in-Aid

	Quarters of new policy							
	1	2	3	4	5	6	7	8
Unemployment rate (percentage)	—	—	—	—	—	—	—	—
Numbers of jobs (millions)	—	.003	.019	.035	.052	.063	.070	.073
Gross national product (billions of 1972 dollars)	.3	.7	1.0	1.1	1.1	1.1	1.1	1.1
Disposable personal income (billions of dollars)	.2	.5	.8	.9	1.0	1.1	1.2	1.3
State and local expenditures (billions of dollars)	.4	.7	.9	1.1	1.1	1.2	1.2	1.2
Surplus or deficit of State and local governments (billions of dollars)	2.9	2.6	2.5	2.4	2.3	2.2	2.1	2.1
Federal Government surplus or deficit (billions of dollars)	-3.1	-2.9	-2.8	-2.7	-2.7	-2.7	-2.	-2.7
GNP deflator (Index 1972=100)	—	—	—	—	—	—	—	—

	Quarters of new policy							
	1	2	3	4	5	6	7	8
	Changing Nondefense Federal Expenditures							
Unemployment rate (percentage)	—	-.1	-.1	-.1	-.1	-.1	-.1	-.1
Numbers of jobs (millions)	—	.051	.078	.095	.121	.145	.155	.157
Gross national product (billions of 1972 dollars)	2.8	4.2	4.8	4.0	4.8	4.6	4.5	4.1
Disposable personal income (billions of dollars)	2.0	3.1	3.8	4.1	4.3	4.4	4.5	4.6
State and local expenditures (billions of dollars)	—	.1	.2	.3	.4	.6	.7	.8
Surplus or deficit of State and local governments (billions of dollars)	.2	.3	.3	.3	.2	.1	—	-.1
Federal Government surplus or deficit (billions of dollars)	-1.9	-1.3	-1.0	-.8	-.7	-.8	-.8	-.9
GNP deflator (Index 1972=100)	—	—	—	—	.1	.1	.1	.1

	Quarters of new policy							
	1	2	3	4	5	6	7	8
	Changing Federal Personal Income Tax							
Unemployment rate (percentage)	-	-	-.1	-.1	-.1	-.1	-.1	-.1
Numbers of jobs (millions)	-	.008	.053	.093	.115	.132	.138	.136
Gross national product (billions of 1972 dollars)	1.1	2.5	3.2	3.2	3.1	2.8	2.6	2.2
Disposable personal income (billions of dollars)	3.8	4.7	5.4	5.7	5.7	5.7	5.7	5.6
State and local expenditures (billions of dollars)	-	-	.1	.1	.2	.3	.4	.5
Surplus or deficit of State and local governments (billions of dollars)	.2	.5	.6	.6	.5	.4	.3	.2
Federal Government surplus or deficit (billions of dollars)	-2.7	-2.1	-1.7	-1.7	-1.7	-1.7	1.7	-1.9
GNP deflator (Index 1972=100)	-	-	-	-	-	-	.1	.1

NOTE: Each alternative assumes a Federal policy change of $3.25 billion sustained for all 8 quarters.

CHAPTER 3

MEASURING THE BUDGETARY PROBLEM

In chapter 2 it was pointed out that two crucial elements for the antirecession assistance program to successfully meet its objectives are the timing and targeting of expenditures. That chapter dealt with the timing problem. This chapter develops a more complete view of the problem of cyclical budgetary behavior on the part of State and local governments and establishes a framework for analyzing the targeting problem.

THE STATE AND LOCAL SECTOR OF THE U.S. ECONOMY

During the period 1960-75 the State and local sector was the single most dynamic element contributing to growth in the U.S. economy. Its purchases of goods and services and its wage and salary payments increased at rates considerably in excess of the GNP growth rate and faster than any other major sector of the economy. For example, real GNP growth averaged 3.9 percent annually from 1960 to 1970 and 2.3 percent from 1970 to 1975. In contrast, State and local purchases of goods and services grew at a rate of 5.5 percent and 3.6 percent over the same two periods. (See table 3.1.) Because of this rapid growth, the share of total GNP allocated to State and local activities has increased from 9.9 percent in 1956 to 13.2 percent in 1976. Last year, the State and local contribution to GNP was 178 percent of the Federal share contribution.

Table 3.1

Growth of Selected Economic Indicators

(compound average annual rates)

	1950-60	1960-70	1970-75	1975-76
Real GNP	3.3	3.9	2.3	6.0
Private GNP	2.6	3.9	2.6	7.6
Personal consumption	3.0	4.0	3.0	6.0
Gross domestic investment	1.2	3.9	-1.8	22.2
Government purchase of goods and services	5.9	3.8	1.0	0.5
Federal	6.8	2.0	-2.7	-0.2
State and local	4.9	5.5	3.6	1.0
Total civilian employment	1.1	1.8	1.5	3.2
Nonagricultural wage and salary employees	1.8	2.7	1.7	3.1
Private	1.6	2.4	1.3	3.5
Manufacturing	1.0	1.4	-1.1	3.3
Service	2.4	3.4	2.8	3.1
Public	3.3	4.2	3.2	1.5
State and local	4.0	4.9	4.0	2.0

Note: No adjustment was made to account for differential rates of utilization over time among sectors.

Sources: Survey of Current Business, January 1976; Economic Indicators, February 1977.

A look at the revenue side of State and local budgets reveals that a large portion of the expansion was financed by the Federal Government. Between 1956 and 1976, State and local government receipts, excluding social insurance revenues, grew at an annual rate of 10.6 percent. This includes growth in receipts of Federal grants-in-aid of 15.6 percent a year. These Federal grants grew more than twice as fast as did the Federal Government's own receipts. (Federal receipts, excluding social insurance, grew at a rate of 6.2 percent between 1956 and 1976.) Thus, Federal funds have risen from 10 percent to nearly 25 percent of the revenues available to other governmental units.

In addition to this increased reliance on Federal moneys, the mix of State and local governments' own receipts shifted over the past decade toward greater reliance on personal and corporate income taxes and general sales taxes. Historically, these revenue sources have been particularly sensitive to fluctuations of economic activity in the business cycle. Quoting G. Peterson:

> "Since 1965, the share of personal income taxes
> in the sector's own receipts has virtually
> doubled (from less than 7 percent to almost
> 13.5 percent), while the share of corporate
> income taxes has increased by almost half and
> the share of State-wide general sales taxes has
> increased by one-quarter. In contrast, prop-
> erty taxes and cigarette and alcohol taxes--
> revenue sources which traditionally have shown
> much less fluctuation over the economic cycle--
> have declined sharply in importance. This
> shift in the revenue mix of State and local
> governments has made their budgets more vulner-
> able to oscillations in national economic
> activity." 1/

This increased vulnerability of the State and local sector in economic downturns is a matter of concern to fiscal policymakers. A sector whose share of GNP now exceeds 10 percent is capable of seriously disrupting national economic activity. If the sector is threatened with severe financial disruption during a pause in economic growth, its resource allocation and financial management decisions could have significant economy-wide impacts.

1/Testimony before the Subcommittee on Intergovernmental Rela-
   tions, House Government Operations Committee, March 2, 1977.

State and local government sector surpluses chart the
changing financial conditions within the sector. The sur-
pluses have exhibited considerable fluctuation over the
period 1972-76. In 1972, the sector registered a $5.6 bil-
lion surplus, but by 1974 that surplus had changed to a
$2.9 billion deficit. In the first quarter of 1975, the
sector was running a $7.6 billion deficit. Fluctuations in
the surplus for the period 1972-76 are shown in table 3.2.
It is this drawing down of surpluses, combined with alleged
expenditures cuts and tax rate increases, which generated
renewed concern for the aggregate fiscal behavior of the
sector during the recent recession.

The reason for the concern is that many people perceived
the decrease in surpluses as a signal that the sector was in
financial trouble. Following this line of logic, the ac-
cumulation of surpluses since the third quarter of 1976 could
lead to the view that the sector had recovered its health and
continued assistance would not be stimulative. In fact, the
stimulative impact of the program depends not on the presence
of surpluses but on what the behavior of the sector would
have been in the absence of the program.

Aggregate budget deficits have been the norm for many
years; however, the severity of the 1974-75 recession caused
shock to the financial position of many governmental units.
By the third quarter of 1976, State and local governments
had generated surpluses by holding expenditures nearly con-
stant while receipts responded to improving economic condi-
tions. Therefore, the immediate short-run impact of counter-
recessionary aid was to augment surpluses. To the extent
that antirecession assistance funds substituted for either
further tax hikes or expenditures cuts, or both, the net
impact of this aid was stimulative. By the end of 1977 the
accumulated surpluses should be more than sufficient to off-
set deficits directly attributable to the 1974-75 recession.
To the extent that antirecession assistance funds contributed
to the rapid accumulation of reassuring surpluses and thus
allow anticipation of a return to more normal, expanding,
rates of growth in aggregate expenditures, the antirecession
assistance program will have speeded up the recovery.

Table 3.2

Surpluses or Deficits (-) of
State and Local Governments (note a)

Annually		Annual rates adjusted quarterly		
(millions)				(billions)
1965	$-3.438	1974	1	$ -.3
1966	-3.476		2	-1.5
1967	-5.852		3	-3.0
1968	-5.013		4	-6.8
1969	-3.729	1975	1	-7.6
1970	-3.985		2	-7.2
1971	-3.808		3	-5.8
1972	5.614		4	-4.2
1973	4.129	1976	1	-.4
1974	-2.913		2	-1.5
1975	-6.222		3	6.2
1976	3.908		4	11.3
		1977	1	b/11.9
			2	b/9.9

a/Surplus or deficit as defined in the national income accounts
exclusive of the balance on social insurance funds.

b/Estimated.

THE CYCLICAL BEHAVIOR OF STATE AND LOCAL GOVERNMENTS

The total effect of State and local government fiscal
behavior should be assessed by considering both the revenue
and expenditure sides of the budget. In the aggregate, a
State and local government budget surplus (receipts greater
than expenditures) is contractionary and procyclical during
a recession. A budget deficit is stimulative and counter-
cyclical during a recession. An assessment of the cyclical-
ity of State and local budgets that considers total taxes
and expenditures has limitations similar to those encountered
when attempts are made to assess the impact of the Federal
Budget on the economy by considering only its surplus or
deficit. There are numerous economic factors that influence
the size of these taxes and expenditures. To deal with this
latter problem, the full-employment-budget-surplus concept
was developed for the Federal budget. This concept separates
autonomous from economy-induced changes in Federal taxes and
expenditures. A similar framework is useful in approaching
the State and local problem.

Some changes in State and local government tax collec-
tions are due solely to changes in the level of economic ac-
tivity. For example, a recession can cause a reduction in
State and local personal income tax collections even though
the State's tax rates and its definition of the taxable base
remain the same. Similar changes could occur with the sales
tax and the corporate profit tax. Such economy-induced
changes in State and local government revenues and expendi-
tures can be labeled automatic (or nondiscretionary). In
contrast, changes in State and local revenue collections
that are due to deliberate changes in tax rates or tax bases,
as well as changes in expenditures which are deliberate, can
be labeled discretionary changes. These changes depend on
explicit decisions and actions by State and local governments.

Automatic and discretionary components of the budget

Using R to denote revenues, E to denote expenditures, and
the subscripts A and D to denote automatic and discretionary,
respectively, the State and local government budget surplus,
B, can be expressed as

$$B = (R_A + R_D) - (E_A + E_D)$$

where B is positive if there is a budget surplus and negative
if there is a budget deficit. The budget surplus can also be
expressed in terms of the autonomous and discretionary com-
ponents as

$$B = (R_A - E_A) + (R_D - E_D).$$

Increases in either R_A or R_D are contractionary; increases in
E_A or E_D are expansionary.

A budget deficit must be financed; a budget surplus can
be used to retire outstanding debt or accumulate financial
assets. A current account or current budget surplus or de-
ficit thus leads to a change in the capital account, which
is comprised of the outstanding stocks of debt and financial
assets.

This distinction between the automatic and discretionary
parts of the budget is important for several reasons. For
example, if a recession occurs, R_A may be less than and E_A

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may be greater than State and local governments anticipated.
Theoretically, the resultant deficit may be financed either
by borrowing or by liquidating financial assets (drawing down
accumulated surpluses). However, if there are no accumulated
financial assets and if there are legal or financial con-
straints on borrowing, the government may not be able to sus-
tain a deficit by those means, and may be forced to either
reduce its discretionary expenditures, E_D , or increase its
discretionary taxes, R_D (by increasing tax rates or bases).

Hence, the automatic part of the budget is the <u>driving
force</u>, and changes in the discretionary parts of the budget
are <u>responses</u> to changes in the automatic part. Alterna-
tively, changes in R_A and E_A could be interpreted as the
fiscal pressure of State and local governments due to changes
in the level of economic activity (of course this fiscal
pressure could be negative during a boom), and changes in
R_D and E_D could be the response by the State and local
governments to this fiscal pressure.

In terms of causality, changes in the level of economic
activity automatically cause changes in the automatic com-
ponents of the budget, R_A and E_A . These changes may then
induce or cause (although not automatically) changes in the
discretionary parts of the budget. In this way, changes in
the level of economic activity indirectly cause changes in
the discretionary parts of the budget.

The reverse causality, the effect of the State and local
government budgets on the level of economic activity, also
differs for the automatic and discretionary parts of the
budget. With respect to the automatic part, R_A usually in-
creases with the level of economic activity and E_A decreases.
Since increases in R_A and decreases in E_A are contractionary,
these automatic parts of the budget are countercyclical. Of
course, different types of taxes are countercyclical to dif-
ferent degrees. State and local corporate profits taxes,
personal income taxes, and sales taxes exhibit a much stronger
automatic response to the level of economic activity than
property taxes; thus, the R_A component of these taxes is

much more countercyclical than that of property taxes.
Similarly, State and local governments with higher levels of
transfer expenditures have a stronger countercyclical effect
due to the automatic component of their expenditures, E_A .
Thus, the automatic component of the budget tends to have a
countercyclical effect on the economy but to differing
degrees, depending on the type of tax structure and the mag-
nitude of the transfer expenditures.

If changes in the budget due to changes in R_A and E_A
are simply financed by changes in borrowing and the level of
financial assets, there will be no changes in R_D and E_D and
hence no further effect on the level of economic activity.
The countercyclical effect of R_A and E_A will be the entire
effect. (Of course the borrowing or change in financial
assets holdings will have an independent effect, which will
be procyclical. For example, the borrowing necessary to fi-
nance the deficit will cause interest rates to increase and
other forms of demand to decrease. This is the crowding-out
issue.) But if, as indicated above, changes in R_A and E_A
do induce changes in R_D and E_D , the further effect on the
economy will be procyclical. For example, if a recession
causes a decrease in R_A and an increase in E_A and if in
response to this State and local governments attempt to re-
duce their budget deficits by both increasing R_D and decreas-
ing E_D , the effects of these discretionary changes will be
contractionary, or procyclical. The effect of State and local
budgets on the level of economic activity is the result of
the combined countercyclical effect of the automatic parts
and the procyclical effect of the discretionary parts of the
budget. Thus, the net effect depends on the sensitivity of
receipts and expenditures to changes in the level of economic
activity and on the magnitude of discretionary responses to
these automatic changes, given the legal and financial ability
of governments to borrow and the level of their accumulated
surpluses. The total effect of the State and local budgets
on the level of economic activity is reflected in the overall
budget surplus or deficit, which is a combination of E_A , R_A ,
E_D , and R_D . Figure 1 summarizes the interrelationships

between State and local government budgets and the level of economic activity. (The arrows point from cause to effect.)

An historical review of budget behavior

The recent concerns that the State and local government sector of the economy may behave in a procyclical manner-- intensifying the problem associated with Federal efforts to stabilize the economy--revive a concept that was first popu- larized in a 1944 study by Alvin Hansen and Harvey Perloff and labeled the "perversity hypothesis." During the 1960s the Hansen and Perloff hypothesis was rejected in favor of the work of Rafuse and others which argued that, rather than procyclical, State and local government behavior was becoming increasingly countercyclical.

The case establishing the State and local sector as in- creasingly countercyclical was built by looking at the devia- tions from trend in the rate of change of State and local expenditure and receipt totals for postwar business. [1] When these calculations were carried out, it became apparent that on the revenue side the pattern of deviations from trend were more stabilizing with each of the four post-World War II cycles. [2] On the expenditure side, the degree of procyclical behavior during expansions decreased and, in general, expen- ditures became more countercyclical during contraction than they were procyclical during expansion. To quote Rafuse:

> "* * * patterns of trend deviations in the
> State and local own receipts improved with each
> succeeding post-war cycle to the point where,
> in the 1958-61 cycle, there was nearly a perfect
> pattern of increase during expansion and decline
> during contraction. On the expenditure side, in
> every case except the 1947-49 cycle, there was a
> stabilizing pattern of expansion decline and
> contraction rise." [3]

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[1] Procyclical activities are those budgetary actions taken by the State and local government sector which tend to prolong an economic recession rather than counter it.

[2] The four National Bureau of Economic Research postwar refer- ence cycles.

[3] Musgrave, Richard, (Ed.) "Essays in Fiscal Federalism," Brookings Institute, Washington, D.C., 1965, p. 82.

FIGURE 1

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The study also provided some support for the notion that the built-in (or nondiscretionary) response of State and local tax revenues to changes in GNP was in the same direction as GNP. That is, as economic activity declined, revenues, such as sales and income taxes, would fall. The nondiscretionary changes in expenditures were in the opposite direction. However, the study could not determine the extent to which the increasingly countercyclical behavior observed was the result of these built-in or automatic changes, or some combination of discretionary and nondiscretionary changes in receipts and expenditures.

The experience of the 1974-75 recession

An economic argument consistent with the Rafuse finding provides some insight into why the 1974-75 recession may have regenerated procyclical behavior on the part of State and local governments. For purposes of presentation: Assume that tax rates are set by these governments so as to balance the current account budget over the business cycle and that State and local officials perceive expenditures to be relatively insensitive to cyclical fluctuations in economic activity. Under these conditions, during downturns expenditures would increase faster than tax revenues. At least in the short run, the State or local jurisdiction would be content to pay its bills from accumulated surpluses. If a downturn persists for an extraordinarily long time, the legal necessity of balancing the current account budget necessitates expenditure reductions and tax rate increases.

However, the persistence of inflation during this most recent and prolonged downturn, together with the increased reliance of State and local units on such broad-based taxes as personal income, corporate income, and sales taxes, has apparently brought about changes in the behavior of State and local units that exacerbate the problems of national fiscal policymakers. Specifically, on the expenditure side, the effect of recession and inflation combined is to increase both the number of claims on social services (welfare, unemployment, etc.) and the average cost of the claims. General price increases also bring pressure for public sector wage adjustments which, when granted, push the cost of governmental services even higher.

On the revenue side, governmental units relying on the property tax for revenues are unfavorably affected by inflation because the tax is generally insensitive to price level changes, due to the sluggishness with which assessments are adjusted to reflect changes in the market price for taxable property. Units relying on the personal income tax or the

sales tax are unfavorably affected by the combination of recession and inflation. This is because recessionary downturns can slow the sales growth rate and income tax revenues, while inflation continues to push up the price of public services.

The clear implication is that State and local governments are likely to be faced with extraordinarily large deficits when confronted with both inflation and recession. Some of these jurisdictions may be forced into a series of discretionary budget cuts or tax rate increases which may run counter to appropriate Federal fiscal policy.

Joint Economic Committee survey

A recent survey by the Joint Economic Committee (JEC) tried to establish the magnitude of those cuts for the most recent downturn and stated that State and local governments planned about $6.9 billion of destabilizing tax increases and spending cuts during 1975. This study provides a first approximation of destabilizing tax and expenditure changes. However, the JEC study does not establish the overall direction of change for total State and local receipts and expenditures. To the extent that the drawing down of surpluses represents a situation in which expenditures rose faster than revenues or one in which revenues did fall, then the behavior of the sector as a whole was countercyclical, not procyclical. In itself, this is not a critical problem because any tax rate increases or expenditure cuts that did occur would make the sector less countercyclical than otherwise. This would be an important finding and a cause for concern.

However, the JEC analysis did not take into account, in those cases where individual governmental units facing budgetary problems did institute discretionary tax increases and expenditure cuts, the fact that the survey data contains both discretionary and nondiscretionary budget changes.

Furthermore, it did not consider that any particular set of tax increases or expenditure cuts may represent a response not to cyclical but rather to secular phenomena, or some combination of cyclical and secular phenomena. Chapters 5 and 6 will address these problems.

AN ALTERNATIVE APPROACH

An example in table 3 illustrates the problem of iden-
tifying discretionary and nondiscretionary budget changes.
According to the example, in year 1 the operating budget is
in balance with a surplus of $20. In year 2 the nondiscre-
tionary response of the State and local sector to a decline
in economic activity reduces tax revenue by $30 and increases
expenditures by $15. The expenditure change is composed of
a $15 increase in transfers and no change in the level of
expenditures for other goods and services. Such a result
would be countercyclical if the deficit could be financed.
Clearly, a State or local unit cannot present a budget re-
quiring deficit financing, as a result, it must take correc-
tive actions which could be labeled procyclical.

It is necessary to recognize that information is readily
available only for year 1 and for the end of year 2. Correc-
tive actions take place in between but are not recorded in
either a budget proposal or final statement of actual budget
expenditures and revenues. Those on the receipts side are
discretionary increases in tax rates and expansion of the
tax base, as well as the drawing down of surplus. On the
expenditure side, the corrective actions are discretionary
expenditure cuts, which are procyclical in nature. Although
decreases in expenditures from previous levels in one program
area may be offset by increases in other areas, if total ex-
penditures are reduced from their planned levels the effect
may be considered procyclical. This is true even if the
actual expenditures are higher than in year 1, because the
cuts reduce the magnitude of the potential countercyclical
effect implicit in the planned totals.

Table 3

Budgetary Adjustments in a Hypothetical Government

	Revenues	Expenditures	Surplus
Year 1 actual	100	100 90 benefit 10 transfer	+20
Year 2 before adjustments	70	115 90 benefit 25 transfer	+20
Year 2 actual	105 +15 taxes +20 surplus	105 80 benefit 25 transfer	0

The unit reacts first by drawing down its surplus of $20 and enacting discretionary tax increases of $15, raising year 2 actual revenues to $105, and second by increasing transfer payments by $15 and decreasing benefit expenditures by $10, raising year 2 actual expenditures by $5. This implies that the behavior of the State and local sector in terms of its tax and expenditure structure may very well be countercyclical if only nondiscretionary changes in totals (the before adjustment figures) are considered. However, this countercyclical behavior may be severely modified by the decidedly procyclical budget-balancing tax rate increases and discretionary expenditure cuts made to the proposed budget totals by a particular unit. These general results also occur in those rare cases where a jurisdiction's expenditures actually fell from year 1 to year 2.

In order to judge whether parts of the State and local sector behaved procyclically, the JEC study compared actual revenue and expenditure totals with year 2 before adjustments. Such a comparison captures the procyclical impact of discretionary tax changes and expenditure cuts. However, the net result of countercyclical and procyclical activities is derived by comparing year 2 actual with year 1 actual. The JEC study does not make these distinctions and does not present results consistent with either approach. The study illustrates ways in which discretionary tax increase and some mix of discretionary and nondiscretionary expenditure cuts may have made the sector less countercyclical than it otherwise would have been. The study does not establish whether the State and local sector acted in a procyclical or countercyclical manner. Although the JEC survey does identify the procyclical impact of discretionary changes in revenues, it is less successful in identifying the impact of discretionary changes in expenditures.

If the Federal Government seeks to offset the procyclical activities of particular State and local units, what assumption should it make regarding the responsiveness of the provision of public goods and services to the financial capabilities of the community? Should the sector make an automatic adjustment downward in its expenditure levels when community income falls (the JEC assumed that there would be no cutback), then the problem associated with offsetting socially undesirable side effects is of a different magnitude than if it is assumed that every cut in expenditures is a discretionary and difficult one. For example, suppose a rich suburban community would have hired tennis instructors and provided lessons for town residents but, with the fall

in community income, it cuts that expenditure. Should the Federal Government consider the cut discretionary and socially undesirable or part of the necessary and automatic adjustment to a fall in income? Expert opinion differs on this point, and a more complete discussion must be deferred to that section of the report analyzing the targeting of aid in more detail.

CYCLICAL AND SECULAR MOVEMENTS

There is another problem with the way in which the budget adjustments of State and local governments are measured. It is the need to separate the budgetary impacts of a secular decline from those associated with cyclical disruption. Unfortunately, governments in high unemployment areas often have expenditure reductions and discretionary tax increases which are not primarily the result of cyclical fluctuation but, rather, of long-term tax base deterioration characteristic of areas in secular decline and attributable to demographic changes and locational choices. That being the case, the effect is to overstate the procyclical behavior of the State and local sector, but this time from both sides of the budget. The importance of this consideration in developing a rational antirecession assistance program, which emphasizes the targeting of funds to governments as a function of cyclical budgetary disruptions rather than secular decline, is discussed in considerable detail in chapter 5.

THE PROBLEM IN PERSPECTIVE

The extent of discretionary procyclical activity is difficult to measure. Nevertheless, the identified tax rate increases and expenditure cuts do represent potentially serious budgetary problems for governments affected by recession, inflation, or secular decline. Moreover, the problem is a relatively recent fiscal phenomenon, and very little detailed analysis is available that is concerned exclusively with the impact of recession and inflation on specific categories of expenditures within State and local budgets. It is difficult to determine to what extent expenditure cuts, while perhaps destabilizing in national economic terms, may be beneficial rather than socially undesirable in that they squeeze the "fat" out of budgets that have grown too large.

The Congressional Budget Office (CBO), in a report dealing with countercyclical aid, states that programs designed to offset the entire impact of recession on State and local budgets would be regarded by most people as excessive. CBO

suggests that a device which reduces the amplitude of cyclical swings in revenues by one-third or one-fourth and gives State and local governments the same share of automatic Federal assistance as they contribute to the Nation's economic product would be more appropriate. However, CBO estimates the cost of such a program at $6 billion a year when unemployment is at 8 percent; $4 billion when the unemployment rate falls to 7 percent, and zero when unemployment is 4 percent. These expenditure levels are substantially above the original congressional authorization of $1.25 billion (paid over five quarters) and are arrived at by a rule of thumb that bears little relationship to the question of how much "fat" exists in State and local budgets. If the $6 billion is treated as a total pie to be allocated only among those governments hard hit by the combination of recession and inflation, the problem is not solved precisely. There is no way of knowing which jurisdictions have the least "fat" and therefore are hardest hit, making it difficult to design an efficient distribution mechanism.

As is well known, the current countercyclical aid program distributes funds in accordance with the existing revenue sharing formula modified by an index of the unemployment rate, which is used both as a trigger and a targeting mechanism. The umeployment rate is used because it is the most extensively reported index of economic conditions and is available for States, regions, standard metropolitan areas, and many cities. As a trigger, the national unemployment rate has already been criticized on the grounds that significant increases in the rate may lag seriously behind an economic downturn, and structural changes in the labor market may make it difficult to stop the program without changing the rate necessary to turn the program off.

One could also quarrel with the manner in which it is being used as an index of fiscal pressure for targeting moneys. The existing procedure simply reports the Bureau of Labor Statistics figure for the jurisdiction or area in question. If the reported rate exceeds 4.5 percent, the district is eligible for aid, the amount of aid varying with the difference between 4.5 percent and the actual reported rate. However, as several experts have pointed out, it is the change in unemployment rates within a district over a base period which may provide some index of the impact of recession on State and local budgets--not the rate itself. Districts which have experienced 6 percent unemployment for some time while the national rate is 4.5 percent, but which remain at 6 percent while the national rate climbs to

8 percent, may not necessarily feel added fiscal pressure as a result of the climb in the national rate. Yet they receive money under the present legislation. Moreover, although unemployment rates are available for States, Standard Metropolitan Statistical Areas, and many cities, they are not computed separately for each governmental unit eligible for countercyclical funds. Instead, the Bureau of Labor Statistics rates computed for regions must be imputed to particular local units. Even when all of the reasonable adjustments are made to assure that districts with low unemployment rates are not eligible to receive funds, the targeting cannot be precise.

Data from Massachusetts for the first quarter of the program's operation serves to point out the difficulty. Massachusetts is a state with high unemployment, and both the State government and several of its major cities are experiencing financial difficulty. The State government received $4.7 million in aid and the local government units $9.3 million in the first quarter's distribution under this program. However, not every local unit was under severe financial pressures and ready to lay off public employees. Yet every local and county government unit received some money.

A further check of national data reveals that 7 of the 106 highest per capita income local government units in the Nation (defined as those with per capita incomes in excess of $10,000 per year) received some grant money. Furthermore, because the national unemployment rate chosen to "trigger" the program was 6 percent and the Congress decreed that one-third of all moneys allocated should go to State governments, $103.6 million was allocated to the States in the first quarter with all but one State government receiving a grant. In all, the first round of payments saw 23,976 of the 39,086 revenue sharing districts, nationwide, receive grant money. A neutral observer might consider the targeting for the program less than precise.

Despite these reservations, it could be argued that the formula although not precise, is nonetheless a reasonable compromise given data limitations and political realities. To address that question, it is essential to develop a more complete conceptual framework of both cyclical budgetary disruption and of budgetary disruption brought about by secular decline. First, however, it is necessary to look at the mechanics of the present formula in greater detail so that we may ultimately compare the results obtained with the results that would be obtained by alternative distribution mechanisms based on certain cyclical and secular standards.

CHAPTER 4

THE DISTRIBUTION OF TITLE II FUNDS

There are two major components of the formula used to allocate the antirecession assistance funds. These are the General Revenue Sharing formula and the unemployment rate. In this chapter an analysis is made of the impact of these components--and the manner in which they are employed--on the actual distribution of the program funds. Another method of using the unemployment rate is analyzed to demonstrate the effect of a specific alteration of the antirecession assistance formula.

GENERAL REVENUE SHARING FORMULA

The formula for allocation of General Revenue Sharing funds is complex and difficult to summarize, a result of legislative compromise between the interests of urban and rural States and among the interests of various levels of State and local governments.

Allocations to the States are based on two formulas, one which favors those States with low per capita income (generally less urban States) and another which includes the factors of urbanized population and State income tax revenues and which, therefore, tends to favor more urbanized and populous States. The allocations for all States are calculated under both formulas, with each State being assigned the more favorable award. The amount for each State is then scaled down by the uniform percentage necessary to make the total equal to the actual amount appropriated for the award period.

Within the States, one-third of the allocation is distributed to the State government and the remaining two-thirds to eligible local jurisdictions on the basis of population, relative income, and relative non-school tax effort. The local allocation is first made for counties and then for all general-purpose governments within each county. Certain minimum and maximum provisions require further adjustment of the awards.

An important aspect of the General Revenue Sharing distribution is that the allocation process includes a population factor at each stage. Therefore, any State or local jurisdiction that has declining population or population growing at less than the national or State rate is

likely to receive a smaller sum as the data components of
the formula are updated. This also has an impact on a juris-
diction's antirecession assistance allocation, since the
General Revenue Sharing allocation constitutes the base
which is weighted by the excess unemployment to arrive at
the first award amount.

Several evaluations of the effects of the General Reve-
nue Sharing formula have highlighted various problems, such
as the large number of jurisdictions receiving funds and the
tendency of the formula to favor thinly populated jurisdic-
tions. When extension of the program was considered in 1976,
several changes in the formula were proposed--and in some
cases favored by the House Committee on Government Operations--
to correct these and other perceived deficiencies in the
formula. But the extension of General Revenue Sharing, as
finally accepted by both Houses and signed by the President,
left the original formula virtually unchanged.

The acceptance by the Congress of this basic formula
on three occasions--the original General Revenue Sharing
legislation, the 1976 extension, the antirecession assistance
program itself, in which the General Revenue Sharing alloca-
tions serve as the base in calculating awards--implies that
this formula very likely constitutes a political reality for
the immediate future. The discussion of alternative distri-
bution schemes in this report compares the impact of poten-
tial changes in terms of their divergence from the allocations
under the present General Revenue Sharing formula.
Such a comparison provides a convenient benchmark against
which to measure the effects of altering the distribution
mechanism in various ways. This is not meant to imply that
the General Revenue Sharing distribution is in some sense
optimal or even preferable to the alternatives being con-
sidered.

AVAILABLE INDICATORS OF BUDGET DISRUPTION

As will be discussed in chapter 5, many factors combine
to produce budgetary disruption at the State and local level
during a period of cyclical economic downturn. As a matter
of principle, it is always desirable that a relatively simple
and readily understandable formula be developed. This prin-
ciple is especially applicable to antirecession assistance
since problems of access to accurate and timely data, com-
parability among jurisdictions, and constant change in the
data as each jurisdiction engages in its decisionmaking
processes are acute. This argues for the desirability of

finding one or two measures that are relatively effective
indicators of a recession's impact upon State and local
jurisdictions.

Data availability and accuracy present a major obstacle
to finding an appropriate indicator of cyclical disruption.
The indicator must be available frequently (at least quarterly)
and timely, and it must be sensitive to short-run changes in
economic activity. Furthermore, it must be available, or
capable of estimate, for more than 39,000 State and local
jurisdictions if the General Revenue Sharing formula is to
serve as the basic allocation device. (Note: The latter
condition is extremely difficult to meet. On data grounds
alone, a case could be made for distributing all of the as-
sistance to the States, based on statewide data, and
requiring each State to develop its own plan for allocation
of the funds among the State and local governments. This
case is further reinforced by the proposition that the
greater proportion of State and local budgetary disruption
during a recession, on both the expenditure and revenue
side of the budget, occurs at the State level. This latter
aspect is discussed in chapter 5.)

It was partially on the basis of its monthly availability
and its perceived timeliness that the unemployment rate was
selected as a measure of recessionary impact. Another reason
for using unemployment data was their availability for a
large number of jurisdictions--approximately 1,500, including
all the States and all the jurisdictions defined as prime
sponsors in the Comprehensive Employment and Training Act
(CETA). But recent testimony by the Commissioner of the
Bureau of Labor Statistics of the Department of Labor indi-
cates problems with the data at the State and CETA levels.
In that testimony, the Commissioner questioned the existence
of any reliability for rates imputed to jurisdictions of
less than 50,000 population. Finally, there is a question
as to the sensitivity of the unemployment level to short-
run changes in economic activity and especially to State
and local government budgetary disruption resulting from
an economic recession. Despite these drawbacks, the un-
employment rate was selected as the indicator for the anti-
recession assistance program because of its availability,
simplicity, and familiarity to the Congress and the public.

DEVELOPMENT OF THE
ANTIRECESSION ASSISTANCE FORMULA

Selection of the indicator is only the first of several
discrete decisions required for development of an allocation

formula. The second decision is to determine which form of
the indicator is to be used--the absolute level at a specific
time or some comparison of the level at that time with the
level in an earlier period. In the case of antirecession
assistance, the absolute rate of local unemployment in a
particular quarter was chosen rather than the change in the
rate between that quarter and an earlier one.

The third factor in formula development relates to the
actual construction of the formula and includes decisions
concerning: (1) the use of differences from a stated norm
versus proportions of that norm, (2) the use of a cutoff,
that is, a minimum level of the indicator below which a juris-
diction would be eliminated from the allocation process, and
(3) the use of some sort of transformation, such as squaring
the value of the indicator to intensify the importance of
differences in characteristics between jurisdictions or using
the indicator as a weight to be multiplied by an existing
base or distribution scheme, thus diminishing the intensity
of the indicator. In the case of antirecession aid, the
formula was constructed (1) by using the difference between
the local unemployment rate and the norm of 4.5 percent as
a measure of "excess unemployment," (2) by establishing a 4.5
percent local unemployment rate as a cutoff below which a
jurisdiction would not receive assistance, and (3) by using
this derived "excess unemployment" indicator not by itself
but as a weight to be multiplied by the local General Revenue
Sharing allocation, thus diminishing the intensity of the
impact of the indicator.

The use of 4.5 percent as a base intensifies the impact
of a higher unemployment rate and exaggerates the differences
in the amounts allocated to various communities under the
antirecession assistance formula. For example, a jurisdic-
tion with a 5.5 percent local unemployment rate has a program
weighting (1.0) which is 10 times as great as that of a
jurisdiction with a 4.6 percent unemployment rate (0.1)
despite the difference of slightly less than 20 percent in
their actual levels of unemployment. And a jurisdiction
with a 9.2 local rate of unemployment has a program weight
(4.7) that is 47 times that of the jurisdiction with a 4.6
percent unemployment rate (0.1) even though its unemployment
rate is only twice that of the second jurisdiction.

Finally, the antirecession assistance formula also
tends to intensify the differences among amounts allocated
to State and local jurisdictions by allocating the total
sum available in any quarter among the eligible communities,

no matter how many other jurisdictions may have become ineligible due to local unemployment rates of 4.5 percent or less. Thus, the proportion of the total allocated to a jurisdiction with a given rate of unemployment will increase as other jurisdictions become ineligible. For example, California received 18.0 percent of the third quarter allocation, compared with 14.9 percent of the first quarter allocation, even though its stated unemployment rate decreased from 10.6 percent for the first quarter to 9.2 percent for the third quarter.

PRESENT DISTRIBUTION OF
ANTIRECESSION ASSISTANCE FUNDS

For purposes of this assessment of the present program distribution, an index is used in which a jurisdiction receives an index value of 100 if its proportion of antirecession assistance funds is the same as its proportion of General Revenue Sharing funds. To the extent that this antirecession assistance allocation is proportionally greater than its General Revenue Sharing allocation, its index value is proportionally above 100; and to the extent that this allocation is proportionally less, the index number is proportionally below 100.

Distribution among the States

Perhaps the most striking aspect of the present allocation scheme is the great range of payments among the States when compared to the General Revenue Sharing distribution. Table 4.1 shows the 10 States with the highest indexes and the 11 States with the lowest indexes relative to General Revenue Sharing for the first three quarters of the program. With some exceptions, the States with the highest indexes are populous, primarily urban States while those with the lowest indexes are smaller, heavily agricultural States.

Table 4.1

Index of Antirecession Assistance Allocations to States

Highest indexes	Antirecession assistance
Rhode Island	191
Florida	183
Michigan	183
Connecticut	168
California	157
Vermont	152
New Jersey	151
New York	148
Oregon	145
Washington	136
Lowest indexes	
Kansas	0
Wyoming	6
New Hampshire	9
South Dakota	9
Iowa	22
Nebraska	24
North Dakota	25
Minnesota	30
Virginia	31
Indiana	32
Texas	32

Table 4.2, which shows the allocations to the States grouped by size, reinforces the earlier conclusion that the populous urban States tend to gain proportionally the most under the present allocation scheme relative to the General Revenue Sharing distribution. While there is extensive variation within each size group, the medians and the clustering around the median indicate that the 10 largest States (5.6 million 1970 population and above) receive proportionally the greatest benefit in comparison with the General Revenue Sharing formula. Those in the next 2 groups of 10 (1970 population of 2.2 million to 5.2 million) proportionally receive the least under the present formula.

Another way to address the distributional impact of the present formula is to consider the indexes by region. The States of the Northeast receive most and the States the North Central and South regions receive proportionally the least. This perception is documented by both the median index values for each of the regions and the clustering around the median (as indicated by the range when the

extreme high and low instances in each group are not in-
cluded). (See table 4.3.)

Distribution among local jurisdictions

The major beneficiaries of the distribution of funds to
local jurisdictions are the largest jurisdictions. The 25
local jurisdictions (cities and counties) with populations
in excess of 1 million received 30.4 percent of the funds
allocated to local governments in the third quarter of the
program while the same jurisdictions received only 18.8
percent of General Revenue Sharing assistance allocated to
local governments. On the other hand, jurisdictions of less
than 50,000 in population received only 24.6 percent of
antirecession assistance funds allocated to local governments
in the third quarter as compared with 37.2 percent of Gen-
eral Revenue Sharing funds allocated to local governments.

Table 4.2

Index of Distribution of Funds, Quarters I to III
(to States by population)

| | Antirecession Assistance Index | | |
	Range	Range$_M$ (note a)	Median
I (10 largest)	32 to 183	87 to 183	137
II	30 to 91	31 to 74	47
III	0 to 168	22 to 136	55
IV	24 to 191	50 to 145	88
V (10 smallest)	6 to 152	9 to 116	76

a/Range$_M$ is the range within the regional group after the
extreme high and extreme low index numbers are excluded.

Table 4.3

Index of Distribution of Funds, Quarters I to III
(to State by region)

| Region | Index of Antirecession Assistance Distribution | | |
	Range	Range$_M$ (note a)	Median
Northeast (9)	5 to 191	113 to 168	148
North Central (12)	0 to 183	9 to 87	31
South (16)	31 to 183	32 to 100	57
West (13)	6 to 157	45 to 145	108

a/Range$_M$ is the range within the regional group after the
extreme high and extreme low index numbers are excluded.

Table 4.4

Distribution of Antirecession Assistance and General Revenue Sharing Funds to Local Governments

Population size	Antirecession Assistance percent of local funds (note a)	GRS-EPS percent of local funds (note b)
Under 1,000	0.8	1.7
1,000 - 9,999	7.4	11.4
10,000 - 49,999	16.4	24.1
50,000 - 99,999	10.2	10.9
100,000 - 499,999	22.0	21.7
500,000 - 999,999	12.8	11.4
More than 1,000,000	30.4	18.8

a/Based on payment for third quarter of the program (1/1/77-3/3/77).

b/General Revenue Sharing - Entitlement Period 6 (7/1/75-6/30/76).

Characteristics of receiving local jurisdictions

A sample of 72 localities, including the 30 largest cities, was selected to examine further the assistance provided to various types of local jurisdictions. These cities are divided into three categories based on population trends: Growing (cities which have had and continue to have population growth), formerly growing (cities which had population growth in the 1960s but in the 1970s have had stable or slightly declining populations), and declining (cities which have been losing population only since 1960 but including New York City which has been losing population only since 1970).

Included also are 36 suburban communities located in seven different metropolitan areas. These communities are considered as a group and as a series of sub-groups: Dormitory vs. industrial; stable (or declining) vs. growing; and working class vs. middle class. Finally the sample includes a group of six small towns and rural counties. 1/ Again, the indexing system employed indicates the amounts

received by each jurisdiction under antirecession assistance in comparison with the sums received under the General Revenue Sharing formula.

The most notable finding is the range within each category of communities. For the cities and the rural jurisdictions, this variation is indicative of the substantial differences in economic conditions in different parts of the country and of the impact of those differences on unemployment rates. Table 4.5 shows the index values for various types of jurisdictions in this sample.

The figures for the various categories of suburbs similarly reflect the economic variations across the country. All suburbs in a particular metropolitan area face generally equivalent economic conditions, so that affluent and working class suburbs of the same area are generally more similar in their actual levels of unemployment than are two affluent or two working class suburbs in different metropolitan areas.

But there is an additional factor that contributes to the variance of index values in the suburban categories. Because of the limitations in the available unemployment data, many suburbs in a particular metropolitan area, whatever their socioeconomic differences, are assigned the same unemployment r-'   on a county or balance-of-county basis. The result is   rates used in calculating the antirecession assi.   allocations to these jurisdictions mask the differences _n economic conditions and even differences in actual unemployment levels among suburbs in the same metropolitan area. At the same time, the use of these assigned unemployment rates creates or exaggerates differences among similar types of suburban communities in different metropolitan areas.

All these factors greatly limit the conclusions that can be drawn from the analysis. The most important of these conclusions is that declining cities consistently benefit under the formula in comparison to, with few exceptions, the suburban communities of the same metropolitan area.

Table 4.5

Index of Distribution of Antirecession Assistance Funds
(Program Quarters I to III)

Type of community	Range	Median
Growing cities (6)	31 to 203	100
Formerly growing cities (8)	2 to 173	86
Declining cities (15)		
(note a)	89 to 286	147
All suburbs (36)	3 to 291	72
Dormitory (23)	3 to 173	76
Industrial (13)	6 to 291	69
Stable (17)	11 to 291	69
Growing (19)	3 to 173	74
Working class (17)	13 to 291	69
Middle class (19)	3 to 173	74
Rural (6)	0 to 131	82

a/One city not included due to a lack of data.

ALTERNATIVE ANTIRECESSION ASSISTANCE DISTRIBUTION

As indicated earlier, many discrete decisions have a
major impact on the development of an allocation formula.
One of those decisions concerns the use of the absolute level
of an indicator versus a comparison of that level with a
level of the same indicator at an earlier time.

The original antirecession assistance proposal called
for the use of the change in unemployment rates for a parti-
cular jurisdiction between the peak of the cycle and a
specific recessionary quarter for which funds have been ap-
propriated for distribution. Conceptually, this method of
utilizing the unemployment rate should be more sensitive
to the actual impact of the recession than is the use of
the unemployment rate in excess of 4.5 percent since the
change in unemployment from peak to trough would, to a large
extent, hold secular trends constant.

Characteristics of an antirecession assistance alloca-
tion based on change in unemployment levels are as follows.
Of the 22 States for which unemployment rates were avail-
able for the third quarter of 1973 (the quarter in which
the unemployment rate achieved its most recent low), 12

would benefit under a formula using the third quarter 1973
base rather than 4.5 percent because their third quarter
1973 unemployment rates were less than 4.5 percent. For
one State there would be no difference since its third
quarter 1973 unemployment rate was 4.5 percent, but for 9
States, those with supposedly serious structural unemploy-
ment problems reflected in high unemployment rates during
the peak of the cycle, using the difference between 1976
and 1973 would mean a proportionally smaller allocation of
assistance under this alternative distribution scheme.

Because the data in table 6 represents a sample of
only 22 States, they tend to exaggerate the effect of using
change in unemployment levels as a weighting factor. None-
theless, the direction of the trends is accurate and shows
that the use of change in unemployment rather than unemploy-
ment in excess of 4.5 percent would result in a very different
allocation of countercyclical assistance funds than under
the present program, as shown in table 4.3. (Note: The index
numbers compare to the hypothetical distribution using change
in unemployment rates with the General Revenue Sharing allo-
cation and not with the present antirecession assistance
distribution. For a direct comparison with the present al-
location, these figures must be compared with those in
table 4.3).

<div align="center">Table 4.6</div>

Index of Change in Unemployment for States, by Region
                (Third Quarter 1973 to Third Quarter 1976)

| Region | Change in unemployment index | |
	Range	Median
Northeast (4)	31 to 133	63
North Central (5)	33 to 128	83
South (11)	50 to 561	159
West (2)	34 to 388	–

Specifically, most of the States of the South receive
proportionally much more assistance under a weighting scheme
utilizing changes in unemployment than they would under
General Revenue Sharing while most States in the Northeast
receive substantially less than they would under General
Revenue Sharing. This is virtually the opposite of the
present distribution formula, which favors the States of
the Northeast and provides substantially less proportional
assistance to the States of the South.

Although changes in unemployment levels may not be the best indicator of short-term changes in economic activity, they are more sensitive to cyclical changes than are absolute levels of unemployment in excess of 4.5 percent. If the objective of the Congress is to ameliorate the impact of recession on the local economy, a formula weighted by unemployment changes may be more appropriate than the present formula. However, it is not at all clear that changes in unemployment rates are a particularly effective measure of the impact of the recession on the fiscal condition of State and local governments.

Table 4.7

Sample of Local Jurisdictions

Growing cities (6)	Formerly growing cities (8)
Honolulu	Atlanta
Houston	Columbus
Memphis	Dallas
Phoenix	Denver
San Antonio	Indianapolis
San Diego	Jacksonville
	Kansas City
	Los Angeles

Declining cities (16)

Baltimore	New Orleans
Boston	New York
Buffalo	Philadelphia
Chicago	Pittsburgh
Cincinnati	St. Louis
Cleveland	San Francisco
Detroit	Seattle
Milwaukee	Washington

Suburbs (36)	Dormitory	Industrial	Growing	Stable/ declining	Working	Middle
Arvada, Colo.	X		X			X
Aurora, Colo.		X	X			X
Billerica, Mass.	X		X		X	
Burlingame, Calif.	X			X	X	
Burlington, Mass.		X	X			X
College Park , Ga.	X			X	X	
Commerce City, Colo.		X		X	X	
Concord, Mass.	X		X			X
Creve Coeur, Mo.	X		X			X
Dearborn, Mich.	X			X	X	
Decatur, Ga.	X			X		X
Doraville, Ga.		X	X			X
Englewood, Colo.	X			X	X	
Farmington, Mich.	X		X			X
Florissant, Mo.		X	X			X
Fremont, Calif.		X	X			X
Hapeville, Ga.		X		X	X	
Hazelwood, Mo.	X		X		X	
Kirkwood, Mo.	X			X		X
Malden, Mass.		X		X	X	
Mesa, Ariz.	X		X		X	
Millbrae, Calif.	X			X		X
Novato, Calif.	X		X		X	
Oak Park, Mich.	X			X		X
Richmond, Calif.		X		X	X	
Richmond Heights, Mo.	X			X	X	
River Rouge, Mich.		X		X	X	
Roswell, Ga.	X		X		X	
Scottsdale, Ariz.	X		X			X
Sonyana, Ga.	X		X			X
Somerville, Mass.	X			X	X	
Southfield, Mich.		X	X			X
Tempe, Ariz.		X	X			X
Walnut Creek, Calif.	X		X			X
Wellesley, Mass.	X			X		X
Willston, Mo.	—	X	—	X	X	—–
	23	13	19	17	17	19

Rural/small town (6)

Douglas County, Wash.
Duval County, Tex.
Ellsworth, Maine
Greene County, Ala.
Monona County, Iowa
Pocahontas County, W. Va.

CHAPTER 5

ESTIMATING CYCLICAL BUDGETARY DISRUPTION

FOR THE INDIVIDUAL STATE AND LOCAL GOVERNMENT

In our Federal system, responsibility for the provision
of goods and services to the public is divided among the three
levels of government, with deficit financing of current ex-
penditures available to only the Federal Government. In the
absence of authority to borrow, many services of State and
local governments may suffer serious erosion during reces-
sionary times. This chapter presents an analysis of State
and local budget disruption caused by a downturn in national
economic activity. The purpose of the analysis is to de-
velop a standard for identifying the impact of economic re-
cession on State and local budgets. Such a standard may
yield a measurable index of budget disruption or provide ap-
propriate insights in the selection of target variables for
the program. In contrast to the first part of the report,
where the State and local sector was the basic unit of
analysis, both this chapter and chapter 6 emphasize the
problems of budgetary adjustment for the individual State
or local unit. The direction of causation analyzed is from
the national to the State or local level.

BUDGETARY DISRUPTION AT THE STATE OR LOCAL LEVEL

Imposing a revenue constraint on the consumption of
public goods and services at the State and local level may
help to provide the fiscal discipline necessary to assure
the efficient delivery of services. However, a problem
may exist if State and local revenues are affected adversely
by national economic conditions to a greater extent than
expenditures are affected by decreases in income. Some
State and local expenditures, such as welfare payments,
actually increase when unemployment hits high levels.
Other categories of expenditures may not be sensitive to
economic activity.

In light of these problems, can any guidelines be
established for determining which State and local functions
are particularly deserving of compensation? Since State
and local expenditures for transfer programs increase with
the onset of recession, it is clear that, in the absence
of discretionary actions, additonal revenues are needed
if these increased responsibilities are to be funded. In
addition, many of the programs requiring these increased
expenditures are mandated by the Federal Government.

However, it is quite apparent that concern over mainte-
nance of services other than transfer payments is responsible
for much of the existing title II support. One can argue
that the provision of public goods should be constrained by
available resources or revenues, but it is questionable
whether any community's need for police and fire protection
or elementary and secondary education is diminished in a
recession. Indeed, equally strong arguments can be made
that the need is constant or greater. Thus, the degree
to which the nontransfer of State and local functions can
and should be constrained to available revenues is certain
to be a subject of considerable dispute, though the likely
consensus is that some compensation should be forthcoming
if revenues prove inadequate to maintain these services.

The question is how best to measure a jurisdiction's
requirement for nontransfer compensation. Since character-
istics of these programs do not result in automatically in-
creasing expenditures during recession, a jurisdiction's
ability to maintain prerecession service levels is actually
determined by the sensitivity of its revenue system--a sys-
tem that tends to be directly related to income levels
and therefore, generates reduced revenues during recessions
(other things remaining equal).

Therefore, it is suggested that each jurisdiction's
need for compensation be determined as a function of its
recession-induced increase in transfer payment expenditures
and some portion of the absolute value of its recession-
induced decrease in revenues. Adjusting the revenue de-
crease by some factor is essential for two reasons. First,
opinions will differ concerning which nontransfer functions
are worthy of compensation, and what portion of the "com-
pensable" functions are legitimate candidates for "belt
tightening" rather than compensation. Second, if the de-
mand for some nontransfer services does decline with the
cycle, the use of decreased tax revenues as an indicator
will overstate need.

THE BUDGET DISRUPTION CRITERION

Based upon the above perspective, the following cri-
terion is established to evaluate the existing targeting
formula: Funds should be distributed as a function of
each jurisdiction's cyclical budgetary disruption. Cyclical
budget disruption should be measured as the difference
between automatic (built-in) changes in expenditures and
changes caused by economic recession. These changes should

not include secular (long-term trends) changes in the economy.
The mathematical form and an example of budget distribution
are presented below.

The concept applied--
cyclical components of the budget

Given the framework developed, the immediate task at hand
is to estimate the size of cyclical budgetary disruption 1/ for
a representative downturn in the economy. The approach adopted
is to begin with the expenditure side of the budget and calcu-
late the change in expenditures restricting the expenditure
components to major transfer programs for which expenditures
increase with the onset of recession and which may include
substantial Federal involvement. The candidates for inclu-
sion in such a measure would appear to be Aid to Families
with Dependent Children (AFDC), Medicaid, General Assistance,
Supplemental Security Income (SSI) and Unemployment Compen-
sation.

Table 5.1 presents information on the proportion these
transfer program expenditures represent of State and local
direct general expenditures.

1/Cyclical budgetary disruption (BD_i) in jurisdiction i should
  be measured as the difference between the algebraic values
  of built-in (automatic changes in expenditures (E_i) and re-
  venues (R_i).

$$(1) \quad BD_i = \Delta E_i - g \, \Delta R_i$$

Note that ΔE and ΔR are to measure only automatic (cycli-
cal) budgetary changes. It is therefore necessary to remove
from observed data those changes attributable to secular
(trend) changes in the economy. In the simplest of all
worlds, each jurisdiction's aid (A_i) would be a constant
proportion p of its cyclical BD. This proportion would be
determined as:

$$(2) \quad p = \Sigma A_i \, / \, \Sigma BD_i$$

where ΣA_i is the total countercyclical aid available. Thus,
each jurisdiction's aid is:

$$(3) \quad A_i = pBD_i$$

Expenditure components

Not all of these programs represent the phenomena which
would be captured and compensated for in the calculations.
More specifically, fluctuations in the rates of expenditures
for unemployment compensation, and to a great extent for SSI,
do not affect a State or local government's budgetary posi-
tion in a manner that necessitates inclusion in this calcu-
lation. This is because, SSI payments have become or are
rapidly becoming entirely federally financed so that increases
in the level of payments do not affect the State and local
sector's own budgetary position. Unemployment compensation
is State financed; however, increases in the level of pay-
ments brought about by an economic downturn are met by draw-
ing down special trust accounts, and if those accounts are
depleted during a recession, Federal loans to the State's
trust funds provide new moneys. This process bypasses the
general fund, and although it may create public financing
problems of its own, these are not the subject of this in-
quiry. Note that this approach differs from that adopted
in chapter 2. There, these expenditure items were included
in the calculations of budgetary surplus or deficit for
the sector. The difference is that in chapter 2, the con-
cern was with stabilization aspects of the program and
the effect of the State and local fiscal actions on the
national economy during a downturn.

AFDC, Medicaid, and General Assistance remain as
sources for budgetary disruption from the transfer items
on the expenditure side of the budget. Data limitations
prevent inclusion of General Assistance payments, but these
account for a relatively minor portion of combined State
and local financed expenditures in these three categories.
For example, in fiscal year 1975 only 6.8 percent was in
these categories.

Table 5.1

Major Transfer Programs: State and Local
Financed Payments

	Dollars	Percentage
	(millions)	
AFDC	$ 4,050.7	32.4
Medicaid	6,210.9	49.7
SSI	1,387.7	11.1
General Assistance	843.7	6.8
Total	$12,493.0	100.0

Source: State Expenditures for Public Assistance Programs
approved under Titles I, IVA, X, XIV, and XIX of
Social Security Act, FY 1975 (SRS) 76-04023.

Public Assistance Statistics, July 1974-June 1975,
DHEW Publication No. (SRS) 75-03100, NCSS Report
A-2.

Bureau of Economic Analysis, Department of Commerce.

Revenue components

On the revenue side, the percentage distribution of
State and local revenue by source for the period 1954-76
is presented in table 5.2. The largest single item is general
tax revenue, accounting for 52.2 percent of the total in
1976. Estimates of fluctuations in those revenues, induced
by a fall in community economic activity, are used as a mea-
sure of revenue budget disruption.

The other major components of State and local revenues
arise from user charges and miscellaneous fees. Their pro-
portion of total revenues increased over the 1954-76 period,
rising from 11.3 percent of total State and local revenues
in 1954 to 15.4 percent in 1976. This illustrates the grow-
ing tendency of State and local governments to charge fees
for goods and services whose benefits can be appropriated
to individuals and whose beneficiaries are easily identifi-
able. If these charges cover the average variable cost of
providing the goods and services, recession-induced reduc-
tions in the demand for those services and the accompanying
expenditures will be balanced by dollar-for-dollar reductions
in revenues. Thus, these cutbacks will affect both sides
of the budget equally and will not contribute to further

budgetary disruption. However, if these charges are less
than the average variable cost of providing the service,
each unit reduction in services will result in dollar reduc-
tions in expenditures which exceed the loss in revenues,
with the result that, at the margin, the financial position
of the particular government will improve. To estimate the
extent of this phenomena during downturns would be a consider-
able undertaking. Nonetheless, it should be recognized that,
to the extent governments curtail operations in service areas
that are financed through user charges at subsidized rates,
omitting the budgetary impact of those cutbacks in calcula-
tions of cyclical budgetary disruption will result in an
overestimate of that disruption.

Utility, liquor stores and insurance trust fund reve-
nues account for 12.5 percent of the total in 1976, down
from 18.1 percent in 1954. Utility fees definitely fall
into the category of user charges and the previous arguments
apply. Liquor store revenues present a different problem.
State run liquor stores are established to earn profits,
and such profits imply that prices are set above cost. A
shift in demand caused by a fall in income, will move opera-
tions to a new optimal price and output position. It is
likely that profits will fall so that budgetary disruption
will be increased.

Table 5.2

Percentage Distribution of State and Local Revenues by Source

Fiscal year	Total State and local revenues	Federal aid	Tax revenue	Charges and miscellaneous general revenue	Utility, liquor store and insurance trust revenue
	(billions)				
1954	$ 35.4	8.5	62.4	11.3	18.1
1964	81.5	12.3	58.7	13.1	16.0
1972	189.7	16.4	57.4	13.9	12.3
1974	237.9	17.6	54.9	14.8	12.7
1976 (esti- mated	292.0	19.9	52.2	15.4	12.5

Source: Significant Features of Fiscal Federalism, 1976 Edi-
tion 1: 1. Trends, Advisory Commission on Intergovern-
mental Relations p. 35, table XIV.

Insurance trust funds are likely to bypass the regular budgetary process and not have a negative impact during downturns unless general revenues must be used to supplement deficiencies in the funds--an unlikely event. Much work would have to be done before the inclusion of these items in the calculation of budgetary disruption could be undertaken with any confidence.

The remaining source of funds--Federal aid--is an extremely important one, comprising 19.9 percent of total State and local revenues in 1976. Fluctuations in that aid with changes in the level of economic activity may play a critical role in determining the actual fiscal position of the sector. For the program being analyzed in this report, these funds will fluctuate automatically with other State and local revenue sources only to the extent they represent "matching rate" grants. Thus, fluctuations in Federal aid will be dependent upon three factors: (1) changes in other State and local revenues, (2) the proportion of this revenue change allocated between "matching rate" programs and all others, and (3) the average matching rate of the affected program. Computation of budgetary disruption consistent with all potential sources of cyclical revenue fluctuations would require consideration of Federal aid. However, the lack of systematic information on matching rates and the uncertainty concerning what these Federal funds are actually spent for would necessitate further analysis before the exact impact of Federal aid on budget disruption could be specified.

The calculations of budgetary disruption which follow should be considered preliminary. They do contain the largest single item on the revenue side, own tax revenues, and substantially more is known concerning the sensitivity of these tax revenues to the cycle than that of other State and local revenue sources. Further work would be necessary for a complete analysis of the concept.

ESTIMATES OF BUDGET DISRUPTION

In terms of expenditure disruption, most States do not require local financial participation for the non-Federal share of AFDC and Medicaid payments--with California and New York being the most notable exceptions. Federal assistance programs are completely State or locally administered, with local financial participation ranging from zero to 100 percent. The trend seems to be toward more State funding responsibility.

In terms of revenue disruption, tax revenues of local governments in general will be less cyclically sensitve due to heav reliance on the property tax. Some large cities are exceptions to this generalization due to the presence of local income taxes. Based on these considerations, it is likely that a calculation of budget disruption for local governments would show them to be considerably less cyclically sensitive than States, suggesting the one-third to two-thirds State/local breakdown of the program appropriation to be biased against States.

In table 5.3, estimates of budget disruption are presented for the 50 States. Data limitations do not permit the development of estimates for local units. The details of the calculation used to arrive at the estimates in this table are found on page 100.

Table 5.3

Estimates of Budgetary Disruption

	Revenue loss	Expenditure increase	Total
		----(millions)----	
Alabama	$ 29.5	$ .448	$ 29.9
Alaska	7.8	.646	8.4
Arizona	18.4	.083	18.5
Arkansas	16.5	.332	16.8
California	351.2	23.657	374.9
Colorado	32.8	1.193	34.0
Connecticut	43.8	2.619	46.4
Delaware	6.7	.213	6.9
Florida	69.0	.672	69.7
Georgia	58.0	1.181	59.2
Hawaii	22.1	.317	22.4
Idaho	5.9	.147	6.0
Illinois	118.0	23.279	141.3
Indiana	59.3	2.337	61.6
Iowa	25.2	2.284	27.5
Kansas	21.1	1.835	22.9
Kentucky	40.9	2.178	43.1
Louisiana	30.3	.653	31.0
Maine	8.8	.269	9.1
Maryland	60.6	1.916	62.5
Massachusetts	105.0	7.936	112.9
Michigan	134.0	26.241	160.2
Minnesota	73.5	2.377	75.9
Mississippi	25.6	.259	25.9
Missouri	48.3	2.114	50.4
Montana	3.9	.045	3.9
Nebraska	12.1	.512	12.6
Nevada	6.7	.075	6.8
New Hampshire	5.4	.387	5.8
New Jersey	62.7	3.975	66.7
New Mexico	6.5	.145	6.6
New York	309.4	13.373	322.8
North Carolina	62.8	1.040	63.8
North Dakota	a/0.0	.160	a/0.0
Ohio	112.0	24.143	136.1
Oklahoma	22.7	.862	23.6
Oregon	23.5	2.000	25.5
Pennsylvania	144.6	13.899	158.5
Rhode Island	11.3	1.231	12.5
South Carolina	32.4	.203	32.6
South Dakota	1.3	.324	1.6
Tennessee	35.1	.845	35.9
Texas	62.0	2.033	64.0
Utah	16.2	.851	17.0
Vermont	6.1	.697	6.8
Virginia	58.0	1.380	59.4
Washington	32.5	3.083	35.6
West Virginia	14.6	.435	15.0
Wisconsin	73.3	7.350	80.6
Wyoming	4.0	.023	4.0
Total	$2,531.4	$184.252	$2,175.1

a/North Dakota's personal income in the recession scenario was greater than in the base year, yielding a revenue increase. Since no funds are to be taken away, zero is entered in column 1. Because the revenue gain was greater than the expenditure expansion, total budget disruption is zero.

Note: For definitive details on the above figures, see p. 99.

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Budgetary disruption checklist

Because the figures in table 6 are arrived at via simulation techniques and do not include all sources of possible budgetary disruption, they should be regarded as illustrative of the problem. One way to gain some further insight into the framework of analysis developed in this section is to construct what might be called a budgetary disruption checklist. Specifically, it is possible to identify for each State the presence or absence of characteristics which could contribute to budgetary problems during economic downturns. Procedures for developing such a checklist follow. For each of the 11 factors listed below, the average value for all States is calculated; a value of one or zero is then assigned to particular States insofar as they fall above and below this average.

Expenditures:

1. The difference between the unemployment rate in a recession and in some other base period.

2. The percentage of the population receiving regular AFDC program benefits.

3. Benefit payments per recipient in the regular AFDC program.

4. The State's marginal financing share of an additional dollar of regular AFDC payment.

5. The presence or absence of an AFDC unemployed father program.

6. The percentage of the population receiving Medicaid benefits.

7. Benefit payments per Medicaid recipient.

8. The State's marginal financing share of an additional dollar of Medicaid.

Revenues:

1. The difference between personal income in a recession and in some base period.

2. Tax revenues as a percentage of total revenues.

3. Individual income tax collections as a percentage of total tax collections.

A State could score from 0 to 3 in terms of the number of possible sources of budgetary disruption from the revenue side and from 0 to 8 if only the expenditure side is considered. Table 5.4 tabulates the "scores for each State."

Clearly some States appear to be more susceptible to budgetary disruption than others in that they have a greater number of possible sources of revenue loss or expenditure increase. For example, Massachusetts records a "yes" for each source while West Virginia records only one "yes." However, the reader should not conclude that the budgetary disruption of Massachusetts will be 11 times that of West Virginia for a given decrease in national economic activity. This is because the 11 items do not necessarily carry equal budgetary weight. The one disruptive characteristic in the West Virginia budget could contribute as much to the dollar value of budgetary disruption as three or four items in the Massachusetts budget. The checklist provides a guide, but only a guide to the possible size of a given State's budgetary disruption.

Some comparative results

In the budgetary disruption calculation, every dollar of disruption receives equal weight. Therefore, each State's share of the program appropriation is equivalent to its share of total budgetary disruption. To exemplify what this means to each State's program appropriation, indexes have been constructed, relating each State's share of a given and fixed program appropriation for each of three measures of budgetary disruption to each State's proportion of General Revenue Sharing (GRS entitlement period 7). A value of 100 indicates the State's share is equal under either a budgetary disruption distribution or a GRS distribution. This technique is similar to that used in chapter 4.

Compensating States solely on the basis of expenditure disruption is one possibility, although some may argue that the concept is unnecessarily narrow. Column 1 of table 5.5 presents an index of each State's share of expenditure disruption relative to GRS. Thirteen states would receive larger shares of a given fund if the shares were determined by the degree of expenditure disruption than by their GRS allocations of the same fund. In the budgetary disruption checklist, all but one of these States have at least six expenditure factors, which could contribute to disruption (the other has five). Most of these States are large industrial States with well-developed transfer systems. Eleven States have an index less than 20, so they would receive much less than their GRS allocation of a given fund. These

are primarily Southern and Mountain States with very low AFDC and Medicaid payment levels and no unemployed father AFDC program.

Table 5.4

Budgetary Distribution Profile

	(1) Revenue x/3	(2) Expenditures x/8
Alabama	0	2
Alaska	2	5
Arizona	1	0
Arkansas	1	2
California	3	6
Colorado	2	4
Connecticut	2	6
Delaware	2	4
Florida	2	0
Georgia	3	3
Hawaii	3	6
Idaho	1	3
Illinois	3	7
Indiana	2	3
Iowa	2	4
Kansas	2	6
Kentucky	1	4
Louisiana	1	2
Maine	0	2
Maryland	3	6
Massachusetts	3	8
Michigan	3	8
Minnesota	3	6
Mississippi	0	3
Missouri	3	5
Montana	1	2
Nebraska	2	4
Nevada	1	3
New Hampshire	1	3
New Jersey	1	6
New Mexico	0	1
New York	3	6
North Carolina	2	2
North Dakota	0	2
Ohio	1	6
Oklahoma	1	1
Oregon	1	4
Pennsylvania	1	7
Rhode Island	2	8
South Carolina	2	2
South Dakota	0	1
Tennessee	1	2
Texas	1	2
Utah	2	4
Vermont	2	6
Virginia	3	1
Washington	1	6
West Virginia	0	1
Wisconsin	3	7
Wyoming	1	1

Now consider total budget disruption without reducing the
revenue side by some proportion, thus allowing revenue disrup-
tion to dominate the calculation. Several points are worthy
of note from the total budget disruption index in column 2 of
table 5.5. First, in 39 of the 50 States, a State's share goes
down (up) under GRS relative to the disruption measure if it
has more (less) than the average number of factors contribut-
ing to possible budget problems during a downturn. Second,
all seven States with no revenue factors contributing to dis-
ruption receive more of a given and fixed appropriation under
a GRS formula. Third, all six States with seven or eight
sources of expenditure side disruption receive less under a
GRS formula than under the budgetary disruption approach.

Thus, the estimates in columns 1 and 2 suggest the Con-
gress was correct in deciding that the General Revenue Shar-
ing formula is inadequate to the task of distributing funds
on the basis of the recession's impact on State and local
budgets.

The question remains, however, whether the formula actually
adopted is a reasonable approximation of the desired distribu-
tion. For this question, consider the ratio of the actual anti-
recession allocation relative to a GRS-determined allocation
which is presented in column 3 of table 5.5. With the exception
of seven States--Alabama, Arkansas, Idaho, Massachusetts,
Pennsylvania, Tennessee, and West Virginia--this ratio varies
substantially from the ratio in column 2. If we remember that
a ratio greater (less) than 100 in column 2 suggests a juris-
diction should get more (less) than the proportion of funds
awarded by a GRS formula, it is clear that the antirecession
formula moves 17 States in the wrong direction. These States
are identifiable as those where the two ratios lie on differ-
ent sides of 100. For example, Indiana should get more than
it would obtain under a GRS formula (col. 2 equals 107) but
gets substantially less (col. 3 equals 32). Oregon should
get less than it would obtain under GRS (col. 2 equals 87)
but gets substantially more (col. 3 equals 145).

Table 5.5

Alternative Distribution Formulas Relative to GRS

	(1) BDexp/GRS	(2) BD/GRS	(3) ARFA/GRS
Alabama	15	68	73
Alaska	184	163	111
Arizona	5	71	108
Arkansas	17	58	50
California	120	129	157
Colorado	59	113	46
Connecticut	111	134	168
Delaware	38	78	100
Florida	12	85	183
Georgia	30	103	70
Hawaii	38	184	124
Idaho	22	61	67
Illinois	245	101	87
Indiana	60	107	32
Iowa	100	81	22
Kansas	111	93	0
Kentucky	69	93	57
Louisiana	16	52	91
Maine	25	56	123
Maryland	52	114	55
Massachusetts	136	131	126
Michigan	345	143	183
Minnesota	64	139	30
Mississippi	9	62	39
Missouri	61	98	33
Montana	5	38	84
Nebraska	43	73	24
Nevada	16	100	116
New Hampshire	62	62	9
New Jersey	68	78	151
New Mexico	11	37	68
New York	64	105	148
North Carolina	22	94	55
North Dakota	29	0	25
Ohio	323	124	87
Oklahoma	42	80	94
Oregon	100	87	145
Pennsylvania	142	110	113
Rhode Island	153	107	191
South Carolina	8	86	53
South Dakota	56	19	9
Tennessee	24	70	74
Texas	22	47	32
Utah	82	113	55
Vermont	141	93	152
Virginia	37	108	31
Washington	109	86	136
West Virginia	22	51	50
Wisconsin	164	122	39
Wyoming	6	94	6

There may be some concern with minimizing the variance
in fund distribution. Though, as shown above, almost any
distribution formula will result in winners and losers, the
budget disruption distribution concept has the advantage of
substantially reducing the variance. For example, the stand-
ard deviation of the antirecession assistance index is 52.2,
whereas it is only 35.1 for the budgetary disruption index.
Apparently, the antirecession assistance formula favors those
areas which have long-term economic problems. The characteris-
tics of that secular decline seem to vary more widely across
States than do cyclical influences (as measured by budgetary
disruption).

On the other hand, distributing funds on the basis of
only expenditure disruption would substantially increase the
disparity in distribution, raising the standard deviation to
73.9. A qualification to this result is that the present
calculations ignore general assistance, a State and local
financed program. Though its size is considerably less than
AFDC and Medicaid, the fact that financing arrangements range
from zero State funding to 100 percent State funding might
modify the expenditure budget disruption calculations signifi-
cantly. The net effectiveness of such a substitution is not
at all clear.

It is also possible that a jurisdiction might be induced
to change the structure of a particular tax. This could have
a particularly beneficial impact on the equity of some sales
taxes. In general, sales taxes that include food in the tax
base will be less income sensitive than taxes that exclude
food, because food is a relatively stable component of con-
sumption. Thus, some incentive may exist for a jurisdiction
to eliminate food from the sales tax base, a change which re-
duces the regressivity of a sales tax.

On the expenditure side of the budget, the calculation
of budget disruption was restricted to transfer programs.
This may create an incentive for jurisdictions to assume
greater responsibility in this area. The equity impact would
be considered favorable. This could be objected to, but such
objections would be based on the argument that a substantial
transfer system destroys work incentives or that the expen-
diture package should follow more closely the benefit prin-
ciple of taxation and provide services to those individuals
paying the taxes.

BUDGETARY DISRUPTION AND INCENTIVES
OF STATE AND LOCAL GOVERNMENTS

When Federal money is allocated among State and local
jurisdictions, care should be exercised that the distribution
formula not provide incentives for the recipients to pursue
actions that lead to socially undesirable results. If an
antirecession assistance formula were designed to provide
funds to State and local jurisdictions in proportion to their
measured budgetary disruption, what type of incentive does
this Federal policy provide for State and local governments
in designing their tax and expenditure policies? In particu-
lar, are State and local governments induced to have income
sensitive taxes like the personal and corporate income taxes
or income insensitve taxes like the property tax? Similarly,
are they likely to support higher levels of transfer payments,
which may or may not be income sensitive?

There are differences in the effect of antirecession as-
sistance (based upon budgetary disruption), depending upon
the degree to which the State's expenditures and revenues are
sensitive to economic activity and changes in income. The
nondiscretionary expenditures and revenues of States that
have income sensitive taxes and expenditures are more vola-
tile; hence these States have greater nondiscretionary sur-
pluses during economic expansions and greater nondiscretionary
deficits during recessions. Figures 1 and 2 below show the
responses of States' nondiscretionary taxes and expenditures
to the level of national economic activity.

Observations can be made about this. In the absence of
antirecession aid based upon the concept of budgetary dis-
ruption, both types of States could run a balance over the
business cycle, thus financing the deficit during recessions
from surpluses accumulated during booms. But during boom
times, both might respond to a surplus by increasing discre-
tionary expenditures or decreasing discretionary taxes, which
would put them in a difficult position during the next re-
cession when they might have larger deficits and no accumu-
lated surpluses. This tendency would have a more severe ef-
fect on States with income sensitve budgets than on the others.

How does an antirecession assistance program based upon
budget disruption affect this? If payments were in propor-
tion to the measure of budgetary disruption, the program would
be off during the boom when the States with income sensitive
budgets would run a large surplus and the other States with
income insensitive budgets only a small surplus. But the
program will become effective during the recession when the

INCOME SENSITIVE STATES

GNP

EXPENDITURES
NONDISCRETIONARY

REVENUES
NONDISCRETIONARY

BOOM   RECESSION   BOOM
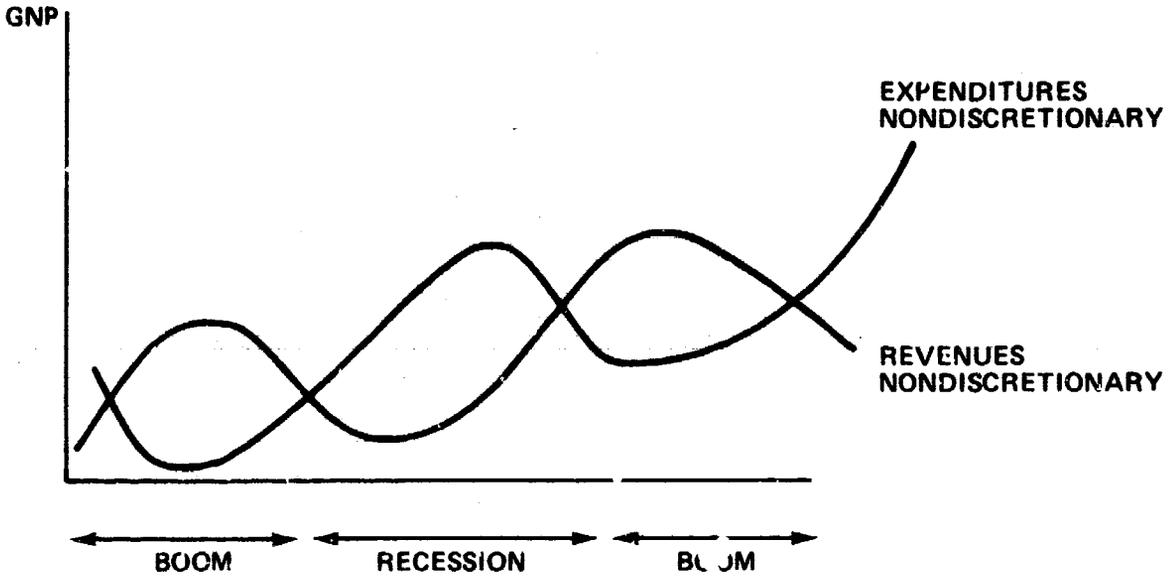
FIGURE 1
INCOME SENSITIVE STATES

INCOME SENSITIVE STATES

GNP

EXPENDITURES
NONDISCRETIONARY

REVENUES
NONDISCRETIONARY

BOOM   RECESSION   BOOM
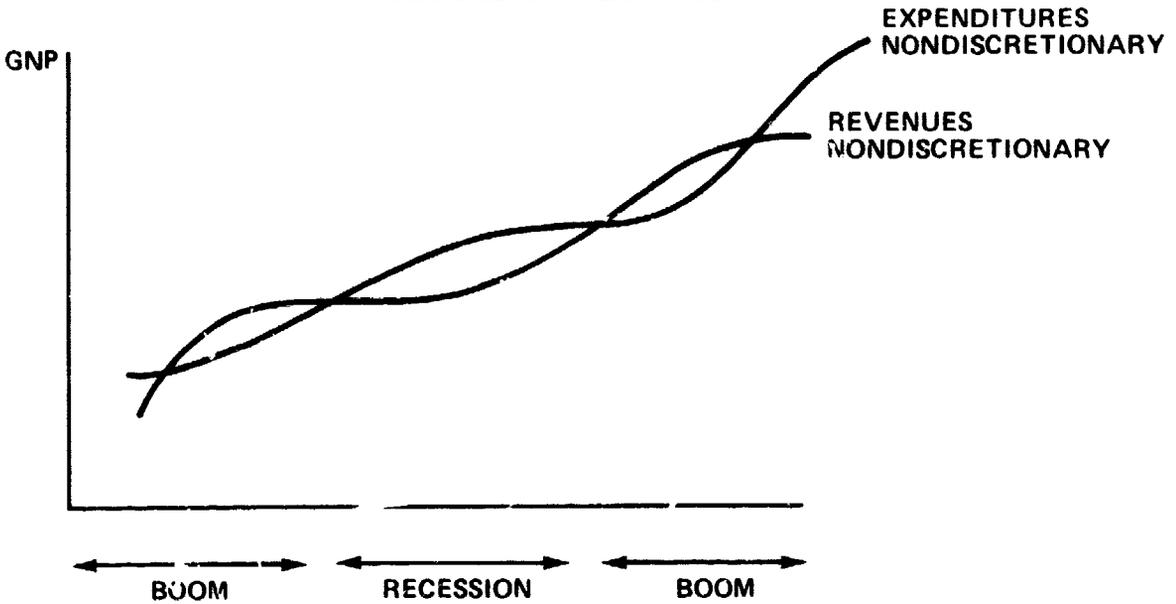
FIGURE 2
INCOME INSENSITIVE STATES

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States with income sensitive budgets are running a large deficit and other States only small deficits. Thus income sensitive States will get a much larger share of the aid because the program operates only when these States are at a disadvantage, not when they are at an advantage relative to the States with income insensitive budgets. Consequently, there is an incentive for these States to redesign their tax and expenditure structures to make them more income sensitive so that they will get more antirecession assistance funds.

If antirecession assistance moneys are distributed only in proportion to budgetary disruption, the amount of the funds paid is independent of the type of the response that is made to the budgetary disruption: (1) borrowing; (2) depleting accumulated reserves; or (3) increasing discretionary revenues and decreasing discretionary expenditures. The amount of aid would be the same no matter what the response. Income sensitive States particularly increase discretionary expenditures during booms in response to their nondiscretionary surplus with the result that an accumulated surplus is not generated to finance the deficit during the next recession. One way the aid policy could alter this type of response to booms would be to alter the formula so that funds were provided not just in proportion to budgeting disruption but in proportion to the size of that disruption plus the level of accumulated surplus at the peaks of the last boom or the level of the budget surplus at the peak of the last boom. There are two principal results of this alteration.

First, it provides an incentive for governments not to increase discretionary expenditures or decrease discretionary revenues during booms. Surpluses would be accumulated and aid during the next recession would be increased in proportion to that surplus. The desirable effects of this are twofold: (1) it provides an incentive for countercyclical behavior during booms and (2) if States show fiscal restraint during booms, they receive greater funds during recessions, which would make them less procyclical (more countercyclical) by giving them more funds during recessions, inducing them not to increase taxes and decrease expenditures. Thus, the addition of the surplus term to the fund allocation formula helps States behave in a more countercyclical way during both the expansion and recession phases of the cycle.

A major question is whether the promise of added funds during recession is sufficient incentive during booms not to submit to political pressures and decrease taxes and particularly to increase expenditures. The promise of added funds during the next recession may not be sufficient incentive to show fiscal restraint during the boom.

The differential impact of the addition of the surplus to the budgetary disruption formula should also be noted. The term should make the program even more weighted toward income sensitive States because these States have the capacity to run larger surpluses during booms. Thus, the surplus term will provide another incentive for all States to adopt more income sensitive tax and expenditure structures.

Some equity considerations

If a plan based upon budget disruption is adopted and States quickly perceive it to be in their interest to adopt more income sensitive tax and expenditures profits, what are the probable equity effects that should be taken into account?

On the tax side of the budget, the tax which is most sensitive to income change is the income tax. Most observers would consider substitution of an income tax for a sales or property tax an improvement in equity. Of course, much depends on the structure of the two taxes. There exists the possibility that an income tax structure could be more regressive than a sales tax. Also, a considerable controversy must be acknowledged concerning the incidence (impact on the income distribution) of the property tax.

Substitution of an income tax for a sales or property tax does not demonstrably worsen resource allocation. No clear evidence exists that income taxes influence the willingness of people to work. If the income tax is broad based, it has the advantage of not discriminating between labor and capital income (as does the property tax) and of being neutral with respect to consumption (whereas sales and excise taxes are not).

A second substitution might be a sales tax for some portion of a property tax. Agreement is nearly unanimous that sales taxes are the most regressive of major tax sources. If the incidence of the property tax is proportional, such a substitution would have an adverse equity impact.

METHODOLOGY USED TO ESTIMATE BUDGETARY DISRUPTION

The methodology used to give empirical content to the concept of budgetary disruption is a two-stage process. The first stage consists of finding measures of the cyclical sensitivity of State receipts and expenditures. In the second stage, a hypothetical cycle is constructed and the estimates of sensitivity derived in the first stage are applied to arrive at a measured budgetary disruption. The process followed in each stage is discussed below.

Separate estimates of the income elasticity of sales taxes and personal income taxes are made using pooled cross-section time series regression techniques. The dependent variables were derived from selected data, supplied by the Advisory Committee on Intergovernmental Relations for tax collections adjusted to exclude statutory changes in tax provisions. Thus, the resulting coefficients are purged of discretionary changes, and the measured elasticities represent systemic responses of revenues in the absence of compensating legal intervention. Unfortunately, similar data on corporate profit tax revenues, the third revenue source dealt with in this study, are unavailable, therefore, the elasticity of these collections is estimated from traditional aggregate time series data. The forms of the estimating equations are shown below.

1. Individual income tax

$$PNDITT = -.003 + 1.125994 \; PYO + 1.312698 \; PNR + .00307t$$
$$ (6.05) (1.98) (1.47)$$

$$\bar{R}^2 = .369 \; \overline{SEE} = .048$$

104 observations, 1968-75

2. General and selective sales taxes

$$PNDGST = .733605 \; PYO - .000887t$$
$$ (3.71) (-.63)$$

$$\bar{R}^2 = .177 = \overline{SEE} = .024$$

56 observations, constant team allowed to vary by state, 1968-75

3. $PCPT = .0083 + .76 \; PCP + .0009t$
$$ (15.70) (3.10)$$

$$\bar{R}^2 = .73 \; \overline{SEE} = .087$$

104 observations, 1950I to 1975IV

PNDITT = Percent change in nondiscretionary individual income tax collections, annually, selected States.

PNR = Percent change in resident population, annually, selected States.

t = Dummy variable for time.

PNDGST = Percent change in nondiscretionary sales tax collections, annually, selected areas.

PCPT   = Percent change in corporate profits tax collections, over four quarters.

PCP   = Percent change in corporate profits, over four quarters.

An analogous process was followed to calculate budgetary disruption on the expenditure side of the budget. The first stage required measures of the cyclical sensitivity of three transfer programs--AFDC unemployed father, AFDC female-headed families, and Medicaid. The relationships between the unemployment rate and AFDC recipients are based upon estimates by Mathematica Policy Research.

1. The estimates indicate recipient unemployment rate elasticities of 1.43 for the AFDC unemployed-father program and 0.13 for the AFDC female-headed-family program. The relationship between Medicaid recipients and the unemployment rate is based upon an estimate by the Office of Income Security Policy at the Department of Health, Education, and Welfare. 1/

2. They suggest that 35.5 percent of recession induced AFDC recipients become Medicaid recipients. It is assumed that the average recipient payment for the Medicaid program and the two AFDC programs does not vary with the cycle. 2/

To generate the impact of a recession on States' budgets, the Data Resources Inc. macromodel was simulated with a set of assumptions sufficiently pessimistic to cau   it to forecast a recession. (The DRI solution, PESSIMO326, base was adjusted to include poorer consumer expectation, lower auto demand, and less foreign demand.) This set of macrodata was then used to recursively solve the DRI State and Area Forecasting Service model for employment and personal income by State. Next, the differences between States' recessionary

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1/Kevin M. Hollenbeck, An Analysis of the Impact of Unemployment and Inflation on AFDC Costs an Caseloads, Mathematica Policy Research (76-12).

2/Office of Income Security Policy, The Cyclical Behavior of Income Transfer Programs: A Case Study of the Current Recession, Technical Analysis Paper No. 7, "Medicaid" pp. 71-88.

status and the DRI Control 0131 SAFS forecast were calculated
as a measure of the impact of such a recession upon income
and employment for each State. These cyclical changes were
then scaled to 1976 conditions. A further assumption, that
the change in nonagricultural employment was representative of
the potential cyclical changes in the number of unemployed
persons, was imposed to allow construction of estimates of
unemployment rates. Finally, the response coefficients de-
veloped in the first stage were applied to the constructed
cycle measures to derive hypothetical expenditure and revenue
changes for each State.

CHAPTER 6

AN ANALYSIS OF SECULAR BUDGETARY DISRUPTION

One of the difficulties in evaluating the antirecession assistance program is determining whether the program provides aid to State and local governments that are adversely affected by economic recession or whether aid is provided to those units adversely affected by long-term economic decline, or by some combination of the two. This difficulty arises when a targeting variable is chosen to reflect the impact of the recession on the unit's budget. That indicator may reflect long-term economic decline rather than a cyclical problem.

In this chapter, the concept of secular (long-term) economic decline and its impact upon State and local government budgets is developed. The purpose of the discussion is to identify the key parameters of secular budgetary disruption and to investigate whether it is possible to separate this phenomenon from the cyclical phenomenon.

PHENOMENON OF SECULAR DECLINE

Much of the State and local political pressure for Federal revenue sharing and other forms of Federal aid is prompted by secular decline in the economies of many central cities and its burden on the budget. Compared to cyclical disruption, secular decline is a much longer run phenomenon and occurs with greater unevenness across jurisdictions within a metropolitan area.

The fiscal condition of State and local governments is integrally related to the fiscal condition of the private sector in the region, mainly because the main source of revenue for a State or local government is the taxes collected from households and businesses in the region.

Secular decline is an economic process which has generally not been experienced in advanced industrialized countries, except in rural and "depressed" areas (Appalachia, Mesabi Range) whose development has relied upon such land-based production as agriculture or mining. However, it is now occurring quite dramatically in many (but not all) U.S. central cities. Table 6-1 shows some sample rates of long-run population change and changes in total and manufacturing employment over recent years for selected cities. States have experienced differential growth rates as well, but the range is not nearly so dramatic.

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WHAT ARE THE CAUSES OF ECONOMIC DECLINE?

Economic thinking about the long-run dynamics of regional and local economies has been directed toward deciphering the growth process. The theory of economic growth has no counterpart, "economics of shrinkage." There are asymmetries, particularly with respect to the public sector, which prevent us from adapting growth models to the shrinkage process.

Table 6-1

Changes in Population and Employment for Selected Central Cities

City	Percent change in population 1960-73 (note a)	Percent change in total employment 1960-70 (note b)	Percent change in manufacturing employment 1967-72 (note c)
Boston	-8.0	-7.5	-25
Cleveland	-22.6	-15.2	-23
Detroit	-16.6	-8.3	-14
Chicago	-10.0	17.6	-21
St. Louis	-26.1	-21.2	-26
Milwaukee	-7.5	-0.6	-10
Baltimore	-6.5	-2.7	-18
Seattle	-9.3	-1.5	-15
Houston	+40.2	+41.8	+7.2
Phoenix	+45.6	+44.1	+24.1
Denver	+4.4	+8.3	+2.5
San Diego	+29.9	+27.0	+4.4

a/Census Bureau, Current Population Reports, July 1, 1973.

b/Census Bureau, U.S. Census of Population, 1960, 1970.

c/Census Bureau, 1972 Census of Manufacturers.

Microeconomic models ascribe private sector decisions to move production to and locate new investment in other areas (suburban, rural, and foreign) to the widening of differential wage rates and taxes; new technologies that are land extensive; new transportation systems that free production from older modes; public policy, such as Federal underwriting of the interstate freeway system, and suburban homeownership; and the increasing importance of differential energy costs.

However, regional growth theory is ill-equipped for aggregating these microeconomic processes into a model of decline. The central debate in regional economic modeling for either growth or decline is over the relationship between population migration and migration of employment opportunities. 1/ Does population follow new job possibilities or do employers follow population movements? The first interpretation, that people will relocate to new employment centers, arises from demand-side or export base theories of regional growth--according to which, employment opportunities increase with expansion in demand for the output in which a particular place specializes. In this case, demand for the output increases employment opportunities and, through the mechanisms of higher wages, additional workers are attracted to that location. The second interpretation, that employers relocate jobs to places where population growth and immigration is occurring, results from supply-side theories of regional growth--according to which, population migrates for reasons of preference, wage rates are driven down in receiving centers, and employers relocate to take advantage of the lower wage levels. This debate is unresolved despite empirical attempts to test the two hypotheses.

A second theory on regional growth, critical of the traditional formulas described above, emphasizes overall advantages of certain locations that cannot be expressed in the same language that characterizes decisions of individual employers and workers. An example is the existence of a large network of communications and service establishments in New York City, which attracts and holds many activities despite the high wages, land costs, and taxes. These have been labeled agglomeration economies, features that are not easily identifiable because they are collective economies of scale (Vernon and Hoover, Richardson, 1973). Furthermore, over time, the existence of agglomeration economies results in a growth process, which is not predictable from the microeconomic identification of costs and revenues confronting individual employers and workers (Kaldor, 1970). The difficulty with this approach is that it is not subject to precise empirical verification.

1/This is a particular case of an often occurring difficulty in empirically handling supply and demand changes which occur simultaneously. The question of causality is thus unresolvable, as in the familar chicken-or-the-egg metaphor. Testing hypotheses which arise from such conflicting theories is impossible, because statistical demand and supply curves cannot be specified simultaneously in these cases (Friedman).

Since regional growth theory is not well developed, at least for producing a clear understanding of what causes some regions to grow or for predicting what growth patterns will be like in the future, it is obvious that economic decline in a city or region cannot be interpreted as a process caused by the reverse of sources of economic growth. All that can be said is that both (1) regional cost and revenue features and (2) interdependencies and externalities are of major importance in explaining regional decline. Many would speculate that relatively high wage levels, low skill levels, high insurance rates, high taxes, high transportation costs, high land costs, falling demand for regional output are all factors that encourage employers to relocate jobs.

It is likely that lack of job opportunities, high housing costs, high regional cost of living, and high taxes encourage people to migrate out of declining areas. Furthermore, high levels of unemployment accompany the decline process because people do not move out as rapidly as jobs do, because information is poor, moving costs are high, preference for community is high, welfare levels are relatively high, and so on. Summing up all such specifiable factors, it is possible to speculate about the agglomeration of externality factors which influence the process, such as the existence of a large, skilled labor pool or the concentration of poverty in the area (whether it is Appalachia or Manhattan). But this process does not yield a clear model of the causes of economic decline.

The policy question, however, is not what causes the economic decline, but whether the Federal Government should respond to its occurrence. How to respond is a question that would benefit from a clear understanding of the process itself. Whether a response is necessary is a question of economic welfare and economic efficiency.

Past and current policy perspectives on secular decline

Traditional economic theory advises that policy need not address regional decline because it is a natural product of the market at work and that any attempt to interfere with the process could create an inefficient allocation of scarce resources. One version of this approach would urge that only market-strengthening polices, such as increased information on location opportunities, should be pursued. However, some economic policy experts argue for a concerted regional policy that would ameliorate the situation.

The Federal Government does engage in policies that
stimulate regional growth. In some cases, such as defense
spending, there is no attempt to consciously fuel regional
growth; but, in fact, the expenditures have different impacts
in different areas of the country. Deliberate regional growth
policies have been predominately tailored for rural areas:
the Appalachian Regional Commission and TVA. These policies
focus on a holistic view of the regional economy and provide
infrastructure and direct production incentives which are con-
sistent with a deliberate growth strategy. For instance, the
Appalachian Regional Commission set out to implement a growth
policy, the major incentive for which building a massive high-
way system that would attract new industry from outside the
region to growth centers and people from the surrounding moun-
tain hollows to the same growth centers.

Until quite recently, rural economic stimulation programs
had no counterpart in urban economic growth programs aimed at
overall stengthening of the local economy. Even now, with the
exception of the Community Development Corporation, urban pro-
grams tend toward specific structural problems like poverty,
low labor productivity, poor housing, and public sector serv-
ices.

One reason for this difference is the recurrent
interpretation--by the Congress, the executive, as well as the
organizations of mayors, counties, and governors--that the
major uneven growth problem is the rural-to-urban migration.
Thus, population dispersion and balanced growth require an
aggressive rural development policy and an urban "problems"
policy. This view both overstated the permanence of the
rural-to-urban trend and ignored the differential growth rates
within metropolitan areas, where suburbs were growing rapidly
even while central cities lost population.

Currently, the rural-to-urban migration has slowed drama-
tically. If this trend were to prove durable, it would con-
stitute an end to the massive migration from rural hinterland
to major urban centers that has continued virtually unabated
since the early 1800s. However, central city depopulation
is still occurring, although at a diminished rate since the
1960s. Nevertheless, some policy perspectives still reflect
the old notion that rural areas are depressed because of out-
migration and urban areas are troubled because of rapid growth.
Explicit economic development programs for cities that focus
on the local economy as a whole are rare. In the few cases
where the Eonomic Development Administration has attempted
to fuel local urban economic growth, as in the Oakland project,
the programs have failed to alter prevailing economic condi-
tions.

Altogether, then, there is neither a sufficient theory of regional and urban economic growth nor a coherent policy for addressing adverse growth experience in urban areas. Contemporary discussions of the urban fiscal crisis are generally weak in their analysis of underlying economic forces in the local economy. Budgetary disruption results from poor economic performance and changing economic structure, as well as from cyclical pressures and management problems.

Public sector impact of secular decline

The public sector impact of regional economic decline is quite complex. Important factors are potential changes in tastes and preferences that underlie the demand for services, changes in economies of scale that are difficult to specify apart from the particular situation, and possible elements of monopoly or monopsony in factor markets (e.g., public service labor unions). The public finance literature does not conclude that regional economic growth necessarily produces economies of scale and fiscal dividends, nor that decline necessarily causes permanent fiscal difficulties. The evidence on optimal city size tentatively suggest that average public service costs may be least for cities with a population between 100,000 and 1,000,000. However, even if decline leads to smaller city size and lower long-run average costs, a painful transition period accompanies economic decline, during which average costs may actually rise. This can be visualized as analogous to the long- and short-run cost curves for a private firm:
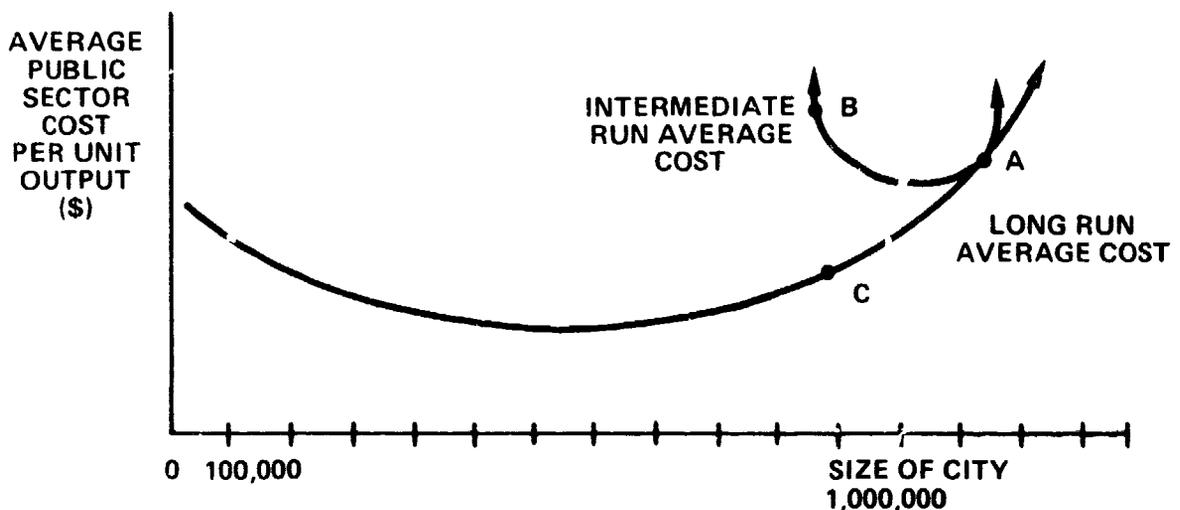
While adjustment may eventually lead to point C, in the interim
it may cause production costs to rise to B. Coupled with a
diminished tax base, such transitional costs can create severe
budget problems for local governments. This adjustment problem
is primarily a result of the fixed nature of public sector
capital stock, which cannot be retired or written off without
budgetary consequences.

In urban areas waste in the local public sector is a sig-
nificant feature of the decline process. Historically, the
success of the urban environment in engendering industrial
growth relied upon considerable interdependencies, or agglomera-
tion factors, many of which became the province of the public
sector. The urban infrastructure--streets, water and sewer
systems, transportation, parks, public buildings for education
and recreation--is in large part produced through the public
sector. The services provided with this public capital are
consumed in a collective way. While in some instances a fee
is charged users for part or all of the services (e.g., sub-
way fares), the bulk of this infrastructure and the services
produced with it are financed out of general revenues from
property, sales, and income taxes at the local level.

In the short run, decisions by some groups to vacate the
urban area or to move in may result in waste or overcrowding,
until long-term adjustments in the public stock of capital can
be made. In the case of urban decline, the exodus of jobs and
population could produce significant diseconomies in the public
sector as school rooms are vacated and the rest of the city
physical plant is used at a suboptimal rate. Furthermore, the
maintenance costs of the capital stock, constructed with a
denser population in view, fall on the resources of fewer em-
ployers and residents.

Decisions to leave the region or relocate in the suburbs
are made by an individual firm or household. As long as they
are relatively small in size and not accompanied by large
numbers of similar relocaters, their impact on the public
sector of the place they are leaving will be negligible.
However, the large-scale outmigration documented in table 6.1
can result in additional public sector costs imposed on the
remaining private sector.

There are two ways that long-run adjustments to such
excess capacity can take place. First, the local government
can choose to retire some portion of the capital stock, by
selling old elementary schools for instance. In this case,
suboptimal excess capacity is not a permanent phenomenon.
However, in some cases, the subway for instance, it is not

possible to retire some part of the capital stock, even though
use might be less. Therefore, the long-run solution is simply
higher maintenance costs on fixed capital than would be the
case if the system were built anew to specifications of cur-
rent location and density patterns.

The public sector budget may experience economic conse-
quences in two ways. First of all, large-scale outmigration re-
sults in unused public production capacity, which was con-
structed with expectations of a stable if not growing population;
schools close; etc. Frequently, bonding for such physical
plant is still not paid off. Therefore, despite the decline
in usage, the fixed charges on the capital account remain at
levels to which local government is committed. Furthermore,
when budgetary difficulties arise, the financial markets may
exacerbate this problem by raising the interest rates charged
for new capital to refinance old bonds. Cities can lay off
workers, but they cannot "lay off" the banks.

The second effect operates through the revenue side of
the budget. The cumulative impact of net outmigration of jobs,
of jobholders, of sales, and resulting public sector layoffs
is to depress the levels of revenue from property, income,
and sales taxes. The demand for housing falls and the exist-
ing housing stock deteriorates at an accelerated rate. (When
property values are falling and excess housing capacity ex-
ists in certain neighborhoods, the only way that investors
in property can recover their investment is by trying to
squeeze out rent without spending money on maintenance.)
Since the public sector relies heavily on taxes which are
levied on property, both the decline in property values ac-
companying this deterioration and the rise in the rate of
tax delinquency exacerbate the budgetary problems.

The urban economic decline process has its multiplier
characteristics. As budgetary pressure results in employment
cutbacks, higher taxes, and poorer services, more people and
employers are encouraged to leave. Multiplier effects are
likely to be quite large in central cities, thus prolonging
adjustment. The commuting population produces a second set
of adjustment difficulties. When outmigration is largely to
suburbs rather than interregional, the city government still
provides the infrastructure for a daytime population but loses
the tax base associated with housing and consumption activi-
ties of commuters' households.

Thus, two sets of private sector actions contribute to
secular budgetary disruption. The first consists of those
economic activities which go out of business or decide to

relocate elsewhere, because they are no longer profitable or
competitive at the previous location. If such outmigration is
large enough, excess capacity may occur in the public sector
and the tax base may shrink. The second set consists of
those economic activities which migrate in response to a de-
terioration in the local public sector (higher taxes and/or
lower quality services). These are activities which would
not have moved in the absence of the budgetary consequences
from the first set of movers. A policy response to local
budget problems induced by secular decline can choose to
address one or both of these contributing forces.

A model of public sector's response to decline

In this section a simple model of the decline process is
developed to illustrate the fact that budgetary pressures
arise from economic decline. The model summarizes the rel-
evant relationships, without specifying the exact strength
of each.

The driving part of the model is the population/employment
sector, in which population is made dependent upon the level
of employment in the "export" sector. The average job lost in
the city economic base results in multiple changes in popula-
tion, at least in the long run, due to two factors. First,
jobs lost in export activities result in lower incomes for
people previously working in that sector, who in turn are no
longer able to consume locally and, therefore, undermine the
economic vigor of other "secondary" activities, such as whole-
saling and retailing, services, housing, etc. So additional
job losses occur in these sectors. Secondly, each job usually
represents several persons' livelihood, so that population
losses are apt to be greater than job losses in the long run.
The relationship between export employment and total popula-
tion is not simply one-to-one then but is shaped by the mul-
tiplier process, family structure, and the adjustment period
from unemployment to outmigration.

A second part of the model examines the capital stock
in the public sector. It divides the capital stock at any
period of time into new investment (e.g., a new school build-
ing), the capital stock carried over from the previous period
(minus whatever has been retired), and the maintenance on the
capital stock necessary to keep it in good working order
(e.g., highway resurfacing). The model assumes that a local
government has some optimal level of capital stock that pro-
duces the socially desired level of public sector services.
It might be $3,000 per capita, for instance. Public sector
net investment and maintenance is undertaken by the local
government if the capital stock is less than or equal to the

socially desired equilbrium. But if excess capacity exists, there is no new investment and maintenance takes place only at the rate required to replace the depreciation of the equilibrium level of capital stock. This section of the model thus specifies what government investment behavior will be and demonstrates how excess capacity can exist.

The third section of the model shows the production process for local public services. It states that two types of input--the capital stock and operating inputs like labor and materials--combine to produce the level of public services needed. If excess capacity exists, the local government cannot take optimal advantage of it so it represents a wasted resource. If, on the other hand, the capital stock falls short of the socially desired level, crowding occurs and per capita public sector output falls short of the desired level.

The final section of the model looks explicitly at the budget. The expenditures that the local government must meet include the operating costs associated with labor and capital, the depreciation costs for capital maintenance, and the finance charges associated with new investment in past periods. Finance costs depend on the interest rate and the term structure (how long the bonds are issued for). On the revenue side, the tax base (simplified here to property alone) responds both to the economic base of the area and to the residential and commercial activity associated with population size. The model assumes that, in order to balance the budget, the local government must set taxes at the rate which raises enough revenue to cover expenditures.

The model could be used to predict secular budgetary disruption over time if data exist to estimate parameters and if good information on future levels of employment and property values is available. Both the existence of excess capacity and changes in the tax rate representing lower property values and continued capital obligations, could be used as measures of secular disruption. Each of these has its problems. Accurate valuation of capital stock is quite difficult in the public sector. For instance, what is the value of a park which has been totally paid off but would cost millions to replace or which could be converted to land uses that would raise billions? The tax rate provides a reliable data source but its level represents differences in demand as well as differential costs on the production side. Better theoretically as a measure of secular disruption but even more elusive is the measure of change in per capita service enjoyed by the population. Expenditures will not properly reflect a decline in service when budgetary adjustments are

made by cutting services instead of raising tax rates. Some
estimate of this variable would be desirable, for it could
then be used in a model of location decisionmaking to predict
the responses of households and firms to a deterioration in
public service levels. However, given the current state of
output measures and data availability in public finance,
the model cannot be operationalized. Therefore, proxies for
secular budgetary disruption representing changes in the level
of economic activity are suggested below. The model serves
to identify the link between decline in economic activity and
budgetary problems.

Federal policy options in response to
secular budgetary disruption

The Federal Government can pursue four courses in respond-
ing to State and local government budget problems from regional
economic decline.

1. Ignore secular disruption totally, allowing the private
   sector to adjust regardless of adjustment costs.

2. Prevent second round impacts from outmigration in
   response to budgetary deterioration.

3. Compensate fully for excess capital costs and marginal
   tax increases incurred because of outmigration of
   private activities.

4. Assume responsibility for maintaining service and
   revenue levels at previous levels.

But neither the first nor the fourth response seems optimal.
In the first case, the State and local governments' fiscal
response to the decline exacerbates the decline; in the latter
case, there is no need to make any fiscal response to the de-
cline.

The second and third courses differ in the rationale
put forward for their pursuit, although the policy formulations
will not differ significantly. The second view suggests that,
ideally, State and local expenditures should decline in pro-
portion to tax revenues in the long run. But in the short run
the decrease in tax revenues might exceed the corresponding
decrease in State and local government expenditures. And if
the unit attempted to respond to this short-run fiscal pres-
sure, the decline would be accelerated, as discussed above.
In this view, the total fiscal policy of the State and local
governments combined should neither accelerate nor retard a

regional economic decline. Such fiscal policy would require
State and local government expenditures to decline in propor-
tion to tax revenues in the long run but would not require
expenditures to decrease as quickly as tax revenues in the
short run. In this context, the appropriate role for Fed-
eral fiscal policy would be to provide short-run aid during
periods of decline so that the State and local governments
would not be required to enact restrictive tax or expenditure
policies that would accelerate decline. But in the long run,
the aid should be withdrawn as expenditures decreased in
proportion to tax revenues. This policy would permit the
avoidance of either extreme response: additional decline in
the regional economy due to short-term restrictive fiscal
policies or no reduction of expenditures in response to the
regional economic decline. Transitional aid to State and
local governments is similar in concept to transitional aid
to unemployed workers through such Federal programs as job
retraining or tax relief for relocation.

The third view argues a different, somewhat more subtle,
aspect of the same issue. Businesses make their location
and relocation decisions on the basis of their private costs,
which include capital, labor, and raw material costs (and
taxes as well). Conceivably, a firm could decide to relocate
because the labor or raw material costs in a region increased.
This, according to the firm's calculations, is an appropriate
decision based on all its private costs. But if as a result
of the relocation, previously built roads and schools in the
region it is leaving go unused and similar new roads and
schools must be built in the region to which it is moving;
then relocation might not be an optimal decision when all
costs, the private costs plus the public costs of building
the new roads and schools, are considered. The savings in
private costs due to the relocation might be exceeded by the
increases in the public costs, making the relocation suboptimal
from the national perspective. After the roads and schools in
the original region were fully or heavily depreciated, the
relocation would become optimal from both the private and na-
tional perspectives because new roads and schools would have
to be built somewhere anyway.

The essence of this problem is the same as that described
above--not all public costs decline as quickly as private
sector tax revenues. In this case, the relocation decision
is based on private costs, but the public costs in the region
left behind do not decline and the public costs in the host
region increase. Ideally, there should be some policies that
would lead to a national optimum (that is, an optimum for the
combined private and public sectors) rather than just a
private optimum.

The second and third courses both argue for a policy of
limited compensation but suggest somewhat different forms.
The view that sees the policy goal as stemming the inducements
to further outmigration would support transititional aid.
Such aid could be handled in various ways. One would be to
provide short-run aid in proportion to population losses or
unemployment opportunities that would be phased out after these
changes leveled off. A second method could be aimed at the
capital the State and local governments purchased by borrowing
but no longer need due to the decline. The Federal Government
could purchase some or all of the outstanding bonds for these
projects and could excuse a portion of or the total coupon
and principal payments.

The third view emphasizes a broader set of policies that
address the motivations of the first set of economic factors
mentioned above. Such policies would try to internalize ex-
cessive public sector costs into the private sector decision-
making process. This could be handled in a variety of ways.
First, there could be a Federal subsidy to the firm to induce
the firm not to relocate until the public facilities were
depreciated or paid off. This would be a very difficult
policy to enact, however, because it would reward firms that
"threatened" to leave regions and, thus, would provide firms
an incentive to make such threats. A second such policy
would be to levy a "fine" on relocating firms in proportion
to the public capital that would go unused in the region left
due to their relocation. This would induce firms to consider
public capital costs in their relocation decisions in the same
way that they now consider private capital costs. (The fines
could be adjusted by the "salvage value" of the public capital
in the same way that the salvage value of private capital is
incorporated.)

The third type of solution would have to be enacted over
the longer run by altering the nature of the original location
decision, at least for large companies, after some understand-
ing concerning public goods that must be supplied because of the
company's location in the region. But after the company's
location and the government's provision of the public goods,
the risk is all borne by the government. The government incurs
the costs whether the company stays or relocates. If the com-
pany relocates, the government loses the tax revenue but still
incurs the costs, and the company in no way is charged for
the public goods that were provided for it. In the initial
location decision, the risk could be allocated more equally
if the company agreed to pay some taxes or payments as long
as the costs for the public goods provided for the company
were incurred by the government. These payments could be set

at some portion of the costs incurred so that the relocation
risk would be shared. In this way the company would consider
the public fixed costs in its relocation decision in the same
way it now considers its private fixed costs. This policy
is essentially a "voluntary fine" agreed upon when th com-
pany initially locates, rather than imposed when the company
decides to relocate.

These and other policies could enable achievement of a
social optimum rather than only a private optimum in reloca-
tion decisions. Implementing policies to achieve this would
require difficult analytic and political decisions. These
policies would represent an extension of transitional aid dis-
cussed above. They are related to the same basic issue, the
long term or fixed nature of many public costs.

While the imposition of public sector costs on private
sector emigres is difficult politically, the notion of an
entrance fee or insurance premium on the growth end of re-
gional migration might be combined with transitional aid on
the other end to achieve a balanced Federal policy toward
State and local government budgetary manifestations of diverse
economic growth experiences. A revenue sharing program may not
be the best means of pursuing such a policy. However, since
the current countercyclical revenue sharing program appears to
be addressing secular, as well as cyclical, budget problems,
an explicit measure of secular decline can be constructed
which could be incorporated into the formula.

Measures of secular decline and growth index

To fashion a comprehensive public policy for addressing
secular decline, a measure of the phenomenon is needed. Or-
dinarily, we use the concept of production to chart growth
or decline (e.g., GNP). However, the notion of total regional
output has never gained much currency nor is it easy to con-
template measuring the real product, given the large inter-
dependencies between a region within the United States and
the economy as a whole.

If we cannot use output, then we might use input. Since
data on the geographical distribution of aggregate capital is
presently unavailable, we could focus on changes in employ-
ment as a good proxy for economic growth or decline. Alter-
natively, we could use population change. However, changes
in the numbers of jobs reflects more directly than changes
in population real changes in economic activity. Population
change and related population characteristics (income dis-
tribution, incidence of poverty, ethnicity) may be better

indicators for policies attempting to deal with poverty.
But in a policy designed strictly for compensating decline
in economic activity, employment is theoretically a superior
measure. A policy using population change would differentially
reward the response of populations to inducements to outmigra-
tion, so that a city which experienced greater population de-
cline as a result of outmigration would receive more compensa-
tion than cities whose unemployed populations stayed put.
This would be counterproductive as a strategy to reverse the
shrinkage process. Using an employment indicator also avoids
suggesting implicitly that people should live where jobs are.

A city experiences losses of employment of two types.
One, the more serious, is the outmigration of jobs to peripheral
areas or to other regions where city residents cannot easily
compete. The other is the loss of jobs that are located in
the city to suburban residents, who do not pay city taxes but
continue to use its public services for large parts of the
workday. An ideal indicator would account for each type of
job loss and weigh it by the marginal impact that it has on
the public sector. However, neither employment-by-place-of
work data nor commuting data is available in reliable juris-
dictional form. Employment by place-of-residence is avail-
able and is a reasonable proxy, since changes in resident em-
ployment will reflect both outmigration of jobs and changes
in nonresident held jobs.

The following sample index is constructed from employment
data and can be used as a weight for a revenue sharing formula:

$$\frac{E_{US}^{70}}{E_i^{70}} \Bigg/ \frac{E_{US}^{60}}{E_i^{60}}$$

Where: E_{US}^t = total US employment for year t

E_i^t = total employment of jurisdictional i for year t

(Note: This particular index is only one of a set that could
be constructed using employment as an indicator and
following the formula development process described
in ch. 2.)

This index measures the relative improvement or deterioration in the local economy over the period chosen. A rating of 100 means that employment growth in the jurisdiction took place at the same rate as employment growth in the economy as a whole. A revenue sharing formula, with this weighting scheme, would treat this "normal" jurisdiction neutrally. A rating above 100 would indicate a growth rate of employment lower than the U.S. average. It should be emphasized that this is a sample index, showing one allocation that can be generated using the employment indicator. A family of such indices can be constructed, each with differing emphasis on the differential growth experience, using the various techniques described in chapter 4.

The time period chosen should reflect, theoretically, the lifetime of public sector capacity and financial obligations associated with it. Ten years would appear to be reasonable for the average lifetime of the existing unused capacity. For illustrative purposes, our discussion of this weight uses the period from 1960 to 1970 because excellent data from the census exists on jurisdictions for those 2 years. On the State level, we have also used data comparing data for 1964 and 1974, the most recent period for which relevent information is available. (Note: Data for local jurisdictions for years between censuses could be generated from the same source that is currently used for calculating jurisdictional unemployment rates. To avoid cyclical distortions in employment changes, a 3-year average, for example 1967-70, might be used for each end point.)

Tables 6.2 and 6.3 portray by regions the changes in employment at the State level, table 6.2 showing the changes in total employment from 1960 to 1970 and table 6.3 showing the changes in nonagricultural employment from 1964 to 1974. In both cases, each State's change is based on a comparison with the national level of change, with the resulting index numbers being proportionally in excess of 100 if the jurisdictional increase was less than the national level and proportionally below 100 if the jurisdictional increase was greater than the national level. These tables taken together indicate that the States of the Northeast and North Central regions have had much smaller increases in employment than the States of the South and the West.

Table 6.4 shows an index of the changes in employment for the sample of local jurisdictions, by type of community. (Note: Because employment data for all local jurisdictions are not available for any year after 1970, the formerly growing cities, which were growing until 1970, have been included

in the growing cities group.) The table shows that declining
cities and rural communities had proportionally the least
amount of growth in employment.   Indeed, each of the declin-
ing cities had an absolute decrease in employment over the
10-year period (no change being indicated by an index figure
of 118).   Also noteworthy is the fact that stable and work-
ing class suburbs, as groups, had employment growth rates
below the national average.   Growth cities had an employment
growth rate somewhat greater than the national rate, and all
other types of suburbs had employment growth rates substantially
greater than the national level.

Table 6.2

Index of Employment Changes of the States
by Region from 1960 to 1970

Region	Total employment	
	Range	Median
Northeast (9)	94 to 109	101
North Central (12)	99 to 124	105
South (16)	84 to 116	99
West (13)	67 to 116	94

Table 6.3

Index of Employment Changes of the States
by Region from 1964 to 1974

Region	Nonagricultural employment	
	Range	Median
Northeast (9)	94 to 122	106
North Central (12)	94 to 110	101
South (16)	73 to 109	90
West (13)	71 to 101	91

Table 6.4

Index of Employment Changes of Local Jurisdictions by Type from 1960 to 1970

Type of community	1960 change-in-employment index (total employment)	
	Range	Median
Growing cities (14) (note a)	48 to 111	94
Declining cities (16)	119 to 149	128
All suburbs (36)	17 to 203	67
Dormitory (23)	17 to 134	82
Industrial (13)	43 to 203	62
Stable (17)	56 to 203	115
Growing (19)	17 to 94	52
Working class (17)	39 to 203	107
Middle class (19)	17 to 117	58
Rural (6)	102 to 174	129

a/Because the most recent comprehensive local employment
  data are those for 1970, the formerly growing cities (which
  had been growing through 1970) have been included in the
  growing.

For purposes of discussion, the antirecession assistance
allocations to these jurisdictions, previously presented in
chapter 4, are provided again in tables 6.5 and 6.6. The com-
parison of the actual distribution of antirecession assistance
funds to the measure of secular change shows a correspondence
between the two definitive enough to indicate that the anti-
recession assistance distribution results in a program of
assistance to jurisdictions experiencing long-term economic
problems. Of particular note is the success of the antireces-
sion assistance formula in directing funds to States of the
Northeast region and to declining cities as a group.

Table 6.5

Index of Distribution of Antirecession Assistance Funds
Quarters I to III--to States by Region

Region	Range	Range$_M$ (note a)	Median
Northeast (9)	9 to 191	113 to 170	148
North Central (12)	0 to 183	9 to 87	31
South (16)	31 to 183	32 to 100	57
West (13)	6 to 157	45 to 145	108

a/Range$_M$ is the range within the regional group after the extreme high and extreme low index numbers are excluded.

Table 6.6

Index of Distribution of Antirecession Assistance Funds
Quarters I to III--to Local Jurisdictions by Type

Type of community	Range	Median
Growing cities (6)	31 to 208	100
Formerly growing cities (8)	2 to 173	86
Declining cities (15)	89 to 286	146
All suburbs (36)	3 to 291	72
Dormitory (23)	3 to 173	76
Industrial (13)	6 to 291	69
Stable (17)	11 to 291	69
Growing (19)	3 to 173	74
Working class (17)	13 to 291	69
Middle class (19)	3 to 173	74
Rural	0 to 131	82

But the comparison also documents enough exceptions to this general relationship to demonstrate that the antirecession assistance allocation system is not a sufficiently effective device for directing aid to governments of communities in secular decline. On the State level, for example, the States of the West receive substantial antirecession assistance funding even though they have had rapid growth in employment, while the States of the North Central region as a group receive very little antirecession assistance support despite the fact that their employment is growing at a rate lower than the national average.

On the local level, the antirecession assistance allocation does not differentiate among the various types of suburban communities, with the result that the stable and working class suburbs in the sample receive the same proportion of antirecession assistance funding as other suburbs even though these two groups of suburbs are the only ones experiencing secular problems. Similarly, the antirecession assistance allocation scheme is unresponsive to the declining economic situation of the sample's rural communities. This is probably the result of the insensitivity of the assigned unemployment rate in jurisdictions with small populations.

From this analysis, we may conclude that the antirecession assistance formula, based on unemployment rates in excess of 4.5 percent, is somewhat effective at directing funds to jurisdictions experiencing long-term economic decline. Furthermore, the allocation mechanism is quite successful at intensifing the distributional effects, mainly through the use of the 4.5 percent minimum, so, that jurisdictions with measured decline receive proportionally more aid and those with measured growth receive proportionally less aid than would be indicated if only the differences in unemployment rates determined the sums allocated to each jurisdiction.

But the effectiveness of the program in targeting aid to jurisdictions facing secular difficulties is seriously diminished by the use of unemployment as the indicator. First, unemployment is not as valid a measure of secular change as are changes in employment. Second, the validity of the unemployment data decreases as one deals with smaller and smaller communities. Unemployment data for jurisdictions with a population of less than 50,000--which includes more than 37,000 of the 39,000+ jurisdictions potentially eligible for antirecession aid support--are of extremely questionable validity and are frequently assigned in a manner that masks differences in actual local conditions.

Finally, the antirecession assistance allocation appears to address the problem of secular decline because it is operating at a particular point in time at which the national unemployment rate has been at a very high level, during both the trough of the most recent recession and during the early quarters of the recovery. But because the antirecession assistance program does have a stated cyclical intent, the amount of funds to be distributed diminishes as the national unemployment rate decreases and ultimately terminates when the national rate goes below 6.0 percent. At that point, antirecession assistance will totally fail as a device to target aid to jurisdictions facing secular problems.

Thus for both conceptual and data reasons, the antireces-
sion assistance allocation formula has serious limitations.
A formula specifically designed to aid areas of secular decline
and a conceptually more direct measure of decline would both
assist any effort to successfully direct aid in accordance
with an objective of ameliorating long-term economic difficul-
ties.

OFFICE OF THE SECRETARY OF THE TREASURY
WASHINGTON, D.C. 20226

DIRECTOR
OFFICE OF REVENUE SHARING

SEP 13 1977

Dear Mr. Lowe:

Thank you for the opportunity to comment on the draft Comptroller General's report to the Congress entitled, "Antirecession Assistance - An Evaluation." This letter will provide some general comments on the conceptual matters you raise and will also discuss the administrative issues you consider.

You state that "better program administration or stringent regulations on the timing of expenditures" might minimize the lags in the impact of antirecession payments. We would be interested in a more explicit outline of what actions could be taken by the Treasury or Labor Departments to address this problem.

Your report suggests that the General Accounting Office (GAO) is aware of the degree to which data availability for the purpose of quarterly allocations causes delays between economic events and the distribution of payments on the basis of these events. It is our understanding that unemployment data such as is now used in the Title II allocation formula is more immediately available for more recipient jurisdictions than any alternative allocation data.

The Office of Revenue Sharing (ORS) is unaware of any unavoidable delays in the processing and delivery of unemployment data by the Bureau of Labor Statistics (BLS) or in our use of this data to produce allocations. In fact, ORS normally receives quarterly data from BLS less than one month prior to the time when checks are mailed to governments. There are numerous steps which must be completed before payments can be made. These include review and correction of the data, updating revenue sharing data used in the formula, revision of computer programs, assignment of unemployment rates, the allocation process, creation of a payment tape, and the production and mailing of checks. BLS, prior to providing data to ORS, receives the necessary information from State employment security agencies. Then BLS has approximately one month to enter it into its system and,

among other things, to review for methodological correctness, to compile rates, to produce quarterly unemployment rate averages, and to create and review the tape to be provided to ORS.

In addition, GAO and Congress should also be aware of the administrative operations associated with the processing of optional allocation data provided by State governors. Both the original as well as the amended statute authorizing Title II payments have allowed the submission of such alternative data.

The reason for the above remarks is to emphasize the administrative realities of making quarterly payments based on quarterly allocations utilizing data updated on a quarterly basis.

As your draft report states, there are also lags in program impact which result from delays on the part of States and localities in spending funds. The Congress has wisely provided that these relatively unencumbered Federal monies must be appropriated through the normal appropriations process of the recipient. Given that there is no specific Federal approval or review of the use of these funds, this provision of the Act seems reasonable. However, the realities of the State and local budgetary process do occasionally work against the legislative intention that Antirecession funds give an immediate stimulus to the national economy. Treasury Department regulations, recognizing the need of recipients to fit program funds into their budgets, require only that governments appropriate funds within six months of receipt. This regulation is based upon the legislative history associated with the Local Public Works Employment Act of 1976.

The Comptroller General's draft report provides useful discussion of a number of other conceptual issues surrounding evaluation of Antirecession Fiscal Assistance (ARFA).

For example, the report's treatment of the use of program triggers to provide for automatic stabilization of the economy provides insight into the complexities of designing such a trigger. However, it should be recognized that it appears easier to design national triggering mechanisms to accomplish various degrees of economic stimulation than it is to make these mechanisms congenial with the realities of State and local budgeting. The manner in which these units allocate Federal funds ultimately determines the timing and nature of the ARFA program's impact.

Moreover, the GAO draft report addresses the first question to be answered in evaluating the need for a countercyclical general assistance program: Do states and communities tend to behave "perversely" and thereby make national periods of recession or inflation worse? This question is dealt with in terms of the important trends in Federal assistance and State and local revenues, the relative importance of automatic and discretionary changes in State and local receipts and expenditures, and the role of simultaneous inflation and recession in creating fiscal strain.

While it is important to understand the degree to which States and localities behave in a procyclical fashion, the evaluation of the need for countercyclical revenue sharing must go beyond that point. Firstly, it could be argued that even if the State/local sector normally acts countercyclically, perhaps it should be encouraged to behave more strongly in that direction. Given the major importance of this sector in the growth of the national economy, it makes sense to stimulate it just as we do other sectors.

A second way in which we need to go beyond this discussion of the "perversity" matter is to consider if the Antirecession Fiscal Assistance Program helps meet other policy goals, such as the cushioning of the effects of long-term secular decline in certain areas. As was suggested earlier in this letter, we are aware of the problems surrounding the use of unemployment rates for allocation purposes. Time lags in availability and lack of availability and limited accuracy for smaller jurisdictions are among the more important.

Nevertheless, it is difficult, at this point, to identify alternative data to be used for allocation which is as promptly available on a quarterly basis for as many recipient jurisdictions. It is true that a countercyclical formula might more logically determine excess unemployment for each recipient as the difference between unemployment at a previous base period and unemployment for the quarter related to the payment. This contrasts with the current program's use of 4.5 percent as the base for determining excess unemployment. It is also true that the split of funds

between States and localities might better reflect the
cyclical vulnerability or fiscal responsibilities of each.
Further, the program funds would be better targeted to
need if small and fiscally strong localities were omitted
from the program.

Nevertheless, as the draft report points out, the
formula has been generally responsive to the needs of
declining areas. The report's analysis of this relation-
ship is helpful and agrees with similar analysis we have
performed. The Office of Revenue Sharing would like to
call your attention to the fact, however, that allocation
patterns have changed somewhat between the fourth and
fifth ARFA payment quarters. In the fifth quarter, the
larger cities and counties received a substantially
smaller portion of the total ARFA payments than that
which they had received previously.

The question, of course, remains as to whether
jurisdictions suffering from cyclical or recession
related fiscal problems are also favored by the formula.
The draft report provides some preliminary evidence that
ARFA allocations are not strongly related to the magnitude
of State government budgetary adjustments. The Congress
and Executive Branch will need a more complete description
of this relationship to evaluate the countercyclical
qualities of Antirecession Fiscal Assistance. They will
further need to answer the question of whether the program
must be countercyclical to justify its existence.

A final point which I would like to make relates to
the discussion of the incentives for altered recipient
behavior provided by countercyclical aid. I would only
repeat with emphasis your comments about the limited
ability of the conditions of Federal funds to overcome
State and local political realities. This is especially
true when the amount of Federal funding is so limited as
ARFA.

I would like to repeat that we at the Office of Revenue Sharing appreciate the opportunity to comment on the draft of "Antirecession Assistance - An Evaluation" and look forward to discussing it with the staff of the General Accounting Office.

Sincerely,
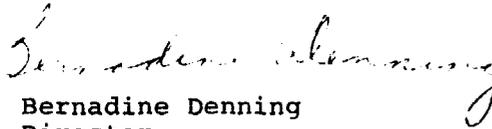
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