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EDWARD M. GRAMLICH, BENGT-CHRISTER YSANDER, EDITORS

Control of Local Government



THE INDUSTRIAL INSTITUTE FOR
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Control of Local Government

Editors

Edward M. Gramlich and Bengt-Christer Ysander

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FOREWORD

In recent years IUI has devoted considerable resources to research within the area of public finance – dealing in particular with taxes, public budgeting and local government behavior. In the summer of 1981 a small international seminar was arranged at the institute with participants from the U.S., U.K. and Sweden. The question of controlling local governments had by then become a focus of interest in all three countries, although there was a great deal of diversity in the way the problem was defined, and between the policies and institutional reforms proposed. The papers presented at the seminar are published in this volume. Together they give a broad account of the background of the problem in terms of national fiscal institutions as well as a critical appraisal of current policy measures directed at local governments.

We are happy to include this volume in the Institute's conference series. We hope and believe it will attract considerable attention and interest.

Stockholm in August 1985

Gunnar Eliasson

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INTRODUCTION

by Edward M. Gramlich and Bengt-Christer Ysander

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**ACCOUNTABILITY, EFFICIENCY AND FLEXIBILITY
IN LOCAL GOVERNMENT BEHAVIOR**

The control of local government has in late years been a focal point for public debate in U.S., U.K. and Sweden. Yet it is apparent from the papers assembled in this volume that "local government" stands for rather different things in the three countries and that differences between the countries are even greater when it comes to defining the problems and the instruments of "control". Although there may not be any common policy conclusion to be drawn, the variation of experience can teach us a good deal about i.a. the interaction between institutional structure and public policy.

The Scope and Development of the Local Public Sector

There are marked differences between the countries in regard to the autonomy, scope, size and rate of growth of the local public sector. A rough ordering of the countries in terms of the importance of state and local public spending would have Sweden on top, the U.S. at the bottom, and the U.K. somewhere between. This outcome is of course partly due to the fact that many "local" goods and services, like e.g. health services and various housing services, which in the U.S. are to a large extent privately produced and distributed, are treated as a public responsibility in the other countries -- in Sweden by long-standing tradition, in U.K. often by 20th century reform. In addition there are inherited differences in attitude towards local government between the small country of Sweden and the two big countries, U.S. and U.K. In Sweden a tradition of relatively autonomous

local communities preceded historically the emergence of a strong central government, while in the U.K. the rights and limitations of local government have been successively defined and dispensed by an already established central power.

These differences are today reflected in the contrast between the relatively unified and self-financed local authorities in Sweden and the local governments in U.K. and U.S., which tend to be more diverse in structure and more dependent on central government for finance and instruction. While in Sweden the major part of the income tax is levied with a roughly proportionate but independently set rate by each local government, the rate on real estate is still the main source of finance for local authorities in the U.K. and U.S. The pattern of expenditure of local governments is probably also important in determining their public image. The explicitly redistributive transfers of locally administered social welfare e.g. have increased in all countries, but their relative importance in regional government budgets tends to be biggest for the U.S. authorities, with their more limited scope, and smallest for the Swedish authorities, with their broader spectrum of activities. Taken together these diverging traditions and budgetary patterns may go some way to explain, why local government in Sweden, compared to the other countries, tends to be less censored by public opinion for the common evils of tax-distortions and public mismanagement.

Without such background it would be hard to understand the different turns of public debate around local government, as they emerge from the papers in this volume. Various forms of fiscal containment of local governments have during the 70s been

suggested and tried in the U.K. and U.S., while the main concern in Sweden has been the local governments' lack of flexibility and their difficulties in adjusting to changing macroeconomic conditions. Yet, the local government expenditure in Sweden has doubled its share of GNP over the preceding two decades and the share is now above 30%. The major part of the expenditure is exhaustive, i.e., it corresponds to claims on real resources. The same share in the U.K. is only about two thirds of that in Sweden, has increased very slowly since 1960 -- declining in fact during the latter part of the 70s -- and less than half are exhaustive expenditures. The U.S. share, finally, is far below the British share and has risen very little in the past twenty years.

However, it is the U.S. public that has been complaining most loudly about the excessive and fast growing local government expenditure, and it is in the U.K. that the blame for the unsatisfactory macroeconomic performance has most often been attributed to local governments, acting as a "black hole" in the economy, fastly swallowing scarce real resources. The key to understanding these puzzling contrasts in voter reactions obviously lies in distinguishing between the various meanings attached in different countries to "control of local governments".

Dimensions of Control

Controlling local government can alternatively be looked upon as a question of accountability, efficiency or macroeconomic flexibility. Accountability means inside control, control by local voters over revenues and expenditures. Efficiency means

an absence of administrative resource waste but also denotes a composition of supplied services in accordance with the needs and wishes of the constituency. Finally, flexibility here stands for the capacity of local government to adjust to changes in the economic environment and in the policy directives of central government -- to outside control.

It is clear from the discussion in the papers that there is a marked difference as to the control dimensions emphasized in the three countries. The fiscal limitation movement in the U.S. has tried to safeguard efficiency in local governments -- or at least set bounds to waste -- by establishing fiscal limits, obviously distrusting the existing forms of accountability to perform the monitoring task. Apart from administrative waste, the increasing share of redistributive measures of social welfare often appears to have been a major source of malcontent.

The U.K. discussion has been focused on the problem of macroeconomic flexibility, the risk of local governments slowing up recovery and structural change in the private sector by crowding out private resource claims in the factor markets. Behind this anxiety about local government expenditures outrunning the available resources lies a consciousness of an insufficient accountability, which may allow local bureaucracy to operate outside constituency control as well as to be rather impervious to central government policy and directives.

The Swedish discussion can be said to represent the other extreme, compared to the U.S. debate. There are few doubts expressed about the account-

ability of local governments and the distrust of bureaucratic efficiency, although certainly existing, is much less marked than in U.K. and U.S. The emphasis is instead on the need to make the autonomous local governments more sensitive and responsive to the cyclical and medium-term economic policies of central government in order to avoid that the local authorities get out of step with the rest of the economy. Since there is no accusation of irresponsible behavior towards the constituencies, like in the U.K., there is also less pressure for tough direct controls and consequently less risk for political polarization.

Instruments of Control

The instruments available for controlling local government can be divided into means of voter control, of central control or of market control, respectively.

There are various ways in which local voter control can be strengthened. A sufficient degree of self-financing and of freedom from central regulation is probably needed to give substance to claims of self-government. A heightened sensitivity to local voter opinion may be achieved e.g. by decentralizing the decision-making, by broadening the base of direct participation, or by making more frequent use of local referenda.

The means of central control can take the form of legislation, limiting revenues and/or expenditures, or regulation determining form and extent of the local government activities. Financial control instruments used in most countries are grants and credit restrictions. Central control can also

sometimes be achieved in an indirect way, by general policy means like incomes policy, tax policy or credit market policy.

There are, finally, various ways in which local government activities can be brought under market control. The most obvious one is privatization, by which the responsibility for producing and/or distributing local government goods is handed over entirely to private agencies or at least is left open for private competition. There are also many intermediate ways of making use of market mechanisms without relinquishing local government control. By an extended use of user fees, public pricing, and voucher systems, local government may try to achieve an efficient resource allocation while retaining overall control. Another important area, where a strengthened market control may be attempted, is the limitation of wages for local government employees. This can take the form of trying to equalize the negotiating position of private and public employers as well as strengthening the employer responsibility of the individual local authority.

As exemplified by the papers in this volume, the choice between these major types of control instruments will depend on the control problem encountered, the historical experience, institutional framework, and political tradition of the country concerned.

In the U.K., where accountability is regarded as a major problem, the trend seems to go in the direction of limiting the effects of the problem by central control, rather than trying to achieve increased accountability by reforming the structure of local government. In the U.S. the means

most often employed for this purpose are fiscal limitations in state constitutions.

Political parties and representatives doubting the efficiency of government bureaucracies, have always and everywhere tended to support the idea of privatization. In the 70s these ideas were sometimes translated into action, particularly in the U.S. Experiments were conducted not only with complete privatization of local government activities but also with various forms of voucher systems and extended public pricing. Privatization has become a fashionable political topic also in Europe, but so far the actions taken in this direction have been very limited. The major instrument employed in order to force local governments to become more efficient has up till now been a budget squeeze, accomplished by central financial controls. In both the British and Swedish debate, however, the inefficiencies of local governments have often been blamed on the rigidities of central regulations and the price distortions of central grants and suggestions have been made to increase efficiency by deregulation and a decrease and generalization of grant support.

There seems to be a corresponding division of opinion as to the best choice of means for improving the flexibility of local governments, which is looked upon as the major problem both in the U.K. and Sweden. So far the actions taken in both countries have taken the form of tightened financial control by central government -- relatively harsh and individualized in the U.K., milder and more general in the case of Sweden. Again, however, there is a school of thought in both countries that contends that only by making the local authorities more independent of central government

and strengthening constituency control, can you hope for a more flexible response to changes in income and resource growth and make the governing bodies more sensitive to changes in general economic policy.

Is Local Government Too Big? - The U.S. Case

The four papers dealing with local government in the U.S., are all concerned with the risk of excessive government and the means of containing any immoderate public resource claims.

Edward Gramlich, University of Michigan, gives a critical survey of various theories and arguments put forward to explain how and why levels and growth rates of public spending tend to be excessive, viewed from a median-voter's standpoint. He first uses available data and estimates from other studies to examine the claims that the growth rate of public spending has been excessive during the last decades. The data do not seem to support these claims, which is not unexpected, since public spending shares have now been declining for a decade.

Gramlich then goes on to examine the empirical evidence for three different theories that try to explain excessive levels of public spending in terms of a voting bias: for public employees, for welfare transfer recipients, and for public workers receiving monopolistic wage differentials. He finds some evidence in favor of all these theories but concludes that the quantitative magnitude of the possible effects seems to be too small to make a compelling case for the view that government spending has grown to excessive proportions in the U.S.

Saul Hymans, University of Michigan, also deals with the question of excessive public spending and, like Gramlich, he bases his discussion on a median voter model. Contrary to Gramlich, however, Hymans focuses exclusively on the redistributive aspects of public spending. The public spending he models is aimed at a target group of recipients and its value to the median voter will depend on the voter's empathy for this target group. Hymans shows that with usual empirical assumptions this way of analyzing public spending leads to the following general result: "The median voter desires a declining trend in the provision of real government services relative to real GNP, but is willing to devote a growing share of society's output to providing those services." He is also able to show that this median voter model implies a trade-off between quantity and quality in the provision of government services. "If the target group is allowed to increase in relative size, the tax price rises too rapidly to prevent a decrease in the relative real income of the target group."

Wallace Oates, University of Maryland, devotes his paper to a critical assessment of the U.S. experience of fiscal containment measures in the form of legislation and constitutional amendments curtailing the fiscal activities of state and local government. His examination of the results so far leads him to express some doubts both as to the efficiency and the desirability of these fiscal containment measures.

The efficiency of the legislative measures may be endangered by the fact that partial curtailment of revenue can be compensated for by increased financing -- and control -- by higher levels of government and by increased use of alternative revenue

sources of local government or sidestepped by various forms of "creative finance". The consequent change in financial structure and in the degree of centralized control may be both unintended, inefficient and undesired.

What is also undesired are the potential losses of welfare that will occur if the limitations become binding and prevent a desired increase in the public spending share from being realized. What may or may not be desired are the redistributive effects of the fiscal limitations, which seem likely to be regressive.

George Peterson, Urban Institute - Washington, tries to evaluate the U.S. experience of privatization and public pricing of local government activities.

For some services -- most conspicuously, trash collection and hospital management -- privatization appears to give clear cost reductions, primarily from better labor management and the lowering of excessive compensation levels.

Apart from these specific examples, however, the potential efficiency gains seem to be very limited and privatization by way of private contracting appears often to be primarily valued as a way of cutting down services, without taking direct political responsibility. Of greater potential impact is the admission of competition among private providers into "public" services by way of e.g. voucher systems for schools.

Public pricing has enjoyed a surge of political attention in the U.S. lately. Peterson concludes though, that pricing has so far mainly been used

as a revenue device and not explicitly as a way of rationing demand for public services. The use of pricing for limiting demand is, however, likely to intensify.

Is Local Government Out of Control? - The U.K. Case

The two British papers have as a common theme the evaluation of the attempts of central government since the middle of the 70s to contain and control local government expenditures by financial means. While the first paper mainly reviews the macroeconomic motivations of control, the second gives a critical account and assessment of the mechanisms of control.

Peter Jackson, Leicester University, takes as starting point the official government position that: "public spending is at the heart of Britain's present economic problem", because "high government borrowing has fuelled inflation, complicated the task of controlling the money supply and thus denied the wealth creating sectors some of the external finance they need for expansion". He then scrutinizes the theoretical and empirical basis for these views.

In his discussion of the theoretical framework Jackson concludes that the claim of monetarists that a budget deficit will tend to reduce the level of economic activity through the impact on money supply, inflation and expectations, are not supported by available British data. Equally weak is the empirical evidence for the disincentive effects of taxation and the crowding out effects of public factor demand.

Jackson then goes on to examine the postwar record of local governments in the U.K. He finds the official anxiety to be largely unfounded, since the public sector's absorption of real resources has been steady and, in recent years, declining. One possible rationalization of the official "over-reaction" may be that it is caused by difficulties in interpreting government expenditure ratios, and particularly the question of whether transfer payments (that do not use resources directly but do need tax-finance) should be counted as expenditures.

Jackson ends by concluding that the main problem with the British local governments is not the macroeconomic one of flexibility and overexpansion but the microeconomic one of efficiency. The solution should therefore not be sought in increased central control but rather in strengthening the control of local voters.

Noel Hepworth, The Chartered Institute of Public Finance and Accountancy, London, gives a careful account of the new financial controls -- in particular cash limits and volume targets in the grant system -- successively introduced by the British government in order to contain local government spending and tax rates. He stresses the insufficient accountability of the local governments as being the core problem of control.

From his critical review of the new financial control measures he concludes that cash limits have only a limited effect on current expenditure but have led to a dramatic -- and probably highly undesirable -- decline of local government investments. The attempt to control expenditure levels of individual local governments bureaucratically

may very well lead to an increased political polarization and confrontation. Increasingly exacting central demands could result in a breakdown in local services and administration.

Hepworth ends by stressing that central policy ought to avoid confrontation and instead try to make local government more responsive and responsible. To achieve this, however, requires a strengthening of local government accountability by fundamental reforms of local revenues and local rights and responsibilities.

Is Local Government Too Inflexible? - The Swedish Case

The two Swedish papers both focus on the problem of macroeconomic flexibility and the means available to central government to ensure sufficient flexibility. While the first paper is mainly concerned with evaluating the experience of central controls, the second tries to explore and evaluate the potential control alternatives by way of simulation experiments with a macromodel of the Swedish economy.

Richard Murray, The Swedish Agency for Administrative Development, Stockholm, starts out by describing the very fast postwar expansion of the Swedish local government sector. He then evaluates in turn the attempts made to control this expansion -- or achieve short-run stabilization goals -- by credit policy, investment policy, regulation, indicative planning and grant policy. He finds that local governments have shown little sensitivity in regard to credit and investment policies, while indicative planning and centrally negotiated agreements have had no appreciable effect at all.

Regulation, on the other hand, seems to be a rather effective means for equalizing standards between local governments. At the same time regulations tend to neutralize the effects of grant policy on local government resource allocation. Only recently has grant policy been used to influence aggregate spending and tax rates. The results so far of these attempts seem promising. Another recent development is the endeavor to use liquidity control as a way of ensuring a better timing of local government expenditures over the business cycle. The timing was particularly bad, from a stabilization point of view, during the 70s.

Murray ends by concluding that the overall experience seems to indicate that the possibilities for central control looks most promising in a medium-term perspective.

Bengt-Christer Ysander, University of Uppsala and IUI, Stockholm, and Tomas Nordström, IUI, use a macromodel of the Swedish economy, incorporating a submodel of local government spending and taxing behavior, to study the efficiency of alternative forms of central control policies.

The dynamics of local government spending is measured in terms of elasticities and multiplier effects and its interaction with the rest of the economy is studied by simulations, which reveal i.a. a tendency for local government spending, through interactions in the labor market, to develop according to a cyclical pattern.

Special attention is devoted to comparing the efficiency of various policy instruments in ensuring balance in the labor market and in external payments. The authors i.a. stress the difference in

overall effects on domestic consumption. While grant cuts first and foremost hold back total consumption, only marginally affecting the distribution between private and public, tax limits can be viewed as an imperfect expenditure control, mainly shifting resources from local governments to households.

PART I

United States

EXCESSIVE GOVERNMENT SPENDING IN THE U.S.:

Facts and Theories

by Edward M. Gramlich

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INTRODUCTION

The United States has neither the highest nor the most rapidly growing share of national output devoted to public spending of the major western industrial countries. But it does have by far the most discussion within its economic profession of the question of excessive government spending. United States economists have been responsible for several different models of excessive government spending. They have devised Constitutional amendments to limit spending, and they have been in the forefront of political campaigns on the issue. In America the question of the size and growth of government has been as much one of the development of economic thought in the field of applied public finance as it has of the basic facts.

In this paper I try to review both the facts and the theories coming from the American experience. The facts are obviously particular to the United States and only relevant to other countries to the extent that similar things are happening there for similar reasons. The theories are obviously not particular to the United States, but of more general interest. The paper will therefore focus more attention on them.

Five theories will be summarized, two regarding the growth of government spending over time and three regarding reasons why the level of government spending may be excessive. The five are:

Growth theories

- 1) Borchering's (1977) positive residual hypothesis;

- 2) Baumol's (1967) productivity disparity hypothesis;

Level theories

- 1) Borcharding-Bush-Spann's (1977) voting distortion hypothesis;
- 2) Peltzman's (1980) redistribution hypothesis;
- 3) Courant-Gramlich-Rubinfeld's (1979) public wage hypothesis.

For each I will try to provide informal tests of the hypothesis using either macro statistics or the results of voter surveys taken after some recent statewide tax limitation votes. These tests will basically be aimed at trying to determine whether there is or is not strong evidence that government spending growth rates or levels are excessive in the United States today. At the outset, however, I must warn that the tests are not able to confirm or refute every aspect of every theory, and sometimes not even the most important aspects of the theories. Moreover, the business of creating theories to explain government growth is booming so much now that even these theories do not exhaust the set, so other interesting views will be ignored. Finally, most of the facts used in the paper will focus on actual government spending, ignoring the new and interesting area of government regulation of the private sector -- an area that is now beginning to spawn its own theories.

GROWTH THEORIES

Government Growth and Borcharding's Residual Hypothesis

The main idea behind Borcharding's residual hypothesis is that government growth is excessive if it cannot be explained. He tries to predict government growth by applying elasticities estimated from cross-sectional data to growth rates of important independent variables and finds large positive residuals. These residuals -- growth unaccounted for by movements in the independent variables -- suggest the existence of some mysterious, or at least nonquantifiable, force pushing up government budgets and tax rates.

There are serious problems in interpreting such a test because not all nonquantifiable movements imply that government growth is excessive. If, for example, government spending was too low at the start of some period, rapid and unexplained growth would imply only that the initial disequilibrium was being corrected. Or, tastes for public expenditures might shift over some interval, resulting in apparently unexplainable growth. But even though there are such problems of interpretation, it is still useful to go through the Borcharding exercise as a way of organizing the facts of the U.S. experience.

The actual residual test can be developed by solving a three equation model. The first is a standard public goods demand function, written as

$$X_i = A Y_i^{c_1} P_i^{c_2}, \quad (1)$$

where X_i refers to the utility services conferred by a unit of public spending, A is a constant, Y_i is income, and P_i is the tax price of a unit of these services, with the i subscript referring to the "decisive" voter in the community. $c_1 (>0)$ refers to the income elasticity of public goods demand and $c_2 (<0)$ the relative price elasticity. In the straightforward median voter theory of Hotelling (1929), Bowen (1943), and Downs (1957), the i th citizen is the median voter, but given various kinds of imperfections and gaps in information, the model can be generalized to make i refer to the particular voter who, upon changing his or her vote, can alter the political outcome.

Utility services are then related to public goods purchases by the crowding expression of Borcherd-
ing-Deacon (1972) and Bergstrom-Goodman (1973):

$$X_i = G/N^{a_1}, \quad (2)$$

where N is community population and G is the real purchases of public goods in the community. When $a_1 = 0$, the good or service in question is a Samuelsonian (1954) public good and increments to population do not lower the utility services received by the i th voter. When $a_1 = 1$, the good is crowdable in that added consumers do lower utility proportionately, even though the good may still be supplied through the public sector (an example is public schooling).

The tax price for a unit of public services can be expressed as the product of three components, the gross price of a unit of public output, the tax share of the decisive voter, and the inverse of the crowding function:

$$P_i = (P)(Y_i/Y)(N^{a_1}), \quad (3)$$

where P is the gross relative price of a unit of public services and Y is the community tax base. The second term shows how much of this relative price will be paid by the decisive voter, and the third term adjusts for crowding. Whenever $a_1 > 0$, the cost to the decisive voter of a unit of public services varies directly with community population (the more people in the community, the more public goods one has to buy to gain a unit of utility).

Inserting (2) and (3) into (1), taking logs, differentiating, and using the approximation that $d \ln Y_i = d \ln Y - d \ln N$ yields as the general growth equation for public expenditures

$$d \ln G = c_1 d \ln Y + c_2 d \ln P + (a_1(1+c_2) - c_1 - c_2) d \ln N \quad (4)$$

Other things equal, government spending will rise with income but will increase less the more public sector relative prices rise. Borcharding's point, very simply, is that the equation has not worked: that actual growth rates on the left side have exceeded predicted growth rates on the right side.

Before actually examining these residuals, one aspect of equation (4) should be emphasized. Most studies of public goods demands in the United States find income elasticities (c_1) that are less than one, and price elasticities (c_2) that are negative. These findings are characteristic for every one of eleven commonly cited recent empirical studies, listed in Table 1. If such is the case, and if $0 < a_1 < 1$ as required by the theory,

the predicted growth rate of government spending may well be less than the growth rate of GNP. Hence it may be possible to find cases where Borcherding's residuals are positive -- that is, government spending is growing more rapidly than would be predicted by an equation such as (4), but the share of government in real GNP is either stable or declining. In broad outline, this appears to be happening in the United States, at least for certain types of expenditures.¹

To make the actual comparisons I focus on three types of government expenditures:

- a) exhaustive purchases for national defense
- b) other exhaustive purchases
- c) transfer payments

The comparisons aggregate national, state, and local government spending for the specified categories, and thus obviate the need to worry about rapidly growing intergovernmental grants. I will also ignore subsidies of governmental enterprises, which are small and best thought of as negative indirect taxes, and interest payments on governmental debt, which can be explained by a straightforward relationship with interest rates.

Table 2 gives the residual comparisons for the three types of expenditures for the last five decades. National defense is perhaps not a good place to begin because the growth comparisons are

¹ Note, however, that this statement refers only to the share of government spending in real GNP. If P is rising and c_2 is less than one in absolute value, the money share of government spending (GP) could be increasing. Oates' paper in this volume focuses on that ratio.

seriously distorted first by World War II, then by the Cold War buildup, and finally by the Vietnam War expenditures in the late sixties. Moreover, to my knowledge nobody has provided estimates of income and price elasticities for national defense. Yet because these purchases are so important in shaping overall government spending levels in America, these comparisons are given in the top panel of the Table. For these comparisons c_1 and c_2 are taken at the mean values shown in Table 1, and a_1 is assumed to equal zero since national defense expenditures are the classic example of a pure public good. The growth equation then becomes

$$d \ln G_{ND} = .65 d \ln Y - .51 d \ln P_{ND} - .14 d \ln N \quad (5)$$

and the results are presented in column (2) of the Table. There it can be seen that defense spending did exceed its prediction by a large amount in the World War decade of the forties, and also in the Cold War decade of the fifties. Even with the Vietnam buildup in the sixties, defense spending barely kept up with its prediction and fell behind GNP (column (4)), and in the seventies it has fallen well behind both its prediction and GNP. By 1979, defense spending was down to only 4.5 percent of GNP (in real terms), the lowest share it has reached since sometime in the thirties.

Perhaps a better example of the Borchering test lies with the other purchases of federal, state, and local governments. For these the estimates of c_1 and c_2 given in Table 1 are appropriate, and I also use the apparently noncontroversial finding that the crowding parameter a_1 is close to unity (as has been found by the only three studies to estimate this parameter). The growth equation then becomes

$$d\ln G_0 = .65 d\ln Y - .51 d\ln P + .35 d\ln N \quad (6)$$

and the results are shown in the second panel of Table 2. The residuals are generally positive, with the exception of the War decade, but smaller in the seventies than before. Also note that even though these residuals are positive in the seventies, the share of real GNP devoted to other purchases has declined slightly in the decade. Considering all types of purchases, for defense and other, the total real share of GNP devoted to exhaustive expenditures of government is now .19, slightly less than it was as far back as 1940 -- even though the Borchering residuals have been generally positive over the period.

The one type of government spending where there is no doubt about the growth is transfer payments (T), shown in the bottom panel. Growth in transfers is perhaps not quite as dangerous to those worried about protecting private enterprise because private consumers still have control over the resources, but on the other hand transfers must be paid for out of taxes. For these we can assume $a_1 = 1$, since obviously total transfers confer reduced utility to recipients as the number over which the pie is split increases. Also, since purchases are not made, the price effect is absent. The resulting prediction equation is thus

$$d\ln T = .65 d\ln Y + .35 d\ln N \quad (7)$$

and the results are as shown. Residuals are definitely positive in all decades, and high enough that the real share of GNP is rising steadily. The only ex post interpretation difficulty is that for transfers it could be argued that "tastes have

changed", with the introduction of Social Security in the thirties, and fairly large scale redistributive transfers in the seventies. Moreover, the early plans of the Reagan Administration on transfer payments are unmistakable -- in all likelihood the real growth in this item is a thing of the past.

To put all this together, even though one must make some very tenuous assumptions to make the Borcherding comparison, in general the residuals from this sort of a test are positive for most decades and types of expenditures. This could provide suggestive evidence of some mysterious force making for unexplainable growth in government, or it could just indicate that tastes have changed over this interval. Moreover, even with the positive residuals, the share of exhaustive purchases in real GNP has not risen over most of the period, though the share of transfers has. By 1979, as the Reagan Administration wields its widely-publicized axe to the public sector, total purchases and transfer payments stand at about .29 of GNP, about the same as in 1959 and slightly below the median for Western industrial countries.

Government Growth and Baumol's Productivity Disparity Hypothesis

Baumol's (1967) productivity-disparity model antedated many of the other theories, and in fact was not initially a theory about government growth at all. Baumol postulated that the relative price of public goods would rise over time because of the lack of productivity growth in the public sector. This productivity disparity could set up one of two possible outcomes:

a) The share of employment devoted to the public sector might remain constant, but because of more rapidly rising private sector productivity, the share of real output devoted to the public sector would fall.

b) The share of output would remain constant, but a progressively larger share of the work force would need to be devoted to the public sector to bring about this result.

Baumol was initially worried that the former outcome would materialize, but lately it has become fashionable to worry about the latter.

The relevance of Baumol's hypothesis to the government growth picture can be discussed at several different levels. Since the national income accounts use labor input prices to measure public output prices, they assume that there will be no productivity growth in the public sector, and hence assume a Baumol-like model. I first examine the macro statistics to see, in this upper-bound case, how dramatic the price differentials are. I then examine actual growth behavior for exhaustive expenditures to see which of the two possible outcomes appears to be closest to the truth. Finally I ask whether there might be a form of measurement error in the national accounts that generates the whole problem -- if true output prices were used, would productivity differentials simply vanish?

To begin with the price differentials themselves, suppose that public output is produced according to the Cobb-Douglas production function

$$G = e^{rt} E^b K^{1-b}, \quad (8)$$

where r is some rate of productivity change, E is the number of public employees, and K is the public sector's capital stock. If a community hires factors up to the point where the value of their marginal product equals their real wage, we get the first order conditions

$$\frac{\partial PG}{\partial E} = b \frac{PG}{E} = W \text{ and } \frac{\partial PG}{\partial K} = (1-b) \frac{PG}{K} = P_k, \quad (9)$$

where P_k is the gross rental price of capital, assumed to be constant, P is the relative price for public services, and the equalities are exact if the value of marginal products equal wages and correct up to some proportional factor if the value of marginal products are proportional to wages. These first order conditions can be solved for E and K and substituted back into (8) to yield

$$d \ln P = -r dt + b d \ln W \quad (10)$$

as the growth equation for the relative price of public output, one of the independent variables in (4). Baumol's argument is that if wages grow at the same rate in the public and private sector because of competitive labor markets, the fact that r is zero in the public sector implies that the relative price of public output (P) will be rising over time.

In Table 3 I show the rates of real wage growth for public and private employees, along with the change in relative prices for public output over the last five decades. Comparing rates of growth of real wages in the first two columns, it can be seen that wages do rise at approximately the same rate. In the prewar period private wages (W_p) rose slightly more rapidly; in the postwar period public wages have. Then, comparing columns (2) and (3), it can be seen that a zero rate of productiv-

ity change does indeed appear to be assumed for public employees. Over the last three decades W has risen at the average rate of .018, and if b is assumed to be about .7 for the public sector, r can be calculated from equation (10) to be very close to zero (in fact, slightly negative). At this level the Baumol story appears to be accurate.

The next question is what does this rise in relative public sector prices do to output shares? Both Baumol and Bush-Mackay (1977) set up rigid models where either real output shares or the proportion of the labor force in the public and private sector were constant, and where the non-fixed variable progressed steadily to one or zero. But as equation (4) suggests, if income and price elasticities are allowed to take non-unity values, there is no reason why an intermediate outcome could not occur, and why both G/Y and E/N could progress or regress at slower rates. Columns (4), (5), and (6) of Table 3 indicate that such an intermediate case has indeed been the actual outcome in the United States. The share of full time employment devoted to the public sector in column (6) has risen slightly over the period (though dropping in the most recent period due to the reduction in military employees), but slightly more than enough to compensate for the slower assumed productivity growth in the public sector. The consequence has been the slight rise in the share of real output purchased by the public sector noticed above (again until the recent decade). The rising relative price of government output has also implied a rising share of nominal output to government over the 1949-69 period. Even the share of nominal output purchased by government has fallen in the recent decade, however,

mainly because of the disproportionate cutback in real outlays for national defense. Hence until the most recent decade the overall picture was one falling closest to the second extreme posed by Baumol: the share of the workforce hired by the public sector has risen slightly and the share of real output purchased by the public sector has been stable or slightly increasing.

The final question that can be raised about the Baumol model in effect goes behind published statistics to question their assumptions. In compiling price indices for public goods, the Department of Commerce simply assumes productivity advances for government employees of zero. At the federal level, both the Civil Service Commission (1972) and the Office of Personnel Management (1980) have found rates of productivity advance of from 1% to 2% for agencies comprising a majority of civilian employees, enough to account for the entire rise in the relative price of government output if extrapolated to local government as well. At the state and local level, there is as yet no evidence in favor of positive rates of productivity change, and there is some in favor of negative rates of productivity growth (Bradford-Malt-Oates, 1969 and Spann, 1977). All of these estimates should be taken with a good deal of care because of the great difficulty in holding constant the quality of public output, but at least we should be cognizant of the possibility that the Baumol productivity disparity model is based on measurement error in trying to define rates of productivity increase in the public sector.

Whatever the case, neither of the two models intending to explain the growth of government provides very convincing explanations of the postwar

experience in the United States for the simple reason that the share of output and employment devoted to government has not grown that much. Since 1949 only .036 more of the full time work force is devoted to government, only .047 more of nominal GNP is devoted to government purchases, and only .044 more of GNP is devoted to government transfer payments. Since 1969, there has been a drop in the share of government employment, a drop in the share of nominal output and a sharp drop in the share of real output devoted to government, though still some rise in the share of transfer payments. This hardly seems to be provocation for the massive political movement that has crystallized around constitutional measures to limit taxes in America, unless tastes have changed in the direction of desiring smaller levels of government. Whether that is so awaits a more careful examination of voter tastes, something I deal with in the next section of the paper.

LEVEL THEORIES

The Voting Distortion Hypothesis of Borcharding-Bush-Spann

We turn now to the theories that suggest that however rapidly government spending has grown, there are political tendencies for its level to be too high. In an economic efficiency sense, these tendencies would imply public spending beyond the point where the marginal social benefits to society equal the marginal costs. This point is very hard to estimate, however, so for practical purposes bigness is usually defined as spending beyond the level that would be favored by the median voter in a direct democracy. A great many

theories of bigness have been constructed, and it is impossible to do justice to all of them. These theories generally assume first that government employees, whether bureaucrats or legislators, have a taste for higher levels of public spending than private voters, and, second, that as a result of their position, they are able to manipulate the system so as to gain their objectives.

One of the first models was that of logrolling by Buchanan and Tullock (1962). Under this view, individual legislators with intense preferences for certain public spending actions and modest preferences against others would logroll to pass a large number of actions that a pure median voter system would not pass. Niskanen (1971) focused more on nonelected bureaucrats, arguing that since they cannot compete for any surplus generated by their agency, they will compete to have large agencies with many employees to supervise. A complementary motive, not emphasized by Niskanen but also implying public spending greater than the median voter condition, is that those already working in the public sector have a job security motive for wishing to enlarge it. Niskanen also worked in legislative oversight committees, which should constrain the bureaucrats but do not because they also have high demands for public spending. Romer-Rosenthal (1978) focused on the fact that bureaucrats and legislators are able to control the political agenda, and hence confront voters with two options, one implying spending greater than voters would prefer and a second, conferring even less utility to voters, with greatly reduced public spending (if you do not build another school, we will not teach at all). Through this mechanism public employees could raise the size of government. Denzau-Mackay-Weaver (1981)

focused the monopolistic position of public agencies, and how this monopoly permitted the growth of public spending. Goetz (1977) discussed the fiscal illusion problem -- that voters may not be aware of all the taxes they are paying for public goods, particularly if these public goods are financed by grants from higher levels of government and therefore apparently free to lower level taxpayers.

Everybody has good anecdotal evidence that many of these imperfections exist, but in general it is extremely hard to test these big government theories very systematically. Even Romer-Rosenthal, who have found one state (Oregon) that uses "reversion" budgeting, have had great difficulty because it turns out that the impact of the reversion level is nonlinear -- if the reversion level is well below the median voter point, rises in it will imply lower levels of public spending, but if it is slightly above the median, rises in it will imply higher levels.

The recent raft of tax limitation amendments in the United States has provided one opportunity to test some of the theories. Both public and private voters can be surveyed directly to try to measure their taste for public goods, and to see if systematic taste differences exist among those who have more or less to gain from higher levels of public spending. It is also possible to see whether turnout and voting differences imply that public employees favor and can bring about higher levels of public spending.

The framework that I will use to make these tests is the voting distortion hypothesis of Borcharding-Bush-Spann (1977). Borcharding-Bush-Spann focused

on the fact that public employees are more organized than private employees, but I will here generalize their notion to allow for taste differences as well.

Say that there is some election where the voters are directly voting on the size of public budgets -- a common occurrence in America with its school millage property tax elections and recent spate of tax limitation amendments. These elections are decided by majority vote, and we have already seen (Table 3) that the public work force comprises only about 20% of the labor force in the United States. Hence in straight sector of employment voting, the private sector will always win. But there is not straight sector of employment voting -- voters in both the public and private sector have taste differences and turnout differences, and it may still be possible for a minority group such as public sector workers to have an important influence on electoral outcomes.

This can be seen in the following model, developed from that of Borcharding-Bush-Spann. The large budget option in the election will win if

$$E_g Q_g V_g + (1-E_g) Q_p V_p \geq .5(E_g V_g + (1-E_g) V_p), \quad (11)$$

where all variables lie between zero and one, the g subscript refers to the public sector and p to the private sector, and E_g refers to the share of public employees in the electorate (presumably proportional to E/N), Q_g and Q_p to propensities to vote for higher public spending or against tax limits, and V_g and V_p to voter turnout rates. The left side of the inequality then gives the share of the electorate voting for larger public budgets, and the right side gives the majority rule

conditions: more than half of those actually voting must favor larger public budgets for the measure to pass.

The expression can be manipulated by dividing through by the right hand side and recombining to yield

$$Q_p + \frac{(Q_g - Q_p)E_g V_g}{E_g V_g + (1-E_g)V_p} \geq .5 \quad (12)$$

This expression can be interpreted as follows. If $Q_p \geq .5$, even the private voters favor higher public budgets (or oppose tax limits), and measures to raise spending should pass. In these cases the presence of public voters may affect the vote count, but not the actual fiscal result. But if $Q_p < .5$, the presence of public voters with different tastes may "bias" the outcome by virtue of the second term. For this bias to exist there must be taste differences $(Q_g - Q_p) > 0$ and public voters must comprise a large enough weight that these taste differences matter ($E_g V_g > 0$).

Before looking at numbers, I should mention two philosophical problems with the argument. The first is that the $(Q_g - Q_p)$ term is typically used as a measure of bias, as if private sector voters have "pure" tastes and public sector voters have a conflict of interest -- they are suppliers of public goods who are allowed to vote on the demand side. But to establish the existence of this bias, one must argue that public employees have different tastes because they are public employees. If their tastes were prior and they only work in the public sector because of their innate preference for public goods, or because they have better information about the true value of public goods,

it would be biased to disenfranchise these employees and to treat Q_p as the unbiased estimate of voter preferences.

A similar argument can be made about turnout differences. If $V_g > V_p$, public employees' votes are differentially weighted because of their higher turnout rates. Perhaps this is due to greater union organization and distorts the vote. But also the higher public turnout rates could be due to more intense preferences, and optional turnout may then be a reasonable way to allow these more intense preferences to be expressed. For both reasons one must be extremely cautious in interpreting private levels of Q and V as appropriate, and differences in public levels as reflecting some sort of voting bias.

The actual numbers come from a telephone survey of a random sample of 2001 households in the state of Michigan, taken by Courant-Gramlich-Rubinfeld (1980) just after the widely-publicized 1978 vote on the Headlee Amendment. This Amendment would have limited own state government revenue to the pre-existing share of state personal income -- in effect, forestalling further increases in PG/Y unless financed by federal grants. It also limited the growth in local property tax assessments to the growth in inflation, unless overridden by local referenda. The measure was fairly straightforward, at least compared to some on the ballots in the U.S. lately (see the Oates paper), and was viewed as a fairly straightforward test of taste for public goods. It passed with 52% of the overall vote.

The basic data for evaluating the Borcharding-Bush-Spann "bias" are given in Table 4 and the

calculations worked out in Table 5. Beginning with row 1 in Table 4, .514 of the sample (the electorate) voted on the measure, a turnout rate that is low by international standards but average for the United States. The share voting against the amendment was .438, less than the .48 of the actual vote because the actual voting population included university students (who probably voted against the Amendment in greater numbers) and because there may have been some selective recall.

The first four rows of the Table give basic turnout and voting data. If public employees are to be defined as all households with at least one adult member working in the state and local sector, the most liberal definition, the results are summarized in row 1 of Table 5. There it can be seen that Q_g is indeed .185 higher than Q_p , that V_g is .222 higher than V_p , and that the voting "bias" is .043. Since Q_p was only .395, a bias of .043 was not enough to sway this election, and indeed a bias of this magnitude would not have swung any of the nine tax limitations amendment so far on the ballot in the state of Michigan. It is hard to get numbers on electoral margins in the other states that have had limitation elections, but in general the winning or losing margins have also been much larger than .04. The same calculation is done in row 2 of Table 5 with only those households that could be allocated to specific state or local agencies, reaching essentially identical conclusions. Finally, not all state and local employees earn more in the public sector than they would working in the private sector, so we developed a technique (based on the work of Smith, 1976, and described in Gramlich-Rubinfeld, 1982) for identifying only those state and local employees with positive labor market "rents". When the bias calcu-

lation was redone for just this conception of the public sector (row 13 of Table 4 and row 3 of Table 5), a much smaller share of the electorate, only .054, was in the public sector but the differences between Q_g and Q_p and V_g and V_p were greater so the bias declined only to .022.

Rows 4 and 5 of Table 5 then try to verify these calculations with a school millage vote in Troy, Michigan (see Rubinfeld, 1977). Estimates of both sets of V's and Q's are higher in the millage elections, but the bias calculations are quite close to those computed for the Headlee vote. Biases on this order (.04) would have swung about 10 percent of all failing school millages into the win column in the state of Michigan (see Neufeld, 1977).

In Table 4 I have focused on the actual voting and turnout data, in line with the usual economist's presumption of letting behavior reveal tastes. However in the survey we did also ask people whether they would favor a larger or smaller public sector (both state and local), and if so, how much they would like to see both taxes and expenditures altered in percentage terms. The results for state expenditures and taxes are shown in column 6 of Table 5. There it can be seen that even though Q_g is above Q_p , in explicit answers to this hypothetical question, public sector voters look much more like private sector voters.

The upshot of all this for the voting bias theories is that there is some evidence of taste and turnout differences between public and private voters, on the order of .2 for both ratios. Multiplying together leads to public employee biases of .02 - .04, not a negligible number but a number

small enough that very few tax limitation of school millages are swung. Hence the pure voting bias, supposedly raising the size of government is relatively small, even in the worst case where the entire difference in turnout and voting rates are attributed to public sector worker conflict of interest. If, as seems likely, only a portion of these differences should be attributed to conflict of interest, the voting bias would be smaller and less significant yet. Moreover, if instead of looking at voting behavior we looked at differences in answer to direct but hypothetical questions about preferred levels of public spending, any public-private differences become totally insignificant.

While these voting data only permit a direct test of the Borcharding-Bush-Spann big government hypothesis, it is possible to make some indirect tests of both the Niskanen (1971) bureaucratic manipulator hypothesis and the Goetz (1977) fiscal illusion hypothesis. For the Niskanen case we measure the tastes only (not their ability to lobby for bigger agencies) of upper level bureaucrats, those likely to be in public sector management positions. Statistics for these individuals are shown in rows 11 and 12 of Table 4: there it can be seen that these high income state and local managers have turnout rates and voting propensities about like all other state and local employees not likely to be in management positions (except for the remarkably high turnout rate for high income local employees). There is then some taste difference between high income public employees and private workers, enough at least to be consistent with Niskanen's hypothesis.

Goetz has argued the fiscal illusion hypothesis, paying particular attention to the fact that local

taxpayers may view grants from the federal government as free money, forgetting the federal taxes they pay when voting on local projects. It is possible to make a weak test of this hypothesis through the following reasoning. Using estimates of individual demand functions (Gramlich-Rubinfeld, 1982), the consumer surplus from public expenditures can be derived by integrating up to the actual level of expenditures in the community and then subtracting local property taxes paid. The net surplus as so defined is then used to rank private voters into high and low surplus groups, as shown in rows 3 and 4 of Table 6. An infusion of grant money would shift low net surplus voters to the high net surplus category. If they then vote like others in that category, the table shows that the share voting against Headlee (for larger public output) goes down. One explanation for this finding is that high net surplus voters already have enough public goods and have a low marginal rate of substitution, explaining their lower rate of voting for an increase. But another possibility is that the Goetz hypothesis is not confirmed: an infusion of grants does not create any fiscal illusion leading voters to vote for larger public budgets.

The Redistribution Hypothesis of Peltzman

The Peltzman (1980) model essentially ignores public goods and focuses instead on the redistribution function of government. In this it is similar to an earlier paper by Meltzer and Richard (1978). Meltzer-Richard's politicians try to maximize their vote by extending the franchise; Peltzman's by finding a politically dominant redistribution strategy. Were politicians to tax Johnny Carson

and distribute the proceeds to poor people, these politicians would lose one vote (Carson's) and gain the votes of all transfer beneficiaries. Then they might focus on the next person in the income distribution, Bob Hope -- losing his vote but gaining another set. They would proceed in such a manner until the marginal political benefits equal the marginal costs, rising because more and more voters would be taxed, and perhaps aggravated by labor supply effects. There will always be redistribution in such a model because rich people have only one vote but lots of money to "buy" lots of votes.

There are two ways to test such a model with voting data, and as it happens the tests yield ambiguous results. One test, in which the model does not come off very well, is shown in Table 6. Rows 6 through 15 of the table show voting results for various sets of transfer recipients, the beneficiaries of Meltzer-Richard or Peltzman government growth schemes. The general conclusion is that politicians who attempt to buy votes by redistribution are in for a rude shock. Whereas the turnout rate for working private sector voters (row 2, Table 4) is .486, only social security recipients (or retired and disabled) turn out in larger numbers, and most groups turn out in much smaller numbers (the rate is only .171 for the unemployed, who presumably have enough leisure time to vote). Regarding voting percentages, both the low income working poor (row 15) and all groups of non-workers (rows 7 through 9) have the same or lower rates of voting against the Headlee Amendment. Transfer recipients do show slightly higher rates of voting against the Amendment, but

only by fairly trivial amounts (with the exception of food stamp recipients, where almost nobody turns out). Computing the transfer vote bias for transfer recipients in the manner done above for public employees leads to a bias of only .017 for all transfer recipients, .014 for social security recipients, and trivial amounts for the other groups. If politicians really are trying to buy votes by redistributing income, there is little evidence here that their actions are being reciprocated in the votes of transfer recipients for more public spending.

However there is another test yielding results more favorable to the Peltzman hypothesis. Voter surveys in three different states -- California (Citrin, 1979), Michigan (Courant-Gramlich-Rubinfeld, 1980), and Massachusetts (Ladd-Wilson, 1983) are in close agreement on one point. When voters are asked whether they want larger or smaller governments, they generally opt for no overall change (see Table 4 for evidence). When they are asked about particular functional categories of expenditures, they opt for no change or an increase with one striking exception -- most voters in the three states want to see a cutback in welfare payments. This part of the argument fits the Peltzman model very well. If politicians were really trying to buy the voters of transfer beneficiaries by passing expensive redistribution schemes, we might expect the electorate in general to be upset about it, and that is exactly what they seem to be. The only problem, as mentioned above, is that the beneficiaries themselves do not appear to be playing along.

**The Public Wage Growth Hypothesis of Courant-
Gramlich-Rubinfeld**

The theories used to explain government growth or bigness to this point have all focused on the real quantity of government spending. This is moderately surprising because in utility terms that should not be as harmful to the private sector as when the factor cost of government services is rising -- then the quantity of both public and private goods consumed by the private sector is being reduced, whereas before there was just a shift between public and private consumption. We now turn to a model of the market power of public employees and how that might be used to raise their wages above competitive levels.

Public employees are in the unique and enviable position of being sellers of public services who vote on the demand side. When they get to be an important voting block, they can either influence elections directly or vote for mayoral candidates who promise implicitly to raise public wages if elected. Sympathetic political candidates can also hire more workers into the public sector, expand the power of the voting block even more, and lead to parallel growth of the public work force and public wages (see Tullock, 1974).

When one tries to model the process, as both Courant-Gramlich-Rubinfeld (1979) and Inman (1980) have, the conclusions turn out to be somewhat more restrictive. Taking the worst possible case, assume that the public employees of a local government have complete control over their wage level, and can set it in a monopolistic manner. The decisive voter, whether in the public or private sector, is then allowed to choose a level of gov-

ernment employment (E), and private employees are given the additional ability to leave the community if the tax price of public services is driven to excessive levels by these monopolistic public servants. In this case the solution for levels of W and E turns out to depend on a simultaneous solution of two equations, one essentially like (1) that gives the public employment level given W, and another that gives optimal (from a public employees' standpoint) wages for a given level of E.

The latter expression can be derived simply by assuming public employees have conventional utility functions

$$U_g = U_g(C_g, E), \quad (13)$$

where the g subscript again refers to the public sector, taken for simplicity to have homogeneous tastes and to be admitted to the public sector only if the voting process creates more public sector jobs. To find the maximum, or optimal, level of W for each E, the E argument in (13) can be held fixed, and the optimization exercise involves simply maximizing the private consumption of public employees with respect to W. The only trick is that since Y equals the wage bill of the public plus the private sector, it can in principle rise or fall with W -- it will rise if the higher public sector wage income is not offset by lower private sector wage income, or fall if the higher public sector wage income and tax rates inspire emigration or reductions in labor supply. Solving the optimization exercise yields

$$W = Y/E(2-\eta), \quad (14)$$

where $\eta = \frac{dY}{dW} \frac{W}{Y} \leq 1$, as the expression for the real wage level desired by public employees. The important aspect of (14) is that public wages and employment levels are inversely correlated, in contrast to the Tullock political prediction. As E increases, higher public wages entail higher income tax rates even for public employees, reducing their after-tax income even though before-tax income is increased. Also note that the lower is η and the more mobile is the private sector, the lower is W . When $\eta = 0$, the optimal wage is set so that government spending is just half of total output; when $\eta = -1$, government spending is one-third, and so forth.

Finding that employment and wage levels are inversely correlated implies that there are severe limits on government employee wage exploitation of the private sector. In the first place, when voting on E , public employees will be torn between choosing an E that maximizes their utility as consumers of public output and one that provides optimal levels of rent. For another, there is now a difficult trade-off for public employees. They can vote to expand the public sector to give themselves more political power (raising E_g in equation (10)), but this very action reduces the optimal wage level. Or they can try to keep the public sector small and optimal wages high, but this action reduces the probability they will have enough voting power to raise public wages above competitive levels in the first place.

Does the evidence support this view of the public sector wage determination process? There have been many attempts to explain government wage rates, but most have not tried to distinguish wage differentials according to whether private voters do or

do not have a credible exit threat. But it is perhaps possible to glean at least some information from empirical work on public sector wage differentials.

A first question is whether public sector workers in fact get any noncompetitive rents. The answer depends on the study you look at, but there is some weak evidence of positive rents. Results from three human-capital type studies are listed in Table 7. In each, wage levels for individuals are regressed on age, race, sex, education, location, and other variables, with a dummy or some other correction for sector of employment. They indicate that only for the federal government, whose jurisdiction is hardest to emigrate, are rent levels generally positive. It should be noted however that a later analysis of Quinn (1981) shows that other terms of the wage bargain such as pension arrangements, disability, tenure, and job interest are also seen to be more favorable for public than private employees.

Other interesting evidence about wage rents comes from the work of Inman (1980) and Ehrenberg-Goldstein (1975). Inman showed that the presence of competitive suburbs with income levels comparable to these in a central city -- implicitly, negative values of η -- does appear to hold down wages for policemen and firemen by a large and statistically significant amount. Ehrenberg-Goldstein have reinforced the same conclusion from a different standpoint. They show that the union organization of suburban employees raises central city public wages (by reducing the credibility of private employees' exit threat), while the organization of central city employees raises suburban public wages. Both the existence of public sector rents,

and their negative correlation with the private employee's exit threat then tend to support also the wage monopoly rationale for some degree of excess government spending.

SUMMARY AND IMPLICATIONS

This analysis of the size and level of government budgets in the United States thus contains some mixed signals. On the one hand, it does not appear that the growth of government is out of control. In earlier decades government spending grew at rates that exceeded those predicted on the basis of cross-section elasticity estimates, but at least in the seventies that has not been true for exhaustive expenditures for national defense, and not as true for civilian exhaustive expenditures and transfer payments. And even though government growth has not been fully explainable by cross-section elasticity estimates, the shares of real and nominal GNP devoted to government purchases and the labor force devoted to government employment are not particularly high by international standards, and have been declining for a decade.

The productivity disparity, on which the Baumol argument is based, has been responsible for a rise in the relative price of government output of about one percent a year for the last three decades. This rise is in the official statistics which assumes zero productivity growth among public employees, an assumption that is at least moderately questionable for federal government workers, though perhaps not for state and local employees. In any case, when demand functions are used that are more flexible than in the original Baumol model, the rise in relative prices of

public output has implied essentially constant real output shares devoted to the public sector and only slightly rising employment shares. Again, however, all public sector shares have declined in the past decade.

But simply saying that government spending is not rising at excessive rates does not imply that spending is at its efficient level where all marginal benefits of public output equal marginal costs, or its democratically chosen median voter level. One reason why the median voter rule might be violated involves a whole set of "supply-side" arguments suggesting that public employees have a taste for more government spending, and the position to bring this about. I examined carefully one aspect of this argument, the part involving differential tastes and turnout rates of government employees, and whether that biases electoral fiscal outcomes. There is in fact evidence of differential tastes and turnout rates, and this can alter outcomes on fiscal votes, though the actual number of cases where this has happened is undoubtedly very small. But simply arguing that tastes or turnout rates differ still does not establish any voting bias unless it can also be shown that differential tastes result from the fact of government employment, and so far that has not been shown.

I also examined two other hypotheses involving more than median-voter government spending levels. The Peltzman redistribution hypothesis might superficially appear to be confirmed by the quite general voter feeling that welfare payments are too high, but there is still a weak point in the argument because it seems that actual beneficiaries of transfer programs do not vote much differ-

ently than anybody else (unlike public employees), and they turn out for votes in very small numbers. Hence it is not obvious that redistribution-minded politicians have a winning strategy -- they make some voters mad and do not make others happy -- and therefore one would have difficulty in arguing the pervasiveness of this explanation of government growth.

There was slightly more evidence of some monopolistic rent in public sector wage differentials, with studies indicating that federal wages appear to be about 10 percent above corresponding private wages, though state and local wages appear to be about the same as private wages. Formal models of the wage setting process indicate why federal wages may be somewhat higher than those at the state-local level (there is less fear of fiscal emigration of private taxpayers). But they also show why ultimately public employee growth and public wage growth are substitutes, not complements, and lead to a constrained and not unbounded overall size of the public sector.

The upshot of all this is that while there is some evidence in favor of all theories of excessive government size -- public employees do vote differently, welfare payments may be too high, public wages may be excessive -- the quantitative magnitudes are not great and the arguments all have at least some theoretical or empirical weak links. The theories are interesting and at least partly confirmed by the facts, but they have yet to make a very compelling case that government spending has grown to excessive proportions in the United States.

Table 1 Estimates of Public Expenditure Demand Parameters

Study	TS or		Type	c_1	c_2	a_1
	CS ¹	Date				
Ashenfelter- Ehrenberg (1975)	PCS	58-69	SL Employment	.78	- .72	n.c.
Barlow (1970)	CS	60	Mich. Sch. Dist.	.64	- .34	n.c.
Bergstrom- Goodman (1973)	CS	60	Mich. Cities	.88	- .41	.98
Borcherding- Deacon (1972)	CS	62	SL Agg.	.83	- .76	.92
Feldstein (1975)	CS	70	Mass. Sch. Dist.	.48	-1.00	n.c.
Gramlich (1978)	TS	54-77	SL Agg.	.70	- .36	n.c.
Gramlich- Rubinfeld (1982)	CS	77	Mich. Counties	.40	- .06	1.01
Inman (1978)	CS	68-69	N.Y. Sch. Dist.	.72	n.c.	n.c.
Johnson- Tomola (1977)	TS	66-75	SL Emp.	.62	- .56	n.c.
Lovell (1978)	CS	70	Conn. Sch. Dist.	.32	- .83	n.c.
Ohls-Wales (1972)	CS	68	SL Agg.	.74	- .11	n.c.
Mean estimate				.65	- .51	.97
Standard deviation				.17	.29	.02

¹ TS means a time-series analysis, CS a cross-section analysis, and PCS a pooled cross-section analysis.

Table 2 Explained and Unexplained Rates of Growth of Various Components of Government Spending
 All variables in real terms, rates of growth in per annum terms

Purchases for National Defense (G_{ND})				
Decade	(1) dln G_{ND}	(2) Predicted by Eqn. (5)	(3) Residual	(4) Share of real GNP at end
1929-39	n.c.	n.c.	n.c.	.017
1939-49	.179	.026	.153	.065
1949-59	.089	.017	.072	.107
1959-69	.021	.022	-.001	.088
1969-79	-.035	.014	-.059	.045

Other Purchases by Federal, State, Local Government (G_0)				
Decade	(1) dln G_0	(2) Predicted by Eqn. (6)	(3) Residual	(4) Share of real GNP at end
1929-39	.034	-.007	.041	.180
1939-49	.012	.026	-.014	.132
1949-59	.036	.017	.019	.129
1959-69	.055	.022	.033	.149
1969-79	.028	.014	.014	.144

Transfer Payments, All Levels (T)				
Decade	(1) dln T	(2) Predicted by Eqn. (7)	(3) Residual	(4) Share of real GNP at end
1929-39	.115	.003	.112	.001
1939-49	.093	.033	.060	.045
1949-59	.051	.031	.020	.052
1959-69	.067	.032	.035	.067
1969-79	.070	.023	.047	.099

Table 3 Rates of Growth of Public and Private Real Wages, Relative Prices for Government Services, and Real and Nominal Shares of Employment and Output Devoted to Government

Rates of growth in per annum terms

Decade	(1) dln Wp	(2) dln W	(3) dln P	(4) G/Y at end	(5) PG/Y at end	(6) E/N at end ¹
1920-39	.003	-.001	.014	.197	.149	.172
1939-49	.020	.015	-	.197	.149	.155
1949-59	.023	.019	.011	.236	.200	.186
1959-69	.018	.022	.010	.237	.221	.205
1969-79	.007	.012	.010	.190	.196	.191
Average 1949-79	.016	.018	.010	.215	.192	.184

¹ Share of full-time equivalent employment hired by the public sector.

Table 4 Voting Data for Various Groups
1978 Tax limit vote in Michigan

(1)	(2)	(3)	(4)	(5)	(6)
Group	Number in sample	Share of electorate	Turnout rate for Headlee vote	Share voting against Headlee	Mean, desired state tax and exp. change %
1. Total	2001	1.000	.514	.438	-1.8
2. Private workers ¹	1279	.639	.486	.396	-1.9
3. Not working ²	381	.190	.444	.391	-1.3
4. Pure public ³	186	.093	.683	.654	-0.9
5. Mixed ⁴	155	.077	.716	.496	-1.5
6. State and local ⁵	239	.119	.720	.616	-1.1
7. State govt.	47	.023	.489	.696	-1.9
8. State univ.	25	.012	.600	.533	-1.4
9. Local govt.	64	.032	.797	.588	-1.3
10. School dist.	103	.051	.806	.626	-0.5
11. High income, state. ⁶	23	.011	.696	.625	n.a.
12. High income, local ⁷	31	.015	.903	.607	n.a.
13. Rent earning, st. or loc. ⁸	109	.054	.734	.700	-0.4

¹ Includes federal government workers, who for these purposes are not in the relevant public sector.

² Detailed breakdown is given in Table 6, rows 7, 8, and 9. Does not include temporarily laid off.

³ Respondent is single and works in the public sector, is in a household where the only working spouse works in the public sector, or is in a household where both spouses work in the public sector.

⁴ Both spouses are working and one works in the public sector and one in the private sector.

⁵ Less than the sum of rows 4 and 5 because many of pure public households could not be allocated.

⁶ All state employees with income above the median for state employees (\$16,000).

⁷ All local employees with income above the median for local employees (\$13,000).

⁸ Based on procedure described in Gramlich-Rubinfeld (1982).

Table 5 Voting Biases for Different Votes
1978 Tax limit vote in Michigan

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Election	E_g	V_p	V_g	Q_p	Q_g	$\frac{(Q_g - Q_p)(E_g V_g)}{E_g V_g + (1 - E_g)V_p}$
1. Headlee, all public emp. ¹	.170	.476	.698	.395	.580	.043
2. Headlee, st. & loc. emp. ²	.119	.486	.720	.402	.616	.037
3. Headlee, rent earning emp. ³	.054	.501	.734	.416	.700	.022
4. First Troy millage ⁴	.107	.768	.797	.552	.941	.043
5. Second Troy millage ⁴	.107	.807	.828	.631	.962	.036

¹ Based on the sum of rows 4 and 5, Table 4.

² Based on row 6, Table 4.

³ Based on row 13, Table 4.

⁴ All Q and V estimates are based on sample probabilities and are only relatively accurate, not absolutely accurate. Hence the level of V_p and V_g will be off by the same amount, as will that of Q_p and Q_g .

Table 6 Voting Data for Nonpublic Voters
1978 Tax limit vote in Michigan

(1) Group	(2) Number in sample	(3) Share of electorate	(4) Turnout rate for Headlee vote	(5) Share voting against Headlee
1. <u>Private, working & not</u> ¹	1660	.830	.476	.395
2. Nonhomeowners	758	.379	.342	.429
3. High net surplus ²	451	.225	.608	.365
4. Low net surplus ²	451	.225	.570	.401
5. Lansing area ³	70	.035	.386	.333
6. <u>Not working</u> ⁴	381	.190	.444	.391
7. Retired & disabled	18	.109	.550	.392
8. Unemployed	35	.196	.536	.333
9. Other	128	.064	.336	.395
10. <u>Transfer recipients</u> ⁵	657	.328	.461	.449
11. Social security	392	.196	.536	.462
12. Unemp. ins. ⁶	188	.094	.436	.427
13. Food stamps	109	.054	.211	.521
14. AFDC & SSI (Welfare)	181	.090	.320	.431
15. Working poor ⁷	300	.150	.340	.392

¹ Based on the sum of rows 2 and 3, Table 4.

² Based on procedure described in Gramlich-Rubinfeld (1982).

³ All residents of counties of Lansing SMSA.

⁴ Same as row 3, Table 4.

⁵ Less than the sum of rows 11-14 because some households receive benefits from more than one program.

⁶ Larger than row 8 because temporary layoffs are not included in 8, and because Total includes many on UI for a short time who were working again when the survey was taken.

⁷ Bottom quartile of row 2, Table 4 -- annual pretax income below \$11,800.

Table 7 Percentage Differentials between Public and Private Pay Levels, Controlling for Human Capital Variables

	(1)		(2)		(3)	(4)
	Smith (1980)		Quinn (1979)		Mitchell (1979)	
	Males	Females	Males	Both sexes		
Federal government	11	21	20	2		
State government	- 6	3	17	-16		
Local government	10	0	-6	- 2		

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MEDIAN VOTER MODELS AND THE GROWTH OF GOVERN- MENT SERVICES

by Saul H. Hymans

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INTRODUCTION

In recent years economists have shown a more intense interest in matters having to do with the impact of government activities on the structure and performance of the economy. Some of this is the natural result of long tradition in the development of such areas as public finance, stabilization policy, and industrial organization. In addition, though, the profession at large has been prodded by special factors -- e.g., the rising share of government in the GNP, the "taxpayer revolt", alleged regulatory excesses -- to look much more broadly at what kinds of effects and side-effects government activities have on economic conduct.

This paper deals with the growth of government spending and, specifically, with the often-heard claim that government spending is "out of control" or has been growing "too rapidly". Nearly fifteen years ago William J. Baumol published a seminal paper which contained the provocative prediction that units of government would be unable to provide even a constant flow of typical governmental services without channeling "an ever increasing proportion of the labor force ... into these activities" (Baumol, 1967, p. 420). This fundamental proposition -- derived from the observation that the technology of public service production is typically and inherently subject to relatively low productivity growth -- has played a prominent part in many subsequent analyses of the growth of the government sector. Recent papers by Break (1980), Gramlich (this volume), Heller (1981) and Oates (this volume) are but a few examples of the growing literature dealing with one or another of the implications of the basic proposition enunciated by Baumol.

One wonders whether the so-called taxpayer revolt -- typified by the passage of the Proposition 13 tax cut in California in 1978 -- may be essentially a reaction against the Baumol prediction come true. In other words, were voters unfavorably surprised by the growing cost of providing the public services which they had initially sought? If voters were aware of the true cost dynamics, would they choose (vote for) fewer or slower growth of public services? These are precisely the kinds of questions raised by Gramlich and Oates who analyze the provision of public services in their papers in this volume. In the next section of this paper, I develop a fairly general model which may be used to analyze and evaluate the growth of public services. In the process, I shall compare and contrast some of the findings of Gramlich and Oates and show that, qualitatively at least, their conclusions hold up in the more general model of expenditure determination developed here.

In the last section of the paper I return to the issue of the taxpayer revolt. I attempt both to relate it to the model developed earlier and to suggest why the model may be inadequate to a full understanding of taxpayer displeasure.

A MEDIAN VOTER MODEL

An obvious first step in considering the claim that government spending has been growing excessively is to derive a standard or norm with which to compare the actual growth of government spending. A measure of desired growth of government spending can be derived by the application of median voter theory. The basic notion is that government activ-

ity should reflect the preferences of the median, or even more aptly, the decisive voter in the community. If the provision of government services actually reflects the preferences of the decisive voter, how rapidly will the government sector grow and what share of GNP will it absorb? The following notation is used in specifying a median voter model to deal with these issues.

X_i = Utils of government-provided services demanded by individual i , the median (decisive) voter

Y_i = Real income of the median voter

P_x = The relative price the median voter pays for a unit of X_i (the "tax-price")¹

G = The quantity of government services provided

P = The relative price of providing government services

N = Total population

n = The population size of the target group receiving the government services

Y = Aggregate real income (= aggregate real tax base).

The median voter's demand function for X_i is assumed to be given by

$$X_i = A_1 Y_i^\alpha P_x^\beta ; \quad \alpha > 0, \beta < 0. \quad (1)$$

The variable X_i is intended to reflect the value of government services as perceived by the median voter, and these value units are the direct objects of voter demand. For want of a better term, I refer to X_i as the utils attached to the services provided by government.

The aggregate services provided by government are assumed to be measured in real terms and are denoted by the variable G .² These services are of "value" to the median voter via a relation to be specified between X_i and G , but are provided by government to a (low income) target population. The relation between X_i and G is assumed to be

$$X_i = A_2 \left[\frac{G/n}{Y_i} \right]^\theta \frac{G}{n} \quad (2)$$

in the relevant range $0 < ((G/n)/Y_i) < \rho < 1$, with ρ assumed known and $-1 < \theta < 0$. The median voter derives utils from the provision of real per-capita "income", G/n , to the target group. With $\theta = 0$ the utils are directly proportional to G/n . With $-1 < \theta < 0$ the median voter receives less utils from a given G/n the larger is G/n relative to Y_i and the marginal utility (to the median voter) of G/n declines as G/n rises toward Y_i ($\partial^2 X_i / \partial (G/n)^2 < 0$). Equation (2) defines the utils function only for relative income $((G/n)/Y_i)$ no greater than the limit value ρ . In other words, there is an assumed limit to the median voter's altruism towards or empathy for the target group. It will be shown later that it is not necessary to define the utils function for relative income in excess of ρ . The parameter θ may be thought of as an indicator of the median voter's "intensity of altruism". For given values of G/n and Y_i , $\partial X_i / \partial \theta = X_i \ln[(G/n)/Y_i] < 0$ so that higher values of θ reduce the utility of government services to the median voter.

If P is the relative price level for government services, PG is the real total tax bill for the provision of G .³ If Y_i/Y measures the median

voter's share of taxes collected, $(Y_i/Y)PG$ measures the median voter's real tax payment to finance G . If P_x is the relative price the median voter pays for a unit of X_i through taxation, then by definition

$$P_x X_i = \frac{Y_i}{Y} PG.$$

Upon dividing both sides of the above equation by X_i , we derive the following representation for the relative tax price facing the median voter:

$$P_x = \frac{Y_i}{Y} \frac{PG}{X_i}. \quad (3)$$

Equations (1)-(3) can be employed to eliminate P_x and X_i and leave a single equation relating G to the variables Y_i , Y , P , n and the parameters A_1 , A_2 , α , β , and θ . Taking natural logarithms and differentials then yields

$$(1+\theta+\beta\theta)d\ln G = (\alpha+\beta+\theta+\beta\theta)d\ln Y_i - \beta d\ln Y + \beta d\ln P + (1+\beta+\theta+\beta\theta)d\ln n \quad (4)$$

Employing (4) and the approximation

$$d\ln Y_i = d\ln Y - d\ln N \quad (5)$$

then yields the following statements:

$$d\ln \left(\frac{G}{Y} \right) = \lambda(\alpha-1)d\ln \left(\frac{Y}{N} \right) + \lambda\beta d\ln P + (1+\lambda\beta)d\ln \left(\frac{n}{N} \right), \quad (6)$$

$$d\ln \left(\frac{PG}{Y} \right) = \lambda(\alpha-1)d\ln \left(\frac{Y}{N} \right) + (1+\lambda\beta)d\ln P + (1+\lambda\beta)d\ln \left(\frac{n}{N} \right) = d\ln \left(\frac{G}{Y} \right) + d\ln P \quad (7)$$

and

$$\begin{aligned} d\ln\left(\frac{G/n}{Y_i}\right) &= \lambda(\alpha-1)d\ln\left(\frac{Y}{N}\right) + \lambda\beta d\ln P + & (8) \\ &+ \lambda\beta d\ln\left(\frac{n}{N}\right) = d\ln\left(\frac{G}{Y}\right) - d\ln\left(\frac{n}{N}\right), \end{aligned}$$

where $\lambda = (1+\theta+\beta\theta)^{-1}$.

SERVICE VERSUS SPENDING

Equations (6)-(8) provide predictions about the desired growth of government services relative to income, but in each case the measure of "government services relative to income" differs. Equation (6) focuses on real government expenditures (the "quantity" of government services) as a share of real income (or real GNP). This is the concept to which Gramlich refers when he states that "... the growth rate of government spending may well be less than the growth rate of GNP" (Gramlich, this volume), i.e., $d\ln(G/Y) < 0$.⁴

Equation (7), on the other hand, focuses on the cost to society of providing the government services in question since (PG/Y) measures the share of total product required to provide (pay for) the government services. This is the concept to which Oates refers when he states that "... in the long run desired public spending is likely to grow at a more rapid rate than total income" (Oates, this volume), i.e. Oates' claim is that $d\ln(PG/Y) < 0$.

Before considering the consistency of these two claims, consider first a dynamic version of the Baumol prediction discussed earlier. If the relative price of providing government services rises

over time ($d \ln P > 0$), then even if the quantity of services provided grows at the same rate as real output ($d \ln(G/Y) = 0$), it follows that a growing fraction of society's output will have to be devoted to providing that flow of services ($d \ln(PG/Y) > 0$). This follows directly from equations (6) and (7). If the median voter desires a decline in G relative to Y , then $d \ln P > 0$ is not sufficient to establish that PG will rise relative to Y .

Gramlich and Oates employ virtually identical median voter models which are special cases of the one used in this paper such that $\theta = 0$ and $n = N$.⁵ These conditions imply the following special cases of equations (6) and (7):

$$d \ln \left(\frac{G}{Y} \right) = (\alpha - 1) d \ln \left(\frac{Y}{N} \right) + \beta d \ln P \quad (6.1)$$

and

$$d \ln \left(\frac{PG}{Y} \right) = (\alpha - 1) d \ln \left(\frac{Y}{N} \right) + (1 + \beta) d \ln P. \quad (7.1)$$

If one accepts the common econometric estimates of the relevant demand functions for government services, then $\alpha \cong 1$ and $\beta \cong -.5$.⁶ In that case (6.1) implies $d \ln(G/Y) \cong -.5 d \ln P$ and (7.1) implies $d \ln(PG/Y) \cong .5 d \ln P$ and $d \ln P > 0$ insures that Gramlich and Oates are both right:

The median voter desires a declining trend in the provision of real government services relative to real GNP, but is willing to devote a growing share of society's output to providing those services.

We can attempt to generalize this conclusion in two steps. First, suppose $\theta = 0$, but the government services being provided are not pure public goods. Rather the government is providing support

services to a (low income) target group of size $n < N$. Then equations (6) and (7) become

$$d \ln \left(\frac{G}{Y} \right) = (\alpha - 1) d \ln \left(\frac{Y}{N} \right) + \beta d \ln P + (1 + \beta) d \ln \left(\frac{n}{N} \right) \quad (6.2)$$

and

$$d \ln \left(\frac{PG}{Y} \right) = (\alpha - 1) d \ln \left(\frac{Y}{N} \right) + (1 + \beta) d \ln P + (1 + \beta) d \ln \left(\frac{n}{N} \right). \quad (7.2)$$

If we assume again that $\alpha \cong 1$ and $\beta \cong -.5$, then $d \ln(G/Y) \cong -.5 d \ln P + .5 d \ln(n/N)$ and $d \ln(G/Y) \cong .5 d \ln P + .5 d \ln(n/N)$. If $d \ln(n/N)$ is non-negative, which I take to be the empirically relevant case for recent history, then surely the real cost of providing government services must rise relative to real GNP ($d \ln(PG/Y) > 0$) and the sign of $d \ln(G/Y)$ itself could be positive. Note, however, that under the assumptions now being considered, equation (8) becomes

$$d \ln \left(\frac{G/n}{Y_i} \right) = -.5 d \ln P - .5 d \ln \left(\frac{n}{N} \right) < 0,$$

if $d \ln P > 0$ and $d \ln(n/N) > 0$. Thus if the relative income ratio $\left(\frac{G/n}{Y_i} \right)$ begins below the limit value ρ (see the discussion of equation (2)), it will remain below ρ even if the size of the target population rises relative to the total population.⁷ Indeed, if the target group is being allowed to increase in relative size, the tax-price rises too rapidly to prevent a decrease in the relative real income of the target group!

Finally, suppose $-1 < \theta < 0$ and again $\alpha \cong 1$ and $\beta \cong -.5$. Equations (6) and (7) now become

$$d \ln \left(\frac{G}{Y} \right) = -.5 \lambda d \ln P + (1 - .5 \lambda) d \ln \left(\frac{n}{N} \right) \quad (6.3)$$

and

$$d \ln \left(\frac{PG}{Y} \right) = (1 - .5\lambda) d \ln P + (1 - .5\lambda) d \ln \left(\frac{n}{N} \right), \quad (7.3)$$

with $1 < \lambda < 2$. Clearly, the qualitative implications of equations (6.3) and (7.3) are the same as those of (6.2) and (7.2): if the relative price of providing government services rises, a desired increase in the relative size of the target population implies a rise in the share of society's output absorbed by the government sector, and may even imply an increase in real government services relative to real GNP. But again, equation (8) would guarantee a decrease in the relative real income of the target group. In essence, the median voter model implies a trade-off between quantity and quality in the provision of government services. If we -- the electorate -- choose to provide government services to a growing fraction of the population, it will be at the cost of a reduction in the relative per-capita income provided to the target group, and will still absorb an increasing share of society's output.

It should be noted that the foregoing references to G/n as "income" cannot be taken literally. If the government were really providing income in the sense of direct purchasing power (transfer payments) it would be difficult to justify the claim that $d \ln P > 0$. Without a rise in the relative price P , equations (6) and (7) are identical and there is no distinction between the real services provided and the real cost of providing those services.

PREFERENCES AND POLICIES

What are the facts; how do they compare with predictions derived from the median voter model?⁸ George Break's extensive survey of government spending and taxing provides conclusions of special interest in light of the preceding analysis. Break states for example that:

"The government sector is larger than it was (just after World War II) but in many dimensions it has been growing recently less rapidly than the economy as a whole"

and

"The public sector's share of national output has not grown significantly since 1953 ..."⁹

These facts would constitute no surprise relative to the predictions of the median voter model. Break goes further:

"The federal government's tax-transfer programs have grown rapidly, especially in the domestic program sector"

and

"... state and local governments have replaced the federal government as the major partner (in the provision of public services)"¹⁰

Here, then, may be the clue. Aggregate government behavior may appear to be consistent with voter preferences while the composition of government services is inconsistent with voter preferences. In recent years, income-support and income-supplement programs have proliferated at, perhaps, accelerating cost, while the provision of defense and even some educational services has declined relative to GNP. Indeed, Courant, Gramlich and Rubin-

feld (1980) have found that the displeasure which surveyed voters express toward the size and growth of government programs is aimed almost exclusively at welfare programs.

Ronald Reagan's successful presidential campaign of 1980 claimed precisely that the composition of government activity had strayed from voter preferences: too much welfare, not enough defense. But Reagan claimed further that the government sector as a whole had grown more than the public wanted. If the median voter model is both descriptive and normative, proving that (PG/Y) has grown too rapidly compared to voter tastes might require fairly subtle data measurement and econometrics.

It may also be that the median voter model is not descriptive. If some process other than the satisfaction of voter preferences is a significant determinant of the level and growth of aggregate government activity, the result might well be inconsistent with voter preferences. Thus the "tax revolt" may simply be misplaced aggression: the voters striking out where they can, whether or not the target of their remedy is the source of their displeasure.¹¹

NOTES

- ¹ In this paper a relative price is always to be understood as having the GNP deflator in its denominator; i.e., all relative prices are defined relative to the aggregate price level.
- ² To be absolutely clear, if G were all purchases by government, real GNP, say Q, would be given by $Q = C + I + G$. Nominal GNP would be given by $P_q Q = P_c C + P_i I + P_g G$, where P_c , P_i and P_g are the deflators for consumption, investment, and government purchases, respectively, and P_q is the GNP deflator.
- ³ In the notation of footnote 2, $P_g G$ would be the dollar cost of providing government services and $P_g G/P_q$ would measure the real cost of government services in terms of the claim on society's output. Of course $P_g/P_q = P$, the relative price level for government services, so that PG is the real cost as a claim on society's output.
- ⁴ Throughout this paper, differentials of logarithmic expressions should be thought of as percent changes per unit of time of the argument of the logarithm, i.e., $d \ln(Z) = \frac{1}{Z} \frac{dZ}{dt}$.
- ⁵ Gramlich's model comes closer to dealing with a collective or public good provided for the entire population, but with a congestion or crowding effect. Gramlich's version of equation (2) is $X_i = G N^{-\delta}$ but he concludes on empirical grounds that $\delta \cong 1$. It is not readily apparent that Oates' model is in all essential respects equivalent to Gramlich's. The key to this realization is Oates' footnote 10 which implies that all the relevant variables are defined in per-capita terms, i.e., Oates' Y and X are to be thought of as per-capita real income and the per-capita level of public services provided, etc. Oates' variable E is therefore equivalent to PG/N in the notation of this paper. See Oates' paper.
- ⁶ See the discussions of these estimates in Gramlich's and Oates' papers in this volume. The qualitative conclusions of this paper do not require the exact values assumed for α and β .

- ⁷ It is for this reason that the utils function, equation (2), need not be defined for relative income greater than ρ .
- ⁸ Gramlich (this volume) provides an extensive review of the facts of this matter.
- ⁹ Both quotes from Break (1980) p. 654, parentheses added.
- ¹⁰ Both quotes, *ibid*, p.654, parentheses added.
- ¹¹ See Courant, Gramlich, Rubinfeld (1979) for a discussion of "Public Employee Market Power" as the determinant of government spending.

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FISCAL LIMITATIONS:

An Assessment of the U.S. Experience*

by Wallace E. Oates

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INTRODUCTION

During the past decade, the United States has experienced widespread protests against the growth of government and taxes and their "intrusion" into the private sector; in some instances these protests have taken the form of "tax revolts" resulting in new legislation limiting the size or expansion of the public budget. The impression emerges of a groundswell of public opinion directed against an "oppressive" public sector. The new legislation and constitutional amendments curtailing the activities of state and local governments appear to have been but a prelude to a sweeping national victory for a new administration committed to a program of dramatic cuts in the civilian sector of the federal government. As a recent RAND study concludes, "A period of fiscal containment is upon us" (Pascal et al., 1979, p. v).

While there is evidence to support this impression, one finds an abundance of ambiguities upon cutting through the political rhetoric to a more careful assessment of the U.S. experience. A number of meticulous studies of voter opinion do not reveal a pervasive dissatisfaction with the size and scope of the public sector. Of the many proposals to place limits on the fiscal activities of state and local governments, at least as many have failed to receive the approval of a majority of voters as have passed. Finally, one can make a persuasive case that the primary motivation for several major referenda, notably Proposition 13 in California, was not the size of the public sector, but rather an imbalance in the existing revenue structure. (See, for example, Levy, 1979; and Shapiro, Puryear, and Ross, 1979). In short, a more

Careful assessment of recent U.S. fiscal experience does not yield a neat, well-defined set of conclusions; it turns up a number of troublesome, if potentially instructive, puzzles and paradoxes.

The purpose of this paper is to describe and to try to interpret this experience. I shall turn first to the provocative, but elusive, issue of what it is that the voters in the United States seem to want. Three independent studies of preferences and voting patterns in California, Michigan, and Massachusetts provide some intriguing (and surprisingly consistent) insights into this matter. A second and closely related issue is what the voters have in fact gotten. The striking finding here is the marked and somewhat bewildering variety of fiscal-limitation measures enacted in different states. Some states have introduced limitations on their local governments, others on both the state and local "fisc"; some states have turned to limits on public expenditures, while others have instituted ceilings on particular sources of revenues; some states have chosen to limit tax rates, others have tied the growth in revenues or spending to inflation and population growth, and yet others have limited the expansion of the public sector to growth in personal income in the state; some states have instituted measures that are currently binding on fiscal choices, while in many states the limits are not, at present at least, binding constraints on budgetary decisions. I shall try in Section 2 of the paper simply to summarize the range of fiscal limitations that the various states have introduced in recent years.

This variety of approaches to "fiscal containment" offers an intriguing opportunity for a comparative analysis of the actual effects of the different measures on state and local fiscal activity. Although it is a little early to ascertain the full range of these effects and to determine their likely magnitude over the longer term, there are already some lessons to be learned from this experience. Section 3, the primary focus of this paper, is an examination of the impact of these various forms of fiscal limitation on the structure and functioning of the state-local sector. One basic conclusion emerging from this analysis is that these measures typically have a wide range of effects, many of which are unintended and may run counter to the desires of those who instituted them. Proposition 13 in California, for example, had as its fundamental objective the limitation of property taxation. While it has achieved this goal, it has also had the profound effect of increased centralization of the state-local fisc, consisting both of a shifting of functions from local to the state government and a heavier reliance on state revenues. This "centralization effect" was not, I suspect, either widely understood or necessarily desired by most California voters. The lesson, in brief, is that the design of fiscal-limitation measures requires careful consideration of the broader range of potential effects on the structure and working of the government sector.

I will also suggest from a longer-term perspective that measures designed to prevent growth in the public sector's share in the economy are likely to become binding constraints on public-sector activity even if they do not effectively limit public budgetary decisions at the outset. There is evi-

dence to suggest that the desired rate of growth in the public budget exceeds that of private income. Limits that restrict the rate of budgetary growth to that of private income are thus likely to become increasingly troublesome obstacles to the attainment of the desired balance between public and private economic activity. As such, they will generate political pressures to find ways (perhaps quite inefficient ways) to circumvent these constraints and to direct more resources into the public sector.

1 WHAT DO THE VOTERS WANT?

One interpretation of the recent U.S. experience is simply that the populace is expressing its opposition to the historically growing share of the public sector in the economy. As Table 1 indicates, from 1929 to 1975, public expenditure as a fraction of gross national product grew steadily; over this period, the total public budget grew from about one-tenth to one-third of the U.S. GNP.¹ It is this growth in spending and the associated tax burden that, under this interpretation, constitute the basic source of the fiscal-limitation movement. People feel that government has become "too big".

Even were this relatively simplistic view correct, it leaves unanswered some fundamental questions. Is voter dissatisfaction the result of a perceived excessively high level of public services or, alternatively, of a sense of waste and the resulting conviction that the public budget can be cut significantly without a noticeable reduction in service levels? Three detailed survey studies of voter preferences in the states of California, Michigan,

Table 1 **Government Expenditure as a Percentage
of U.S. Gross National Product**

Calendar year	Federal	State	Local	Total public sector
1929	2.5	2.0	5.3	9.9
1939	9.8	4.1	5.3	19.2
1949	16.0	3.4	3.5	23.0
1954	19.1	3.5	4.0	26.5
1959	18.7	3.8	4.4	26.9
1964	18.6	4.3	4.8	27.7
1969	20.1	5.3	5.1	30.5
1974	21.2	6.0	5.2	32.4
1975	23.3	6.3	5.3	34.9
1979	21.5	5.9	4.7	32.0
1980 (est.)	22.1	5.8	4.5	32.4

Note: Government expenditure from own funds as measured in the National Income and Product Accounts. The federal share includes Social Security (OASDHI) and all federal aid to state and local governments.

Source: Advisory Commission on Intergovernmental Relations (Oct., 1980), pp. 4-5.

and Massachusetts have turned up similar findings on this matter. All three studies find that voters seem basically satisfied with existing levels of public outputs with one important exception: a desire for reduced spending on public welfare.

In Michigan, Courant, Gramlich, and Rubinfeld (1980) conducted a survey of voters following passage of the Headlee Amendment in November 1979, a measure that limits the growth of both state and local revenues. As indicated in Table 2, for every expenditure category but public welfare, more survey respondents indicated a desire for higher

Table 2 **Preferences for Spending by Program Area**
All 2001 Respondents

Program area	Less	Same	More 1	More 2	No re- sponse	Mean strong preferences
Police/ Fire	63	1163	97	615	58	.282
Welfare spending	1262	499	44	127	69	-.587
School spending	296	882	108	635	80	.176
College spending	196	977	126	545	157	.189
Road maintenance	120	824	295	698	64	.298
Parks and recreation	209	1117	145	485	45	.141

Notes:

1. The column More 1 indicates the number of respondents who favored increased spending, but answered no to the question "If your taxes need to be raised to pay for the additional expenditures for (Program), would you still favor an increase in spending in this area?" The column headed More 2 gives the number of people who responded yes to this question.

2. "Mean strong preferences" is derived by assigning a value of minus one to those who desired less spending, zero to those who wanted the same or "More 1", and one to those who chose "More 2".

Source: Courant, Gramlich, and Rubinfeld (1980, p.3).

levels of spending (to be supported by more taxes) than those wishing a reduction. Although interpretation of this kind of survey data is fraught with difficulties, the impression that emerges from the Michigan study as a whole is that the support of fiscal-limitation measures there largely reflects (along with some dissatisfaction over welfare spending) the perception that tax cuts can be achieved without serious reductions in public services.

Citrin (1979) offers some similar findings from polls in California at the time of Proposition 13 (June 1978). The electorate in California tended to favor more public spending on police and fire protection, mental health programs, and public schools; the desire for less spending centered on expenditures for welfare, public housing, and, especially, city and county administration. The last item on this list suggests that, as in Michigan, the voters in California were concerned with waste and inefficiency in government. Citrin found that "On the eve of the vote on Proposition 13, fully 38 percent of the California electorate believed that state and local governments could provide the same level of services as previously with a 40 percent reduction in their budget" (p. 115). The inescapable conclusion is that a large fraction of the electorate perceives, not that levels of public services are excessive, but rather that revenues flowing into the public sector are substantially greater than necessary to provide existing levels of services.

A study by Ladd and Wilson (1983) in Massachusetts reiterates these results. Following the December 1980 enactment of Proposition 2 1/2 to restrict local property taxation and introduce certain other budgetary reforms, a survey of voters revealed that (as in Michigan and California) residents were generally content with existing levels of services with the exception again of a desire for reduced expenditure for public welfare. Although there existed some sense that Proposition 2 1/2 could entail service cuts, the prevailing view seemed to be that such cuts would be modest and would not affect "basic services". Moreover, survey respondents indicated their perception that Massachusetts government is both inefficient and

corrupt, and that budgetary cutbacks would be largely absorbed with little impact on levels of services.

The three studies thus reach quite similar findings concerning voters' views on the general adequacy of service levels and the belief that (at least "basic") service levels can be maintained in the face of budget cuts. However, these measures also involved elements of tax reform and here there is somewhat more diversity in response to interstate differences in tax structure. In California, for example, one can make a persuasive case for the view that the wish for a reduced reliance on property taxation was, far and away, the dominant force behind Proposition 13. The explicit purpose of Proposition 13 was to reduce property taxation and this it accomplished effectively by limiting property tax rates to one percent of assessed valuation and by placing stringent limits on the growth of assessed valuation (see Oakland, 1979).

The need for such a measure relates peculiarly to the California land market and fiscal institutions. In particular, dramatic increases in housing prices in California, coupled with an efficient assessment mechanism, generated enormous increases in the residential tax base. This in itself, however, need not be the source of increased tax payments by owners of residential property; in principle, the nominal tax rate could simply decline with the growing tax base such that tax bills would remain unchanged. But this didn't happen in California for two reasons. First, the market value of commercial-industrial property did not grow as rapidly as that of residential property so that the share of the local property tax

liability falling on home owners increased. And second, because of the specific form of the state-aid formula for education grants, increases in the local tax base generated large reductions in state grants-in-aid to local school districts. Consequently, increased local revenues were needed to offset the loss in state aid. From this perspective, Proposition 13 can be interpreted as a movement to cut off the continuing escalation of the reliance on taxation of residential property and to restore the earlier balance between property taxation and other sources of revenue in the state (Levy, 1979; Oates, 1979; Shapiro, Puryear, and Ross, 1979). Subsequent events provide some additional support for this view. In June 1980, over 60 percent of California voters rejected Proposition 9, a proposal that would have cut state income tax rates in half and indexed the lower rates to changes in the price level.

The interpretation of the fiscal-limitation "movement" thus appears to involve considerably more than simply a sense that the government sector is too large. While there seems to be a pervasive dissatisfaction with existing welfare programs, the levels of most other public services are not perceived as excessive. The primary concern appears to be one of waste in the public sector. At the same time, the focus in several states has been a restructuring of the state and local revenue systems to reduce the role of property taxes. As the next section of this paper indicates, the form that this movement has taken varies in quite striking ways across the different states. Some have limited overall spending on revenue growth and others have fixed tax rates; some have placed limits solely on their local governments, while others have chosen to restrict budgets at both

state and local levels. The receptiveness of the electorates of the various states to these measures has likewise exhibited wide variation. The heavy support for Proposition 13 in California generated attention and interest throughout the world. Yet in 1980, there were similar proposals on the ballots of five other states (Arizona, Nevada, Oregon, South Dakota, and Utah); like Proposition 13, these measures would have limited the rate of property taxation to one percent of market value and would have rolled back assessment levels. All five proposals were defeated. Like most other "movements", the fiscal-limitation cause appears to encompass a somewhat disparate set of objectives with the relative emphasis and extent of support ranging markedly from the particular circumstances and voters in one state to the next.²

2 WHAT DID THE VOTERS GET?

Fiscal limitations in the United States are not an invention of the 1970's. In fact, tax revolts have a rich history in the United States dating back to the Boston Tea Party in 1773.³ However, the past decade distinguishes itself both by the number and character of the new measures to restrict the public budget.⁴ Earlier limitations were primarily state-level restrictions on the fiscal activities of their local governments (typically limits on property taxation). In contrast, in 1976, New Jersey introduced the first limitation on expenditures by its state government. As Table 3 indicates, New Jersey was immediately followed by a number of other states; fiscal-limitation measures presently exist at the state level in eighteen states. These measures take the form of restric-

tions on the annual rate of growth of either the public revenues or expenditures; they limit this growth to the rate of increase in personal income (the most common ceiling), the sum of the rates of population growth and inflation, or some fixed percentage (e.g., 7 percent in Colorado). In addition, since 1978, nine states have chosen to index their state income taxes against changes in the price level.

It is interesting to compare the relative restrictiveness and long-term implications of these alternative ceilings on budgetary growth. By definition, the rate of growth of nominal income can be approximated as the sum of three components:

$$G_y = G_r + G_n + G_p , \quad (1)$$

where

G_y = Rate of growth of nominal income

G_r = Rate of growth of real income per capita

G_n = Rate of growth of population

G_p = Rate of price inflation.

From (1), it is clear that a "cap" on the rate of budgetary growth equal to the rate of growth in nominal income is less restrictive than the California and Nevada measures that limit fiscal expansion to the sum of population growth and inflation (the latter two terms in (1)). The income limit, in principle, restricts growth in the public budget to that in the economy as a whole so that the share in the economy of the public sector (or the state sector in this case) cannot expand.

Table 3 Recent State Tax Reductions, Budgetary Limitations, and Indexation of Individual Income Taxes

State and region	Ad hoc tax reductions		Indexation of individual income tax	Tax and spending lids
	Personal income tax	General sales tax		
<u>Total</u>	36	22	9	18
<u>New England</u>				
Connecticut		X ('77)		
Maine	X ('79)	X ('79)		
Massachusetts	X ('80)			
New Hampshire				
Rhode Island				S ('77)
Vermont	X ('78)	X ('78)		
<u>Mideast</u>				
Delaware				C ('80)
District of Columbia	X ('78, '79)			
Maryland	X ('77, '80)	X ('80)		
New Jersey		X ('78)		S ('76)
New York	X ('78, '79)	X ('77, '79, '80)		
Pennsylvania				
<u>Great Lakes</u>				
Illinois				
Indiana				
Michigan				C ('78)
Ohio	X ('79)			
Wisconsin	X ('79, '80)	X ('79, '80)	1979	
<u>Plains</u>				
Iowa	X ('80)		1979	
Kansas				
Minnesota	X ('79, '80)		1979	
Missouri				C ('80)
Nebraska	X ('79)	X ('79)		
North Dakota	X ('79)			
South Dakota				
<u>Southeast</u>				
Alabama				
Arkansas		X ('80)		
Florida				
Georgia				
Kentucky		X ('80)		
Louisiana	X ('80)	X ('80)		S ('79)

Table 3, cont.

State and region	Ad hoc tax reductions		Indexation of individual income tax	Tax and spending lids
	Personal income tax	General sales tax		
<u>Southeast (cont.)</u>				
Mississippi	X ('80)			
North Carolina	X ('78, '80)			
South Carolina			1980	S ('80)
Tennessee				C ('78)
Virginia				
West Virginia		X ('80)		
<u>Southwest</u>				
Arizona	X ('79, '80)		1978	C ('78)
New Mexico	X ('77, '80)			
Oklahoma				
Texas		X ('79)		C ('78)
<u>Rocky Mountain</u>				
Colorado	X ('78, '79, '80)	X ('78, '80)	1978	S ('77)
Idaho				S ('80)
Montana	X ('78, '80)		1980	
Utah		X ('80)		S ('79)
Wyoming				
<u>Far West</u>				
California	X ('79)		1976	C ('79)
Nevada		X ('80)		S ('79)
Oregon	X ('80)		1979	S ('80)
Washington		X ('79, '80)		S ('79)
Alaska	X ('79, '80)			
Hawaii	X ('77, '78)			C ('76)

S = Statutory

C = Constitutional

Note: X indicates a major tax decrease, i.e., a decrease in excess of 10 percent of the economic growth of the tax.

Source: ACIR staff.

The California-Nevada cap, in contrast, places a potential ceiling on real expenditure (revenues) per capita equal to the level existing at the time of adoption of the measure; with any positive growth in real income per capita, the share of the state sector in the state economy will decline.⁵

I stress that these are "potential" ceilings. There are, in fact, various loopholes involving the ways in which expenditures or revenues are defined. Spending financed by federal aid, for example, is typically excluded from the cap. Moreover, all of these limitations can be suspended in a "fiscal emergency" with the consent of some specified majority of the state legislature.

As noted earlier, state fiscal limitations on local governments have a substantial history in the United States; they are also much more widespread than caps on the state governments. Table 4 summarizes these limitations. Since property taxation is historically the primary source of local revenues, most of the restrictions are on either property tax rates or levies. As is evident in Table 4, the majority of states have some sort of limit on property taxation in their counties, municipalities, and school districts. These frequently take the form of ceilings on tax rates. Rate limitations, however, may not mean much where local assessors are in a position to vary the effective sales-assessment ratio; by assessing properties at a larger fraction of their market value, assessors can increase the revenues produced by a given nominal tax rate. Some states have tried to close off this means of circumventing rate limits (as well as revenue growth from increased market value) through the adoption of "full disclosure" procedures; such procedures provide taxpayers with

an analysis of revenue changes that effectively allocates the increment in revenues between changes in the tax base and adjustments in the tax rate.⁶

While Table 4 indicates the pervasive character of fiscal limitations on local governments, it masks their great variety. Some states, for example, have enacted a flat percentage ceiling on the annual increase in each local government's property tax revenues (e.g., 5 percent in New Mexico); others have placed limits on property-tax rates (one of the most stringent being California's ceiling of a one-percent tax rate on property combined with a ceiling on assessment increases for unsold property of 2 percent per year). Finally, states like Montana rely on full-disclosure laws that require newspaper advertising and special public hearings when property-tax levies are to be increased in excess of some specified increment. These cases only begin to suggest the wide variation in U.S. fiscal-limitation measures. Within these general classifications, the particular form and the degree of restrictiveness of these measures differ markedly from state to state.

3 THE EFFECTS OF FISCAL-LIMITATION MEASURES⁷

The professed objectives of the various provisions for fiscal containment have typically been the limitation of the size or growth of the public budget and/or a reduced reliance on property taxation. The initial issue of interest is the extent to which these measures have had their "direct" or "intended" effects on budgetary size or growth and on levels of property taxes. However, most of the limiting statutes or constitutional amendments

Table 4 State Imposed Restrictions on Local Government Tax and Expenditure Powers

January 1, 1981

States	Overall ^a property tax rate limit	Specific ^a property tax rate limit	Property tax levy limit	Overall revenue limit	Overall expen- diture limit	Limit on assess- ment in- creases	Full dis- closure	Date of most recent action (Noted with *)
Total	12	31	20	3	6	4	8	
Alabama	CMS*	CMS						1978
Alaska		M	M*					Amended 1975
Arizona	CMS*		CM*	CMS*		CMS*		1980
Arkansas		CMS	CMS*					1980
California	CMS				CMS*	CMS		1979
Colorado		CS	CM*					Passed 1956/Amend.1976
Connecticut								--
Delaware		b	CS*					1972
District of Columbia								
Florida		CMS	CMS*				CMS	1980
Georgia		CMS*						1874, 1945
Hawaii							C*	1976
Idaho	CMS*	CMS						1978
Illinois		CMS*						Continual
Indiana		CM	CMS*					1979
Iowa		CMS			S	CMS*		1977
Kansas		CM	CM*		S			1973
Kentucky	CMS						CMS*	1979
Louisiana		CMS	CMS*					1978
Maine								Repealed 1978
Maryland							CMS*	1977
Massachusetts	CMS*		CMS					1980

Michigan	CMS		CMS*			1978
Minnesota		CMS	CM*			1973/Amend. 1979
Mississippi		CMS*				1958
Missouri		CMS	CMS*			1980
Montana		CMS			CMS*	1979
Nebraska		CMS		CMS*		1979
Nevada	CMS				CM*	1979
New Hampshire						--
New Jersey			C*		MS*	1976
New Mexico		CMS	CMS*			1979
New York		CMS*				1938, 1949/Amend. 1953
North Carolina		CM*				1973/Amend. 1975
North Dakota		CMS*				Amended 1975
Ohio	CMS		CMS*			1925
Oklahoma	CMS*					1955/Amend. 1965
Oregon			CMS		CMS*	1979
Pennsylvania		CMS*				1949, 1955/Amend. 1971
Rhode Island						Repealed 1973
South Carolina		S	CMS*			1976
South Dakota		CMS*				Amended 1977, 1978
Tennessee					CMS*	1979
Texas		CMS			CMS*	1978
Utah		CMS		CMS*		1979
Vermont						--
Virginia					CM*	1975
Washington	CMS	CMS	CMS*			1971, 1977
West Virginia	CMS*	CMS*				1939, 1949
Wisconsin		CMS	CM*		S	1973, 1975
Wyoming		CMS*				Amended 1979

C = County M = Municipal S = School district

^a Overall limits refer to limits on the aggregate tax rate of all local government. Specific rate limits refer to limits on individual types of local governments or limits on narrowly defined services (excluding debt). States such as Alaska, where there is only one type of local government, have been included under specific limits.

^b Single county.

Source: ACIR staff/C. Richardson.

have other potentially important effects on the functioning of the state-local sector, often "indirect" or "unintended" effects that did not figure in the design of the measures. These include an impact on the public work force and wages, on the distribution of income, on the composition of the public budget, on the relative roles of the different levels of government, and on the allocation of certain activities between the private and public sectors. In short, the attempts to limit budgets and property taxation have introduced a number of potentially interesting and important side effects on the structure and operation of the public sector. I shall consider each of these effects in turn.

(a) Limitation of budgetary size or growth: The most publicized objective of the "tax revolt" in the United States has been to contain the size of the public budget. As we have seen, however, it is not entirely clear what the "representative citizen" has in mind. There does not appear to be a general consensus that levels of public services are excessive (with the exception, perhaps, of certain purely redistributive programs). The sense seems rather that sufficient waste or fat exists in the public budget such that substantial cuts in spending can be achieved with little effect on levels of services. (Whether or not this is true is, of course, another matter.) Whatever the perceptions of voters, however, we can examine the actual or potential effects of the measures that have been introduced.

There are two general approaches to the problem. First we can explore the historical effects of fiscal limitations to try to discern how much they have constrained the growth in public budgets.

Second we can seek some longer-term predictions of their likely effects on public expenditures and revenues. I shall employ both approaches. Although it would be desirable to rely primarily on the analysis of actual experience with these measures, many of the fiscal-limitation programs (particularly those restricting state budgets) are so recent in origin that it is hard to determine their effects. In fact, most of the containment measures at the state level do not even appear, so far, to be binding constraints on the states. Consequently, I shall supplement the treatment of existing measures with some admittedly rather conjectural analysis of likely effects over the longer term.

As Table 3 indicated earlier, eighteen states have now adopted limitations on state-level expenditures or revenues. Since most of these provisions are only a few years old, their long-run impact has not yet manifested itself. But these measures have generated some interesting shorter-run responses. In particular, there often exist mechanisms for circumventing the limits. In New Jersey, for example, the limitation on the growth of expenditures financed from the general fund explicitly excludes revenues from the new state personal income tax (the revenues from which are not part of the general fund). In Colorado, where the 7 percent limit on the growth of general-fund expenditures is potentially highly restrictive at current rates of inflation, certain sources of "earmarked" funds are not subject to the limit. The evidence suggests some scope for budgetary maneuvers to avoid fiscal containment. The short-run effects appear, on the whole, not to have been very restrictive on the states. However, as Gold points out, "The effects of state limitations are extremely variable. ... The limits are too new to

be able to say much about their actual effects. ... In most cases, spending or revenue was not very close to the limit in its first year of operation, but it appeared very possible that the limit could be binding within a few years if past trends continued" (p. 17).

It would be useful to supplement this impressionistic evidence with more systematic statistical analysis. At this point the best that can be done is a crude test involving a comparison of the rates of growth in state-government tax revenues in those states with fiscal-limitation measures with those without such constraints.

The test is a simple comparison of means treating the eighteen states from Table 3 with limitation measures as one sample and the remaining states as the other.⁸ The results indicated that, on average, states with limitation provisions experienced a growth in state tax revenues of 7.8 percent from 1979 to 1980, while those without such provisions increased tax revenues, on average, by 8.1 percent. Although the mean for the limitation sample is less than that for the non-limitation sample, the difference is quite small -- far too small to reject the null hypothesis of equal means at any reasonable level of confidence. These findings are thus consistent with the view that, as of 1980, the constraints on state-government budgets have not, on average, been very effective in holding back the growth in public revenues. I emphasize, however, the crude character of this test and the need both for the proper data covering a longer time span and for more refined multiple-regression analysis to control for the effects of the other determinants of budgetary growth.

There has been a considerably longer experience with fiscal limitations on local governments. As noted earlier, fiscal restrictions on local governments have typically taken the form of limits on property taxation -- either of rates or levels of revenues. Only two states, New Jersey and Arizona, have adopted spending limits on their local governments. Moreover, both the form and degree of restrictions on property taxation throughout the states vary enormously; they range from outright freezes on tax rates in Indiana (1973-1977) and a tax rate ceiling with controlled growth of assessments in California, to far less restrictive measures that permit large increases in property-tax revenues (e.g., Wisconsin) or simply require "full disclosure" procedures (e.g., Montana) for increases in property-tax levies.

It is not an easy matter to distill this varied experience into a set of unambiguous conclusions on the effects of fiscal limitations. But some attempts have been made. One strand of research consists of some multiple-regression studies that explore the effect of fiscal limitations on local-government expenditure. Although the findings of these studies are not wholly consistent, they seem to suggest only a very limited effect, if any, in restricting spending. An ACIR effort (1977), consisting of a cross-sectional study of limits on general-purpose governments in 1974, found the presence of property-tax limitations to be associated with a reduction of 6 - 8 percent in "local own-source per capita expenditures". This does not, however, imply a reduction in spending from all sources. In fact, the ACIR found no significant association between state-local spending per capita and the presence or absence of fiscal limitations on local governments. Other cross-sec-

tional regression studies, one of school districts by Wilken and Callahan (1978) and one of forty-one large U.S. cities by Inman (1979) found no significant effects on spending from local property-tax limits. We must, however, be cautious about the reliability of these results (see Gold, 1980, pp. 26-28). Not only are the data subject to some serious deficiencies, but the studies typically use simply a dummy variable to indicate whether or not some sort of limit exists; they do not try to measure the potential restrictiveness of the variety of limitation measures in use.

Looking at individual cases can be instructive. The State of Indiana, for example, adopted in 1973 a very stringent restriction on local property taxation: a freeze on the tax rate in cities and counties with no revaluation of existing property. In consequence, city and county property-tax revenues rose only slightly from 1973 to 1977. Yet expenditures grew at a rate roughly in line with the country as a whole. Indiana local governments were apparently able to generate sufficient additional revenues from increased state aid, a heavier reliance on charges and fees, and the introduction in some counties of local income taxes, to offset the loss of property-tax revenues.

The experience among local governments is quite diverse, and I am hesitant to suggest any sweeping conclusions. But the evidence does seem to indicate that restrictions on local property taxation alone are not a reliable means to hold down local-government expenditure. This has been true in part because of easy access to "over-ride" mechanisms or various exemptions that provide ways to circumvent existing limitation measures. But it is also true that a restriction on a single revenue source

at one level of government in a federal system is unlikely to present a serious obstacle to continued budgetary growth. Other revenue sources, intergovernmental aid, or shifts of functions among levels of government are all easily accessible means to offset the impact of such restrictions on public-sector growth. Limitations on property taxation may reduce reliance on property taxation; they need not, however, constrain spending.

This leaves us with the more difficult and potentially more important issue of the longer-term effects of limitation measures on state levels of expenditure. The U.S. experience with these limitations is, as we have noted, too brief to reach any real conclusions on the basis of historical experience. However, we may be able to make some educated judgments about the longer run.

Let us consider the most widespread of the state-limitation measures: a ceiling on the growth in public spending equal to the growth in personal income. Are such limits likely to become a serious, binding constraint on the government sector? Gold suggests one approach to answering this question: a comparison of the projected rate of growth of tax revenues (on the assumption of unchanged tax rates) with growth in income. In short, he examines the income elasticity of the tax system in each state.⁹ If the elasticity is less than unity, then the "automatic" rate of growth in tax revenues will be less than the rate of growth of income. In this case, taxes as a percent of income will tend to decline, implying that the limitation on expenditures will not constrain budgetary growth. Since about one-third of the states have tax structures with income elasticities less than one (and several of these have enacted fiscal-limi-

tation measures), Gold suggests that in a number of states the ceiling on expenditure growth may never become an effective constraint. At the same time, the revenue systems of several other states exhibit income elasticities well in excess of unity; in these states, projected revenues will tend to grow at a rate in excess of that of state revenue. In these instances, the analysis implies that the limitation provision will become a binding constraint and will require an explicit budgetary response such as a tax rebate. Gold's examination of the measured elasticities suggests that, for roughly half of the states that enacted budgetary limitations on their state governments, the limits are not likely to become a constraint on the growth in spending.

The Gold approach is useful in that it indicates the circumstances under which a government will have to undertake explicit fiscal measures to comply with the limit on budgetary growth. However, it really does not tell us whether or not the limit is a binding constraint, for (as Gold notes) revenue growth is the sum of automatic increases in tax receipts from the growth in nominal income and changes in receipts from discretionary adjustments in tax rates. The real question is whether or not the existing limit on growth keeps automatic plus discretionary revenues below what they otherwise would have been. And an examination of tax elasticities obviously cannot tell us this. In fact, tax elasticities may tell us very little about future revenue growth; in an earlier study of the decade of the 1960's, my own results (Oates, 1975) suggest that the elasticity of the revenue system had only a very small role in explaining differentials in budgetary growth both at the state and city level.¹⁰

Alternatively, we can try to project the rate of increase of the desired level of public expenditure compared to that of income. While such projections are obviously a tricky matter, they may provide some insights. Suppose that a "representative voter" has a demand function for public services of the form¹

$$X_t = AY_t^\alpha P_t^\beta, \quad (2)$$

where

X_t = Level of public services demanded at time t

Y_t = Real income

P_t = Price of public outputs (relative to the price of private goods). A , α and β , are constants.

P_t is understood here to be the tax-price of public outputs for our representative voter and is measured relative to the price of private goods. Taking logs and differentiating with respect to time, we find that the desired rate of growth of public output for our voter is

$$\frac{\dot{X}}{X} = \alpha \frac{\dot{Y}}{Y} + \beta \frac{\dot{P}}{P}, \quad (3)$$

where

$\dot{X} = (dX/dt)$ and so on. His desired expenditure at time t , E_t , is (assuming a balanced budget)

$$E_t = X_t P_t, \quad (4)$$

or, again taking logs and differentiating with respect to time,

$$\frac{\dot{E}}{E} = \frac{\dot{X}}{X} + \frac{\dot{P}}{P} . \quad (5)$$

Substituting (\dot{X}/X) from (3) into (5) yields

$$\frac{\dot{E}}{E} = (1+\beta) \frac{\dot{P}}{P} + \alpha \frac{\dot{Y}}{Y} . \quad (6)$$

Equation (6) indicates our voter's desired rate of growth in the public budget.

The magnitude of (\dot{E}/E) depends on four variables and parameters: the rates of growth of real income per capita (\dot{Y}/Y) and of the relative price of public services (\dot{P}/P) , and the price and income elasticities of demand (β and α , respectively). We have available from a variety of sources estimated values for these determinants of (\dot{E}/E) . Several demand studies of state and local expenditure, making use of multiplicative demand functions like that adopted here, have produced estimates of the price and income elasticities of demand for various state and local services (see, for example, Bergstrom and Goodman, 1973, and Peterson, 1975). Most of these studies estimate a value for the income elasticity of demand somewhat below unity for non-educational services (a typical $\hat{\alpha}$ is around 0.7), and a little over unity for education. Suppose that we take unity as a representative value of α .¹² It is then clear from (6) that the answer to our question depends on the sign of the first-term on the right hand side of the equation: if $(1+\beta)(\dot{P}/P)$ is positive, (\dot{E}/E) will exceed (\dot{Y}/Y) and conversely.

With regard to (\dot{P}/P) , there is a substantial literature suggesting that over the long haul the unit cost of public services is likely to rise relative

to the cost of private goods (see Baumol, 1967; Bradford et al., 1969; and Baumol and Oates, 1972). In brief, the contention is that public services such as education, where the labor input is often an integral part of the service, possess less potential for continued technological progress than output in much of the private sector (particularly in manufacturing and agriculture). Consequently, the unit cost of these services tends to rise over time relative to the unit cost of private output, with the estimates of this differential in the annual change in costs appearing to be roughly 2 to 3 percent.¹³

A rising relative tax-price of public services need not, of course, induce an expansion in the public budget. If the demands of voters are price elastic, the response will be a reduction in public outputs sufficient to induce a net contraction in public spending. But on this issue, the findings of nearly all the demand studies are consistent: the demand for state and local services appears to be highly price inelastic with a typical estimate on the order of -0.4. The implication is that the term $(1+\beta)(\dot{P}/P)$ is positive and probably of a substantial magnitude; our typical values suggest that (\dot{E}/E) may exceed (\dot{Y}/Y) by something on the order of one to two percentage points per annum.

The procedure that has led to this result is surely subject to some important reservations based on its highly aggregative character, the uncertainty surrounding the particular functional form and parameter estimates, the view of public services as "technological laggards", and finally the implicit assumption that the course of the public budget over time reflects the demand of a

"representative voter". On this last matter, Brennan and Buchanan (1977) argue that "Leviathan" charts his own course and produces a growing budget in excess of, and in spite of, the preferences of the electorate. I do not, however find the Leviathan model very compelling; it is my sense that political competition, especially over the longer term, will prevent the balance between the private and public sectors from getting too far out of line. If this is true, the analysis here suggests that in the long run desired public spending is likely to grow at a more rapid rate than total income. Such a conclusion suggests that fiscal limits constraining the share of the public sector to its existing size will indeed become binding, and, perhaps more important, will generate political forces to circumvent these limits and restore the desired balance between the private and public sectors of the economy.¹⁴

(b) Reduced Reliance on Property Taxation: There is no doubt that several of the measures to restrict property taxation have achieved their objective. In the most publicized case of California, the limit of one-percent on the tax rate, combined with a rollback and control of assessments, cut property-tax revenues in half in its first year of existence. (Estimates suggest that these revenues were only about 45 percent of their predicted level in the absence of Proposition 13.) Likewise, the freezing of property-tax rates in Indiana in 1973 permitted very little growth in revenues from this source from 1973 to 1977.

A typical (and largely intended) response to these restrictions has been an increased diversification of local revenue systems. Local governments in several states (e.g., cities in Arizona and Colora-

do, and cities and counties in Kansas) have turned to a heavier reliance on sales taxation; in Indiana and Ohio, some local governments have adopted income taxes. In addition, limits on property taxation have encouraged a much wider employment of user fees for such things as libraries, recreational facilities, educational programs, trash collection, and even fire protection (Menchik and Pascal, 1980). Finally, as noted earlier, increases in state aid have, in some instances, largely filled the gap from reduced property-tax revenues.

It would be erroneous to conclude, however, that nearly all the states have enacted effective measures to limit property taxation. Many of the limits have not been very restrictive at all. Gold suggests that limitations on property taxation were largely ineffective in California (prior to Proposition 13 in 1978), Florida, Iowa, and Wisconsin. In some instances, seemingly strict limitations have been undermined by crucial exemptions of parts of the budget or by over-ride mechanisms that permit easy circumvention of the restriction. Where these measures have been effective, however, they have fostered the adoption of other forms of local taxation and increased state assistance. In consequence, property-tax limitations appear not, in themselves, to have generated a serious obstacle to continued budgetary growth by local governments.¹⁵

(c) Vertical Structure in the Federal System: While Proposition 13 may have had its intended effect of a reduced role for property taxation, it has also had an important (and largely neglected) impact on the degree of centralization in the state-local sector in California. The severe restriction on the primary source of local tax rev-

venues prompted a response at the state level in the form of more fiscal assistance to local governments. In fact, during the year immediately following the enactment of Proposition 13, a large accumulation of past state surpluses permitted the state to fill most of the revenue loss at the local level. But state aid comes rarely without some encroachment on local prerogatives. Moreover, part of the response in California has been an explicit shift of certain functions from the local to the state level. The state now supports most of county health and welfare costs and has increased greatly its share of state-local spending on education. Much of this is not necessarily undesirable; a good case, for example, can be made for relieving local governments of the primary responsibility for explicitly redistributive programs like welfare (see Oates, 1972, Chapter 1).

The more general point, however, is that effective constraints at one point or level within a federal system will generate pressures within the public sector as a whole that are likely to call forth responses elsewhere in the system. Fiscal-containment measures directed at local governments (like property-tax limits) will tend to enlarge the role of the state government in relation to its localities giving rise to an increased degree of centralization in the public sector. While this need not be detrimental to the performance of the government sector, such effects on fiscal structure should be explicitly recognized as potentially important consequences of the introduction of fiscal limitations. Certain measures may, of course, reduce rather than increase the extent of centralization; this may be the case in Michigan, where it appears that the constraints imposed on the state

government may prove to be more restrictive than those on local governments.

(d) Making Public Services Private: In addition to their effect on the balance within the government sector, fiscal limitations may induce a shift in the provision of some services from the public to the private sector. There are certain services like refuse collection that are presently provided publicly in some local jurisdictions in the United States and privately (typically through a contract to a private firm) in others. To the extent that fiscal limitations are an effective constraint on budgetary size, we can expect a shift toward private supply of these services. In the summer of 1978, for example, directly after the enactment of Proposition 13, California made widespread cut-backs in summer-school programs; private summer schools, some for profit and others not, came quickly into existence to provide summer education programs.¹⁶

(e) Effects on Public Employment and Wages: Since salaries and fringe benefits constitute roughly 80 percent of state and local budgets, any binding limitations on state and local spending are sure to affect levels of compensation and employment in the public sector. The precise pattern of these effects is less clear, but a few tendencies have emerged. Since it is often politically difficult to fire public employees, a typical short-run response to fiscal pressures is to institute a freeze on public-sector wages and on hiring. The needed budgetary reductions are then achieved through normal attrition in the public labor force and a gradual reduction in real wages through price inflation. In California, for example, in the first year following the enactment of Proposi-

tion 13, there occurred an 8 percent reduction in public employment; very little of this was the result of layoffs (Menchik and Pascal, 1980, p. 18). The difficulty with a primary reliance on attrition is an arbitrary pattern of cutbacks in levels of public services; a particular agency's loss in staff depends not on the relative demand for its services but upon the age and skill distribution of its employees. Since libraries, for instance, tend to have a relatively aged workforce, library services will contract when those who retire are not replaced.

A second concern is the composition of the public labor force. The government sector in the United States has, in recent years at least, provided a disproportionately large share of employment for minority groups. In most large U.S. cities the public-sector workforce includes twice the fraction of minority employees as elsewhere in the economy. Few of these minority workers have much seniority. Because of civil service regulations and union agreements, they are typically the first to be dismissed in times of fiscal stress. This tendency was apparent in the fiscal crisis in New York City, where reductions in jobs cut deeply into the employment of blacks and Spanish-speaking workers (Peterson, 1976, p. 114). Over the longer term as well, a reduction in public-sector employment may slow the absorption of minority workers into the economy.

The empirical question remains as to the extent to which recently enacted fiscal-limitation measures have, in fact, constrained growth in public employment and earnings. I noted earlier in the section on budgetary growth that the data on the change in state government tax revenues from 1979 to 1980

(although far from a fully satisfactory measure) do not suggest that existing restrictions have seriously retarded budgetary expansion. Available data permit a similar test for public employment and earnings. More specifically, I again used Table 3 to divide the states in the U.S. into two samples: one consisting of the 18 states that have enacted fiscal-containment provisions at the state level and the other including the remaining 32 states with no such restrictions on their state government. For each state, I calculated the percentage increase in the number of full-time employees at the state level and the percentage increase in average earnings of full-time employees of the state government from 1979 to 1980. Within the two samples, I found that the mean rate of growth for both of these variables was higher for the group of states with limitation measures than for the non-limitation sample. The mean rate of growth from 1979 to 1980 in full-time employment was 1.7 percent for states with fiscal-containment provisions, but only 1.3 percent for those without such measures; likewise, the mean increase in average earnings of state employees was 9.2 percent for states with limitation provisions and only 7.2 percent for those without such restrictions.

These data, although constituting only fragmentary evidence, are consistent with the tax results: they both support the view that, on average, state-containment measures have, as yet, not acted as a serious constraint on state-government growth. The effects of fiscal limitations on local governments and on the state-local sector as a whole remain to be studied.

(f) The Distribution of Income: There is reason to believe that the kinds of fiscal-limitation

measures introduced in the United States will have a net regressive impact on the size distribution of income. The distributive effects of these measures operate through four channels:

1. The structure of the tax system,
2. Levels and composition of public outputs,
3. Factor earnings,
4. The value of existing assets.

The predominant effect on the tax structure has been a reduced role for property taxation. If, as is now widely held, the property tax is a progressive tax (Aaron, 1975), the observed shift away from local property taxation towards a heavier reliance on user charges and local sales taxes is surely regressive. In a few instances, local jurisdictions have turned to income taxation; here, the overall effect is unclear. Similarly, the increase in state intergovernmental aid to localities as a substitute for local revenues need not be regressive, if, at the margin, the state revenue system is more progressive than local property taxes. However, there is no compelling evidence I know of comparing the marginal incidence of state revenue systems with that of local property taxes. One suspects that the net changes in state-local revenue systems are probably regressive.

The distributive effects of the fiscal-limitation movement operating through the level and pattern of public outputs are, likewise, difficult to pin down with great confidence. However, there are again some grounds for believing them to be regressive. As noted earlier, the major class of expenditures which taxpayers-voters apparently wish to see cut involves explicitly redistributive measures that provide assistance to low-income households (e.g., welfare programs). Many of these

"human-service" programs are of relatively recent origin and have not developed vocal, well-organized constituencies. In contrast, groups like teachers and policemen tend to have powerful organizations that can provide more effective resistance to cutbacks in the services they provide. As Menchik and Pascal (1980) conclude, "insofar as fiscal containment is driven by a middle-class tax revolt, we may expect disproportionately severe cutbacks in those redistributive functions that are targeted on disadvantaged groups and ethnic minorities and are the least popular with the middle range of voters" (p. 17).

As we noted in the preceding section on employment effects, it is precisely the lower-paid segment of the public workforce, lacking seniority, that can be expected to be laid off first when there are budgetary cuts. This suggests that the impact of fiscal limitations on the distribution of factor incomes is also likely to be regressive.

Finally, the potential effect on asset values of measures that restrict local budgets (measures like Proposition 13) is an intriguing one. As Goldstein and Pauly (1979) argue, an effective limit on local spending will result in a scarcity of high-expenditure jurisdictions with a consequent excess demand for residences in these jurisdictions at pre-limitation prices. Owners of dwellings in these jurisdictions will thus realize a capital gain. Since, with a tax-rate restriction, spending can be higher in localities with larger tax bases, we might expect the high-spending jurisdictions to be relatively wealthy areas with high levels of property values and income. In consequence, the distribution of capital gains would be expected to exhibit a regressive pattern of incidence.

4 SOME TENTATIVE CONCLUSIONS

Because of the specific character of many of the new fiscal-limitation measures in the United States, it is perilous to offer sweeping conclusions of widespread applicability. Yet this experience is at least suggestive in a number of respects.

(1) Attempts to place limits on certain public-sector activities or sources of revenues will typically produce a wide range of effects, often reaching beyond the specific intent of the measures themselves. We saw in California, for example, that Proposition 13, while achieving its goal of a reduced reliance on property taxation, also fostered an increased centralization of the state-local sector. The design of fiscal-limitation provisions should address explicitly these "unintended" effects as well as the basic objectives of the program.

(2) As a kind of corollary to (1), it appears that efforts to control the size or growth of the public sector must not limit themselves to specific levels of government and/or sources of revenues. Limitations on local property taxation, for example, will tend to give rise to an increased use of other local revenue sources and to a larger role for the state government. An effective constraint on the size of the public sector requires a co-ordinated set of measures that prevents contraction at one point from being offset by expansion at another.

(3) Although several of the recent measures to limit state budgetary growth are not now binding constraints, there is evidence to suggest that

over the longer term they will become so. The rising relative cost of public services, in conjunction with estimated price and income elasticities of demand for state and local services, suggests that the desired level of public expenditures is likely to grow at a higher rate than private income. One potential consequence is substantial losses in welfare (Ladd, 1978). Moreover, with the passage of time as the constraints bite more deeply into the desired budget, political pressures will increase to circumvent the limits. There are already numerous instances in the U.S. of "creative finance" to sidestep existing limitations in order to maintain or expand public outputs.¹⁷ Such ad hoc means of finance may be considerably less efficient and equitable than a reliance on more conventional fiscal measures.

(4) Although it is hard to generalize on the overall redistributive impact of fiscal limitations, there is some reason to believe them to be regressive. At the most general level, the public sector is a primary agent for redistributive activity in the economy; one of its basic functions is to adjust the market-determined distribution of income toward one that society regards as more equitable. Effective limits on the scope of public budgetary activity might for this reason alone be expected to reduce somewhat the extent of equalizing transfers through the public sector. Moreover, an examination of the specific ways in which fiscal limitations in the United States have altered the incidence of the tax system, the composition of public outputs, the distribution of factor incomes, and the value of existing assets suggests that these measures have probably reduced the progressivity of the fiscal system.

NOTES

- 1 Note, however, the decline in the share of the public sector since 1975, which is at least in part attributable to fiscal-limitation measures.
- 2 While voter preferences are important in understanding what voters desire, they do not seem to explain voting behavior all that well. Differing perceptions within the electorate as to the content and likely effects of proposed legislation often lead voters with similar preferences to behave differently in the polling booth. Models that incorporate the interaction between preferences and perceptions explain voting behavior better. See Gramlich, Rubinfeld and Swift (1981), and Ladd and Wilson (1983).
- 3 See Reid (1979) for a short history of tax revolts in the United States.
- 4 For an excellent description of the limitations measures recently introduced in the United States, see Gold (1980).
- 5 A ceiling on the rate of growth of state expenditure equal to a fixed percentage can obviously be either more or less restrictive than these other caps depending on whether the percentage limit is less or greater than the sum of the three components of (1). With inflation around 10 percent per annum, the Colorado limitation of a 7 percent rate of growth in state spending is clearly the most restrictive (at present) of the state caps.
- 6 Under full disclosure laws, "... the state or assessor establishes a property tax rate which when applied to a percentage of the tax base (95-100%) will produce revenue equal to the prior year's property tax levy. This established rate can be exceeded only by explicit vote of the local governing board after a public notification and hearing procedure on any proposed increase" (ACIR, 1977, p.26). In some states, these laws provide an automatic roll-back of tax rates to offset any potential increases in tax revenues resulting from revaluation of property.
- 7 This section draws heavily on Gold (1980) for the discussion of the effects of existing limitation measures.

- 8 I omitted Alaska from the sample because of its incredible (and presumably unrepresentative) 76.0 percent increase in state tax revenues in a single year. The source of the data is Bureau of the Census, State Government Tax Collections in 1980, (Series GF-80, No.1, Washington, D.C.: U.S. Government Printing Office, 1980), p.6.
- 9 The income elasticity of the tax structure is the percentage change in tax revenue (holding tax rates constant) that results from a one-percent increase in income.
- 10 More specifically, in two multiple-regression studies, one of the states and one of thirty-three large U.S. cities, I found that the growth in public expenditure per capita over the decade 1960-70 was positively and significantly related to a measure of the income elasticity of the revenue system. However, the effect appeared quite modest in size: states, for example, that relied heavily on income taxation experienced a larger growth in per-capita spending than did states without income taxes, but the typical differential between such states seems small relative to the mean growth in expenditure over the decade.
- 11 The analysis here follows Baumol and Oates (1975, Chap.17). I stress that the public services envisioned here are not pure, Samuelsonian public goods; they are, instead, subject to congestion. In fact, existing econometric work suggests that most state and local services (e.g., education) are subject to crowding to virtually the same degree as private goods. In line with this finding, I shall assume that an increase in population requires a proportionate increase in inputs (or spending) to maintain unchanged the level of public outputs.
- 12 Although many of the econometric estimates of the income elasticity of demand are below unity, there are good reasons, as Hamilton (1983) contends, to believe that these estimates are seriously biased in a downward direction. In brief, most of the econometric evidence is based upon cross-sectional studies that compare levels of expenditures on public services in jurisdictions with different levels of income. They tend to find that, ceteris paribus, expenditure per capita does not rise fully proportionately with income. Hamilton's argument (see also Oates, 1981) is that higher income communities are systemat-

ically more efficient in the provision of certain critical local services than are poorer jurisdictions; because of the characteristics of the population, wealthier localities can provide, for example, superior schools and higher levels of safety with fewer inputs per capita than can lower income communities. In consequence, differentials in measured inputs understate the true differentials in levels of public outputs across jurisdictions with varying levels of income. When Hamilton tries to adjust for this bias, he finds an estimated income elasticity of demand for local services close to unity.

- ¹³ As Bush and Mackay (1977) have pointed out, if public services are truly Samuelsonian public goods, then an increasing population size will imply a fall in the price per capita of public services that could offset the upward pressure from relatively slow growth in productivity. However, as noted earlier, existing econometric work suggests that state and local services are not pure public goods; overall, they seem subject to crowding to about the same extent as private goods and services.
- ¹⁴ An admittedly disturbing element that the analysis overlooks is the effect on the economy of rising tax rates over time. The tax-induced distortions in resource allocation, with their associated "supply-side" effects, may come to exert a real drag on the performance of the economy. From this perspective, we may envision a real tension between the desire for continued growth in public output and the detrimental economic effects of the rising levels of taxation needed to finance these outputs.
- ¹⁵ In California, the restrictiveness of fiscal limitations on local government has been enhanced by provisions that prevent the local electorate from increasing property-tax rates under any circumstances and that require a two-thirds approval of any proposal for increases in other local taxes. The evidence suggests that this combination of measures has held back to a measurable extent the growth in local spending.
- ¹⁶ In a theoretical analysis, White (1979) suggests that, in response to fiscal limitations, governments will tend to make relatively large reductions in those public inputs for which private substitutes are readily available;

White contends that this outcome implies a substantial "excess deadweight loss" as compared to the socially efficient pattern of cutbacks.

- ¹⁷ Earl Rolph has told me that in one municipality in California, residents have chosen to finance certain local services by a levy on property owners. This levy is based on "units" of property where the number of units is defined in terms of dollars of assessed valuation. It remains to be seen if a sham of this sort to circumvent the rate limit on property taxation will survive a court challenge.

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PRICING AND PRIVATIZATION OF PUBLIC SERVICES

by George E. Peterson

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INTRODUCTION

The malady of "too much" government has seemed to many to have an obvious cure: a stronger dosage of private sector activity. Any successful effort to restrain government spending, of course, must tilt national product toward the private sector, and by redrawing the boundary line between the public and private sectors, augment the private role. It is this assault on the perimeter of public sector responsibility that now claims priority in domestic policy, at least in the United States.

For applied public finance, the private sector model also has attained more immediate relevance. The public sector has been urged to adopt private sector principles directly, either by transferring responsibility for service provision to private firms or by adhering to the principles of private markets, such as competition and pricing, in its own service delivery. Although the injunction to emulate the private sector may appear unambiguous, several different principles have been advocated by proponents of greater reliance on private enterprise and markets.

Some have emphasized the efficiency advantages of private providers. Competition among private, profitmaking firms should encourage adoption of least-cost production methods. This potentially qualifies private firms as more efficient providers than government, at least where it is possible to price services and restrict access to them. But superior production techniques can also be adopted by public sector providers, and their use sustained by incentives other than profits. It then becomes an empirical question whether private suppliers have achieved cost reductions in delivering

standard "public" services and, if so, whether their cost advantages lie in production methods, labor management, or wage rates.

Others have emphasized the role of pricing in efficient service delivery. Charging customers for the services they consume can restrain demand, and allocate scarce resources to where the services they produce have the greatest value. Prices also can be used to allow the consumer to decide for himself how much of the service he wants to acquire, given its price. Although pricing is an essential feature of the private market model, public authorities can (and frequently do) charge prices for the services they provide. Whether used by the public or private sectors, the establishment of a pricing system also can have other important consequences -- such as removing the redistributive element from service delivery and providing only the "private" component, which individual consumers are willing to pay for. The actual effects that public service pricing has had are an empirical issue.

From a public entity's perspective, one of the most attractive features of the market model, in any version, is the prospect that it will help restore budgetary balance. Governments have looked to user charges to circumvent tax limitations; individual public service authorities have looked to special pricing mechanisms to insulate themselves from the general budget reductions being forced upon the state and local sector. Governments often volunteer to shed functions with the same criterion in mind: they propose to divest themselves of services which, if performed elsewhere, would most improve their budgetary picture.

In this paper, I attempt to assess the record and promise of the public sector movement toward private market principles of service delivery. The paper has three specific goals:

First, to examine the experience in the United States to see if the avowed objective of lowering public service costs through adoption of private sector models has been achieved, and to assess how much promise private sector methods hold for future cost savings.

Second, to examine how cost savings have been achieved, and what motivation lies behind the recent acceleration of interest in turning over responsibilities to the private sector. It is one thing if pricing is intended to achieve, and does achieve, greater efficiency in providing a given set of services; it is something quite different (though possibly also desirable) if public service costs are lowered because pricing, or transfer of service responsibility to the private sector, eliminates the costly redistributive elements of public service supply.

Third, I will consider some of the most important side consequences for public sector budgets of reliance on private firms and user charges. The scramble to buttress individual service functions with independent revenue streams, like the selective shedding of functions, promises to alter budget making in state and local governments.

For reasons of convention as much as anything else, I have divided the paper into two parts. The first part treats the direct delivery of "public" services by private firms, or joint provision of these services by the public and private sectors

in collaboration with each other. The second part treats the use of pricing principles in the public sector.

The enterprise undertaken here is not without its difficulties. The economic theory of alternative service supply proves to be rudimentary. For that reason, most of the analysis has been devoted to empirical testing of hypotheses about the cost savings to be achieved from private sector models of service delivery. This marshalling of facts tends to be specific to the United States and is sensitive to the particular institutions involved in service delivery. Evidence of this type often does not travel well beyond national boundaries.

Nonetheless, the admonition to government to heed better the private market model is heard in many countries today. For better or worse, the United States is furthest along in the effort to introduce private business and pricing into the public sector, and so it is natural to assess the experience that country has had. It is all the more appropriate to do so since U.S. experience tends to receive interested interpretation in other countries -- something that is especially likely to occur in as sensitive an area as efficiency and service-quality comparisons between the public and private sectors. And in the end, the broad conclusions that emerge from evaluation of the U.S. experience may fit European countries. The U.S. experience with public sector pricing and private sector divestiture, for example, seems generally consistent with the experience of Great Britain to date.

SUBSTITUTING PRIVATE FOR PUBLIC SERVICES

No action responds as directly to the complaint that there is excessive government as the decision to cede public service responsibilities to the private sector. This alternative has become known as "privatization" in the United States. It refers to the provision by one or more private organizations of a service frequently or traditionally furnished by government.

No model of public retrenchment foresees full replacement by the private sector of the activities cut by public budget reductions. Part of the opposition to government expenditures, after all, comes from the conviction that there is excessive commitment to the type of programs that government provides. In the United States this is particularly true of redistributive welfare programs, such as Aid to Families with Dependent Children and Medicaid, the federal-state program of medical assistance for the needy. Voter surveys repeatedly have found that those voting in tax and spending limitation referenda favor reducing expenditures for these welfare purposes. Typically, they are the only services where across-the-board cutbacks command support of a majority of the voters. (See Citrin, 1979, for evidence from California; Courant-Gramlich-Rubinfeld, 1980, for evidence from Michigan; and Ladd and Wilson, 1983, for evidence from Massachusetts.)

Efficiency Comparisons

The model of privatization that has dominated discussions of service delivery choices, however, is one where private suppliers take over provision of

a standard public service. Profit incentives and competition are hypothesized to make it possible for private firms to supply the standard service at lower cost. As long as the service is provided in a way satisfactory to the public government -- which often can be assured by contract between the private supplier and the public authority -- cost efficiencies should suffice to make the private sector the preferred supplier.

Trash Collection

The U.S. local government scene possesses one service -- trash collection -- that is split between public and private providers, and delivered under a variety of institutional arrangements. It therefore has provided a natural testing ground of the hypothesis that private firms will be lower cost providers of services. Trash collection has the further advantage that it is reliably quantifiable. Trash collected can be measured by tons or cubic feet picked up, and quality of service can be measured along such dimensions as frequency (one, two, or three pickups per week), and convenience (curbside or back door collection). This makes trash collection suitable both for public-private contracting, where the nature of the product has to be defined in writing, and for empirical cost comparisons.

Table 1 illustrates the variety of institutional arrangements under which trash is collected in the United States. These include:

- o Municipal collection by the city itself.
- o Contract or franchise collection, under which a private company is granted exclusive rights

by government to perform the refuse collection function for all or part of a jurisdiction, frequently the result of periodic competitive bidding. (In Table 1 "franchise" collection is used to refer to exclusive rights for the entire jurisdiction.)

- o Private, or nonexclusive collection under which private firms compete for individual refuse collection accounts. In these cases, the terms of competition vary considerably. Entry into the industry may or may not be restricted, either by government or by the local industry itself.

The variety of institutional arrangements -- which also includes mixed public and private supply in many cities -- is a tribute to the decentralized character of local government in the U.S. A few general patterns are visible -- e.g., public trash collection is more common in the South than in the Northeast or Midwest, and much more common in large, central cities than in other size governments. But the distribution of institutional arrangements provides as complete a natural laboratory as one could hope to find.

Comparisons of refuse collection costs by provider type requires a number of controls. These must standardize for service quality characteristics and also for density of collection (tons per route mile). Kemper and Quigley (1976) analyzed trash collection routes in Connecticut cities and found the inverse of density (route miles per ton) to be highly significant and positively related to pick-up time and cost per ton. Density savings were nonlinear. Dramatic savings occurred with increases in density within a range from zero to about five tons per route mile; minor savings were achievable at higher densities.

Table 1 Single Service Arrangements for Collection of Residential Mixed Refuse

	Total number of arrangements reported (A)	Municipal		Contract		Franchise		Private		Self-service		Other	
		No.	% of	No.	% of	No.	% of	No.	% of	No.	% of	No.	% of
			(A)		(A)		(A)		(A)		(A)		(A)
Total	2,531	768	30.3	421	116.6	165	6.5	782	30.9	376	14.9	19	0.8
<u>Population group</u>													
Over 500,000	11	8	72.7	2	18.2	0	0.0	1	9.1	0	0.0	0	0.0
250,000-500,000	26	19	73.1	2	7.7	0	0.0	3	11.5	1	3.8	1	3.8
100,000-249,999	96	62	64.6	9	9.4	1	1.0	15	15.6	7	7.3	2	2.1
50,000- 99,999	172	87	50.6	17	9.9	20	11.6	26	15.1	21	12.2	1	0.6
25,000- 49,999	203	63	31.0	35	17.2	25	12.3	53	26.1	27	13.3	0	0.0
10,000- 24,999	503	179	35.6	117	23.3	34	6.8	117	23.3	54	10.7	2	0.4
5,000- 9,999	640	178	27.8	105	16.4	29	4.5	219	34.2	107	16.7	2	0.3
2,000- 4,999	880	172	19.5	134	15.2	56	6.4	348	39.5	159	18.1	11	1.3
<u>Geographic region</u>													
Northeast	981	186	19.0	213	21.7	22	2.2	382	38.9	176	17.9	2	0.2
North Central	715	143	20.0	111	15.5	16	2.2	330	46.2	107	15.0	8	1.1
South	469	341	72.7	28	6.0	34	7.2	33	7.0	27	5.8	6	1.3
West	366	98	26.8	69	18.9	93	25.4	37	10.1	66	18.0	3	0.8
<u>Metro/city type</u>													
Central	307	192	62.5	30	9.8	14	4.6	43	14.0	23	7.5	5	1.6
Suburban	2,224	576	25.9	391	17.6	51	6.8	739	33.2	353	15.9	14	0.6

Note: Percentages may not add to 100% owing to rounding.

Source: Savas (1977).

Table 2 compares the findings of two independent studies of trash collection costs by provider type. These show a surprisingly consistent pattern. At all city sizes, and for all types of collection service, private competition is the most expensive alternative -- usually by margins of 30 to 60 percent over public municipal service, after control for density. Kemper and Quigley attribute these cost differentials in large part to route disruption from competition. Private firms must compete for individual customers. The consequent overlapping of different routes interrupts the logic of the optimal route structure and detracts from the effective density of trash collection. Kemper and Quigley also found presumptive evidence of collusion between unregulated private suppliers in some cities, which may add a monopoly element to the cost structure.

The companion study by Savas and Stevens (1977) attributes the cost disadvantage of private, competitive firms largely to their inability to use centralized billing or achieve other administrative economies of scale.

In all of the studies contract collection -- provided through exclusive franchise agreements with private firms -- proves the least expensive service alternative. The cost advantage of private contracting climbs with city size. At populations of 50,000 or more, franchise agreements with private firms were found to cut costs by almost 50 percent from the costs of municipal provision.

Further examination of the cost advantage of private contracting reveals that most of the competitive edge comes from technical and management effi-

Table 2 **Costs of Residential Trash Collection, by Type of Provider**

Average cost per ton

Collection arrangement	Kemper-Quigley		Savas-Stevens		
	(1972-73)		(1975-76)		
	All cities		Under 10,000	10,000-50,000	Over 50,000
Private	\$23.50		\$28.39	\$23.08	\$30.81
Municipal	15.36		22.48	19.47	25.87
Contract	12.09		18.86	21.77	18.09

Differential cost per ton, after control for density, service quality, and other factors
Percent variation from municipal service

Collection arrangement	Kemper-Quigley		Savas-Stevens		
	(1972-73)		(1975-76)		
	All cities		Once-a-week curbside service		
	Once-a-week Curbside	Back-of-house	Under 10,000	10,000-50,000	Over 50,000
Private	+34.0%	+27.1%	+58.3%	+11.4%	+54.6%
Municipal	--	--	--	--	--
Contract	-14.3	-30.0	- 5.0	- 8.1	-48.2

Source: Kemper and Quigley (1976); Savas and Stevens (1977).

ciencies. Table 3 shows that private contractors operate much smaller crews, have larger and more efficient vehicles, and have far lower absentee rates among employees. These differences increase in magnitude with city size.

Thus the evidence strongly confirms that private firms use a lower cost technology to provide the standard service. In both the Kemper-Quigley and Savas studies, there was no evidence of systematically lower wages paid by private suppliers. The chief cost edge of the private firms did, however, rest with their more efficient deployment of labor.

The studies of comparative trash collection costs are the centerpiece of the argument for privatization on grounds of efficiency. Trash collection is the only municipal service that is widely provided by both the public and private sectors, and the only one in the United States for which public-private cost comparisons have been made. The only other standard municipal functions frequently contracted for with the private sector are intermediate services, such as computer services and street maintenance.

If the analysis of trash collection costs shows clear-cut efficiencies for some types of private contracting, it also points up the limitations of this type of privatization as a general response to fiscal pressure. Trash collection in the United States costs about \$12 per capita, or less than 1 percent of state and local expenditures. (Bureau of the Census, 1980.) Moreover, municipal movement toward private sector supply, even within refuse collection, is so slow as to be insignificant.

Table 3 Management Factors in Refuse Collection

Management factor	Population				Cities having backyard collection	
	50,000 and under		Over 50,000		Muni-cipal	Con-tract
	Muni-cipal	Con-tract	Muni-cipal	Con-tract		
Mean crew size	3.08	2.06	3.26	2.15	3.04	1.98
Mean truck capacity (cubic yards)	19.04	22.21	20.63	27.14	19.90	23.50
Mean absentee rate (percent)	12	6	12	65	12	4
Mean % of vehicles loading at front and side	26 ^a	23 ^a	13	44	16	30
Mean % of cities with incentive system	57	80	80	86 ^a	73 ^a	87 ^a

^a Not significant at .05% level.

Source: Savas and Stevens (1977).

Institutional arrangements show great stability. According to Savas and Niemczewski (1976), only 84 of the 2,531 communities responding to their survey reported that they shifted arrangements for collecting solid waste between 1970 and 1974. Only eight of the communities with changes had populations of 50,000 or more. The rest were small communities. Of the changes in arrangements which did occur, 36 were shifts from private firms to municipal agencies; 27 were shifts from municipal to private supply. The Municipal Yearbook, published by the International City Managers Association, shows 40.3 percent of cities with populations

50,000 or more as contracting out some or all of solid waste collection in 1974; five years later, in 1979, this percentage was 38 percent.

Other Services

For other local government service responsibilities, there is at this point only scattered evidence about the cost effectiveness or quality of service provided by private firms.

There are examples of private subscription fire service in the United States. The largest, and best known of the firms providing such service is located in Arizona, and serves the city of Scottsdale (population of some 40,000) and a number of smaller, rural communities. A comparison of fire protection costs and quality between Scottsdale and neighboring cities of comparable size shows that costs are significantly lower and service quality roughly comparable (see Table 4).

Table 4 Firefighting Cost and Service Quality Comparisons, Scottsdale (Arizona) Private Supplier and Municipal Departments

City	Fire service cost per capita \$	Average response time Minutes	Per capita fire loss \$	Insurance rating ^a
Scottsdale	6.48	3.0	5.45	5
Glendale	12.62	3.0	5.19	5
Mesa	11.43	3.0	5.26	3
Tempe	10.68	3.8	9.60	4

^a Lower grades represent better ratings.

Source: Institute for Local Self-Government (1977).

The cost advantages of the private supplier rest principally with its novel approach to labor management. The firm operates in Scottsdale with a small core of full time firefighters, and relies for the rest of its manpower on auxiliaries. These are full time employees of city government departments -- mostly public works and parks employees-- who are authorized (and required) as part of the contract between the city and private fire department to leave their regular city jobs when alerted to emergency fire duties. Since auxiliaries are paid a modest monthly retainer, plus hourly wages for actual working time, labor costs are greatly lowered relative to a full time firefighting complement. One study (Sonenblum, Kirilin, and Ries, 1977) found that 44 percent of all firefighting time was provided by auxiliaries, paid on an hourly wage basis for actual firefighting time. This same labor arrangement is used by Falck Company, which provides contract fire protection to roughly half of Denmark. Falck also supplements a core of full time professionals with paid reservists (Poole, 1980).

During the early 1970s, the United States pursued a large scale experiment of the ability of private firms to improve student performance by operating public school classrooms. (See Carpenter and Hall, 1971; Gramlich and Koshel, 1975). The experiment involved new technological approaches to learning, with almost all of the firms using their own proprietary learning programs for reading and mathematics. It also introduced pricing signals into the classroom. All contractors were paid, in part, according to student performance, either by year long achievement improvements or by the proportion of pupils reaching a designated achievement level.

In some cases, pay incentives were transmitted to classroom teachers and even to pupils, who were rewarded for the progress they registered in the classroom.

The school performance contracting experiment remains something of a curio in U.S. social history. It arose with almost unprecedented speed, against a backdrop of growing frustration with public schooling. A private firm that had signed a performance contract with the school board of Texarkana, Arkansas, reported having doubled and even tripled normal achievement advances. Within a year, more than 100 school districts around the country had signed similar contracts with private contractors. Many of these were fully financed from local resources. Experimentation in another group of contracting districts was financed through the U.S. Office of Economic Opportunity, with a large coordinating grant and expansive research design.

By most standards, the experiment was highly discouraging in its implications for the ability of private contractors to bring operating efficiencies into the public schools. Careful testing showed that participating schools enjoyed only the slightest edge in achievement gains over the control group for reading and mathematics (for the OEO experiment, this advantage was 0.04 of a year's gain, or 7 percent of the average gain of the control group). In other subjects -- for which contractors were not paid -- participating students significantly underperformed the control group.

None of the nation's participating school districts chose to renew the performance contract

relation with a private provider beyond the second year. The firms, almost without exception, lost money by accepting payment schedules which required much greater student advances for them to break even. Relations between contractor and school board often disintegrated into acrimony and litigation. No cost efficiencies were obtained from private sector participation.

Although the school performance contracting experiment can be faulted on many counts -- including its hasty design and limitation to a single year's performance evidence -- it laid to rest for a decade the expectation that private firms could achieve significant efficiency gains except in routine services, similar to the kind that the private sector already provides for private customers.

Divestiture of Public Sector Functions for Budgetary Reasons

Although economists have advocated privatization on efficiency grounds, most actual shifting of state and local functions to the private sector has occurred for budgetary reasons. Faced with a serious budget deficit or an externally fixed expenditure ceiling, state and local governments have typically responded by seeking to shed some of their functions.

The budget-balancing motivation helps to define which programs are candidates for transfer. Only those programs that generate a revenue stream through sales of services can plausibly be shifted to the private sector or to quasi-independent enterprise authorities. This suggests that local gov-

ernments will attempt to shed functions that are money losers -- where prices are inadequate and political constraints prevent their modification, or where costs have risen in ways that the public sector finds impossible to control. If the stream of operating losses is tied to physical capital which can be sold for cash, the function is a still more probable candidate for transfer.

Public hospitals, city universities, city transit systems, and city sewer and water systems fall into this category. All have become frequent objects of transfer.

Shedding responsibility for public hospitals seems a particularly tempting alternative to cities in fiscal difficulty, and it is worthwhile to examine some of the recently proposed transfers for what they reveal about the motivation behind divestiture.¹

The City of Detroit transferred the Detroit General Hospital (including a major new facility it had just built) to a private nonprofit hospital consortium in 1980. By doing so it relieved itself of an operating subsidy which had reached \$20 million per year. A good deal of negotiation was required to reach agreement on the terms of transfer. Initially, the private purchasers insisted upon the right to renegotiate the salary levels of all transferred employees. In the end, the consortium accepted the current salary levels of transferred employees, but won the right to renegotiate pension and other fringe benefits and to bargain independently over future wage increases. Transfer

¹ These descriptions are taken from Peterson and Wolman (1981).

to the private sector also became the occasion to rationalize staffing patterns. Within six months of announcement of the transfer, the number of licensed beds was reduced by 45 percent, and the number of hospital employees reduced by 15 percent. Part of this reduction appears to reflect reduced service provision, but most of it represents closer attention to costs in operating the hospital. The consortium agreed to continue to offer a full service, acute medical center, only after the state entered into a commitment to reimburse the hospital for the costs of indigent patients not covered by federal Medicaid.

Erie County, outside of Buffalo, New York, in the midst of its budget crisis, attempted to negotiate a sale of its public hospital to private owners, but was stymied by public opposition and a hospital workers' strike. Opposition was based on the fear that adequate services to indigents would not be provided in the private facility, and by workers' apprehension that their salary levels would be reopened for negotiation.

Fiscal strain has led to other types of divestiture. The City of Buffalo transferred its zoo to the private Buffalo Zoological Society, a private nonprofit organization. Many jurisdictions in New Jersey, Ohio, and other states have sold their sewer and water systems and electrical utilities to private companies or to new independent authorities.

Each of these transfers has certain characteristics in common. In each case, the service in question was not self financing, but required a significant subsidy from the general resources of the city government. This meant that transfer of the

function would give immediate relief to the general government's budget.

In each case, the city government first attempted to transfer service responsibility to a higher level of government. Only when this effort failed, did it consider transfer or sale to the private sector. Private sector transfers became necessary in those states, like Michigan, where the state itself was so impoverished as to make it impossible for the state government to acquire another money losing operation.

Finally, and most importantly, the transfers to the private sector were accompanied by a fundamental revamping of the cost and revenue balance. In each instance of completed transfer, the private sector owner raised charges for the services provided by the transferred facility. In most cases, the new owner insisted upon reopening the compensation agreement with employees, and signaled its intention to act less generously on wage increases and staffing in the future. In the case of the hospital transfers, the private sector operators planned to reduce the range of redistributive and subsidized services that the hospital provided, unless compensated for these costs by government payment.

These conditions of transfer demonstrate the reasons for the cost edge that the private suppliers enjoy. First, the private owner retreated from the range of redistributive responsibilities that the public sector formerly had accepted. Second, it began to lower labor costs, by attacking wage and pension rates, in respect to which there was a major imbalance between the public and private sectors, and by reducing staff levels.

This experience suggests that the economies of private sector operation lie in the sector's willingness to cut back on services and subsidized pricing, while taking a stiffer position on employee compensation and labor management. The public sector was well aware of this outcome -- having negotiated the terms of transfer in each case. It might have been able to achieve the same results with more vigorous management controls. However, the opposition that would have been engendered made it easier to cut back by transferring service responsibility to the private sector, diverting citizen resentment and management problems to new owners.

The same mixed motivation -- hope for management economies combined with willingness to accept lower service levels -- has generated proposals to transfer operation of the Medicaid health payment program to the private sector. The Commonwealth of Massachusetts, in its first budget after adoption of Massachusetts' property tax limit, proposed handing over the entire Medicaid program to a consortium of private providers. Savings from this initiative (not yet acted on) were to be targeted for local assistance to partially offset lost property tax revenues.

Economies are to be achieved in the Massachusetts proposal by reinterpreting the patient's right to a choice of providers. Patients would be limited to a "reasonable choice", meaning that they would be required to enter facilities that had excess capacity and low reimbursement rates. State officials have estimated that this reduction in service choice, coupled with private sector management efficiencies, could reduce Medicaid costs by 20 percent from 1981 levels. Unfortunately for Massa-

chusetts, private health suppliers have shared the state's assessment of savings potential, and so far have been unwilling to negotiate the fixed price contract that the state wants to enter into.

The one precedent for privatization of Medicaid is indeed discouraging. In the mid-1970s, a private firm accepted a fixed price Medicaid contract from the State of North Carolina, believing that potential management economies were large enough to justify assumption of the risk of increased patient loads. With the 1974-75 recession, the number of families eligible for Medicaid on economic grounds began to climb. The firm soon found costs to be out of control, and had to negotiate abandonment of its contract with the state.

Consumer Choice of Suppliers

Up to this point we have considered efficiency justifications for privatization. Service supply by competing private providers also has been urged to enhance citizen choice. It is likely to be on this front that the greatest battles over privatization will occur.

The principle of consumer choice is most explosive when applied to public schools. Education vouchers have been proposed in the United States for some time. These would distribute school tax receipts back to parents, in the form of vouchers cashable at any school, public or private. The voucher idea has been proposed for experimentation at several points, but public school opposition has prevented anything but the most limited testing. Experiments were limited to schools within the same public school district, distinguished from one another in

relatively modest ways. The largest voucher experiment, in San Jose, California, was terminated in midcourse. The results are inconclusive as to either the public acceptance or degree of differentiation that a full fledged voucher program would produce.

With the tax revolt and dissatisfaction with public services has come faint signs of a revival of voucher proposals. The same November 1978 Michigan ballot that established the state's tax limits contained a proposal to set up a statewide voucher system. The proposal was defeated by a large margin, in part because the plan for implementation was left unspecified. In California, two law professors largely responsible for the school tax base equalization movement in the United States proposed a voucher plan that would have been coupled with complete equalization of per pupil expenditures, as embodied in the vouchers that parents receive. The measure did not receive enough support to get on the statewide ballot.

A still more imminent test of freedom of choice in schooling takes the form of the proposed tuition tax credit. This measure -- originally endorsed by the current Administration -- would partially defray the costs of private schooling by granting parents a tax credit for private school costs up to some ceiling, originally set at \$500. A study by Peterson (1978) of the three way choice between public, private-religious, and other private schools, found that this choice was extremely sensitive both to local public school quality and to the price of religious schooling. In school zones where school quality, as measured by average fourth grade achievement levels, was 1.0 year below the national average, the price elasticity of

demand for parochial (religious) school enrollment was -1.35, for households of average income. This result implies that a \$500 tax credit for private schooling would have the effect of switching 17 percent of remaining urban public school pupils to private schools. Although the exact impact of a tax credit is difficult to predict, the apparent sensitivity of public school enrollment to the relative costs of public and private schooling makes it understandable that the tuition tax credit should have become the number one target of teacher union lobbying in the United States.

The Future of Privatization

Though the record of privatization in the United States is a highly diverse one, several common conclusions emerge from the range of experience:

- o For some services -- most conspicuously, trash collection and hospital management -- there are pure efficiency gains to be reaped from private operation of "public" services. The efficiency gains appear to come primarily from better labor management and, frequently, lower compensation levels. Not all types of privatization are equally efficient, as the cost comparisons for trash collection clearly show.
- o Market participants on both the government and private sector side often greatly exaggerate the efficiency gains that can be achieved by privatization. The social landscape of the 1970s is littered with failed attempts by private firms to make a profit under fixed cost contracts that presumed large efficiency gains.

- o Pure efficiency differentials in service delivery create the potential for only small savings relative to the total state and local cost picture. Greater savings typically are accompanied by de facto cutbacks in service provision. As a practical matter, recent transfers of functions to the private sector appear to be motivated by the desire to shed functions generating budget deficits, and to divert from public management some of the stress associated with service reductions and tougher labor management.
- o Of far greater potential impact than private contracting is the admission of direct competition among private providers into "public" service delivery. A voucher system for schools or even a significant tuition tax credit, would transform patterns of service delivery in ways that exceed the total impact of privatization up to now.

PUBLIC PRICING

While privatization of public services has proceeded fitfully in the United States, with no clear trend in evidence, the application of user fees and charges has steadily gathered force. Even the narrowest definition of pricing -- limited to current charges plus sales of municipal utilities -- shows more than \$90 billion raised in this manner in 1977.

During the first half of the 1970s, through 1977, receipts by government from user charges generally kept pace with the overall rapid growth of government activity, and often exceeded the rates of

Table 5 **Percent Change in General Revenues by Source, and by Level and Type of Government**
Fiscal years 1972 to 1977

	Federal government	State government	Local government
Intergovernmental revenue	a	73.6	93.5
Tax revenue	58.6	68.8	50.7
Broad-based taxes	65.4	87.5	49.1
Selective sales tax	6.0	37.8	86.7
License fees	-	37.2	100.0
Current charges	100.8	55.1	72.1
Special assessments	-	-	14.3
Other miscellaneous revenues	149.2	151.7	85.0
Total revenue	65.6	71.5	70.2

^a No receipts from this source in 1972.

Source: U.S. Bureau of the Census, 1977 Census of Governments: Compendium of Government Finances, Volume 4, No. 5.

growth of revenues from other sources. Table 5 presents measures of the rates of growth between fiscal year 1972 and 1977 of the various types of government revenues. As can be seen, current charges were the most rapidly rising source of revenue of the federal government during the period, with the single exception of "miscellaneous revenue".² For local governments, the growth in current charge and license fee revenues was above average for total revenue growth. Only for state governments did the revenue share of fees and changes fail to increase over this period.

² "Miscellaneous revenue" comprises nontax revenues of governments aside from current charges and intergovernmental aid. It includes income from the sale of property and interest earnings.

**Table 6 General Revenues of Local Governments in 75
Major Metropolitan Areas**
Fiscal years 1977 to 1979

General revenue	1977		1979		Percent change 1977-1979
	Dollars (billions)	Percent of total	Dollars (billions)	Percent of total	
Intergovernmental revenue	46.3	41.6	56.8	44.6	22.7
Tax revenue	49.6	44.6	53.0	40.6	6.9
Current charges	10.5	9.4	13.5	10.4	28.6
Miscellaneous	4.9	4.4	7.1	5.4	44.9
TOTAL GENERAL REVENUE	111.3	100.0	130.4	100.0	17.2
Utility revenue	n/a	-	10.0	-	-

Source: U.S. Bureau of the Census, "Local Government Finances in Selected Metropolitan Areas and Large Counties: 1978-1979", GF79 No. 6, November 1980.

Reliance on user charges has risen sharply since 1977, far outpacing the growth in general tax revenues. Table 6 shows that current charges in major metropolitan areas grew by almost 29 percent between 1977 and 1979, or more than four times the rate of growth of tax revenues. A survey performed by the Joint Economic Committee (1981) of Congress estimates another 20 percent jump in city revenues from charges in 1980. This contrasts with less than 4 percent growth in local general taxes.

User charge revenues are highly concentrated in a few functional areas. For states, these are state universities and state hospitals; for local governments, hospitals, sewer and water systems.

**User Charges as a Budgetary Device in Periods
of Fiscal Constraint**

The economics profession has been attracted to user fees and prices because of their rationing ability. The existing fee structure plays this role most importantly in the human services by limiting entry to universities and hospitals. In other markets, user fees remain largely unexploited as rationing devices. They have not been used in the United States to relieve automobile congestion, for example, despite frequent recommendations for their use for this purpose.

The practical adoption of user fees has been motivated above all by budgeting considerations. In most government budgeting, it is the general tax support for a function that generates budgetary conflict. If a service function is able to reduce its net cost to the general taxpayer, through adoption of a fee schedule or a hike in existing fees, it stands a better chance of surviving a cutback period with its service responsibilities intact.

A more aggressive pricing strategy thus is a natural first response to fiscal pressure. Increases in tuition fees, sewer and water charges, and miscellaneous fees have become common throughout U.S. state and local government. Fee hikes to restrain demand for costly services have also occurred. Many states have adopted new copayment charges for Medicaid services, hoping that these will restrain growth in utilization rates. In several other states, federal courts have overturned even more stringent pricing policies for Medicaid services, on the grounds that these are inconsistent with federal law.

A similar budget strategy appears to have been followed in Great Britain. Glennerster (1980) reports that both the National Health Service and the Department of Educational Services were able to preserve their total service commitments in the face of budget reductions by increasing fee levels -- prescription and dental charges in the case of NHS; school meals prices, charges on school transport and other fees for education.

A special impetus to fees and charges in the U.S. has come from efforts to circumvent new limitations on revenues from general tax sources. Most of the formal tax limitations do not apply to revenues from user fees and charges. The most rapid growth in fees and charges has occurred in states with newly adopted tax limitations that exempt fees and charges from their ceilings.

In California, despite rapid action by the state government to increase state aid to localities, the immediate fiscal reaction was to raise user charges. Forty-three percent of California cities and 74 percent of California counties report that they increased the rates of older fees and charges or imposed new ones within five months of the passage of proposition 13 (see Table 7). Overall, higher fees and charges were projected to generate \$100 million in additional revenues for the localities in fiscal year 1979 during a period in which cities and counties were experiencing sizeable revenue losses from the property tax.

Similar interest in user charges has been stimulated in New Jersey since government spending lids imposed in that state in 1976 began to constrain government options a few years later. The evidence from that state shows that a number of the major

**Table 7 Increases in Fiscal Year 1979 Revenues
from Higher Rates of Fees and Charges
Enacted by California Cities and Coun-
ties between June 1 and November 1, 1978**

	Cities	Counties	Total
Business licence	\$11.7 (18%)	\$ 0.247 (7%)	\$ 11.9
Utility users	\$ 2.6 (2%)	\$ 0.0	\$ 2.6
Transient occupancy	\$ 3.3 (11%)	\$ 4.0 (12%)	\$ 7.3
Admissions	\$ 0.647 (1%)	\$ 0.015 (1%)	\$ 0.662
Property transfer	\$ 4.4 (1%)	\$ 0.0	\$ 4.4
Planning and development	\$20.9 (30%)	\$ 5.2 (52%)	\$ 26.1
Utility service charges	\$17.7 (18%)	\$ 2.4 (5%)	\$ 20.1
Park and recreation	2.5 (11%)	\$ 5.7 (10%)	\$ 8.2
Other	\$10.6 (10%)	\$ 9.6 (34%)	\$ 20.2
Total	\$74.3 (43% ^a)	\$27.2 (74%)	\$101.5

^a Because in many cases a city or county increased more than one kind of charge, percentages in each category, when combined, exceed overall percentage of jurisdictions raising fees.

Note: Figures in parentheses are the percentage of cities or counties which adopted increased rates of the charge or fee.

Source: Cal-Tax, Local Government Profile: A Post-Proposition 13 Survey of 405 Cities, 58 Counties and 69 Special Districts, Cal-Tax Research Bulletin, Sacramento, Calif., November 1978).

cities responded to spending lids by selling municipal facilities to private utilities, independent authorities or special districts. These sales shifted the facilities from general property tax financing to user charges, or special property tax assessments outside the CAP law. Special district property tax levies rose by 5 percent, 30 percent, and 10 percent annually during the first three years following the adoption of the lids in 1976, compared to 2 and 6 percent in the preceding two years, and compared to a nominal 5 percent ceiling on local budget growth (Beer, 1981).

The ultimate consequences of the impulse to greater application of fees and special districts are difficult to foresee at this juncture. Both measures change the nature of budgetary competition. A service provided by an independent authority, possessing an independent revenue stream, is well insulated from general budgetary adjustments. Peterson et al. (1981) have shown that water and sewer systems provided through independent authorities are maintained in better condition, have higher maintenance reinvestment rates, and higher user charges than systems that are operated as part of the general government budget. From the point of view of the individual service function, the separation of service responsibility therefore is likely to be beneficial. If there is reason to think that in the course of daily budgetary competition certain expenditures (like maintenance) tend to get postponed, an independent service district with full pricing authority may be in the public interest. Certainly, the use of special authorities and strengthened pricing mechanisms has been adopted as the central strategy of public capital revitalization in both the U.S. and Great Britain.

The budgetary rigidities introduced by user fees and special districts, however, also inflict costs on local government. They can make it difficult to recapture the budget as an expression of overall spending priorities. This is especially true in the United States, where much of state-local finance reform in the twentieth century has taken the form of freeing governments from the earmarking of revenues to specific purposes that formerly prevailed.

Finally, most public service pricing sets prices equal to average costs. In industries where there are declining marginal costs, such a pricing system moves away from economic efficiency. Water and sewer systems, with their large fixed costs, will operate at inefficiently low service levels and unnecessarily high costs when priced at average cost.

The Future of Public Pricing

Although public service priority pricing appears to be enjoying a surge of policy attention in the United States, pricing has not been used to a significant extent to create market analogs in the public sector. Only sewer and water systems and park and recreation facilities are commonly priced to recover full costs.

Most other pricing of public services has been adopted as a revenue measure. The pressure to diversify revenue sources, and lessen reliance on general taxation, has been intensified by the tax limitation measures adopted by many states.

In the future, the use of fees and charges to restrain demand for public services is likely to become much more important. Already, in reaction to federal budget cuts and tightened budgets of their own, states have begun to impose user fees and copayments on various types of human and social service programs. If federal regulations prohibiting copayment in health and other programs are relaxed, the use of pricing to limit demand (and hence costs) is likely to intensify.

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PART II

Great Britain

Fiscal Containment and Local Government Finance in the U.K.

by Peter M. Jackson

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INTRODUCTION

This paper examines the development of the fiscal containment movement in the U.K. Throughout the 1970s there was a growing demand from several quarters for tighter controls over public spending, reductions in tax rates (especially on personal incomes) and for balanced public sector budgets. Such demands have of course existed during earlier periods but what sets the 1970s off from the 1950s and 1960s is the fiscal context within which the fiscal limitation movement has operated. First, public expenditure constraints are today much more severe than they were in earlier years and second, the underlying philosophy, upon which the policies of the fiscal limitation movement are predicated, has changed. The prescriptions and policy outcomes of the 1950s/60s were essentially based upon Keynesian teaching whereas the more recent philosophy is monetarist in genre.

Not only are there interesting differences between the fiscal limitation movements of different time periods but important differences exist between different economies within the same time period. This point is seen clearly by comparing the chapters in this volume. The fiscal limitation movement in the U.K. employs a set of macro-economic arguments to substantiate the case for reduced public sector budgets whereas the arguments used in the U.S. literature are predominantly micro-economic. The reasons for this difference in emphasis are explored towards the end of this chapter. Essentially the micro-economic approach has not been pursued in the U.K. because of the weak role that demand factors seem to play, the lack of suitable data to test micro-theories and the diffi-

culties of testing public sector bureaucratic supply models.

In this paper the general trends in U.K. public expenditure are set out both for central (i.e. federal) government and local government along with the trends in taxation, public sector borrowing and public employment. Since it is one particular interpretation of these trends which has heightened the demand for fiscal limitation, care is taken to set out the logical foundations of the fiscal containment argument and to subject it wherever possible to empirical verification. Before the theoretical and empirical elements of the analysis are examined it is instructive to set down the prevailing policies in the U.K. as they relate to public expenditure and taxation.

The Gathering Storm 1970-1979

The demand for fiscal containment comes from a number of different sources. There are those who distrust bureaucracy in general and the public sector bureaucracy in particular. They wish to return decision-making to the individual, to expand the scope of his choice and liberty through a reduction in public service provision and an enlargement of the domain of the market place. Others have become sceptical about the impact and the success of public spending programmes upon the alleviation of poverty and other social problems. Then there are those who are concerned about Parliament's ability to control public spending programmes. They demand Parliamentary and administrative reforms which will ensure that voters' preferences are sufficiently well articulated within the system, and furthermore that they prevail,

whilst the scope of bureaucratic influence and discretion over the supply of public services be constrained. The issue of efficiency is also an element in the argument for tighter budgetary control. If the constraints on public budgets were more severe then it is assumed that waste would be eliminated. Finally, there is the question of the impacts of public spending, taxation, and borrowing upon private sector decisions and inflation. If, as some believe, increases in these public sector magnitudes have adverse net effects upon social welfare then there is a case to be made for constraining them.

Stated in this way there exists a strong set of a priori arguments for public spending restraint coupled with balanced budgets. During the 1970s successive U.K. governments became increasingly persuaded by these arguments. Faced with a Sterling crisis, an inflation rate of 28% per annum and a loan from the IMF conditional upon public spending cuts being made, the Labour Government of 1976 began to roll back the public sector. James Callaghan, then Prime Minister, made his famous speech to the Labour Party conference in 1976 which indicated the first move towards fiscal containment:

"We used to think you could spend your way out of a recession, and increase employment by cutting taxes and boosting Government spending. I tell you in all candour that that option no longer exists, and that insofar as it ever did exist, it only worked by injecting a bigger dose of inflation into the economy, followed by a higher level of unemployment as the next step. Higher inflation followed by higher unemployment."

The process was completed in May 1979 with the election of a fiscal containment government. In

their first Public Expenditure White Paper of November 1979 (Cmnd 7746) the Conservative Government set out its broad economic strategy, which was;

"to bring down the rate of inflation and interest rates by curtailing the growth of the money supply and controlling Government borrowing; to restore incentives; and to plan for spending which is compatible both with the objectives for taxation and borrowing and with a realistic assessment for the prospects for economic growth."

The whole policy was predicated upon a straightforward belief that, "public spending is at the heart of Britain's present economic problem", because, "high government borrowing has fuelled inflation, complicated the task of controlling the money supply and thus denied the wealth creating sectors some of the external finance they need for expansion."¹

When the economic history of the 1970s comes to be written, it will record that a number of powerful pressure groups managed to win control over the intellectual framework within which economic policy-making in the U.K. is formulated. In the main these interest groups were found in the financial institutions of the City -- bankers, stock-brokers, and financial journalists. Their model of how the economy works is essentially monetarist in genre and was given support from the work of the "new classical" supply side economists and the mainstream monetarists. Just how this group managed to take over remains to be studied; a number of indicators point, however, to a plausible interpretation. The inflation of the 1970s, caused primarily by factors which lay outside the control of any government,² resulted in the breakdown of the

basic economic relationships which had characterised the U.K. economy in earlier years.³ This breakdown was interpreted by many as evidence that Neo-Keynesian economics was bankrupt and that policies based upon such thinking would fuel inflation and push the economy deeper into recession.

The fiscal containment movement seized the opportunity established by this combination of events to advocate a reduction in the relative size of the public sector.

THE THEORETICAL FRAMEWORK

The previous section outlined the basic philosophy which developed during the 1970s and which culminated in the election of a fiscal containment government in 1979. This philosophy reflected a particular model of the economy and it is to this we now turn. The questions which interest us are, (a) what a priori reasoning culminates in the policy prescriptions that public expenditure and taxation should be constrained; and (b) is there any evidence to substantiate such claims?

Until recently it was generally assumed that net fiscal multipliers were positive. This result was, however, challenged by Andersen and Jordan (1968) on empirical grounds. The thrust of their argument was that the long run net fiscal multipliers were at best zero and in some cases could be negative. Such observations clearly challenged the whole basis upon which expansionary fiscal policies had been predicated and gave rise to a series of works which addressed themselves to the question, "does fiscal policy matter"?⁴

The best way of tackling this issue is to consider the answers to the following question, "given that any increase in public expenditure has to be financed out of increases in taxation, public sector borrowing or increases in the money supply, what impact do these financing instruments have upon the level of economic activity and hence upon the net effects of a budget expansion"? The answer given by the traditional Keynesian is that there will be some expansion in income (output) brought about by the increase in public spending. Conceivably the expansion will generate sufficient resources (i.e. tax revenue or savings) to finance the budgetary expansion; but if not, other types of financing should be used. On the other hand, monetarists and supply side economists would argue that a tax financed budget expansion will be accompanied by disincentive effects in the labour and capital markets which will counter any expansion in real output brought about by the increase in public spending. Moreover, a bond financed budget deficit will, it is claimed, increase interest rates and "crowd out" private investment thereby constraining any expansion in real output. Thus, for these reasons governments should balance their budgets and reforms should be introduced to the fiscal constitution to limit the extent to which vote maximizing governments can raise taxes.⁵

We now turn to each of these arguments and explore them in greater detail.

Monetarism

Monetarists have for some time debated whether or not an increase in the nominal money supply re-

sults in an increase in the rate of inflation. This controversy remains unresolved (see Hahn, 1980a and b; and Kaldor, 1980). Despite its contentiousness the link between increases in the money supply and prices form one of the central tenets in both the U.K. fiscal containment movement and in official policy. The argument runs as follows. Assuming no change in taxation, increases in public spending are financed out of increased public borrowing or increases in the money supply. Either way, the temporary expansion of output raises the actual expected rate of inflation, and eventually promotes a wage-price explosion. Ultimately the wage-price explosion generates enough uncertainty and/or instability so that output and employment will fall. Thus, instead of expanding real output and employment a budget deficit will, in the medium term, cause a reduction in the level of economic activity through its impact upon inflation and expectations.

Whilst such an a priori account is plausible this is insufficient for its adoption as a reasonable description of the behaviour of the economy. It must be demonstrated that the account is empirically validated. This has not been done so far. A statistically significant link cannot be found between changes in the money supply or the public sector borrowing requirement and the inflation rate (see Kaldor, 1980). This is not too surprising given that it is only that part of the public sector's deficit which is monetized through the banking system which would impact on the money supply.⁶

Supply Side Arguments

Alongside the monetarist's argument there are what has come to be popularly known as "supply side" considerations. In brief, supply side economists examine the impacts of the public sector financial instruments (i.e. taxes and borrowing) upon market prices and hence upon resource allocation and long run real income determination. The elements of these issues can be gathered together under two headings (a) the disincentive effects of taxation and (b) the crowding out of private sector activity by the public sector.

(a) Disincentive effects of taxation: As far as the disincentive effects of taxation are concerned, the foundation of the arguments are very straightforward and are well documented in the standard public finance literature. An increase in the marginal rate of income taxation, for example, will change the relative prices of work and leisure. Whether or not the income or the substitution effect following that relative price change is the stronger will determine the existence, or otherwise, of a disincentive effect. A similar analysis is used to study the effects of other direct and indirect taxes upon consumption, savings and investment decisions.

Whilst the analysis is unambiguous the central issue from the perspective of policy making is an empirical one. Do disincentive effects exist in practice? To date the evidence comes down strongly in favour of the presence of a small but statistically significant incentive effect for the personal income tax in the U.K. (see, Atkinson and Stern, 1980; and Atkinson, 1980). This result is of importance to those policy makers whose philo-

sophy of fiscal containment is based upon the belief that disincentive effects do exist. The empirical evidence limits their case. However, it must be emphasised that our empirical knowledge about the effects of tax changes is extremely limited.⁷

(b) Crowding Out: The second strand to the supply side argument is summed up in the issue of "crowding out". Crowding out refers to the displacement of private sector activity by the public sector. It can take one of two forms, (a) real resource crowding out or (b) financial crowding out. Neo-Keynesians believe that real resource crowding out can only take place at full employment. In a zero-sum situation the public sector can only expand if there is a corresponding decline in private sector expenditures. Economists such as Bacon and Eltis (1976), however, have argued that the growth in the relative size of the public sector has absorbed real resources (particularly capital and labour) which has constrained the growth of the "productive" or "wealth creating" private sector of the economy. According to this view real resource crowding out will take place at less than full-employment. Moreover, if the underlying growth rate of the economy is to be increased, resources must be released from the public sector and returned to the private sector. This increase in growth, it is claimed, is necessary to finance any future growth in the public sector.

Interpretation of the financial crowding out arguments depends upon which theory of interest rate determination one subscribes to and how elastic private sector investment is to changes in interest rates. The popular view of financial crowding out can be stated in the following simple terms.

In order to finance its deficit the government has to offer bonds for sale to the general public at a price which will make them attractive. Price discounts on government bonds force up interest rates and the hike in interest rates will halt marginal private sector investment programmes. Thus, the expansionary effects of the public sector deficit will be constrained by the contractions caused by the fall in private investment. A bond financed public sector expansion, even at less than full employment, will have a small (perhaps even zero) impact on levels of real output and employment.

Whilst Neo-Keynesians have always recognised the existence of financial crowding out in some measure, the fiscal limitation movement argues that the financial crowding out effect is large. They insist that the increase in interest rates has been brought about by the need to finance a rapidly expanding public sector borrowing requirement and that the ensuing increase in interest rates has been responsible for the massive cut-back in private sector investment intentions. In other words, in this model interest rates are determined simply through the mechanisms of demand and supply in the money and capital market. Given that there is a limited supply of funds for investment if the public sector increases its demand then the price of these funds (interest rates) must increase. If the public sector is inelastic in its demand for finance but private sector demand is elastic, then the public sector will crowd out the private sector in the capital market with the result that the composition of final output will also change.

The policy prescriptions which follow from this view of the economy are that if the level of interest rates is to come down and thus private

investment expand, the public sector borrowing requirement must be reduced. This in turn requires a reduction in public expenditures, assuming that taxes are not to be increased.

There are, however, a number of controversial elements within this simple view of the economy which must be balanced up against an alternative perspective. First, in contrast to the above description of interest rate determination many believe that the current high level of short-term interest rates in the U.K. are due to the tight monetary policy which the government is pursuing. In addition the current high rates of inflation will be reflected in high nominal interest rates. Long term interest rates are determined by the way in which investors choose to hold their stock of wealth. This, in turn, depends upon uncertainty and the way in which individuals form their expectations. Thus, interest rates are not uniquely determined by the imbalances between the demand and supply of the stock of different financial assets as was claimed in the simple model. Instead, we need to add a number of other explanatory variables such as uncertainty, expectations of future interest rates and expectations of future rates of inflation. The rate of interest is the price paid for parting with liquidity whilst at the same time being a reward for saving. The more uncertain is the return on an asset the higher will be the rate of interest required before individuals will hold it in their portfolios. Long term assets will, therefore, have higher returns than short term assets because of the greater uncertainty associated with the long-run. The willingness to hold an asset depends crucially upon expectations.

It would, however, be a mistake to believe that dealings in financial markets are carried out directly by individuals. By far the major proportion of such transactions are carried out on behalf of individuals by the large financial institutions such as the pension funds and the insurance companies. Because so much of the wealth of a community is held indirectly by the financial institutions the community's liquidity preference is to a large measure determined by the preferences and expectations of these financial institutions. During periods of high and variable inflation, such as prevailed in the U.K. during the 1970s, the financial institutions have faced greater uncertainty. They have responded to this environment by keeping their options open through investing at the short-end of the market thereby keeping their balance sheets liquid. Political speeches demanding fiscal restraint coupled with the general monetarist climate have added to their uncertainty with the result that funds have been brought forward and held in government stock. It is not, therefore, just the price of government stock which has increased demand for it. Uncertainty has also played a vital role.

The second embellishment to the simple model of interest rate determination relates to the supply of funds for investment. Government can only run a deficit if there are surpluses elsewhere in the economy. During the 1970s the U.K. personal sector increased its savings rate⁸ from an annual average of 8.75% during the 1960s to 14% during the 1970s (see Coghlan and Jackson, 1979). This increase was in part due to inflation but uncertainty and increases in real disposable incomes also played a role. The rise in the savings rate would, of course, have been deflationary unless there were

compensating increases in investment (public or private). Private sector investment was, however, depressed because of the general recession and gloomy expectations. In the absence of the private sector expanding its investment, the additional funds created by the increase in personal sector savings were available to the public sector to finance its deficit without crowding out the private sector. Moreover, the expansion in public spending could be self financing in the medium-term due to the rise in real incomes, savings and tax revenues.

Thus, the observed high cost of capital is due to inflation and uncertainty. An increase in public sector borrowing does not, therefore, necessarily imply an increase in the real cost of capital. It might be a contributing factor amongst others. The problem is to identify how much of the increase in nominal interest rates is due to public sector borrowing. This empirical problem has not yet been solved.

Third, high interest rates also reflect a tight monetary policy. This point is frequently forgotten by monetarists. A tight monetary squeeze can cause crowding out. If the stock of money is held down relative to its demand this will force up short-term nominal interest rates. Under a system of floating exchange rates the exchange rate will rise. The increase in nominal interest rates will place a strain on industry cash flow especially for those sectors of industry which are faced with problems of stock appreciation, caused by the inflation, and which compete in export markets or which face an elastic demand for their final product and high money wage demands. The combined effect of these impact is to affect expectations adversely and to precipitate bankruptcies.

Emphasis upon controlling the money stock gives rise to a loss of control over interest rates which increases the uncertainty of future real and nominal rates. This uncertainty is exacerbated by high and variable rates of inflation. If interest rates are uncertain then so too are gilt edge security prices which means that their yield has to be much higher. Once again, it is uncertainty which forces up the cost of capital. In this case the high interest rates have been caused by the tight monetary policy.

Finally, the crowding out thesis assumes that private sector investment is highly interest elastic with interest rates being its principal determinant. What is the status of the evidence to substantiate such a claim? Recent evidence presented to the Wilson Committee⁹ demonstrated that the influence of financial factors on private sector investment is difficult to establish empirically. Whilst there are strong theoretical reasons to believe that financial factors do influence investment, much of the econometric research in this area has been inconclusive. The primary financial influence that would be expected to play a role is the cost of capital which depends upon a number of factors, including interest rates and expectations of inflation, and on how the funds are raised (whether by borrowing, retentions or new equity issues). Changes in the cost of capital can significantly affect the profitability of an investment but this, in turn, is also affected by tax rates and investment subsidies. Investment decisions, however, also depend upon non-financial factors such as the current level of capacity utilization and businessmen's expectations of the future growth of the volume of their sales.

Existing empirical evidence¹⁰ is inconclusive but it does suggest that the dominant influence on investment is the general macro-economic climate. That is, businessmen will invest when they think it will be profitable to do so. The econometric evidence suggests that expectations of the profitability of investment are related to changes in the level of output in the previous two years. It has proved difficult in these empirical studies to determine the importance of the influence of financial factors on investment. In practice the cost of capital is a difficult concept to measure. Results will, therefore, tend to be sensitive to the measure employed. In summing up their survey of investment studies the U.K. Treasury, in their evidence to the Wilson Committee, concluded that, "... we think that whilst the major influence on investment will generally be the expectation of output and sales growth financial factors can at times be important". The empirical evidence does not, therefore, exist to support one of the main pillars of the fiscal containment argument.

The essential lesson from this debate is that increased uncertainty has caused an increase in the long run cost of capital. Moreover, because of inflation, high and variable nominal interest rates, a high exchange rate and a world recession, the risks facing U.K. businessmen in the 1970/80s are much greater than those which they faced in earlier periods. Faced with this uncertainty lenders look for investments which are less vulnerable to inflation such as equities or property. Thus, bond prices must fall and interest rates must rise if individuals are to hold bonds. Inflation, however, also forces up the expected rate of return on equities. Unless profits keep up with inflation then dividends will not. The greater is

the variability of inflation the greater is the uncertainty of profits and dividends. Moreover, businessmen will not wish to issue fixed interest debt (e.g. debentures) during periods of high inflation since the future debt charges will be a burden. It is inflation and the uncertainty which it generates that forces up the cost of capital and depresses investment intentions.

In conclusion to this section, the fiscal containment movement in the U.K. is based upon the assumption that strong disincentive effects of taxation exist; that increases in the public sector borrowing requirement (PSBR) cause increases in the money supply and hence increase the rate of inflation and that private sector investment which is highly interest elastic is crowded out by public sector borrowing. Their policy prescriptions are that if inflation is to be reduced and economic growth increased then it is essential that taxes and public deficits be cut. This requires reductions in public spending. But there are alternative views of how the economy operates and there is very little empirical evidence to support the views of the fiscal containment movement.

THE GROWTH OF THE PUBLIC SECTOR

The public sector in the U.K. has grown both in absolute and relative terms over the period 1960-1979. In 1960 total public expenditure amounted to £8.9 billion. It had increased to £84.9 billion by 1979. Changes in the absolute size of public expenditure are meaningless unless set against changes in other variables such as prices, population or incomes. In Table 1 public expenditure is shown as a percentage of GDP (at market prices)

**Table 1 U.K. Public Spending as a Proportion
of GDP 1960-1979**
Market prices

	1960	1970	1975	1979
1. Total public spending	35.0	41.0	49.5	44.8
2. Current expenditure on goods/services	16.5	17.6	22.0	20.2
3. Capital expenditure on goods/services	3.5	4.8	4.8	2.8
4. Current grants and subsidies	8.4	10.6	13.7	14.4
5. Capital transfers	0.3	1.6	1.1	1.0
6. Debt interest	4.0	4.0	4.0	4.7
7. Net lending ^a	2.0	2.4	3.6	1.7

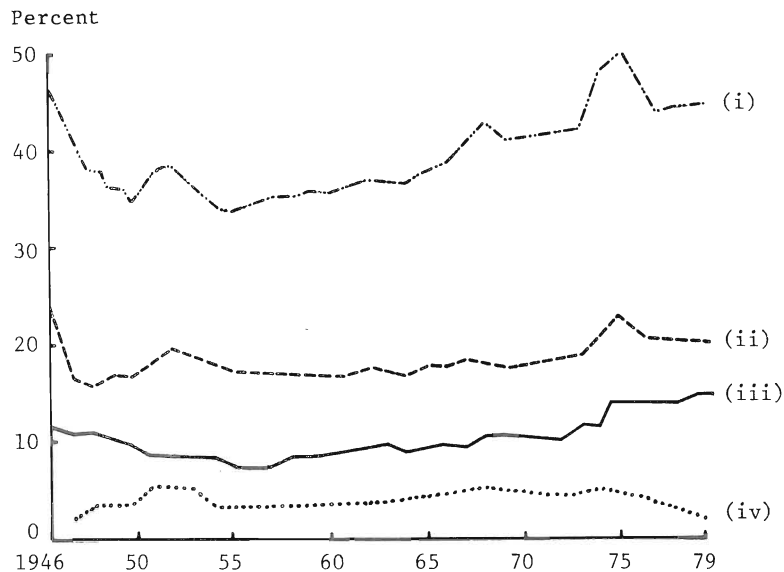
^a Net lending is included as an element of total public spending because it has to be financed through the exchequer's funds.

Source: National Income and Expenditure (HMSO); various years.

and in Figure 1 the growth in the relative size of public expenditure and its components is set out for the period 1946-1979.

Table 1 shows that the public sector's relative share of GDP has increased from 35% in 1960 to a peak of 49.5% in 1975. This does not, however, necessarily imply, as many commentators have suggested, that the public sector has absorbed an increasing share of the nation's resources, thereby crowding out or constraining private sector growth. In order to find out if this did happen it is necessary to break public expenditure down into its constituent parts. The resource element of public expenditure is shown in the national income accounts as expenditure on goods and services. Current account expenditure on goods and services represents the public sector's consumption of

Figure 1 U.K. Public Expenditures as % of GDP
Market prices



Notes: (i) Total public expenditure as % of GDP
(ii) Current expenditure on goods and services as % of GDP
(iii) Transfer expenditures as % of GDP
(iv) Capital expenditures as % of GDP

labour services and physical materials whereas capital account expenditure on goods and services refers to the public sector's consumption of capital goods. Taking the current and capital accounts together the public sector absorbed 19.8% of GDP in 1960. This increased to 23% in 1979.

The principal source of public sector growth in the U.K. has been in transfer payments. Since transfer payments are not part of GDP including them in the total of public expenditure tends to distort the ratio of public spending to GDP, since the limit to the ratio is no longer 100%. The in-

crease in transfer payments is shown in Table 1 and Figure 1. As a proportion of GDP transfers rose from 8.4% in 1960 to 14.4% in 1979. This growth is accounted for partly by long run demographic changes such as the number of pensioners within the population who are eligible for state pensions. But it has been the inflation of the 1970s along with rising levels of unemployment which has accounted for the recent rapid growth. Unemployment compensation payments increased in the 1970s as the real level of unemployment benefits rose and as the levels of unemployment increased. In 1960 326,000 persons (1.5% of the labour force) were unemployed. This had increased to 1,344,000 (6%) in 1979 and now stands at 2.5m in mid 1981. This larger number of unemployed received in 1979 unemployment benefits which were much higher in real and nominal terms compared to those paid in 1960. Thus the money value of these transfers as a percentage of GDP shot up.

Another factor which contributed to the growth of transfer payments was the policy decision of the 1975/76 budget to suppress inflation by subsidizing prices. Price subsidies were increased on commodities such as fuel, food, heating, transport and housing and local government property tax rates were heavily subsidized. Finally it can also be seen in Table 1 that the public sector's net lending to the private sector also rose during the mid 1970s. This illustrates the point that the public sector does, on occasions, borrow on behalf of the private sector. In this case it borrowed in order to support those industries, such as the U.K. motor industry, which were badly hit by the recession.

Public sector capital spending as a proportion of GDP has shown a decline since 1974 (see Figure 1). This reflects successive governments' use of capital spending to control public spending since it is politically more acceptable to delay planned capital programmes than to make public employees redundant or to control their wages and salaries.

From the above comments it is readily seen that ratios of public expenditure to GDP are ambiguous magnitudes which must be interpreted with care. Not only is it necessary to separate out public expenditure on resources from expenditures on transfer payments, it is also important to define the national income concept being used (i.e. is it net or gross and is it measured at market prices for factor cost?) and to distinguish between short run changes in the ratio and long run changes. In the short run the ratio might rise, not because public expenditure has deviated from trend, but because GDP falls. This is what happened in the mid 1970s in the U.K. Between 1973 and 1975 real GDP fell by 2.9%. The ratio of public expenditure to GDP, therefore, shot up and was interpreted at the time as an indication that public spending had exploded and was out of control. Between 1973 and 1975 general government final consumption (at constant 1975 prices) rose by 7.5% which was on trend. Moreover, transfer payments especially on unemployment compensation increased as the economy moved into recession. The combined effect of these movements was to show a rapid short run increase in the ratio of public expenditure to GDP, (see Figure 1).

There are other reasons why interpretation of the government expenditure ratio is problematic. These arise from differences in the price bases upon

which public expenditure and GDP are measured. In this context it is important to distinguish between relative price changes and absolute price changes. The former has been discussed at length by Baumol (1967) -- see also Jackson and Ulph (1973). Public expenditure represents government's purchase of inputs whilst GDP is a measure of expenditure on final output. This means that any productivity gains accruing to the public sector are automatically assumed to be zero in the national income accounts. Thus the relative prices of public inputs will rise faster than the prices of final output, because productivity gains are more fully accounted for in the private sector. If the public sector's share of final output remains constant it can be shown that its share in expenditure terms will rise (see Jackson, 1979).

When it comes to inflationary impacts on the public sector it can be shown that the inflation rate facing the public sector is higher than that for final output. This is because of the labour intensity of public services and because public sector input price rises cannot be set off against reduced profit margins.

Some of the price effects can be eliminated by revaluing public expenditure on goods and services and GDP at constant prices. This is shown in Table 2. The ratios in Table 2 give a clearer indication of the public sector's consumption of real resources.

It is readily seen from Table 2 that the public sector's share of the economy's real resources declined over the 1970s especially on capital account. This weakens claims that real resource crowding out took place.

Table 2 U.K. Public Sector Consumption of Real Resources. Percent

	1970	1975	1979
Current expenditure	20.3	22.0	21.2
Capital expenditure	5.9	4.8	2.9
Total	26.2	26.8	24.1

Note: The figures show the ratios of public expenditure to GDP both deflated by appropriate indices with 1975=100.

Source: National Income and Expenditure; HMSO, 1980.

LOCAL GOVERNMENT GROWTH

Local Government Spending

Local government expenditure in the U.K. accounts for about one third of total public expenditure. This proportion is, however, variable. The increase in local government's share of total public spending from 27% to 33% between 1960 and 1970 reflects the decline in central government spending on defence, whereas the subsequent decline in local government's share from 33% to 29% between 1975 and 1979 is due in part to increased control over local capital spending programmes and also the increase in central government spending on transfers.

As a share of GDP, local government expenditure has shown a similar degree of variability (see Table 3). The qualifications about interpreting this ratio have already been discussed. In the case of local government spending it should be remembered that a smaller proportion of expenditure is on transfer payments. These transfer payments are primarily subsidies on housing and trans-

**Table 3 U.K. Local Public Expenditure Ratios
1960-1979**

All are shown as % of GDP at current market prices

	1960	1970	1975	1979
Total local government spending	9.3	13.4	16.1	12.9
Local exhaustive public spending ^a	7.8	10.6	11.8	10.0
Local government capital spending	2.6	3.7	3.7	2.0

^a Capital and current spending.

Source: as for Table 1.

port, grants to the personal sector in the form of scholarships and grants to universities, colleges etc. and rent rebates and allowances. Taking out these transfers we can see from Table 3 that local government exhaustive expenditures (i.e. on real resources) have been relatively stable during the 1970s as a share of GDP. It is seen once again that much of the increase in the relative share of local public spending was due to transfer payments.

Capital spending in the U.K. economy has, throughout the period 1960/80, remained relatively constant at 17% of GDP. In 1960 22% of total capital spending was carried out by the public sector (excluding the nationalised industries and public corporations). This had fallen to 15% by 1979. Within the total of public sector capital spending local government accounts for about 70% of it. In recent years there has been a slowing down in local government capital spending. This has, in

part, been due to the general control over public capital programmes but it has also been due to the completion of massive housebuilding, school building and road building programmes which were started during the 1960s.

The composition of local government current expenditure is set out in Table 4. The relative shares of the functional categories of current expenditure have displayed great stability since 1960. One element, however, which has increased considerably is grants to the personal sector. This has been due to the increase in rent rebates since 1974, which rose from £5m in 1974 to £197m in 1979. The increase in rent rebates reflects policies which have responded to the high inflation and increased levels of unemployment, especially in central city areas.

One statistic which is of interest and which will be developed later in this paper is the size of the surplus on current account. Whilst local governments in total have run a current account surplus it has not kept pace with inflation. In 1960 the surplus was 20% of current expenditure. This had fallen to 11% in 1970 and was 7% in 1979. Since the surplus on current account is an important source of finance or capital spending its reduction could imply that a larger proportion of capital expenditure has been financed from borrowing.

Local government capital expenditure is set out in Table 5. Over 90% of capital spending is allocated to fixed investment. The remainder represents capital grants to the personal sector (mainly for house purchase) and net lending to the private sector. There is a structural break in Table 5

Table 4 Composition of Local Government Current Spending (U.K.)

	1960		1970		1975		1979	
	£m	%	£m	%	£m	%	£m	%
Current expenditure on goods/services	1357	79	3627	74	9776	75	15492	75
Education	655	38	1742	35	4809	37	7012	34
Environment	145	8	415	8	826	6	1457	7
Police	116	7	337	7	829	6	1593	8
Roads/Lighting	127	7	261	5	578	4	956	5
Housing subsidies	31	2	118	2	213	2	332	2
Current grants to personal sector	40	2	159	3	416	3	936	5
Debt interest	287	17	1037	21	2333	18	3451	17
Total current spending	1715	100	4941	100	12982	100	20573	100
Balance: Current surplus	245		533		1155		1351	
	1960		5474		14137		21924	

Source: as for Table 1.

Table 5 **Composition of Local Government Capital Spending (U.K.)**

	1960		1970		1975		1979	
	£m	%	£m	%	£m	%	£m	%
<u>Capital Account</u>								
Fixed Investment	604	92	1819	96	3755	97	3641	93
Housing	255	39	735	39	2038	52	1747	45
Education	114	17	288	15	556	14	472	12
Roads	54	8	235	12	372	10	357	9
Environment	101	15	277	15	354	9	453	12
Capital grants to personal sector	13	2	30	2	75	2	134	4
Total capital spending	659	100	1886	100	3882	100	3871	100
Balance: Financial surplus			-1263		-2525		-2194	

Source: as for Table 1.

which makes difficult the interpretation of the shares of capital spending by the various functional categories. In 1972/73 water, sewerage and sewage disposal services were transferred out of local government control. This accounts for the reduction in environmental capital spending and the apparent increase in the proportion spent on housing.

Local Government Labour Market

Local government services are typically labour intensive. To understand changes in current expenditure on goods and services it is, therefore, necessary to understand the behaviour of the labour markets faced by local governments. This is an under-researched area in the U.K. and work has only just started on it. A number of general remarks can, however, be made.

The degree of labour intensity of different local government services is shown in Table 6. Services

Table 6 **Ratio of Payroll Expenditure to Total Current Expenditure.** Percent

	1970	1979
Education	85	94
Housing	1	5
Environmental services	48	76
Law and order	94	96
Personal social services	78	95

Note: Payroll expenditure includes employer's contribution to National Insurance and superannuation schemes.

have become relatively more labour intensive throughout the 1970s.

Employment by local government has increased both in absolute terms and as a share of total employment (see Table 7). This growth in employment has taken place mainly in the education, health and social services departments (see Table 8). Again care must be taken when interpreting these data. Much of the increase in local government employment has taken place amongst part-time employees, especially females. Table 9 shows the growth in female part-time employment in local government. Recent attempts to understand these trends suggest that the public sector offered white collar service type jobs which provided flexibility in hours and which were demanded by women re-entering the labour force (see Jackson, 1978 and Wilkinson and Jackson, 1981). Much of the growth in the public sector during the 1960s and early 1970s was accommodated by the availability of this type of labour.

Table 7 Employment by Sector, U.K.^a

	<u>Private sector</u>		<u>Public corporations</u>		<u>Central government</u>		<u>Local authorities</u>	
	No.	%	No.	%	No.	%	No.	%
1961	18614	76.1	2200	9.0	1773	7.2	1870	7.6
1964	19012	76.2	2079	8.3	1771	7.1	2088	8.4
1967	18592	74.4	2164	8.7	1872	7.5	2364	9.5
1970	18264	73.8	2025	8.2	1905	7.7	2559	10.3
1973	18194	72.9	1890	7.6	1998	8.0	2890	11.6
1976	17448	70.5	1980	8.0	2315	9.3	3022	12.2
1978	17545	70.4	2061	8.3	2309	9.3	3013	12.1

^a Figures show the number of persons (in thousands) and the percentage of the employed labour force working in each sector; no allowance has been made for the effects of part-time working.

Source: Gazette Nov. 79, pp. 99-104.

Table 8 Local Authority: Employment by Major Departments. Great Britain

Thousands

	Education Department		Health & Social Services	Con- struction	Transport	Police	Others	Total
	Teachers	Ancillaries						
1952	318	139	116	70	103	72	630	1448
1955	349	149	136	70	96	74	641	1515
1958	381	171	152	93	96	80	653	1626
1961	427	339 ^a	170	103	90	84	545	1755
1964	485	416	200	124	87	90	565	1964
1967	544	497	239	135	82	98	616	2212
1970	608	596	264	128	51	103	635	2386
1973	713	681	315	130	39	112	709	2699
1976	742	781	320	166	32	121	708	2870
1978	743	772	335	157	30	120	701	2858

^a Includes school meals staff from 1961 onwards.Source: Gazette (various edns) and unpublished data from the DE.

Table 9 Local Authorities: Employment by Status and Sex. Great Britain. Thousands

	Part-time employees		Female employees		Part-time female employees		
	No.	% of total	No.	% of total	No.	% of PT employees	% of all employees
1952	255	18.6	604	43.9	211	82.6	15.3
1955	292	20.3	651	45.2	240	82.1	16.7
1958	339	22.0	714	46.2	279	82.2	18.1
1961	404	24.2	791	47.3	333	82.4	19.9
1964	508	27.1	908	48.5	419	82.5	22.4
1967	622	29.4	1070	50.7	520	83.6	24.6
1970	745	32.6	1231	53.9	629	84.4	27.5
1973	884	34.2	1446	55.9	748	84.6	28.9
1976	964	35.1	1605	58.4	859	89.2	31.3
1978	975	35.6	1622	59.3	884	90.7	32.3

Source: Gazette (various edns) and unpublished data from the DE.

What about wages and salaries in the public sector? Have these risen much faster than earnings elsewhere in the economy, thereby attracting labour into public services and expanding the relative size of the public sector? Again, it is only tentative evidence which can be offered. Comparing wages and salaries in the public sector with those in the private sector is rather a complex exercise in the U.K., since there is seldom a comparable private sector group. It is possible, however, to compare movements in the wages and salaries of particular groups of public sector workers with the changes in the average wage rate for the economy as a whole. These comparisons are set out in Table 10.

All groups of workers have done better than changes in the retail price index. Real incomes have, therefore, increased throughout the economy as a whole. Teachers, representing a strong professional group, have done better than the average as one would expect, whereas social workers appear to have lagged behind in the late 1960s, caught up in the early 1970s, but lost ground again recently. Police pay has been close to the average throughout. Each series does, however, show periods in which public sector pay lagged behind that in the private sector, a narrowing of differentials and

Table 10 Public Sector Salary Indices 1962-1977
Index 1962 = 100

	Retail price	Private sector Wage rate	Teachers Wage	Social workers Wage	Police Wage
63	102.1	103.7	110.5	102.8	102.4
64	105.5	108.7	-	105.6	112.9
1965	110.6	113.4	128.1	109.8	-
66	114.9	118.6	-	-	-
67	117.8	123.2	-	120.3	123.4
68	123.3	131.3	-	125.1	129.8
69	129.9	138.3	150.9	130.1	134.9
1970	138.2	151.9	171.9	152.3	145.0
71	151.2	171.5	185.1	201.8	175.6
72	161.9	195.2	206.8	220.7	201.8
73	176.8	221.9	229.1	236.6	218.5
74	205.3	265.8	254.2	268.9	263.2
1975	255.2	344.2	395.3	364.6	387.1
76	297.3	410.6	450.0	408.2	408.1
77	344.3	437.4	473.2	428.6	447.6
78	372.5	499.0			
79	422.4	573.4			

Source: Compiled by the author.

then an adjustment. This is readily seen in the case of teachers. Their salaries lagged behind in the 1970s, especially in 1974. The Houghton Committee of that year recommended massive increases in teachers pay, which increases were implemented the following year.

The movements in public sector pay do not suggest that they led the private sector. However, large increases in wage rates in any single year will have significant impacts upon local government budgets. Almost all labour is unionised amongst local government groups. Whilst these unions are strong they have not until very recent years been militant. Moreover, they had to contend with a variety of incomes policies throughout different phases of the 1970s.

Local Government Capital Market

Local government capital spending is financed from three principal sources, (a) the surplus on current account (b) specific and general capital grants from central government and (c) borrowing. The proportions are shown in Table 11.

In general local authorities have managed to have a surplus on their current account each year. Although this surplus has not increased in proportion to current expenditure it has nevertheless financed an increasing share of capital expenditure. This is due to the decline in the volume in capital spending which has had to be financed. The greatest part of capital spending is, however, financed from local authority borrowing which contributes to the overall public sector borrowing requirement.

Table 11 Sources of Capital Finance
Percent

	1970	1975	1979
Surplus on current account	25.0	30.0	35.0
Capital grants	8.0	5.0	8.0
Borrowing	67.0	65.0	57.0
	100.0	100.0	100.0

Only part of the local authorities' borrowing is raised on the open market, the remainder is obtained from loans received from central government. In 1979 local government borrowing from the open market was £1768 million or 14% of the total public sector borrowing requirement. There is no distinct pattern to local authority borrowing during the 1970s. All that can be said is that it has been much higher than in earlier periods and more variable.

Determinants of Expenditure

A number of factors have contributed to the growth in the absolute size of both real and nominal local government expenditures. These will include long term demographic factors such as increases in the school age population; real income changes, changes in the labour intensity of services and improvements in the relative (and money) wages of local public sector employees. A complete model of expenditure growth would need to incorporate these factors. For example, according to Wagner's Law the demand for public services is income elastic which implies that over time the absolute level of

real public expenditure will rise and moreover so too will the relative size of the public sector. An increase in real incomes, especially if the tax system is progressive, will generate the resources necessary to finance an expansion in public services. However, as Baumol (1967) has demonstrated the implied relative prices of public services will tend to increase over time. Thus, an expansion of real public services and public expenditures requires that the income elasticity of demand for these services be greater than the price elasticity (Jackson and Ulph, 1973).¹¹

Within this model of the determination of the public sector budget constraint there is a variety of alternative specifications of the decision-making process whereby public expenditures are determined through choices of public output levels. These include a social welfare function approach; a median voter approach; an incrementalist specification; or a bureaucratic approach. In practice the decision-making process includes elements of each. Budgets are history dependent in the sense that a large proportion of resources are locked into activities which have been determined by earlier decisions. Adjustments, therefore, take place at the margin (the increment) but these adjustments are cumulative which means that substantial changes to the content of programmes can be observed over time. When making adjustments at the margin there is an interplay between a number of agents in the decision-making process. These include politicians, pressure groups, and bureaucrats. The power of bureaucrats within the decision-making system and the degree of bureaucratic inertia is a function of the control system, (see Jackson, 1981) and the degree to which voters' demands are expressed and represented within the political system.

Whilst exogenous factors such as demographic changes and real income changes are likely influences upon public expenditures, we need to understand why decision-makers respond to these changes in the way they do. For example, an increase in pupil numbers could be accommodated by increasing class sizes. What is actually observed is the outcome of a series of decisions about what are desirable and feasible class sizes (and hence the demand for teachers and classrooms); the appropriate teaching technology (demand for other teaching inputs); and teachers' salaries. Responses to exogenous changes are, therefore, the outcome of a series of adjustments which can take into account political factors such as voter's response to the outcome of the decision. To the extent that voter's responses are weak, the discretionary powers of politicians and bureaucrats are enhanced. Whose interests are then served by local fiscal decisions becomes a complex issue in empirical political economy.

An understanding of the process of public expenditure determination is important to understanding the likely consequences of increased control over that expenditure. How do local politicians and bureaucrats respond to demands for expenditure restraint? Whose interests do they serve (implicitly or explicitly) when they respond? How much scope do they have to respond quickly in the short run? These questions are easy to ask but more difficult to answer. Some of them can be illustrated by an examination of education spending.

Education Expenditure

From Table 4 it can be seen that the bulk of local government's current expenditure is accounted for by education, debt interest and grants to the

personal sector (mainly for tertiary education). Debt interest is explained by the capital expenditure programme which is mainly on housing and education and by movements in interest rates. On average, therefore, much of the trend in local government spending is accounted for by education and housing policy decisions. As far as changes in education are concerned these have been dominated by (a) increases in the number of children of school age, (b) reductions in class sizes by improvements in the teacher/pupil ratio, (c) an increase in non-teaching staffs (see Table 8 above), and (d) an extension of education to younger age groups and to disadvantaged groups e.g. mentally handicapped. Changes in public sector school pupils are set out in Table 12.

Along with changes in pupil numbers the pupil/teacher ratio has also been changing. These are set out in Table 13.

It must also be remembered that the unit cost of secondary education is much higher than that in primary schools because of smaller sizes and because teachers are paid higher salaries in secondary schools. Unit costs in primary schools are about 50% of those in secondary schools.

The education system in the U.K. however, faces a falling school population up to about 2001. This follows reductions in fertility rates during the 1970s. Table 14 gives population projections of the under 16s.

Given these population changes the education sector in the U.K., in the absence of public expenditure cuts, would probably have absorbed a smaller proportion of the community's resources. On the

Table 12 School Pupil Numbers - U.K.

Thousands

	1961	1971	1979
Nursery schools ^a	31	50	88
Primary schools ^b	4906	5161	5594
Secondary schools ^c	3165	3555	4646
Special schools ^d	77	103	151

^a Nursery school pupils under 5 years of age.

^b Primary school pupils aged 5-11 years.

^c Secondary school pupils aged 11+ years.

^d Special schools include; hospital schools and schools for the mentally and educationally sub-normal.

Table 13 Pupil Teacher Ratios - U.K.

	1961	1971	1979
Nursery schools	22.7	26.6	22.2
Primary schools	28.9	27.1	24.2
Secondary schools	20.0	17.8	17.0
Special schools	12.5	10.7	9.3

Table 14 Population Projection: Under 16 years of age - U.K. Millions

	1971	1979	1981	1986	1991	1996	2001
Males	7.1	6.7	6.4	6.2	6.4	6.9	7.0
Females	6.9	6.3	6.1	5.8	6.1	6.6	6.7

Source: Social Trends No.11 1981 (HMSO) Table 1.2.

other hand a decision might have been made to improve the volume of resources per pupil or to allocate the released resources to particular groups of pupils in greatest need. The adjustment to changing pupil numbers would, however, have been gradual. However, these school population projections have been used by those who wish to cut back on public spending as a justification for the cuts. The expectation by policy makers is that the cuts will be made immediately but the capacity of the system to respond to sudden adjustments without disruption is limited.

Government Revenues

In the previous sections trends in the public expenditures of both central and local governments have been examined. It will, however, be recalled that one of the principal elements in the fiscal containment argument refers to taxation. Trends in the level and composition of government revenues are shown in Table 15.

The problems of interpreting tax revenue ratios are similar to those for public expenditure. It can, however, be seen from Table 15 that throughout the post-war period there have been changes in the composition of the tax structure as between direct and indirect taxes. The most recent change is a move towards placing a greater emphasis upon indirect taxes.

Whilst this would be expected from a government that believes in the existence of the disincentive effects of direct taxes it is nevertheless counter to many of the arguments of the fiscal limitation movement because indirect taxes are more hidden

Table 15 U.K. Tax Revenues as a Proportion of GDP. Market prices. Percent

	Taxes on ^a incomes	Taxes on ^b spending	National insurance and health service contributions	Local government rates
1946	17.3	15.7	1.7	2.7
1950	13.9	15.9	3.4	3.0
1955	12.1	13.8	3.1	2.5
1960	10.7	13.3	3.6	3.0
1965	11.3	14.0	5.3	3.4
1970	14.5	16.5	5.6	3.6
1975	16.0	13.5	7.3	3.8
1979	13.6	14.2	7.0	3.5

^a The personal income tax contributes 80% of the revenue from taxes on income; petroleum revenue tax = 0.8% and corporation tax 15%.

^b Includes local government rates plus excise duties and customs duties (46%); VAT (30%), Motor vehicle tax (6%).

Sources: National Income and Expenditure HMSO - various issues.

and less obvious to the taxpayer than are direct taxes.

The principal sources of local government revenue are (a) income from rates (i.e. the local property tax), (b) income from central government grants (i.e. specific and non-specific), (c) charges, and (d) borrowing. Changes in these sources of income are shown in Table 16.

The data contained in Table 16 illustrate the changes which have taken place in central/local government relations in the U.K. over the period. From 1966-79 central government grants-in-aid, especially the general Rate Support Grant (RSG)

Table 16 Local Government Revenues - U.K.
Percent

	1966	1970	1975	1979
Rates	31.0	28.0	24.0	28.0
Grants:				
specific	9.0	6.0	7.0	10.0
general	26.0	34.0	40.0	39.0
Charges ^a	13.0	14.0	12.0	13.0
Borrowing	21.0	18.0	17.0	10.0
	100.0	100.0	100.0	100.0

^a Mainly income from rents on public sector housing, plus income from trading services.

have been an increasing source of local government revenue. This has weakened any control relationship between the local electorate, which consumes local public services, and the local tax costs of providing these services, whilst at the same time forcing local government to be more accountable to central government.

The fiscal relations between central and local government in the U.K. are exceedingly difficult to interpret. Central government in its attempts to achieve the objectives of macro-economic control has used local government capital expenditure and the R.S.G. as policy instruments. However, local authorities do have access to the revenue from the rates to supplement cutbacks in grants, as seems to have happened between 1976 and 1980. Moreover, it is difficult to interpret precisely the degree to which local government is accountable to central government for its policies (see Layfield Enquiry into, Local Government Finance, Cmnd 6453, 1976). Central government departmental

circulars can give guidance regarding expenditure programmes but at the end of the day it is local government which implements a particular programme in terms of the set of activities and services distributed to the local electorate.

THE FISCAL ENVIRONMENT

So far each section has described trends in public expenditure and taxation and has provided some interpretive analysis. This contrasts sharply with the American approach to the analysis of public spending, which has paid much more attention to estimating demand elasticities for public services and grants-in-aid elasticities in the case of local governments. One reason for this difference lies in the differing fiscal environments which the two systems operate within.

In the U.K. public service output decisions are to a greater extent supply determined than demand determined especially at the level of local governments. This can be seen by considering how much of local government revenue is raised from local taxpayers. It was seen in Table 16 that just under one third of local government revenue was raised from local property taxes but within this source there are two groups of taxpayers. These are domestic ratepayers (i.e. those who pay property taxes on domestic properties) and non-domestic ratepayers (i.e. those who pay rates on industrial and commercial properties). In Table 17 the percentages of the total rate call (since the introduction of the domestic element of the Rate Support Grant, divided between domestic and non-domestic ratepayers) are shown.

Table 17 Allocation of Rate Call
Percent

	Non-domestic ratepayers	Domestic ratepayers	Domestic element of RSG
1966/67	52.2	47.8	-
1970/71	52.0	42.5	5.5
1978/79	40.5	47.9	11.6

Source: Compiled by the author.

It can be seen from Table 17 that non-domestic ratepayers have been paying a rapidly decreasing proportion of the local property tax. The domestic element of the central government's Rate Support Grant has increased. Thus, the subsidy element to domestic ratepayers from central government has increased. This reduces the impact of rate increases upon the consumers of local public services and is bound to have marked impact upon their decisions over demand for these services. In practice only 10% of total local government revenue was collected from domestic property taxpayers.

The weakness of demand within the system is compounded when it is further noted that only 40% of local voters pay the property tax since the property tax is only paid by the head of the household. There is no doubt that the demand model of U.K. local government expenditure determination is complex but to date it has not been examined systematically. Further complications exist when fiscal illusion is added to the picture (see Oates' paper in this volume). Local voters do pay national government taxes which finance local public services but whether or not local voters recognise this link is made more complex because of the amount of

income redistribution which takes place. It has, therefore, tended to be the middle and upper income groups (taxpayers) who have, through various pressure groups, complained about the burden of the total fiscal system.

This weakness of demand signals from taxpayers means that the system through which resources are allocated to public services is open to political and bureaucratic influences (see Niskanen, 1971, and Jackson, 1981). Theories of bureaucratic supply whilst developed at a theoretical level have very little empirical content in the context of the U.K. Evidence which does exist tends to suggest that, in the U.K., parliament's control over public expenditure allocations is weak whilst cabinet control over allocations at the margin is strong. This, however, begs the question of how cabinet decisions are implemented and how much control the legislature has over the executive in the implementation process. At the end of the day, whilst official policy can set the broad structure of the system of service delivery it is public employees who actually deliver the services and their interpretation of the system can be vital when it comes to questions of who benefits and the quality of the service.

This weakness of the influence of demand factors plays an important role when it comes to interpreting the fiscal limitation movement. There are many possible sources of criticism of the public sector as it affects behaviour elsewhere in the economy. These were reviewed in the early part of the paper. Even if none of these macro-criticisms are valid there still remains a case for the fiscal limitation movement on the grounds of economic efficiency. There are two senses in which the pub-

lic sector might be thought to be inefficient. First, the mix of public services might not be optimal. Second, the public sector could be producing the correct mix of outputs but at the wrong prices because of X-inefficiency.

Inefficiency on the demand side results in the public sector producing the wrong mix of services i.e. it produces the wrong level of outputs and the wrong quality of services. The outputs are wrong in the sense that they are not what the representative (median) voter demands. As Buchanan and Tullock (1962) have argued, this can arise when vote maximizing politicians try to buy off a number of different pressure groups. It can, however, also occur if voters' preferences are only weakly articulated within the system. Reforms to reduce allocative inefficiency must, therefore, be directed towards ensuring that "prices" play a more dominant role. This means that at the local level of government the tax costs of increases in public services must be recognised by the local voters. It is clear from the earlier discussion that this does not currently occur in the U.K. Improvements to the price system whilst being necessary are not sufficient to ensure improvements in allocative efficiency. There must be back up reforms to the parliamentary system of control of the bureaucracy to ensure that politicians and bureaucrats do respond to voters' preferences.

The second notion of inefficiency (X-inefficiency) refers to the amount of waste and fat that can exist in public budgets. In other words are the voters/taxpayers getting value for money? This requires improvements to be made to the system of control over public spending, particularly public wages. It also could require a consideration of

the information system which is used to make public expenditure decisions. If the information system is inadequate then it will become difficult to distinguish between improvements in the real level of service provision and expenditure increases which are nothing other than increases in the economic rents paid to bureaucrats.

Many would argue that the Public Expenditure Survey Committee (PESC) system of public expenditure planning and control, which was set up in the U.K. in 1961, was deficient insofar as it did not provide information of the kind necessary to make rational decisions in respect of public expenditure allocations. This system has been criticised elsewhere (see Jackson, 1980). For present purposes it is sufficient to note two major drawbacks with the PESC system. First, public expenditures were planned to grow, over the medium term, in line with the forecasted rate of growth in real GDP. Seldom were these GDP forecasts achieved. Actual GDP usually fell below forecasted. The result was that public expenditures as a proportion of GDP rose. Second, public expenditures were planned in real terms, i.e. at constant prices.

During periods of high inflation this practice of real resource planning in the public sector placed severe strains on the public sector's financing requirements. In other words the information provided to decision-makers when making decisions about the growth of public expenditure and its increase was not sufficient. These deficiencies were clearly identified during the 1970s when the growth in GDP was low and the rate of inflation high.

In 1976 the PESC system was supplemented by a set of cash limits which were intended as a short-run measure and which were supposed to focus the attention of decision-makers upon the ranking or priorities. The implementation of cash limits is taken up in Hepworth's paper in this volume.

CONCLUSIONS

Public expenditure in the U.K. has grown in both absolute and relative terms since 1950. Local government's share of public spending has increased. At all levels of government public expenditures on transfer payments have shown the most marked increase, especially post-1973 whereas capital spending has declined.

Despite the growth in public spending programmes there is no evidence to suggest that crowding out has occurred. The public sector's absorption of real resources has been steady and has shown a decline in recent years. One rationalisation of the situation is that the fears of those who saw the rapid growth of government were unfounded because of the difficulties involved in interpreting government expenditure ratios.

There is little empirical evidence to support the case of the U.K. fiscal limitation movement with its emphasis upon the macro-economic impact of public budgets. The evidence for disincentive effects of taxation and an interest elastic private sector investment function is very weak and in some cases contrary to expectations.

This does not, however, imply that there is not a strong case to be made out for improving control

over the public sector. The case to be made will differ from that usually made. Instead of emphasising the macro-economic aspects the fiscal limitation movement in the U.K. should turn its attention to the micro-economic issues of allocative efficiency and X-inefficiency. In this respect it is worthwhile recounting the words of Alfred Marshall.

"Government is the most precious of human possessions; and no care can be too great to be spent on enabling it to do its work in the best way: a chief condition to that end is that it should not be set to work for which it is not specifically qualified, under the conditions of time and place."

NOTES

- 1 See Cmnd 7746, The Government's Expenditure Plans 1980 - 81, HMSO. For an extended discussion of this background see Jackson (1981).
- 2 That is a quadrupling of the world price of oil, the failure of Russian harvests which forced up the price of food stuffs and a run on Sterling which forced up the dollar price of U.K. primary imports; see Dornbush and Fischer (1980).
- 3 For example the wage equation and the Phillips curve relationships of the Treasury model no longer performed adequately; see Blackaby, (1979).
- 4 See Blinder and Solow (1973, 1974) and for a useful summary of the debates see Cook and Jackson (1979).
- 5 These ideas are explored in greater detail in the public choice literature; see Buchanan, Burton and Wagner (1978).
- 6 The U.K. money supply growth is defined as:

	£m 1979- 1980
	Public Sector Borrowing Requirement (PSBR) 9,795
<u>Less</u>	Net acquisition of public sector debt by U.K. non-bank private sector -9,110
<u>Plus</u>	Increase in Sterling bank lending to:
	(i) U.K. private sector 9,336
	(ii) Overseas sector <u>489</u>
<u>Equals</u>	DCE (Domestic Credit Expansion) 10,510
<u>Less</u>	Increase in external and foreign currency -2,644
<u>Less</u>	Increase in bank's non-deposit liabilities <u>-1,417</u>
<u>Equals</u>	Increase in Sterling M3 <u>6,449</u>

- 7 For example, little is known about the impact of personal taxation upon savings decisions, household or company investment decisions or labour supply decisions of high income earners.
- 8 The personal sector's savings rate is expressed as the ratio of savings to personal disposable income.
- 9 Committee to Review the Functioning of Financial Institutions chaired by the Rt. Hon. Sir Harold Wilson. See Volume 1 of the Committee's Reports Evidence on the Financing of Industry and Trade, HMSO, 1977.
- 10 See Boatwright and Eaton (1972), Feldstein and Flemming (1971), Fleming, Price and Byers (1976), Brainard and Tobin (1968), Nadiri and Rosen (1969); and Fromm (1971).
- 11 See Gramlich, Hymans and Oates elsewhere in this volume.

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CONTROL OF LOCAL AUTHORITY EXPENDITURE – THE USE OF CASH LIMITS*

by Noel P. Hepworth

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INTRODUCTION

Until 1979/80 the volume of local authority revenue expenditure had been growing sharply. The financing of this rise in the volume of revenue expenditure has come partly from the local property tax (the rate) but mainly from increases in central government grant aid.

The growth in grant aid has made local government's relationship with the central government increasingly vulnerable. In the development of that relationship several factors have emerged with different emphasis being given to each at different times. But a major problem for local government in controlling its expenditure and in its relationship with central government is a lack of cohesiveness in local government (the main groups of local authorities just do not agree on fundamental issues) and a lack of consistency in the approach of the central government towards the finance of local authorities. Local authorities have therefore not been able to predict with any certainty the financial consequences for themselves and their electorates of any particular decisions about expenditure.¹

The factors in the relationship between central and local government which have assumed varying degrees of significance are:

- (i) the problem of containing local government expenditure;
- (ii) a concern that public expenditure in general and local authority expenditure in particu-

¹ The organisation of the local government system in the UK is described in the Appendix.

lar has just been growing too fast and that the demands made by bureauracies for resources are greater than what the nation as a whole is prepared to support;

- (iii) a concern about the effectiveness of local government expenditure in solving local social and economic problems;
- (iv) a concern about the efficiency of local government;
- (v) the decline in the accountability of local authorities to their electorates;
- (vi) a view that bureaucracies cannot be trusted to make the 'right' decisions and consequently that more decisions over the use of resources should be returned to the individual.

Part of the problem of predictability is that a consistent policy towards local government finance in general does not exist and the existing framework has been constantly modified on an 'ad hoc' basis to meet particular situations as they occurred. The result has been a heavy emphasis on initiatives by the central government. These have tended to give it greater power over the financial policies of local government in general and of individual local authorities in particular. The central government has not yet achieved absolute control over local authority revenue expenditure, but it has virtually achieved that over local authority capital expenditure.

At the present time the main concern of central government is about local government expenditure

containment and the policies that are evolving are all aimed at this objective. A particular problem for the central government in achieving its objective is that the political control of local government is moving away from those broadly sympathetic to its public expenditure containment policies to those who believe that higher levels of public expenditure are desirable. This latter group will seek to fund higher levels of revenue expenditure through the use of the local taxing powers. The central government's counter to this is to impose restrictions on the use of these local taxing powers. It can do this in one of two ways. First, by some form of central control over rate levies (which is the policy it has adopted towards local authorities in Scotland). Second, by causing a gearing of property tax increases which will promote an electoral response. Alternatively it could proceed through a combination of both approaches.

But whatever policies do evolve, one central plank of central government control will still remain and that is cash limits. Traditionally the central government of the United Kingdom has used cash limits to fix the amount of grant aid which it pays to local authorities and the amount of capital investment they can undertake. These limits have not in the past been used to control the total of local authority expenditures. But even though cash limits on the grant could be a significant factor in influencing the expenditure of local authorities, for a number of reasons they are not viewed as a strong enough weapon of control by the central government. These reasons include:

- (i) The lack of predictability of the effect upon individual authorities.

(ii) The length of time necessary to achieve a response from local government as a whole to cash limits.

(iii) The inadequacy of the response the cash limits appear to be achieving, from the central government's point of view.

Consequently, a question which is currently facing United Kingdom local authorities is whether cash limit control should continue to be confined to grant aid only.

The central government is particularly concerned that even though local government in total has generally met central government's expenditure targets up to and including 1979-80, there are some signs of change. For 1980-81 and 1981-82 there has been a greater divergence than previously between likely spending levels and expenditure targets. And the political polarisation which is beginning to develop between central government and some large local authorities make the achievement of expenditure targets less likely.

These divergences from actual expenditure targets and the apparent weakness of an expenditure control system based upon cash limiting grant aid have persuaded the central government that other procedures are also required. For 1980-81, and after the grant arrangements had been settled, the central government announced that each local authority would have a target expenditure level which was a straight 5.6% below that authority's expenditure in 1978-79, in nominal terms. The government subsequently announced part way through the financial year (i.e. in June) that if authorities did not meet this expenditure target, they

would suffer a penalty in the form of a loss of grant aid on a basis which was disproportionate to the basis announced at the time the grant was fixed.

These expenditure targets for grant penalty are quite separate from and unrelated to the falling shares of expenditure financed by grant aid as expenditure rises above the predicted figure for each authority derived from the grant distribution formula. The reason for the decision to use separate penalty targets was that the actual expenditure of many authorities differed substantially from the predicted level of expenditure using the grant formula and it was felt that the penalty system had to relate to the authority's own expenditure performance.

But there are also problems with this new system of control:

- (i) The grant control is cash limited and therefore adjusts for inflation whereas the penalty target is not cash limited and therefore does not adjust for inflation.
- (ii) Apart from inflation, there is no relationship between the expenditure target for grant distribution purposes and the expenditure target for penalty purposes.

Moreover, both systems of control are arbitrary and the more detailed the application of the systems becomes, so does the degree of arbitrariness in the national totals of expenditure, in the allowances for inflation, and in the allocation of those national totals via the grant system to individual local authorities. This is a cause of

much political argument and is a reason why some local authorities find the operation of the system increasingly irksome.

An interesting consequence of the unpredictability of the grant system, the arbitrariness of the cash limit system, and the arbitrariness of the penalty system is that local authority effort has become diverted to a concern for ways of manipulating the system (particularly by political pressure) to maximise grant aid rather than the control of the underlying level of expenditure. Because of the emphasis on targets nationally and particularly at the individual authority level, with the added system of penalties, the general picture of events as seen from the local government point of view is one of increasing centralisation of key decisions, an ironic development for a conservative regime. What is more, local governments fear that the recent trend to miss expenditure targets and the growth of political polarisation may accelerate the move towards centralisation.

THE PROBLEM OF CONTROL

Accountability

One obvious explanation for the development of cash limits and penalty systems is that local government expenditure has grown too big and is not responding to a decline in national wealth because there are no adequate arrangements for checks and balances at the local government level. There is, for example, no mechanism to require a local authority to seek specific electoral approval every time it wishes to increase its local tax rates. But in fact a key problem is that even if

such a system of electoral check were introduced, it might not work very efficiently for the simple reason that the percentage of expenditure of local government paid for by those who vote is extremely small. Less than 17% of the cost of local services is borne by local taxpayers who have the right to vote and, of them, only one third actually turn out and vote. And the impact upon this 17% is diluted further by a system of rate rebates and facilities for easy payment. To put the point another way, nearly 85% of local authority expenditure comes from people who have no electoral say in how the money is spent. The insulation of expenditure decisions from voters is the result of longstanding trend increases in grant aid and modifications of the franchise to remove the 'business vote'.

A second perspective on the decline in local accountability can be seen from the share of local taxes as a proportion of disposable personal income, shown in Table 1. Local tax revenues as a proportion of personal disposable incomes have still not reached the levels of 1938/39. What is more, since 1967 and extended in 1974, the rebate

Table 1 Rates as % of Personal Disposable Incomes

	Percent
1938/39	2.71
1955/56	1.92
1965/66	2.57
1975/76	2.09
1979/80 ^a	2.22

^a Estimate.

Source: 'Public Money', CIPFA.

schemes for the lower income group have reduced the real impact of the local tax even more.

The central government sees lack of accountability as a major weakness, and as a consequence high spending local authorities are not viewed as having a political mandate to continue spending at high levels even though they may win a local election. What also becomes an argument is that lack of accountability causes local authorities to be less resistant to the effects of inflation, i.e. they would be more likely to submit to high wage demands rather than suffer the effects of work stoppages. The electoral consequences of work stoppages are more damaging than the cost of high wage settlements. Work stoppages prevent the delivery of services, i.e. remove by up to 100% of the benefit of the services, whereas inflationary wage settlements only have an impact upon the local ratepayer to the extent of about 17% of the cost. Similarly lack of accountability means that the pressure to increase efficiency does not exist, or is limited. Again it is convenient to continue with existing working practices or to employ more labour rather than search for improved methods of working to achieve a greater volume of output.

Because of this apparent insulation of fiscal decisions from voting in local elections, high rate increases are unlikely to have such an impact upon the local electorate. Again this becomes another argument for central government to deny the existence of an effective local mandate and hence to use controls like cash limits targets and penalties to curtail the spending of both local government in total as well as of individual authorities.

This issue of accountability is central to the long-run survival of United Kingdom local government. To solve it would mean changes in both financial and organisational structure, yet neither is likely to occur within the next few years. For this reason in the United Kingdom the likelihood is that the relationship between central and local government will tend to develop in a manner which allows central government to dominate the relationship using its arguments about the national needs to contain public expenditure.

Efficiency

The weakness of the relationship between paying and voting, and the probable adverse effects upon the efficiency of local government has been used implicitly but not explicitly as one argument justifying the use of cash limits. If electoral pressure cannot create the climate to improve efficiency, then cash limits on capital expenditure and on grant aid should.

There is some evidence that local authorities have become more concerned with efficiency since cash limits were first used, and particularly since 1979 when the central government took a more stringent attitude towards the relaxation of cash limits to reflect unforeseen inflation. But for this purpose cash limits are a relatively crude weapon and the central government has attempted to create pressures to improve efficiency by the use of other tactics.

It now requires (although the arrangement is presently regarded as 'voluntary') that local authorities publish locally certain key statistics about

their performance. A difficulty with this approach is that performance in many areas of local authority activity is difficult to define and, even if capable of definition, is subject to many influences outside the control of the authority such as the demographic and social structure of the population. These factors too are reasons why the grant distribution arrangements and the system of targets and penalties is crude and hence relatively arbitrary in its operation.

The central government is also encouraging local authorities to employ consultants to advise them on methods of improving efficiency. The external auditor has been put under pressure to pay greater attention to questions of efficiency and effectiveness. Finally the central government has introduced legislation which for certain activities will introduce more private sector competition and will also give to the central government power to require the closure of the activity if the authority is not achieving a specified rate of return on its investment. These activities include housing construction, housing maintenance, and highway maintenance. If the local authority activity were shut down, the authority would have to employ private contractors to erect new dwellings, to maintain its stock of dwellings, and to maintain its roads. Some local authorities operate in this way now quite voluntarily. The recent legislative powers impose specific performance requirements whereas previously the choice lay almost entirely with the local authority.

Recent pressures to improve efficiency have led to some use of private contractors in other areas. There has been one well-publicised case of refuse collection being handed over to private enter-

prise, but so far the impact of privatisation has not been great. What is more, given the capture of local authorities by political opponents of the central government any voluntary trend towards privatisation could cease.

But cash limits have created a second reason to use private sector resources. The now extremely tight limits of capital investment by local authorities have caused a search for ways in which private capital can be employed to create the investment which a local authority wishes to see. The private sector will obviously only invest where it can see a commercial rate of return and the main thrust of this alternative investment has been into commercial and industrial property development including car parking, and into some recreational activities.

The cash limits on capital investment have one important 'loophole' which will affect efficiency. The only significant way in which the cash limit can be stretched is by using capital receipts generated from the sale of assets. So the existence of this 'loophole' will encourage local authorities to increase their concern about the efficiency with which physical assets are used.

A major component in the argument about efficiency is providing services of the type, style and scale which the consumer wants. The inadequacies of the accountability arrangements mean that electoral pressure is limited. The service arrangements tend therefore to become dominated by the attitude of professional experts supported by the relevant pressure groups. The thrust is inevitably for expansion because the consumer wants for example more and better education and social services,

more cheap housing and better roads. He may not be able to articulate how he wants the service delivered, but there is no evidence that he wants it reduced, nor is it reasonable to expect that he should, given that he contributes directly so little to the cost. Social surveys in the United Kingdom have shown that even given a decline in national wealth, maintenance and improvement of public services is seen as desirable.

CONTROL BY CASH LIMITS

Operating Cash Limits

Cash limits now operate directly on capital expenditure but only indirectly on revenue expenditure. Control of capital expenditure before 1981 was based upon controlling borrowing, and expenditure financed by methods other than borrowing was largely excluded from control. Nevertheless, the control of overall capital investment was relatively effective. Again before 1981 the cash limits on grant aid affected the national totals of grant aid and there were no spending targets for individual authorities. Since 1979 the cash limits on grant aid have progressively become more rigid in their method of operation.

The central government has tended to prefer reductions in new capital investment by local authorities to reduction in existing services, although that is now changing. From its point of view there were fewer political difficulties. What is more, because of the tight system of control, it could actually force down local authority capital investment and in addition use it as a regulator if the cash-limited grant system failed to control reve-

nue spending. The resultant differences in trends are shown in Table 2.

The brunt of the cuts during this period has fallen on capital expenditure, though the present government, since 1979, is clearly seeking substantial cuts in current expenditure too.

Table 2 Trends in Local Government Expenditures, 1975/76 to 1981/82
£m 1980 survey prices

	1975/6	1976/7	1977/8	1978/9	1979/80	1980/1	1981/2
Current expenditure	16601	16484	16427	16911	17301	16718	16112
Index 1975/6=100	100	99.3	99.0	101.9	104.2	100.7	97.1
Capital expenditure	7667	6412	5114	4515	4461	3432	3088
Index 1975/6=100	100	83.6	66.7	58.9	58.2	46.1	40.3

Source: Table 1.10 Cmnd. 8175.

Table 3 shows how local authority revenue expenditure financed from rate and county funds of local authorities in England and Wales has compared with central government targets, set out in annual public expenditure surveys, over the period from 1975/76. This is not the total of local authority expenditure because it excludes a number of items such as capital financing charges. But for public expenditure control purposes these are the figures on which central government focusses attention.

**Table 3 Local Authority Current Expenditures
Compared to Target Levels**
£m at November price base

	Expenditure target £m	Actual expenditure £m	Deviation (actual-target) %
1975/76 (Nov. 1975 prices)	8,610.4	8,754.5	+ 1.7
1976/77 (Nov. 1976 prices)	9,818.5	9,741.9	- 0.8
1977/78 (Nov. 1977 prices)	10,709.8	10,423.4	- 2.6
1978/79 (Nov. 1978 prices)	11,923.4	11,738.4	- 1.5
1979/80 (Nov. 1979 prices)	13,853.6	13,748.9	- 0.7
1980/81 (Nov. 1979 prices)	13,310	13,690	+ 2.9 ^a
1981/82 (Nov. 1980 prices)	16,125	17,025	+ 5.6 ^a

^a latest estimate.

Sources: (i) Annual Rate Support Grant 1975/76 to 1979/80.
Local Authority Association.

(ii) Summaries of local authority forecasts for
1980/81 and 1981/82.

The conformity to central government wishes in the early part of the period, i.e. up to 1979/80 is perhaps surprising because of the lack of direct control by central government over local authority current expenditure. The total expenditure figures are the result of independent decisions by the 457 individual authorities.

These results for current expenditures can be compared with those for capital expenditures, given in Table 4.

**Table 4 Local Authority Capital Expenditure
Compared to Target Levels**

	Expenditure target	Actual expenditure	Deviation (actual-target)
	£m	£m	%
1975/76	7,025	7,667	+ 9.3
1976/77	6,225	6,412	+ 3.0
1977/78	4,775	5,114	+ 7.1
1978/79	5,085	4,515	-11.5
1979/80	5,425	4,461	-18.2
1980/81 (est.)	3,795	3,533	- 7.3
1981/82	3,090	n/a	

Note: The figures of public expenditure targets in the table are approximate only.

Source: Government Expenditure plans 1981/82-1983/84 Cmnd 8175 and earlier white papers.

Tables 3 and 4 bring out two important points. First, up to 1979/80 local authority current expenditure target levels were rising, and actual expenditures usually fell short of this rising target. Since 1979/80 expenditure targets have declined rapidly, and it is in these two years that important divergences have started to occur. The question facing central and local government is whether or not targets can be so readily met in a period of decline.

Secondly, local authority capital expenditure has fallen very sharply, both in level terms and relative to targets. This reflects the central government's very tight control over local authority capital investment and the political expediency of cutting capital investment rather than revenue. The developing squeeze on local authority revenue expenditure has had the effect of discouraging

local authorities from embarking on new capital investment programmes even where they may have available spending approvals because they have become reluctant to commit new investment because of the added burden it would place on scarce revenue resources. But what has happened does then raise important questions about the relationship between capital investment and revenue expenditure and in a sense about the efficiency of the disposition of local resources. If, for example, the relationship was right in 1975/76, it is clearly not right for 1980/81.

Implicit in any cash limit system is an assumption about inflation. In the United Kingdom so far as local authorities are concerned the cash limit control on inflation affects all price movements other than interest rates. The allowances for inflation set in each of the years since the cash limit started to operate have been as follows:

Table 5 shows that during the first year of cash limits, 1976/77, grant payments were restricted.

Table 5 Original and Inflation Adjusted Increases in Grants, 1976/77 to 1981/82

	Original increase of cash limit on grant %	Actual increase in grant %	Increase in costs %
1976/77	6.9	6.4	9.4
1977/78	8.0	5.6	5.6
1978/79	6.9	8.6	9.0
1979/80	6.0	10.6	16.0
1980/81	16.0	n/a	more than 20.0
1981/82	6.8	n/a	(9.3)

Source: Local Authority Associations.

In 1978/79 and 1979/80 the limits were amended to take account of higher than expected inflation, but not all additional costs resulted in additional grants. There is, at present, no indication that the limits will be raised for inflation in 1980/81 and 1981/82, even though inflation is expected to be greater than the amount anticipated by the central government in forming its original limits. Hence the central government attitude to the cash limit has become more stringent recently and this coincides with a change in the political control of the central government from a left wing to a right wing government.

Because the cash limit effects are not fully adjusted for inflation, any excess inflation falls wholly on to the local authority. There is obviously a "gearing" effect on local authority rates or precepts because of this. On average, this gearing effect means that every £1 excess inflation, which would otherwise be financed 60p from grant and 40p from ratepayers, has to be recovered wholly from ratepayers, with in practice less than half from voting ratepayers.² The pressure on the central government is of course to fix the allowance for inflation at the lowest possible level and hence to use the pressure consequently generated to influence local government's response to inflationary pressures, particularly pay demands.

² The procedure for fixing the amount of cash limited grant aid is that the central government fixes grant aid on the basis of the November price level preceding the relevant financial year (which runs from the following April to the subsequent March) and at the same time announces the limits to which it is prepared to increase grant aid to meet inflation accruing from the November date to the end of March in the relevant financial year, i.e. 16 months later.

However, local government's attitude to the cash limit is different from central government's. Fundamentally the central government is concerned with the management of the economy, and its attitude to cash limits will be influenced by that consideration. Local authorities have an entirely different concept. They are concerned with cash flow control and they may make a judgement about the effects of inflation which is different from the central government's. Given this, local government may assume higher cost increases than central government and this may make the grant settlement appear less generous than the central government envisages. Which in the event is the correct view will depend entirely upon the final actual expenditure calculations for the relevant year.

There is an argument of course that local authorities should adjust for excessive inflation by reducing the underlying volume of expenditure. To a limited extent they may do this, but there are important practical reasons why this is not very easy, or indeed why it is not seen as desirable. First, local authorities view the government's forecasts of inflation with suspicion. Where they appear obviously low they tend to see this as an attempt to cut the volume of expenditure in a disguised (i.e. more politically attractive to the central government) kind of way. They may not be willing to co-operate because they have to take the political responsibility for what they see as the covert action of the central government.

Second, 25% of local authority expenditure is devoted to one item: teachers' salaries. So if major reductions in expenditure are to occur, the teaching labour force has to be reduced. The difficulties with this are that teachers' conditions of

service frequently allow for 6 months or 12 months period of notice or at a minimum a complete term. So the earliest time teachers can be dismissed is from the following September and this means that, as this is half way through the financial year, twice as many teachers have to be dismissed merely to stay within an expenditure limit, as is really necessary. Where the period of notice is longer than a term, this problem is compounded.

Third, most local authorities do not prepare their management control budgets on a cash basis; they normally prepare them on a real basis. The procedure is for local authorities to prepare their budgets at November prices and to keep a central reserve to finance inflation as it occurs. Budgets are crucial to line managers in November price terms but of course the actual price level is moving away from this price level all the time because of inflation. Management therefore has great difficulty in knowing how far budget variances are due to price or volume changes. Attempts are now being made to overcome this problem by more sophisticated financial information systems and by the use of cash limit techniques by the local authorities themselves to control actual cash outflows.

Fourth, most local authority employee pay settlements are fixed centrally. The local authority feels it has to pay whatever is agreed centrally and it would be under very strong trade union pressure should it attempt to offset higher pay levels by reduced staff. Local authorities in the climate of the latter part of the 1970s found it very difficult to resist concerted trade union pressure. It is probably less difficult now.

Fifth, local authorities controlled by left wing inclined political groups might not see any particular reason to resist higher pay levels. This is particularly so when they are suspicious of central government motives in the fixing of inflation forecasts. And the local authorities willing to make cuts in the labour force to compensate for higher pay levels are certainly unwilling to over-compensate for the 'deficiencies' of other local authorities.

Sixth, to make a system of cash limits work at the local level requires a very strong local political control which quite obviously cannot always exist. Even if the political personalities exist the controlling political group's majority may be inadequate to support such a policy, particularly when the local consequences may be perceived to be socially adverse.

Seventh, because of the imprecise relationship between central and local government coupled with what is seen by local government as the vagaries of the grant distribution system (see the sections below on the new grant system) higher rate levies can to some extent be blamed on central government. This is a deficiency in local accountability.

Fixing Expenditure Targets

Local authorities are independent bodies and they are not agents of the central government. How much discretion they actually have in determining the size of services is a matter of debate but the legislation granting powers to local authorities to provide services is couched in the broadest

terms. So in theory, local authorities have potentially a very wide discretion.

Local governments are not parties to the central government decisions on acceptable levels of public expenditure. They act as a pressure group and explain to central government the implications of its decisions. The central government reaches its own decisions based upon its own political and economic judgements.

Although local governments are not parties to the central government's public expenditure decisions, a forward review of local authority expenditure including the likely result for the current year is carried out by joint teams of central and local government officials. These forecasts may contain the effects of adopting alternative strategies. For example officials might be asked to examine the effects of reducing expenditure in forward years by, say, 2.5% and 5% and 7.5% below the current levels of service. These effects will be taken into account by the central government in making its decisions about the total local government expenditure levels which it wishes to see and which it incorporates into its public expenditure plans, as well as the amount of grant aid which it is prepared to make available to local government.³

The principle problems with the new system of capital controls in operation from 1981 are the arbitrary nature of the distribution of the capital expenditure allocations to the authorities and

³ There is also another forum for dialogues between the central government and local governments, the Consultative Council.

the virtual elimination of any opportunity to modify the worst effects of this arbitrary distribution by the use of local revenues. This could be done with the previous system when control was on borrowing only.

The capital expenditure allocation distribution formula relies on two factors: population and past capital expenditure. Neither are good indicators of future investment plans. So local authorities perceive this form of expenditure control as arbitrary and inconsistent with local needs. The question which will have to be debated in the United Kingdom is how far arbitrary expenditure control should be used to suppress all local discretion in investment decisions and how local discretion can be coupled with a central desire to control the totality of public expenditure? Is absolute control that important?

REVENUE EXPENDITURE CONTROLS

The evidence of Table 3 shows that local authorities are finding difficulty in reducing current expenditures in line with the central government's targets. And as the likelihood is that public expenditure still will be in decline for the next two years, pressures upon local authorities will grow.

The central government has expressed concern about local authority expenditure and its lack of ability to influence the spending of individual authorities. The Local Government Planning and Land Act 1980 was introduced to give the central government ability to influence current expenditures more effectively, and in particular to influence the ex-

penditures of individual authorities. But that legislation appears to be inadequate, and a number of alternative policies are now being considered. These are discussed in a later section.

The system of control in operation since 1981 allows the central government to set expenditure targets for each authority. These targets can be in volume terms, or cash terms, or both. The grant payment to a local authority depends upon an expenditure target being set and if the actual expenditure of the authority is in excess of the target, grants can be reduced. So authorities that spend above the target can be specifically penalised, instead of having the penalties fall on local government as a whole as was the case with the previous system. The new system focusses the penalties and might therefore be regarded as more equitable -- certainly the previous system was perverse in that up to a point the more an authority spent the more grant it could get in some circumstances. Clearly a critical consideration if the system is to work well is the setting of expenditure targets for individual authorities.

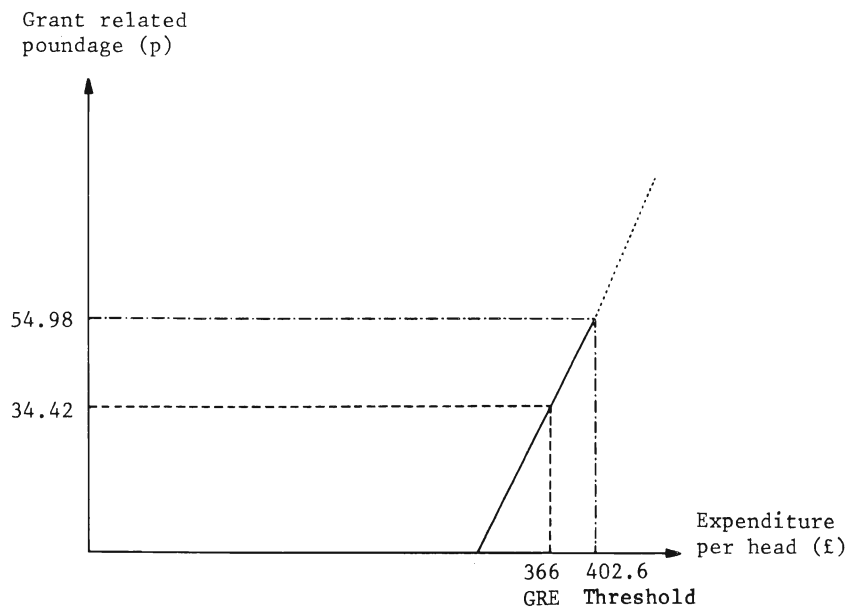
The Mechanics of the Block Grant System

The basic objective of block grants is to equalise the rate poundage required by each authority to spend at the level of its "grant related expenditure assessment" (GRE). This is the government's view of what each authority needs to spend to provide a standard level of service. Should an authority choose to spend at this level, its block grant will be the difference between this expenditure and the income it would derive from levying the "grant related poundage" (GRP) for expenditure at GRE.

Expenditure below GRE reduces the GRP by a fixed amount for every £1 per head of population it is below GRE; expenditure above GRE entails an increase in GRP for every pound it is above GRE. This poundage tariff for extra expenditure is constant, and at the same level as that for expenditure below GRE. Above a threshold (which is the grant related expenditure plus 10%) there is a once for all increase in the poundage tariff for additional increments of expenditure. (But it does not have to be a once for all increase and the central government could make spending above the threshold progressively more penal the higher the spending.)

The graph below illustrates the schedule of rate poundages which applies to each area. It can be seen that, in grant related poundage terms, as expenditure per head increases (a basic minimum

Figure 1 Grant Related Poundage as a Function of Expenditure per Head



grant is payable for most authorities), authorities face the same increase in poundage until their level of expenditure reaches the "threshold" level. There is a once for all increase in the marginal poundage cost of additional expenditure, which in 1981/82 raised the cost of an additional £1 per head expenditure from 0.56p to 0.70p.

The basic mechanism is modified in some cases by the use of a multiplier. Multipliers are used for a variety of purposes, e.g. to prevent full equalisation of resources between London and the rest of the country, to operate a safety net on grant losses and a ceiling on grant gains. By law the principles by which a multiplier is determined must be specified in the statutory instrument specifying the details of the grant system and must apply to all authorities of a particular class. A multiplier modifies the assumed income derived from levying the appropriate grant-related poundage used in calculating the block grant entitlement thus:

$$\text{Block grant} = \text{total expenditure} - (\text{GRP} \times \text{rateable value} \times \text{multiplier})$$

Thus a multiplier of less than unity increases the block grant entitlement; a multiplier of more than 1 reduces it. Multipliers can only be used to reduce the grant entitlement of an authority where the grant gain to that authority would otherwise be excessive, i.e. to implement a ceiling on grant gains.

For 1981/82 the poundage schedule has been set with a total grant-related poundage for expenditure equal to GRE at 34.42p. (This is split between the tiers of authority in an area, i.e. one

If total expenditure is above the threshold then GRP increases by 0.7023p for each £1 per head increase in expenditure. In this case the increment of grant will be positive for additional expenditure only if the modified rateable value per head is less than £142.

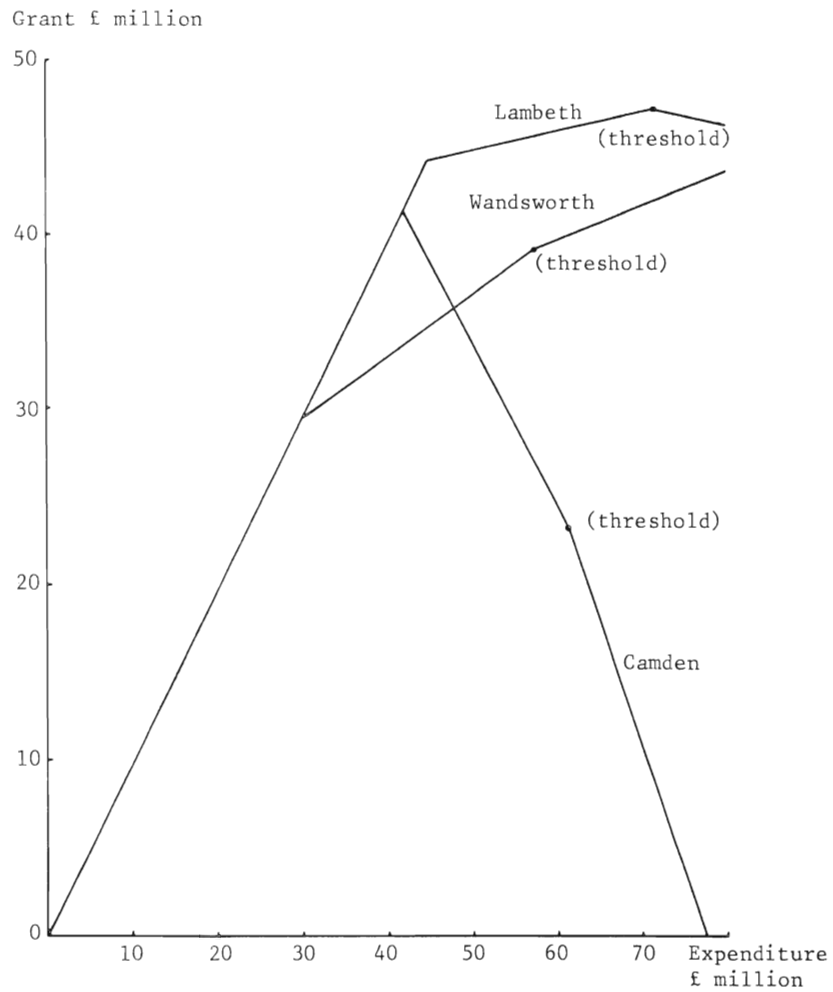
The effect of this in grant terms has been illustrated very clearly by Travers in his paper "Block Grant Distribution in 1981/82". He shows how a number of high resource authorities, principally in London, would receive more grants the less they spend, even below the level of GRE (to the point where all expenditure is met by grant because GRP is zero). These are authorities for whom $RVM > £178$. For a number of authorities with slightly lower RVM 's, e.g. Surrey, Lambeth, where $£142 < RVM < £178$, the maximum grant is obtained if expenditure is at the level of the threshold. Thereafter grant decreases as expenditure increases. For the vast majority of authorities, however, grant continues to increase, even above the threshold. This is illustrated by the three graphs in Figure 2, prepared by Travers.

In the case of Camden, up to expenditure of £41.5m, grant pays fully for this authority's expenditure. Once this point is reached grant reduces in absolute terms, more steeply once the threshold expenditure is reached.

In the case of Lambeth, all expenditure for the authority is financed by grant up to £44.5m. Above this level, grant increases with spending, but only covers a certain proportion of costs. After the grant threshold at £72m expenditure the grant falls in absolute terms as expenditure increases.

The Wandsworth authority, which is typical of the majority of authorities, receives grant on a £1 for £1 basis up to £30m expenditure. It then continues to receive additional grant aid as expenditure increases, although not on a one for one

Figure 2 Grant Receipts at Different Expenditure Levels 1981-1982 for Camden, Lambeth and Wandsworth



basis, and once the threshold is reached the marginal support from grant is further reduced. But the total of grant aid continues to rise.

In practice, even this complex system has additional elements of imprecision:

- (i) the grant calculations although initially made on the basis of estimated expenditure are finally determined on the basis of actual expenditure and actual expenditure may not be definitely known until after the completion of the audit of all local authorities some two or three years after the initial calculation.
- (ii) local authorities tend to budget for more than they can achieve and this apparently draws in more grants. But the grant is cash limited so when all the budgets have been summarised 'over budgeting' results in a proportional reduction in grant aid.
- (iii) some local authorities may be willing to accept lower grant proportions when they spend above the threshold anyway. This draws grants into those authorities and reduces the grant to all other authorities because the total is limited. So high spending by some authorities actually reduces the grant aid to others. The extent of this cannot be forecast by an authority when it fixes its budget and rate levy.
- (iv) these uncertainties cause local authorities to add to their reserves. This increases expenditure for grant calculation purposes and this of itself causes a redistribution of the grant after the initial budget and rate has been fixed.

Targets and Penalties

Superimposed upon the grant system is a system of volume targets quite separate from the GREs. These spending targets are based upon each authority's final 1978/79 expenditure, in current prices, less 2% for 1980/81 and 5.6% for 1981/82.

The whole ethos behind the volume targets is quite different from that of the GREs. The GREs are the government's attempt -- though an attempt which can be criticised on numerous grounds -- to prescribe the expenditure required to provide a standard level of service in each authority. They inevitably carry normative overtones -- that they represent in some sense the 'right' level of expenditure, at least in the government's view, for each local authority. Indeed, the whole system of grant penalties under the block grant system is based on divergencies of actual expenditure from GRE.

The volume targets, on the other hand, carry no such 'normative' connotations. They cannot represent a government view of the 'right' level of expenditure since they are based on each authority's own actual expenditure for 1978/79. The actual expenditure level is the outcome partly of each authority's own expenditure decisions in 1978/79 and partly of chance factors which affected those decisions during the year. Not surprisingly, therefore, the volume targets issued to individual authorities differ quite markedly from the GRE assessments in many cases.

To the outsider the use of two target figures seems very confusing. The logic is that the GREs were somewhat crudely defined and the central gov-

ernment's view, adopted after criticisms of the GREs by local authorities, was that it would be unfair to put too much weight on them. The government is concerned to see local authority revenue expenditure contained within the national forecast levels included in the public expenditure survey. The block grant system using indirect controls is not achieving the targets required. The central government wants to impose more severe penalties on high spending authorities and the imperfections of the GREs have prevented it using them for penalty purposes. Hence the volume targets were based upon an authority's own spending levels. But local authorities have found the system confusing and inconsistent and this confusion has contributed to the failure to meet expenditure targets. The two targets will be related for grant penalty purposes. If an authority is spending above its GRE and therefore should lose grant under the block grant rules it will be excused from further penalty if it has met the second volume target. And vice versa.

Table 6 below shows how authorities have been set conflicting targets and illustrates that they have reacted in different ways. The top four authorities are all over their GRE, but two have increased expenditure and two have decreased (even though only one is below its volume target). The bottom four authorities are all at or below their GRE, but two have increased spending and are above their volume target, while the other two have decreased spending, being at or below their volume target.

These targets based upon 1978/79 can be criticised from a number of angles apart from the inherent threat they represent to local authorities' right

Table 6 **Volume Targets and Actual Spending
in Eight Local Authorities**

Name of authority	Difference between spending and GRE %	Difference between spending and volume target %	Difference between latest budget and previous year's revised budget %
Hackney	+ 40	+ 6	- 17
Wandsworth	+ 20	- 14	- 14
Camden	+ 76	+ 24	+ 6
Sheffield	+ 29	+ 11	+ 5
Cornwall	- 2	+ 9	+ 1
Devon	0	+ 7	+ 1
Solihull	- 4	- 1	- 2
Trafford	- 4	0	- 4

to make their own decisions on the level of revenue expenditure. At a technical level 1978/79 did not represent, for many authorities, a typical year. A severe winter, a manual workers' strike, a strike by social workers in some authorities, and other disruptions to supplies caused by, for example, a lorry drivers' strike, markedly affected the authorities' expenditure during that year. Moreover, the advanced further education "pool" arrangements were changed in 1979/80, redistributing the burden of expenditure and significantly increasing the contributions of many authorities. Those local authorities which had made major cut-backs before and during 1978/79 felt they were being unfairly penalised compared to those which had not. In any case, the choice of any one year is inevitably entirely arbitrary and would always give rise to anomalies.

These factors though are an important reason for the divergence of the targets from the GREs.

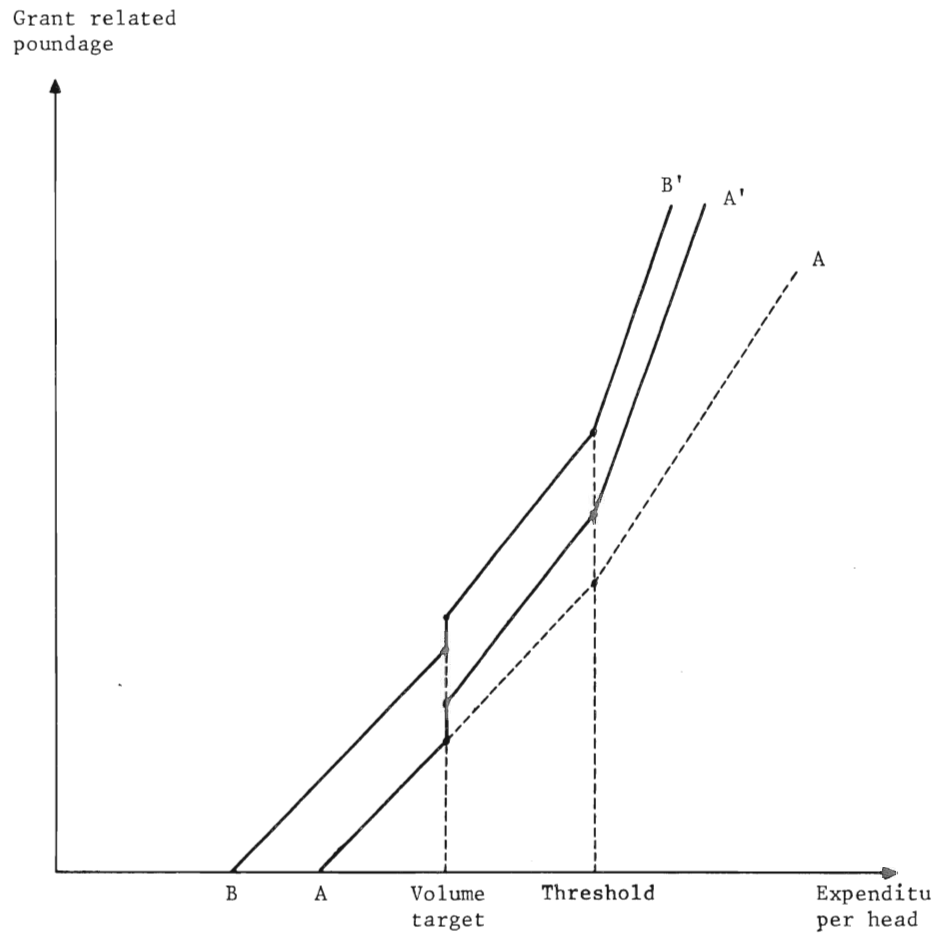
Volume Target versus GRE

At the national level the two sets of controls designed to influence the revenue spending of individual authorities, i.e. the GREs and the volume targets give the same result. But to the individual authority the perception is different. The grant calculation and the penalties which flow from failure to meet the targets are also inconsistent. The relationship has been described earlier. The penalty system does not follow the grant expenditure relationship in three respects. First, it does not flow logically from the grant system; the national sum involved in the penalty is arbitrarily determined by the central government. Secondly, the distribution of the penalty over authorities falls differently from the distribution of the grant/expenditure profile over authorities. In other words the penalty can be used to exact a higher cost from some authorities than the grant system does. Thirdly, because expenditure is defined in a different way in volume targets than in GRE an increase/decrease in one measure does not necessarily imply an equivalent change in the other measure.

The penalty with the target system is an increase in the poundage schedule for grant purposes for local authorities spending above the target. This reduces the amount of grant each of those authorities receives (but of course for some authorities who because of the rateable value effect receive nil or very small amounts of grant the practical penalty is nil or very small.) The penalty will increase the marginal poundage cost of \$1 per head additional expenditure from 0.56p below threshold and 0.70p above threshold, to 0.6p below threshold and 0.75p above threshold. Some limited protection

is provided for authorities only slightly over their target expenditure. This means that in Figure 3 below an authority which had faced a poundage schedule AA, but is spending above its volume target, now faces a poundage schedule AA'.

Figure 3 The Effect of Grant Penalties and Cash Limits



If that authority reduces its expenditure to less than its volume target it reverts to its original schedule. There is a step in the schedule at a particular level of spending, corresponding to the volume target. Because there is no relationship between volume targets and GRE, this step can occur anywhere, depending on individual circumstances.

To these penalties may be added a once for all shift of the schedule from AA' to BB' if it becomes clear that the authorities in aggregate have been claiming more grant than what is allowed by the cash limit.

Calculating the GRE

The calculation of GRE concentrates on ways of relating spending need to the average costs of providing services for each 'client' in need of them or each 'unit' of service provided. The assessments are built up on a service basis, with services grouped into four main categories. Group 1 contains services provided by the major spending tier in each area, Group 2 services provided by counties only, Group 3 services provided by district councils only and Group 4 concurrent and miscellaneous services. Individual authority's assessments are made by amalgamating appropriate factors from these groups. Allowance is made for higher input costs in certain areas, and for the higher costs associated with certain demographic features, such as sparsely populated areas.

The new system however does give some substantial cause for concern. For example, one area of major concern within the GRE assessments is the allowance made for cost differences between areas. The

only allowance included (apart from small adjustments for sparsity of population in some formulae), is for higher labour costs in London, though it is doubtful whether the allowance is sufficient to represent the full effect of high labour costs in the capital. No allowances have been made for possible higher labour costs elsewhere and no allowances at all have been made for the differing costs of other inputs, e.g. rents, rates and other land costs.

Perhaps the most contentious area of the GRE assessments are the "unit cost" approaches adopted for education and the social services. Both these approaches are based on establishing the units of service of various sorts required to provide a standard level of service in each authority and costing these out at an average cost. Two examples can highlight the major problems associated with this sort of approach.

- (i) It is widely recognised that some children require additional educational help which costs extra. How is a decision made about how many children there are in need of such help in each authority? The Department of Education and Sciences (a central government department) suggested 6 factors:
 - (a) children not U.K. born, or born to immigrant families
 - (b) children from large families
 - (c) children from one-parent families
 - (d) children from families of low socio-economic group
 - (e) children from overcrowded housing or lacking basic amenities
 - (f) children receiving free school meals.

Disregarding the question of whether these are the right factors, what is the relative importance of the factors? Does it really cost as much extra to educate a child from a family of category (d), as a child from an immigrant family who perhaps speaks no English (category (a))? The Department of Education and Science (DES) representative thought not; they recommended an option which would have given double weight to factor (a) compared to each of the other factors. It is ironic that the final GRE option selected by the government was not the option which incorporated the DES's view, but one which gave equal weight to all six factors, significantly disadvantaging a number of London boroughs and ILEA. It is interesting to note that DES views on other aspects of the education GREs, notably nursery education, were also ignored in the final selection of a GRE formula by the government. No reasons for the government's alternative choice have been given but the presumption must be that the choice was made for political reasons concerned with which authorities would gain grant and which would lose grant by the choice. As the GREs are a basis for defining "overspending", particularly for payment of grant, judgements such as this do tend to cause scepticism about the system on the part of some local authorities, particularly those adversely affected.

- (ii) The number of potential clients for social services, e.g. services for elderly people, was postulated, on the basis of historical survey data, to be related to various social factors in each area, e.g. the number of elderly people living alone. It was then assumed that each potential client required the same average service levels, which could be provided in each area at an average cost.

But is it really reasonable to assume that an elderly person living alone in a small rural community requires the same services as an elderly person living alone and isolated in a rundown inner city area? Equally, the GRE assessments for a large group of miscellaneous social services -- for the disabled, the mentally ill, the mentally handicapped etc. -- were made pro rata to population on the grounds that the proportion of disabled people, the mentally ill, etc. is not thought to vary much across the country. But the cost of providing services may certainly vary according to the degree of family and community support provided in, say, a small rural or affluent suburban community compared to an inner city area. The fact that the GRE assessments for social services seriously understate social services expenditure in all the Inner London boroughs, (including authorities which have permanent Conservative majorities), lends support to this view. (Even Department of Health and Social Security (DHSS) officials conceded that the London boroughs' assessments were not thought plausible by their social work colleagues in the Department).

From these GRE calculations the logic of a 'right' level of spending in cash terms and a definition of an 'overspender' for grant purposes emerges. The grant penalties in the block grant system operate on this definition.

Annually the grant distribution arrangements are reviewed and implicit in this review is a review of the GREs. However local authority criticism of the calculation of the GREs is inhibited by two

factors. The first is that the local authorities cannot think of any better system without using regression analysis, which was tried once, did not prove very workable and is now discredited. Secondly the two broad groups of local authorities, the major urban areas and the rural areas, are quite divided in their approach to government. The result is that pressure for reform of the GREs is seen in the context of 'special pleading', i.e. will the reform cause gains or losses to a particular group of authorities. This inhibits abstract discussion of the merits of a proposal. All the negotiations with central government are at their root negotiations about power -- the distribution of power between the different types of authority and between local government as a whole and central government. Although the purist might deplore this approach, this is an inevitable consequence of the structure of local government in the United Kingdom, its system of financing with heavy dependence upon central government grant aid, and the inadequacies of the system of local accountability.

Problems with the Control System

There is some evidence from an analysis of the budgeted expenditure of local authorities for 1981/82 that reductions in grant aid does tend to reduce expenditure. But it is also clear that grant aid as a lever on expenditure works slowly and does not cause automatically a containment of expenditure to target levels, given the weakness of local authority accountability in the United Kingdom. This is the reason for the introduction of the system of targets and penalties.

But for any system of controls to work efficiently, the results must be reasonably predictable. Only in this way can a local authority see what every marginal extra £ of expenditure will cost. Unfortunately the system is not predictable. A first reason is that the very complexity of the GREs introduces elements of instability. Secondly, the statistical basis of the GREs is unreliable and that produces instability. Thirdly, the system of targets and penalties was introduced part way through the financial year and was itself inconsistent with the expenditure control implications of the grant system. Unpredictability has probably been one cause of a shift in the concern of local authority management from expenditure control to the seeking of ways of obtaining more grant aid. This is the opposite of what the controls are aiming for.

But there are other reasons why 'overspending' occurs and these include:

- (i) the lateness of the grant and expenditure settlement (which is made in November/December).
- (ii) the problems of making the required cuts quickly enough -- the scale of cuts required to reach GRE level (or even threshold, i.e. GRE +10%) for a significant number of authorities is such that it would be quite impossible to cut this far within a year (or even a longer timescale). There are for example problems of creating redundancies and this in itself is expensive because under United Kingdom legislation, compensation has to be paid when an employee is made redundant.

- (iii) scepticism by some authorities of the objectivity of the GREs.
- (iv) the use of GREs encourages some authorities to increase expenditure to GRE level while making it impossible for others to cut down to that level.
- (v) inadequate allowance for inflation in the cash limit means authorities have to increase rates to meet the shortfall.
- (vi) general uncertainties created by the block grant mechanism also encourage prudence in financing strategies, leading to higher rate increases because local authorities have decided to create reserves.
- (vii) the swings in the distribution of grant aid. An analysis of attitudes to spending shows that generally receivers of a higher grant (i.e. than the previous year's grant) have increased spending or not reduced it, and losers of grant have tended to reduce expenditure but not in the same proportion as the loss of grant.

PUBLIC BORROWING AND THE MONEY SUPPLY

A critical consideration of the central government in making its decisions about public expenditure is the level of the public sector borrowing requirement. Local authorities contribute to that borrowing requirement either by borrowing from the central government to fund their capital investment, or by borrowing directly from the London money market. The local authority borrowing re-

quirement is a substantial component of the total public sector borrowing requirement, as is shown in Table 7.

The public sector borrowing requirement as a whole is notoriously difficult to forecast because it is a residual item. The same is true of the local authority component of it. But central government decisions affecting local authority expenditure and cash limits are important in affecting the size of the local authority share of the public sector borrowing requirement. This is because of the effect on local authority balances or reserves. Stated rate or county fund reserves vary from year to year from £100m or £200m to as much as £1500m. But in addition to these stated reserves local authorities have other reserves set aside to fund capital expenditure, to renew equipment, to renew buildings, to meet insurance claims, etc. These reserves amounted to a further £600m in 1979. (England and Wales.)

Table 7 Public Sector Borrowing Requirements

	Total public borrowing requirements £m	Local authority borrowing ^a £m	Local authority borrowing share %
1975/76	10,582	2,472	23
1976/77	8,520	2,005	24
1977/78	5,594	1,492	27
1978/79	9,198	1,290	14
1979/80	9,914	2,981	30
1980/81 (est)	13,455	2,350	17

^a Including borrowing from central government.

Source: Financial Statistics March 1981 HMSO and Financial Statement and Budget Report HMSO.

Local authorities fund themselves on a day-to-day basis by a combination of all cash inflows and outflows whether revenue or capital. As local government is a net borrower to the level of about £35 bn, their net cash position is usually one of being a borrower. They may use internal reserves to avoid external borrowing. If these internal reserves are used up and balances are run down because of, say, excess inflation, the need to fund external debt still remains and internal funding is switched to external and hence the local authority borrowing requirement rises. And, of course, vice versa.

From 1981-82 added restrictions on the uses of capital reserves will prevent their use to fund capital expenditure over and above any central government investment allocation and this should remove an element of volatility. However, a degree of volatility in the local authority element of the public sector borrowing requirement will still remain and attempts are being made to forecast more efficiently than can be done at present, how local authority decisions can and do affect this important factor in public expenditure planning.

An equally important consideration is the money supply. Local authority actions again cause the central government some concern because of the interrelationships between money supply, the public sector borrowing requirement, public expenditure generally, interest levels and wealth creation.

Local authorities borrow to fund their capital expenditure with about half their borrowing coming from the London money market. The central government is anxious to encourage local authorities to

lengthen the life of their debt and local authorities now have to ensure that all new borrowing in a year has an average life of seven years.

A consequence of this lengthening of debt life, which started from about 1977/78, has been to cause local authorities to change the sources of their borrowings. Local authorities are now borrowing more money from banks and the result is that these borrowings affect the money supply in a way which a higher level of borrowing did not do in the past.

So whilst severe cash limits have reduced local authority capital investment the changes in the refinancing of existing debt caused by the effects of other central government policies have actually made local government's position more exposed so far as the implications for the money supply are concerned and this could lead to further financing controls being imposed. These on the whole would tend to increase the cost of funding local authority debt.

EVALUATING CONTROL POLICIES

The Lessons

Probably the most important lessons which can be learned from this experiment are:

- (i) that revenue predictability is an important ingredient in any system of control;
- (ii) that using the "gearing" effect of reducing grant aid is insufficient to contain expenditure absolutely, given the low level of electoral accountability of United Kingdom local authorities;

- (iii) that to leave local authorities little time to plan their affairs is self-defeating for the central government;
- (iv) whilst an element of rough justice is inevitable, a 'refined' rough justice which incorporates an attempt at sophistication, which produces leverage on individual authorities rather than on local government as a whole, provokes authorities to question the equity of the arrangement and may produce a counter-productive response;
- (v) the complexity of two targets has confused financial planning and provided an excuse for authorities not to conform where it suited them;
- (vi) changes in grant aid distribution from year to year actually make it more difficult for authorities to reduce expenditure because the gainers find it politically difficult to reduce expenditure when they are gaining grants, and the losers cannot reduce expenditure in practice as fast as they lose grants;
- (vii) There is however some evidence that reductions in grant aid are causing authorities to reduce expenditure;
- (viii) Since piecemeal controls tend to have unforeseen effects a comprehensive review should be undertaken whenever a change of stance on controls is required;

Table 6 above showed that authorities have reacted in different ways to the various targets they have

been given. No clear picture has yet emerged apart from a general confirmation of paragraph (vii) above, namely that areas which have lost grants have tended to reduce expenditures. This is evidenced by the fact that the highest average cuts have been achieved in Inner London boroughs, which as a class of authorities has not done well from the new grant distribution.

But attempts to set GREs and targets for individual authorities have added to the dimension of dispute between local and central government by involving individual authorities. In the past this has been avoided by concentrating controls on total local authority spending. Individual targets may perhaps introduce an apparent element of 'fairness' -- which in practice is defined in political terms -- but in the long run may cause great damage to the credibility and hence stability of the system.

Consequences of Overspending

Local authorities undoubtedly have a major logistical problem in reducing expenditure as quickly as the central government would like. The example was given earlier of the problem of reducing the numbers of teachers employed. There are even more difficulties with closing schools as the child population falls because of the statutory procedures which have to be followed. Where local authorities can reduce expenditure quickly, many will do so -- for example by cutting back on maintenance, part-time staff, supplies and services, external contractors and agency services. This could have an unbalancing effect on the distribution of services and on the expenditure composition. It will also

tend to result in the exporting of unemployment to the private sector. A beneficial effect though of a squeeze on resources will be to increase the search to improve efficiency. But greater value for money will not by itself produce the savings required.

The final response of the central government to the budgeted overspending by local authorities in 1981-82 was the imposition of a grant penalty. The central government obviously hoped that by imposing what is a severe penalty, local authorities would reduce revenue expenditure. But it is doubtful if local authorities will come entirely into line. First, there are the logistical difficulties of reducing expenditure which have been explained above. As time elapses the difficulties of meeting a target within a financial year grow. Secondly, since the budgets were prepared there has been an election and left wing groups have gained power in many of the larger local authorities, pledged to higher not lower, levels of local expenditure.

So a potential conflict is emerging and a second consequence in the short run may be a yet greater reduction in capital expenditure by local authorities, because of the central government's greater ability to control expenditure, to compensate for overspending on revenue account. This makes for a greater distortion than ever of the relationship between capital and revenue expenditure.

But the longer-term consequences are likely to be more serious, particularly if political polarisation grows. They could take several forms all of which are likely to reduce local authority discretion and some could effectively remove it altogether. The possibilities are:

- (i) the taking by central government of powers to control rate levies or to control non-domestic levies only;
- (ii) the taking of greater powers to reduce grant solely at the discretion of the Secretary of State coupled with the removal of the present power of local authorities to levy a supplementary rate. This has now occurred in Scotland and could be applied, albeit with more technical difficulty, in England and Wales;
- (iii) the use of present powers to impose severe grant reductions upon local authorities to try to force them to bring down expenditure because of the consequential high burden upon ratepayers;
- (iv) the removal of services from local government to give central government more direct control of them; advanced further education is the most likely immediate casualty;
- (v) the removal of local rating powers completely.

The effect of further centralisation will be to create greater opportunities for confrontation over volumes of expenditure, and the same trend is likely to lead to confrontation over wage settlements to local government employees. Increasingly in the United Kingdom, local elections have been seen as a commentary on central government policies and the left wing gains in the recent elections imply dissatisfaction with those policies by the electorate. How far confrontation will be carried will therefore depend upon the national political mood.

However, it is worth noting, and this has not been thoroughly understood by local government, that the Parliamentary Opposition has not given any indication that it will repeal the critical parts of the Local Government Planning and Land Act of 1980, nor will it repeal the recent Scottish legislation. That implies therefore that both major political parties are set on a course of centralisation, with more or less vigour. The driving force for both parties is the recognition that long-term electoral success depends upon producing policies which give a satisfactory economic performance for the United Kingdom. Neither party therefore wants to commit themselves to any changes which might weaken their power in this respect.

What Are the Alternatives?

The approaches set out in the previous section are all based upon continuing the trend to further centralisation. There are alternative routes which are the exact opposite of the centralisation approach now being developed. The alternatives are:

- (i) Switch as many services as possible into the market place, leaving the market to set levels of investment, prices, distribution of services and type of service. This would leave local authorities to administer a rump of services of much less economic significance.
- (ii) Promote accountability by securing much more strongly than at present the relationship between voting and paying for services. This would involve a reduction in central government grant aid, probably the abolition of

non-domestic rating as a local government tax, and the introduction of a local income tax. This would obviously be a high risk route but it would certainly strengthen the concept of local democracy and might permit the devolution of more services to local government. Such a reform might have to be accompanied by both an organisational reform and electoral reform.

Of course route (i) would only be practical given a major change in political attitudes even though there are some services where the approach might be applied even now. The most important service where market forces could be harnessed is housing, which in the United Kingdom suffers from an inadequate pricing structure. Consequently subsidies and investment are distributed in a haphazard way. But a housing finance reform would need to extend across the whole sector and not be confined to public sector housing. Again, parts of the education service could be provided on a market basis -- specialised music education and school meals are examples.

From local government's point of view route (ii) is obviously the most attractive. It would make possible the detachment of local government from the central planning process. But whether or not that would ever be achieved would depend upon political and economic philosophy. A properly functioning democratic system could provide the brake on 'overspending' whether caused by high volume or inflation. Cash limit controls on grant aid could then be retained at the central government level, to give adequate management control.

Although local government would prefer route (ii), in practice local independence would not be painless. To make it work there would have to be stability and predictability in the system. This would mean simpler grant arrangements, perhaps limited to population and differences in the distribution of personal incomes. Special problems like rural sparsity and ethnic minorities would have to be supported by specific grants. If a local income tax were not available it would mean a major increase in domestic rate levies, but that would have a substantial effect upon accountability.

But any appearance of irresponsibility in spending by local authorities will strengthen the doubters against any radical reform. And as the analysis in this paper has shown, the trends which are beginning to appear, both in terms of expenditure and politically, could be construed by some commentators as growing evidence of irresponsibility.

However, there is a growing perception of the lack of local accountability and proposals are being considered of introducing a requirement that a local referendum should be held before a supplementary rate can be levied when a local authority needs to replace money lost by a withdrawal of grant aid. But the likelihood is that in many instances this would confirm the supplementary rate and hence the higher levels of expenditure. Confirmation is likely to occur because the pressure groups for the maintenance of public services would support the supplementary rate proposal, as would the local authority, and ratepayers are relatively unorganised, apart from the business ratepayers, who have no vote anyway. So the referendum approach could lead to spending above public expenditure targets.

CONCLUSION

Cash limits as applied to local government have only a limited impact on revenue expenditure although an increasingly important effect upon capital investment. On revenue expenditure cash limits are more in the form of an influence upon expenditure through restrictions on grant aid.

Until 1980-81 local authority expenditure conformed closely to central government spending targets, but that was in a period of a relatively stable level of revenue spending. As revenue spending begins to decline the likelihood of meeting targets seems to be lessening.

Local authority capital expenditure has fallen quite dramatically since the mid-1970s. One reason is because the central government has had more precise controls over capital expenditure which it has used to hold down capital investment to permit higher levels of revenue spending. -- In addition, the general financial constraints have probably caused local authorities to reduce new investment anyway.

The central government sees an economic upturn in the United Kingdom being achieved by a switch of resources to the private sector away from the public sector. It views this as the route to higher levels of national income. The political swing in the country appears to be against this. It does appear that the central government reaction will be to increase central control so that it can pursue its economic objectives. This will tend to increase confrontation but in the end the central government is likely to modify its attitudes -- regarding both levels of expenditure and the distribution of grant aid.

But the likelihood is that as things stand at present local government will not meet expenditure targets. As a consequence, grant aid will be reduced and rate levies will increase disproportionately. Both will produce political pressure on the central government to give it greater powers to control local authority activities. In the world of 'real politics' the Parliamentary Opposition will oppose the growth of centralisation but stop short of promising to repeal the legislation.

The real issue for the United Kingdom local government system however is not about cash limits and their effects as such, but about methods of restraining local spending decisions. Because the voting-paying relationship is so weak, cash limits along with other measures have been introduced to make added spending more difficult. So the issue of accountability is paramount, or to put it another way, the central government's policy should be designed to promote efficient behaviour by local authorities. But to achieve greater local accountability, more fundamental reforms are required, and to give the incentive to reform, confidence must be generated in the local government option.

The main risk for the central government in pursuing its present policies is that it may result in demands being made of individual local authorities which they are not prepared to meet. This could lead to a breakdown in services and administration, particularly if there are groups looking for political martyrdom. An essential ingredient of central government policy should be to avoid exactly this situation -- to find ways of making the local government system work without confronta-

tion. Effective public administration requires that the militants as well as the moderates can work within the system because otherwise the former are in the end driven to take extra-constitutional actions.

Appendix ORGANISATION AND FUNCTIONS OF LOCAL GOVERNMENT

The local authorities in the United Kingdom are as follows:

London:	Greater London Council	1	
	London boroughs (including the City of London)	<u>33</u>	34
England and Wales (outside London):			
	metropolitan counties	6	
	metropolitan districts	36	
	non-metropolitan counties	47	
	non-metropolitan districts	333	
	Isles of Scilly	<u>1</u>	423
Scotland:	regions	9	
	districts	53	
	island areas	<u>3</u>	<u>65</u>
			<u>522</u>
Northern Ireland:	districts		
		<u>26</u>	<u>26</u>

The responsibilities of local authorities differ from country to country within the United Kingdom. There are even differences between the functions of the London local authorities and those operating elsewhere in England. Important differences in London concern the provision of the education and the police services. In London there are thirty-three London districts (including the City). Thirteen are classed as Inner London authorities and they are not responsible for the education service. This is provided by the Inner London Education Authority which is an independent authority, whose members are appointed by the Greater London

Council. The outer London authorities are education authorities. The police service is provided by the Metropolitan Police which is responsible directly to the Home Secretary. The Metropolitan Police is not a local authority although it raises about half its funds from the London local authorities through the Metropolitan Police precept.

An analysis of the distribution of services in England and Wales is set out in the table at the end of this Appendix. The analysis shows that many of the powers overlap between the two tiers of authority and there are many instances (for example, highway maintenance) of agency arrangements being made between them allowing one authority to act on behalf of another. Agreements may be reached setting out the different spheres of activity to avoid duplication of effort by districts and counties. Perhaps the most important difference in service provision in Scotland is that the Scottish regions are responsible for water and sewage disposal whereas in England and Wales that is the responsibility of regional water authorities, which are not local authorities.

A major difficulty with the present 2-tier system is that the distribution of functions, especially in the metropolitan areas, is such that the financial consequences of the plans of the different tiers of authority are not easy to reconcile. The most obvious example is the finance of transport undertakings in the metropolitan area where the county authority may provide substantial revenue support subsidies and either the total rate burden in the area has to increase or cuts have to be made in other services, mainly those provided by the district authorities. The opportunities to reconcile the competing resource demands of the

transport service with, say, the education, housing and social services are very limited.

The local authorities which are responsible for levying and collecting the local tax, the rate (i.e. the rating authorities), are as follows:

England and Wales (including London)	- district council/ London boroughs
Scotland	- regional councils (but see below)
Northern Ireland	- provincial government

Those authorities which are not empowered to levy a rate can impose a precept upon the rating authority and the rating authority in levying its rate must take into account those precepts. A county precept (including the Greater London Council -- GLC -- precept) does not have to be uniform throughout the county area; and in London the Inner London Education Authority (ILEA) fixes its requirements and then the GLC collects an appropriate amount through the GLC precept from those boroughs where the education service is provided by the ILEA. There are other precepting Authorities in existence including parishes, joint boards (set up by two or more local authorities), regional water authorities and the Metropolitan Police. In Scotland the financing arrangements are different in that both regions and districts fix a rate levy. Technically one does not precept upon the other but the regional councils collect both the regional and district rates within their area.

At present a local authority has power to vary the local tax rate without any specific electoral approval which is unlike the situation which occurs for example in the United States. Government

grants are payable to all local authorities including the main grant, the rate support grant (alternatively known as the block grant).

**DISTRIBUTION OF FUNCTIONS BETWEEN LOCAL
AUTHORITIES - UNITED KINGDOM**

The following is a summary of the allocation of functions between the different types of local authority, which for authorities in England and Wales (outside London) is based upon Department of the Environment Circular 121/172. Some relatively minor changes have subsequently been made.

ENGLAND

County councils (outside metropolitan areas)
and metropolitan district councils.

Education
Youth employment
Personal social services
Libraries

<u>All county Councils</u>	<u>All district Councils</u>
Museums and art galleries (a)	Museums and art galleries (a)
Housing: Certain reserve powers	Housing: Provision Management Slum clearance House and area improvement
Town development (a)	Town development (a)
Planning: Structure plans Development plan schemes (b) Development control (d)	Planning: Local plans (c) Development control (d) Advertisement control

All county Councils

Derelict land (a)
National parks
Country parks (a)
Conservation areas (a)
Building preservation
notices (a)

Footpaths and bridleways:

Surveys
Creation, diversion and
extinguishment orders (a)
Maintenance (e)
Protection (a)
Signposting

Transportation:

Transport planning
Highways (e)
Traffic

All parking
Public transport (g)

Road safety
Highway lighting
Footway lighting (a)

Environmental health:

Animal diseases

Refuse disposal

All district Councils

Derelict land (a)

Country parks (a)
Conservation areas (a)
Building preservation
notices (a)
Listed building control
Tree preservation (a)
Acquisition and disposal
of land
 for planning purposes,
 development
 or redevelopment
 including private
 development (a)

Footpaths and bridleways:

Creation, diversion and
extinguishment orders (a)

Protection

Transportation:

Off street parking (f)
Public transport
undertakings (h)

Footway lighting (a)

Environmental health:

Food safety and hygiene
Communicable disease
Slaughterhouses
Offices, shops and
railway premises (j)
Refuse collection

All county Councils

All district Councils

Consumer protection (e.g. weights and measures, trade descriptions, explosives, food and drugs)	Clean air Building regulations Coast protection Cemeteries and crematoria
Police (k)	Markets and fairs
Fire (k)	Byelaws
Swimming baths (a)	Swimming baths (a)
Physical training and recreation (a)	Physical training and recreation (a)
Parks and open spaces (a)	Parks and open spaces (a)
Smallholdings	Allotments
	Local licensing
Airports (a)	Airports (a)

NOTES

- (a) Concurrent powers exercisable by county and district councils and the exercise of powers by individual authorities may be governed by agreements operating within the county area.
- (b) In consultation with district councils.
- (c) Except in national parks where counties would be responsible. Responsibility for local plans is subject to development plan schemes or the structure plan.
- (d) Primarily a district council function except in a national park or for certain defined 'county matters'.
- (e) District councils may claim maintenance powers for footpaths, bridleways, and urban roads which are neither trunk roads nor classified roads.
- (f) In accordance with the county transportation plan.
- (g) Metropolitan counties are passenger transport authorities, non-metropolitan counties have co-ordination functions.
- (h) Some non-metropolitan districts under local act powers.
- (j) Fire precautions under the Offices, Shops and Railway Premises Act will be a county council responsibility.
- (k) Subject to amalgamation schemes.

The main differences within London are:

- (i) the police service is provided by the Metropolitan Police (apart from in the City of London which has its own police force) which is an appointed rather than an elected authority.
- (ii) of the 33 London districts (including the City) 13 are classified as inner London authorities and they are not responsible for the education service; this is provided by the Inner London Education Authority (ILEA) which is an independent authority but whose members are appointed by the Greater London Council (GLC). The outer London authorities are education authorities.
- (iii) the London districts are highway authorities in their own right for the maintenance and cleansing of roads other than trunk and classified roads.
- (iv) the London districts are responsible for consumer protection and not the Greater London Council.
- (v) the London districts are pension authorities operating their own pension funds and the GLC fund is confined to their employees and those of the ILEA only.
- (vi) the GLC has certain housing powers and responsibility for the administration of some housing estates (although the latter will cease to be a GLC function).

Parish councils continue to exist after reorganisation and the system could be extended to the urban areas. The functions of parish councils are limited to a few activities but they have a right to be consulted about planning applications affecting land in their areas.

WALES

The 2-tier system of local government applies to Wales where the arrangements and distribution of functions broadly follow those applying in England outside the metropolitan areas. However, there are no parishes in Wales but 'communities'. Responsibility for the acquisition of development land is a function of a central Welsh organisation (the Land Authority for Wales) and whilst this organisation has close links with the local authorities in Wales, it lies outside the normal local government arrangements and its members are Government appointees.

SCOTLAND

The distribution of functions is broadly the same in Scotland as in the non-metropolitan county areas of England. The main exception is that water supply and sewage disposal are functions of the regional authorities, whereas in England and Wales they are functions of the regional water authority; and in the island areas the system of local government is single-tier.

NORTHERN IRELAND

The system of local government under the provincial government is single-tier, with the districts administering a limited range of environmental services.

PART III

SWEDEN

CENTRAL CONTROL OF THE LOCAL GOVERNMENT SECTOR IN SWEDEN

by Richard Murray

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INTRODUCTION

Local governments in Sweden are exceptionally big and growing exceptionally rapidly. The paper reviews this expansion and its institutional and financial background. The main emphasis, however, is on an evaluation of credit policy, grant policy, regulations and other means of central government control of local governments. As in the debate about the need to control local government expenditures, the focus here is on overall macro-economic performance.

LOCAL GOVERNMENT IN AN EXPANDING PUBLIC SECTOR

The growth of the public sector as a whole reflects a general increase in service production and consumption, both public and private. In Sweden, many kinds of service production, which in other countries can be privately undertaken, is here publicly provided. Consequently, the public sector has grown more rapidly in Sweden than in other comparative countries.

The share of GNP going to public expenditures has increased as much during the seventies as it did altogether over the two preceding decades (see Table 1). This is more due to a slow increase in GNP during the seventies than to a particularly fast increase in government expenditures.

Whereas local government expenditures increased most rapidly up to 1970, more than doubling their share of GNP, in the seventies it has been central government and the social security sector that have registered the biggest increases.

The Role of Local versus Central Government

As the public sector has grown, the local government sector has acquired a greater importance. The local government share of the total public sector expenditures (excl. social security) increased sharply between 1950 and 1970, from 41.3% to 53.3%. In the seventies the share (see Table 2) has declined somewhat.

Table 1 Public Sector Expenditures as Shares of GNP

	1950	1970	1980
Central government	17.6	25.4	35.3
Local government	10.0	22.7	28.0
Social security funds	3.7	3.8	9.5
Total ^a	27.1	44.8	63.1

^a The total excludes transfers within the public sector.

Source: National accounts. Including social security sector.

Table 2 Local Government Sector Expenditures 1950, 1970 and 1980 as Percentages of Public Sector Expenditures (excl. social security funds)

	1950	1970	1980
Consumption	49.4	62.3	70.0
Investments	73.6	78.6	74.0
Transfers ^a	18.7	21.5	18.1
Total ^a	41.3	53.3	52.0

^a Central government transfers to local governments and vice versa are excluded in total transfers and total expenditures. Interest payments are excluded altogether.

Source: National accounts.

With few exceptions the distribution of responsibilities between levels of government has remained unchanged but typically local government activities have been the most expansive. Notable exceptions are the police, some judiciary, taxing and other administrative tasks, which were centralized, mental hospitals instead being transferred from central government to counties, while responsibility for high schools shifted from central government to municipalities.

Table 3 shows the growth of the various categories of government consumption. It is a matter of interpretation whether those public sector areas where local governments are big have grown faster because of a faster overall local government increase in expenditures or if local governments have had a faster overall increase because those areas where they are big have had a faster growth. The former interpretation could be justified by the idea that local governments have a less restrictive budget constraint compared with central government. The latter interpretation could find support in the fact that income elasticities tend to be higher for typically local government activities.

Whichever of these alternative interpretations is true, it seems that the present role of local governments is a role acquired by disposition rather than by deliberate design. It is a role which has come about by incremental developments rather than by planned changes. Social welfare services, health, culture and recreation, and education are predominantly the responsibility of local governments. They accounted in 1963 for as much as 56% of public consumption. Over the last 15 years these areas have expanded faster than almost all other areas.

Table 3 Growth of Public Consumption and Local Governments' Share of Public Consumption by Purpose

	Real growth per year	Local govern- ments' share	
	1963-78	1963	1978
Social welfare services	8.8	87.1	83.2
General research	7.5	0.0	0.0
Health	5.3	83.3	94.5
Culture, recreation, a.o.	5.1	85.8	90.8
General administration and external affairs	4.6	52.1	55.6
Education	3.9	75.9	86.9
Public safety and order	2.9	69.0	17.8
Housing and community amenities	2.4	63.4	60.5
Business promotion	1.4	30.2	33.5
Defence	0.0	0.1	0.1
Total	5.4	51.8	67.9

Source: National accounts.

Again, this is a reflection of the general increase in service production. Local governments are important producers of services going directly to households. This is to some extent in contrast to central government. Central government is less occupied with delivering services to the public and much more with planning and controlling. There are exceptions though, like employment exchange, police, weather forecasts and university education.

Table 3 shows central vs local government shares within different areas. The shares remain reason-

ably stable with exceptions occurring in those areas where transfers of responsibilities have taken place as mentioned above. The large increase in the overall local government share of public consumption has thus not come about by shifting responsibilities to local governments but by a faster growth of those areas with a high local government share.

This overall picture might lead to the erroneous conclusion that local governments are nowadays just as important and powerful as central government in influencing overall economic activity and economic stabilization. That, however, is not true since central government still has the dominant control of the purse. Central government partially finances local governments through grants. When we take these into account we find that central government controls directly and indirectly (through grants) 64.1% of total public sector expenditures (excl. social security sector).

The increase in transfers is something that characterizes the expansion of the public sector on all levels, especially in the last decade (see Table 4). This is an international trend.

To assess the local government sector fully two additions should be made. Firstly, national accounts subtract roughly 2 percentage points from the local government share of GNP, in comparison with local government budgetary expenditures. It is done on the ground that these expenditures are financed by fees and consequently counted as private consumption or intermediary product deliveries to other sectors.

**Table 4 Public Consumption, Investments and
Transfer Expenditures as Percentages
of GNP**
(excl. social security sector)

	1950	1970	1980
Consumption	12.4	21.5	28.8
Investments	2.1	6.6	4.3
Transfers	7.5	11.5	24.9

Source: National accounts. Transfers from central government to local government, and interest payments excluded.

Secondly, there is a large sector of local government-owned companies, that should be added to the local government sector proper in order to assess the sector to its full proportions. Housing is the main occupation of these companies. Out of local government sector investment, companies make up around 30%. 80% of the company investments are devoted to new housing. In 1979 the turnover of these companies amounted to 16.4% of total expenditures for the local government sector proper. 53% of that turnover was accounted for by housing, the rest by transactions in electricity, gas, sewage, heat, water, transports, etc.

The Growth of Local Government

Expenditure Trends

Sweden has recently experienced an unprecedented expansion of local governments as percentage of GNP. The growth of GNP has practically ceased from the middle of the 70s, while local governments have continued to expand although at comparatively modest rates from a historical perspective.

Table 5 gives the aggregated growth figures for historical periods. There are some periods with exceptionally high expenditure increases: 1910-30, 1945-50, 1960-70. During these periods expenditures rose in real terms on the average by about 6%. There are, on the other hand, periods which are distinguished by exceptionally low growth: 1935-40, 1970-75. The growth rate was then less than 2% per year. Annual expenditure increases of 3.2%, as in the latest period, is slightly below the average.

Table 5 Average Yearly Increase in Total Local Government Expenditures, 1900-80

Constant prices (local government consumption price index)

1900-1910	2.8 ^a		1950-1955	5.3
1910-1920	5.2 ^a	5.6 ^b	1955-1960	3.8
1920-1930	5.9		1960-1965	6.0
1930-1935	2.8 ^c		1965-1970	6.5
1935-1940	1.7 ^d		1970-1975	0.9
1940-1945	3.0		1975-1980	3.2
1945-1950	8.0			

^a Only consumption ^c 1930-36

^b 1913-1920 ^d 1934-40

Source: Johansson (1967): Kommunernas finanser (SOS).

During this tremendous expansion the composition of local government activities -- in broad entities -- has changed surprisingly little (see Table 6).

Over this long period the most striking shift of composition is that of health services, which has increased its share continuously and more than

Table 6 Local Government Expenditures in Different Areas 1913, 1953, 1977 as Percentages of Total Expenditures

	1913	1953	1977
Education	20.8	22.6	17.4
Health	10.3	16.7	23.4
Social welfare services	11.7	11.4	16.8
Public safety and order, administration, com- munity planning	9.7	6.9	3.3
Roads	9.2	7.6	6.1
Housing	14.5	10.0	17.2
Fire services	1.0	1.4	0.8
Church	7.0	5.0	2.2
Community amenities and other	15.8	18.4	12.8

Source: Höök (1962); Kommunernas finanser (SOS).

doubled. This reflects a rapid expansion. A few activities have at the same time been transferred from central government to local government: mental hospitals and district medical care.

Due to the centralization of police, the judiciary and the taxing administration, the share of expenditures going to public safety has decreased sharply.

Underlying the growth of local government expenditures is an increase in income. This accounts for the trend of increasing expenditures. Divergencies from the trend are caused by population changes, urbanization and some other economic circumstances. Educational expenditures depend heavily

on the number of children to be educated. Social welfare depends on unemployment, the number of old people and woman labor force participation ratio. New construction and the flight from the countryside pushes housing expenditures. The increased number of cars and urbanization explain the development of road expenditures. Wages are an important determinant of administrative expenditures. Urbanization determines the expansion of fire services and community amenities (cf. Murray, 1981b).

On the whole, deliberate shifts of responsibilities and reform legislation do not show up in the expenditure data to the extent that might have been expected.

Estimates of the income elasticity give low values, both in cross-section estimates and in time-series. The income elasticity of total municipal expenditures was estimated on a cross-section material in 1975 to 0.36 (Murray, 1981a). On a time-series material extending over the period 1960-77 it was estimated to be 0.68 (Nordström-Ysander, 1985). Since local government expenditures have grown faster than GNP, a lot of room is left for demographic, social and other economic factors.

Institutions

In 1862 the general foundations for local governments were created. Since then these institutions have successively been modernized, local governments have been enlarged in size and diminished in numbers, their freedom of action has both been widened in general and tightened by specific legislation regulating various activities.

Today there are 24 counties covering the whole Sweden except the towns of Gothenburg and Malmö, and the island of Gotland. Counties are predominantly occupied with health, hospital and medical services. To an increasing extent they carry out some high school education, some social welfare services, regional planning and, in the case of Stockholm, public transportation. Representatives on the county -- and municipal -- councils are elected in general elections.

Today there remain but 284 municipalities out of 2,500 in 1950. Mergers were forced on the small municipalities, especially in the beginning of the 50s and of the 70s. Municipalities have the main responsibility for community planning, they carry out primary and secondary education, run high schools, old age homes, day-nurseries, pay out housing allowances, relief aid, run athletic grounds, swim baths, museums, concert halls, theatres, are in charge of fire services, parks, roads, water supply, sewage, garbage collection, take care of drug addicts and alcoholics, etc. Three municipalities carry out the functions of county governments as well.

Left to central government are mainly the tasks of the guardian state: defence, diplomacy, police, but also universities, research, etc. Central authorities exercise a great deal of supervision, control and financing of local government activities. They do not interfere so much through detailed regulation as by administering grants, prescribing norms and giving advice.

Parishes today are almost exclusively devoted to religious affairs. Formerly, parishes were in charge of education, libraries and social welfare. Parishes also handle registration of inhabitants.

All three levels of local governments have the full right to tax their constituents. They can, within some loose bounds, borrow money. The right to levy fees on different services is circumscribed by some restrictions.

Of total local government expenditures the municipalities in 1981 accounted for 67.3%, while the corresponding share of the counties was 30.6% leaving 2.2% for the parishes.

Regulations

Local governments in Sweden are governed by a general law stating their authority. Municipalities are entitled to deal with affairs of common interest to the inhabitants. They must not deal with affairs that are taken care of by the counties or by the central government. Other laws either limit their authority or extend it explicitly into fields otherwise prohibited by the general law. Some tasks are delegated to local governments on a voluntary basis, other tasks are obligatory. In some instances the central government has explicitly limited the authority of local governments. Tasks are classified into the categories obligatory, voluntary within extended authority, regulated (but still voluntary) within general authority, unregulated within general authority and obligatory within general authority.

It is well within the general authority of local governments to provide education. The local community is free to arrange high school education, but has then to conform to the standards and rules set by the central government. This would fall under regulated general authority.

Those tasks, that from the outset do not fall within the authority of local governments but are based on special laws are here called voluntary within extended authority. An example of such a task is the handing out of housing allowances. The central government has pointed out that this ought to be an important municipal task, although it would not fall within the general authority of a municipality.

Primary and secondary school is the most extensive example of an obligatory task laid on municipalities.

Table 7 gives the relative importance of the various categories of municipal expenditures, including investments, in 1968 and 1977.

Of the expenditures of municipalities 41.8% in 1968 and 44.3% in 1977 were obligatory. However,

Table 7 Central Control of Municipal Expenditures
Percent of total expenditures

	Extended authority		General authority		
	Obligatory	Voluntary	Regulated	Unregulated	Obligatory
1968	41.8	9.9	14.6	33.2	0.5
1977 unchanged laws	39.5	19.9	9.6	30.4	0.6
1977 new laws	44.3	15.1	9.6	30.4	0.6

Source: Murray (1981a).

obligations can be strict as with lower and secondary education or loose as with old age care. In addition there was 24.5% of the expenditures in 1968, and 24.7% in 1977, which were voluntary but regulated in some way or another.

This left 33.2% of the expenditures in 1968, and 30.4% in 1977, in the unregulated category. But even here, there are grants with regulations tied to them. Unregulated activities which are financed by categorical grants amount to close to 40% out of all unregulated activities. This leaves about 20% of total expenditures altogether free from regulations and grant formulas.

Although there are control mechanisms covering 80% of municipal activities, they still leave a lot of freedom to municipalities. They are most often not compelling, and when they are, they do not permit detailed central government interference. Regulation of voluntary activities, on the other hand, is quite often very detailed like prescriptions for day-care centers that receive central government grants.

Financing

For the municipalities, taxes account for a stable share slightly over 40% of total external incomes (see Table 8). Central government grants have increased their share. Very recently net borrowing has been much diminished.

Central government grants have, especially in the last decade, increased very rapidly. From 1970 to 1979 categorical grants increased by 16.4% per year. Grants now account for 26.3% of total external incomes. Fees based on costs and related to

Table 8 Financing of Municipalities and Counties, 1945-1980
Percent of total external incomes

Year	Taxes	Central govern- ment grants ^a	Other revenues	Net borrowing
<u>Municipalities</u>				
1945	43.4	14.2	39.3	3.1
1950	47.9	13.6	32.2	6.4
1955	45.3	17.4	30.4	7.0
1960	40.3	22.6	32.1	5.0
1965	40.4	21.3	31.1	7.2
1970	42.6	22.8	29.9	4.7
1975	40.8	26.5	28.6	4.1
1979	44.0	27.6	26.5	1.9
1980	42.2	26.3	30.0	1.5
<u>Counties</u>				
1945	72.0	11.4	16.2	0.4
1950	75.3	8.5	15.8	0.4
1955	75.0	7.8	17.7	-0.5
1960	62.3	17.0	19.5	1.2
1965	67.0	14.5	16.4	2.1
1970	54.0	19.5	24.7	1.8
1975	59.4	17.6	20.2	2.8
1979	65.1	15.3	19.3	0.3
1980	58.3	16.7	24.9	0.1

^a General and categorical, for investment, consumption and transfers.

Source: Kommunernas finanser, Landstingsförbundet.

commercial activities -- electricity, water, sewage, garbage disposal, etc -- have kept pace while other fees have lagged. Net borrowing is tied to investment activity and as investment has plunged in the last decade, so has net borrowing. Investments are also now financed by tax revenues to almost 50%, as compared to less than 40% in the beginning of the decade.

Counties have a much higher share of tax financing although the share has been shrinking. Only some years back, 75% of total external incomes were tax revenues. Today it varies around 60%. Central government grants have increased their share substantially and now account for 16.7% of total external incomes. Loans play an insignificant role for the counties.

Tax revenues accounted for 75.3% of total external incomes for the parishes in 1979, grants made up 7.8%, other revenues 16.2%, and net borrowing 0.7%.

CONTROLLING LOCAL GOVERNMENTS

The Increasing Interest in Control

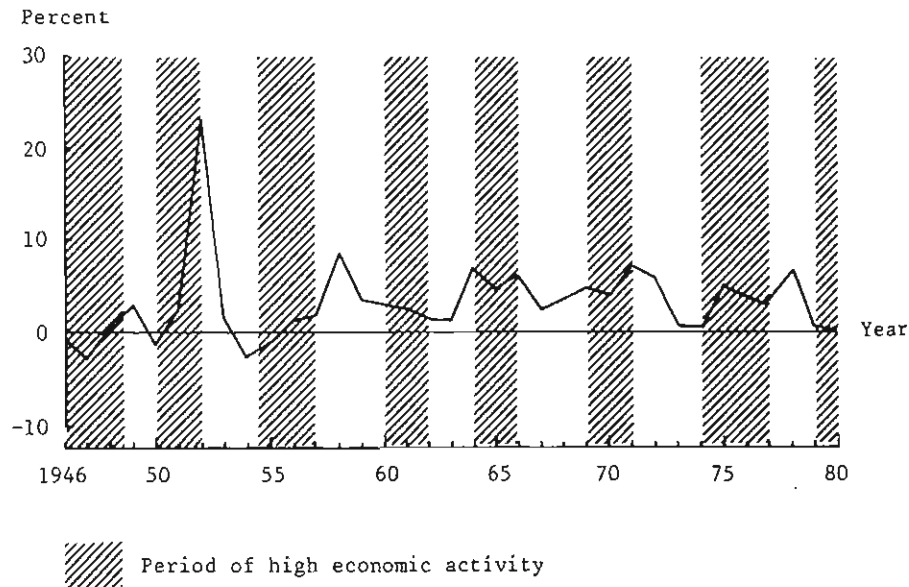
There is in Sweden a very long tradition cherishing local self-government. That means that central government is supposedly barred from interfering with municipalities and counties. However, at the same time regulation is extensively practiced.

Up until the middle sixties there was very little discussion about the role of the local governments in macroeconomic policy. And once the discussion started, it centered on business cycle policies.

Traditionally the responsibility for business cycle management was squarely laid upon the central government. In the late sixties the local government sector received more attention. The question then was: Do municipalities and county governments add to instability or do they help in stabilizing the economy? The verdict for Sweden was that the local government sector on the whole helped to stabilize the economy (Mathiessen, 1971). Mathiessen's judgment was based on aggregate local government consumption and investments.

County and municipal taxes and fees were not included in that judgment. When these are taken into account, the picture is less clear. Figure 1 shows the change in average local government tax rate.

Figure 1 Percentage Change in Local Government Tax Rate



The shaded areas are periods of high economic activity as measured by unemployment. The general rule is that large tax increases take place on the verge of, or in the middle of, a period of low economic activity. The timing of tax rate changes, from a business cycle point of view, is thus not very good.

Following this awakened interest a government commission (Government Commission Report (SOU) 1973:43) looked into the matter. The commission advocated among other things that central government subsidies be adjusted according to business cycle needs. They also recommended that delivery of tax receipts to the local government sector should be varied and that local government activities that are financed with fees should not be exempted from turnover tax and price regulation. The need for a more efficient monetary policy was stressed. A more effective machinery for information and consultation between central government and local governments was suggested of as a suitable instrument for improving the coordination.

Few of these tools were however created and used at that time. Variations in central government subsidies were tried once. Payments of tax receipts were forwarded on one occasion -- but this had little to do with business cycle policies. But lately tax receipts have been delayed deliberately to halt local government expansion. In 1981/82 this lowered local government liquidity by 8-9 billions SEK, equivalent to a loss of interest rate incomes of about 1 billion SEK. On one occasion -- the general price freeze in 1980 -- local governments were urged not to increase fees.

On four occasions central government negotiated with the local governments about limits for tax increases (see Table 9). The agreements were in the form of a recommendation about tax rates coupled with a special compensating block grant to municipalities and counties. The agreement was signed by the associations of municipalities and counties respectively. These associations have however no real power over their members. The block grants were paid in advance to all municipalities and counties with no strings attached, not even concerning the tax rate.

During the seventies structural economic problems were added to business cycle problems. Interest became focused on the size of the local government sector. A government commission looked into the problem of the expanding local government sector.

Table 9 **Agreements between Central Government and Local Government about Tax Limits and Actual Tax Rate Increases***

	Agreement	Tax change Percent
1973-74	Maximum increase 1%	0.24
1976-77 ^a	Maximum increase 1%	1.60
1978 ^b	No increase	1.83
1979-80 ^c	No increase	0.36

^a Block grants of 600 mill. SEK for each year (amounts to 0.5% tax increase).

^b Block grants of 720 mill. SEK.

^c 1979 block grants of 878 mill. SEK.

* The tax is a proportional income-tax. The rate is in percentage points. The change refers to percentage points.

The final report (SOU 1977:78) appeared much too late to deal with the tremendous expansion in relation to GNP, that took place in the seventies.

The commission advocated lessening of strings on specific activities and a tightening of strings on the total volume of local government activities. Regarding investments the commission thought that credit policy and building control (to be defined shortly) was enough. Consumption and transfer expenditures were to be controlled by improved indicative planning and by voluntary agreements. But controlling the total volume of local government spending by agreements applicable to the whole sector causes two interrelated problems. One concerns the necessity to take the needs of individual local governments into consideration; the other has to do with sanctions. The commission did not resolve either of these problems.

In the early eighties a growing central government budget deficit was thought to call for a cut-down in public activities. In order that local governments should bear part of the burden a program for cutting down central government grants was set in motion. Also, the expansionary effects of central government regulations of local government activities were noted. The increase in grants was slowed down to a planned 5.3% per year 1980/81-1984/85 (in real terms this means a decrease of 0.8% per year).

The central government also collects taxes for local governments. In recent years it has withheld part of these local tax receipts. While such an action could be considered an infringement on the self-governing status of local governments, municipalities were payed only 80% of the tax receipts

from business in 1982, counties nothing at all. In 1983 municipalities will receive only 40%. Also municipalities, counties and parishes alike will only receive 99% of the tax receipts from households.

In the following we will take closer look at each of the five main categories of measures used for central control of local government: credit policy, investment control, indicative planning, regulation and grants.

Credit Policy

Local governments today occupy a seemingly insignificant position on the credit market. This has not always been so. Table 10 shows the local government share of total net long-term borrowing.

**Table 10 Local Government Share of Total
Net Long-Term Borrowing
Percent**

1960	4.5	1973	4.4
1962	12.8	1974	2.5
1964	15.5	1975	2.4
1966	10.7	1976	2.8
1968	6.8	1977	1.5
1970	7.5	1978	1.6
1972	6.2	1979	1.6

Source: National Bank.

There are periods of marked local government priority in the beginning of the sixties -- connected with a program for building 1 million flats in 10 years -- and periods of industrial priority due to the need to erase the negative balance of payments during the seventies.

Without going into a detailed description of the Swedish credit market, one can say that the ways to control local government borrowing are of three main kinds:

1. Control of the issuing of local governments' bonds. Large cities issue bonds themselves and a special local government finance institute issues bonds by which credits to local governments are financed. The national bank has complete control of these issues.
2. Control of different state agencies -- pension funds, insurance funds, housing agencies, etc. This concerns long-term borrowing in other forms than bonds. The central government has an almost complete control over this borrowing. This includes borrowing from abroad.
3. General credit market control. By ways of cash and liquidity requirements, interest control and open market operations -- all of a general nature -- the central government, via the national bank, exercises a dominant influence over the credit market. The commercial banks -- except two -- are however privately owned.

To get an idea of the control possibilities let us divide net borrowing into the corresponding three categories (Table 11).

The controllable part made up only 30% of the local government sector net borrowing in 1980. This share has however varied over time.

During a credit squeeze it is likely that the controllable part should be reflecting efforts to limit local government borrowing. A powerful

Table 11 Local Government Net Borrowing, Controllable by Central Government, 1980
Percent

Bonds	1.5	Controllable
Central government controlled institutions	28.5	Controllable
Other long-term borrowing	50.0	Not controllable
Short-term borrowing	20.0	Not controllable
Total	100.0	

credit squeeze took place from the middle of 1969 and through 1970. The controllable share fell from 85.3% in 1968 to 47.0% in 1970. At the same time local governments managed to increase their net borrowing in 1970 by 9.7% or total debts by 11.2%. Short-term debts increased by 22% in municipalities and by 12% in counties. This indicates a remarkable elasticity in the supply of credit from uncontrollable sources.

In 1980 the very low share for controllable sources was paralleled by an increase in total debts of 6.4%. Taking account of inflation this might be evidence of a successful credit squeeze. However, local governments had at the time an unusually large liquidity making them uninterested in more loans. The sharp interest rises in 1980 and 1981 meant increased capital incomes for the local government sector.

This again indicates that controlling possibilities fall short of what might be needed. This is why payments of tax receipts to local governments have been delayed and why the national bank sig-

nalled that it might call for compulsory deposits in the national bank, thereby sterilizing the liquidity.

There is still another link to be considered before we can assess the impact of credit policy on expenditures. That is how expenditure plans are revised as the financial position of local governments changes.

There is no comprehensive study on this matter, only a survey of investment plans from 1970. The credit squeeze caused an estimated decrease of municipal investments of 0.5%, while counties were not affected at all. In comparison, industry decreased its investments by 7%. However, several means were used at the same time -- investment tax, building control -- which makes it difficult to separate the effects.

Evidence seems to indicate that plans are, in the short run, carried out regardless of financial restrictions. Markowski (1975) has analyzed investment plans and found that local governments in the short run -- six months -- carry out their investment plans very consistently, regardless of fiscal policy measures, credit policy and other changes in the economic environment. This is in clear contrast to the business sector, where plans are thoroughly and continuously revised. Only later are local governments' plans revised, but the revision might just as well take place on the revenue side.

Changes in net borrowing from year to year are quite substantial. In 1974 net borrowing of municipalities decreased by 45.3% to be followed by an increase of 137.5%. Of course investments cannot be expected to follow such swings.

The pattern seems to be a 1-2 year lag from changes in net borrowing to investments. But other influences make themselves felt at the same time. Net borrowing seems to be governed by hedging. Due to the structure of interest rates, it is costless or even profitable to hedge money. Therefore any possibility to get long-term loans is exploited. Net borrowing therefore might reflect more of supply conditions than of demand.

There is another source of derived demand for loans beside investments demand. That is the need of liquidity. In times of credit restrictions, local governments increase short-term debts. Since these are more costly, they will be substituted by long-term loans when the opportunity arises. At that same time, however, tax rates are also raised to keep up solidity.

The business cycle will then typically develop in the following way. As economic activity picks up, local governments carry out their expenditure plans with increasing difficulty. Credit market restrictions have been set in motion and slowly become effective. Prices rise and undermine liquidity. Tax receipts -- disbursed with a two-year lag -- increase more slowly as a consequence of slow growth in the preceding phase of the business cycle. It is in this situation that local governments accumulate short-term debts. This continues up to a point where tax rate increases become necessary, which often happens to coincide with a downturn of economic activity. Then credit market conditions ease and local governments reconstruct their finances by taking up new long-term loans and preparing for the next round of tight money.

Expenditure plans are changed only slowly and the direction is unknown. It might even be that the credit squeeze forces up tax rates to unintended new levels and that tax rates -- by a ratchet effect -- stay there, giving impetus to an increased local government sector.

Closely related to credit policy measures are the forms of "cash-flow control" inaugurated in the early 80s. Central government has withheld part of local governments' tax receipts. The liquidity of local governments has been influenced by the cash-management of central government.

We cannot yet evaluate these new policies. That local governments have almost halted their expansion by 1983 could also be the result of changing demographic trends, of a cessation of urbanization, etc., i.e. a lagged response to the slow-down of economic growth.

Investment Control

To strengthen the impact of credit market policy and to influence local government investments in a discriminatory way, building control, investment tax and some other means have from time to time been used.

Building control has as a main purpose to even out fluctuations in the labor market for construction. The control works by way of permits for starting new constructions. It has been used most rigorously in the middle sixties. Then the overriding problem was to provide resources for the house-building program.

It has been pointed out that the time for completion of construction varies a great deal over the business cycle. Thus the effect of start control is to a large extent thwarted (Lundberg, 1953). However, market forces prolong completion times by 90% in boom periods compared to recessions, thereby easing the strain on the building market.

Another drawback is more serious. Completion times are so long that desired effects have to be planned three years ahead. This makes control difficult when construction booms and recessions occur unexpectedly and with "bad timing".

Investment grants have been used in similar ways. Schools (up until 1982) and roads are rather heavily subsidized, which means that few unsubsidized projects are built. In comparison with building control, investment grants have the advantage that there is usually little delay between the grant decision and the construction start. Central government has adjusted total volumes of grants in accordance with business cycle forecasts.

A calculation shows the difficult management problems that are connected with these means of control. The distribution of completion times for school buildings was used to calculate what parts of the change in investments for schools could have resulted from past variations in starting permits (see Table 12).

There has been a study made of the effects of investment tax. It concerns the levy in May 1970-May 1971 (Bertmar, 1972). The technique used is a survey of investment plans. The effect of the 25% tax on 30% of the new investment projects (specific sectors) was an estimated 1% decrease of total municipal investments.

Central government also runs a program of relief works. Central government authorities get special budget allowances to forward planned projects. Local governments get subsidies in order to forward their planned investments.

The rate of change in relief work investments (see Table 13) shows considerable variability, but also shows that relief work has become a permanent part of local government investments.

Table 12 Calculated Changes in School Investments 1969 Resulting from Changes in Construction Starts Preceding Budget Years

Starting period	Mill. SEK
July 1969-December 1969	- 1.3
July 1968-June 1969	-71.0
July 1967-June 1968	+73.9
July 1966-June 1967	+ 9.9
July 1965-June 1966	+ 0.5
July 1965-December 1969	+12.0

Table 13 Change in Local Governments Nominal Expenditures in Relief Works, per Budgetary Year

1961/62	- 7.8	1971/72	+326.2
1962/63	+63.8	1972/73	+1.5
1963/64	+83.6	1973/74	-19.1
1964/65	+65.1	1974/75	-35.0
1965/66	+ 5.8	1975/76	+28.5
1966/67	+14.4	1976/77	+30.2
1967/68	+13.5	1977/78	+69.2
1968/69	+16.9	1978/79	+29.8
1969/70	- 7.1	1979/80	-14.2
1970/71	+ 9.7	1980/81	-21.9

This expansion is in line with other unemployment measures. The tremendous expansion makes it difficult to achieve desired expansionary and contractive effects. Relief work subsidies have become a permanently growing part of local government financing. One problem is to know whether subsidized projects really are forwarded or not, or if they are matched by other projects that are simultaneously delayed. Of course, if recipients can count on subsidies, they need not adjust their plans to what is more or less foreseen subsidies. The central government labor market authority has, however, a very detailed knowledge of construction projects, since it is their job to administer building control by giving permits for starting projects. That should help to assure the intended effect of the subsidy.

There is one study in which an attempt has been made to estimate the effects of subsidies on local government relief works (Gramlich-Ysander, 1981). It was estimated that 70 new jobs will be created when 100 are subsidized. The results were however somewhat inconclusive due to shortage of data.

Considering the problems of timing and the small magnitude of the effects of credit policy, building control, investment grants and investment taxes, the close relationship between fluctuations in investments and in policy actions is astonishing. It could be interpreted as reflecting general shortages in the labor market occurring simultaneously with efforts to restrict local government investments. But even this observation would not hold for the 70s, when local government investments were declining.

Indicative Planning

Since the early 50s central government has presented a document every five years summing up trends in all sectors of the economy and discussing desired and necessary adjustments. From being mere projections these documents have successively come to express politically desired goals of development. The political status of these 5-year plans was strengthened in the 70s.

The planning focuses mainly on a medium-term stabilization perspective. The experience is summarized in Table 14.

Table 14 Plan and Outcome in Indicative Planning for Local Governments, Change in Percent per Year

Period		Plan	Outcome
1955-60	Consumption	4.0 ^a	3.7
	Investment	2.7 ^a -3.5 ^a	4.6
1960-65	Consumption	4.5	4.5
1965-70	Consumption	5.0-6.2	8.6
	Investment	5.0 ^b	8.3
1970-75	Consumption	5.2	3.7
	Investment	3.3	-4.2
1975-80	Consumption	1.5-3.4	4.2
	Investment	-0.4-3.1	2.7
1980-85	Consumption	1.5-3.8	
	Investment	1.0-3.0	

^a The public sector as a whole.

^b For public services as a whole (excl. military expenses).

Source: Indicative planning reports, National accounts.

The first efforts seem to have been quite successful. No distinction was made in 1955 between local governments and the rest of the public sector, which indicates that local governments were not considered important and/or special enough to demand closer scrutiny. The 50s were the years of stable economic growth, the GNP growing at a rate of around 3% per year.

The first part of the 60s saw an accelerated economic growth close to 5% per year, which was not foreseen. The latter part was much less stable, growth rates falling slightly, unemployment rising and inflation accelerating. Local government expanded -- with a certain lag -- beyond all expectations.

Rapid growth was not projected for the 70s. Local governments, however, grew at an unexpectedly low rate 1970-75 -- as did the whole economy. Uncertainty is displayed in the plans for 1975-80. Despite the efforts to throw a wide net over the future course of events, the planners were fooled by the local governments, which registered an unforeseen high rate of growth for consumption, coupled with a moderate one for investments. This was an altogether new pattern.

In the 70s central government has tried to implement its medium-term plans through negotiations with local governments concerning local tax rates. As already noted above (cf. Table 9) these negotiations seem to have been successful in 1973-74 but to have failed in 1976-78. This impression could however be misleading. The taxing behavior of the local governments may throughout the period have been determined by economic exigencies and not by agreements. In 1973 and 1974 the local governments

had an unusual high liquidity and consequently had no need to raise taxes. The same was true in 1979 and 1980. In the years in between, liquidity plunged, which called forth tax rate increases.

The verdict would then be that the tax rate agreements have had very little effect. Possibly the block grants used to achieve the agreements may have caused expenditures to rise more than they otherwise would have.

Regulations

Local politicians have often blamed the rapid expansion of local spending on the central government. New regulation, legislation and implicit demands by the central government and its authorities have, according to this view, forced local governments to increase expenditures. Central government has not, until recently, had much sympathy for this view: the local government expansion is instead said to be a consequence of its self-governing status, especially the constitutional right of the local governments to levy taxes.

Only about 40% of the expenditures of municipalities are obligatory. (Cf. Table 7 above.) This does not confirm the view that local government expenditures are governed from above. And there has not been any substantial increase in the obligatory share. The registered increase is moreover due to new legislation shifting day-care centers to this category from voluntary tasks within extended authority. Central government has thus not used its power to increase obligatory activities more than the voluntary ones.

However, regulation might work on expenditures even if the tasks are not obligatory. Voluntary activities within extended authority have expanded twice as fast as the budget as a whole. This could be taken as evidence that municipalities pay loyal attention to central government reform demands. Regulation of general authority activities seems to have had a retarding influence.

Even if central government is made responsible for each and every activity that is in some way regulated -- which would be absurd -- those activities have expanded only slightly more than the completely unregulated activities that expand on the wish of the local governments themselves.

One main problem in the analysis of regulations is that we do not know if regulations really regulate anything. This is contrary to the impact of prices, taxes or fees that directly affect budgetary possibilities. Are the so-called obligatory tasks really obligatory?

In the case of primary and secondary education municipal obligations seem sufficiently well defined for these regulations to be effective. But in the case of old-age homes, obligations are much less precise.

Some efforts to determine the strength in central government regulations have been made. The first (Murray, 1980b) is an analysis of current expenditure differences between municipalities. The basic idea of this study is that if government regulation is comprehensive and effective this will result in small per-capita differences, compared with areas in which there is little or no regulation. It is assumed that government regulation

aims at uniform standards and that these can be measured in current expenditures per capita.

In the cross-section analysis, settlement characteristics were found to have a strong impact on expenditures. This influence was interpreted as an expression both of varying production possibilities and of varying responsibilities. For example: small municipalities with large rural areas may be at a disadvantage in providing general administration and schools. In addition "communalization" of private activities (water, sewage, heat, garbage, roads, etc) has usually not proceeded very far.

Settlement characteristics are represented by the percentage of population living in urban areas, population density per square km and variables representing the type of settlement (big cities, suburbs, cities, regional centers etc. down to villages). Explaining per-capita expenditures with these variables by multiple regression is then synonymous with taking away that part of the variation in expenditures that is due to these circumstances. What is left is interpreted as differences in standard.

Table 15 shows how wide the range is after the effect of the above-mentioned variables has been eliminated. In education, for example, two thirds of the observed per-capita expenditures lie within 15% of the mean. The table also shows the unregulated share for each category of expenditures.

Although the match is not perfect, there is a striking correlation between the unregulated share of expenditures and the variation in standard. Regulation thus has teeth enough to show up in the expenditure patterns.

Table 15 **Estimated Variation in Per Capita Expenditures and the Unregulated Part of Expenditures**
Percent

	Coefficient of variation ^a	Unregulated part of ex- penditure ^b
Harbors, public transportation	116	97.2
Industrial activities	46	67.9
Town planning, roads parks, sports	26	58.8
Public housing, real- estate administration	30	56.9
Central administration	34	32.2
Education and culture	15	19.7
Social security and welfare	20	1.2
Civil defense, fire services	21	0.0

^a Standard deviation as a percent of mean per-capita expenditures, controlling for outside variables.

^b According to the same classification as in Table 7.

Further evidence along this line from another, similar cross-section study shows that fire services, school buses and housing allowances -- activities that are strongly regulated by central government grant conditions -- do not exhibit any influence from the tax base, political majority or any other variable that could represent economic conditions or preferences. This is contrary to the results obtained for other municipal activities in the same cross-sectional study.

One further observation on regulations is that the long-term expansion in various areas seems to be governed by socio-economic changes rather than by big reforms. The implementation of reforms seems to be such a smooth and slow process that it fits into the general expansion. Reforms take place when "the time is right", which is determined by i.a. the general income level. It is then of subsidiary interest whether new activities are introduced through central government regulation or through voluntary action by local government.

If we choose to follow closely developments in a specific field, we will find that there is a continuous interaction between central and local governments. One example of this is the school meals. At first a few pioneering municipalities -- those with the highest income-levels -- provided school meals. Time then passed and the service was taken up by more and more municipalities. At one stage it was felt to be very unjust that some children should receive free lunch at school while others did not. At that stage regulation, coupled with very favorable categorical grants, was introduced. Later on when free school lunches had become common throughout Sweden, the grant ceased. Today there is no regulation at all.

Grants

Table 16 shows the importance of grants for different categories of activities.

Grants have increased in relation to expenditures, for almost all categories. Of special interest is the fact that the level of central government grants is the same for obligatory tasks as for

voluntary tasks within extended authority and for regulated tasks within general authority. Grants do not seem to work as substitutes for regulations.

Table 17 shows the subsidized share of activities (in terms of financial accounts) within each category.

Activities with grants make up a larger proportion of municipal activities in 1977 than in 1968. The table does not show, however, whether subsidized activities expand faster than other activities or whether new subsidies have been introduced.

Table 16 Central Government Categorical Grants in Relation to Expenditures

	Extended authority		General authority			Total
	Obliga- tory	Volun- tory	Regu- lated	Unregu- lated	Obliga- tory	
1968	25.5	20.7	24.6	4.4	0.0	17.8
1977	28.8	26.6	28.8	1.8	0.1	20.3

Table 17 Activities Subsidized in Relation to All Activities
Percent

	Extended authority		General authority			Total
	Obliga- tory	Volun- tory	Regu- lated	Unregu- lated	Obliga- tory	
1968	64.7	56.0	77.1	29.2	0.0	53.5
1977	79.7	74.4	55.8	38.6	1.5	63.5
1977 ^a	75.5	45.2	48.5	21.8	0.0	51.4

^a Except newly subsidized activities.

Restricting the comparison to those activities that were subsidized both 1968 and 1977, their share has decreased from 53.5% to 51.4% of total expenditures. This tells us that subsidies do not necessarily have an expansionary effect.

But this concerns only subsidies that are already introduced. Let us look at those activities that became subsidized during the period. In 1968 they made up 8.2% of total expenditures, in 1977 12.1%. Introducing grants thus seems to have a stimulative effect.

This appears intuitively reasonable. When subsidies are introduced, the cost of an activity drops relative to other activities. This could be expected to bring about an increase in the activity.

This effect is well demonstrated in the case of day-care centers. Day-care centers are run by municipalities and subsidized with central government grants. In the early 60s central government introduced a grant per place in a deliberate effort to lower the net cost of day-care centers relative to other forms of child care. There have been no restrictions to the number of places subsidized and no other regulation governing municipalities in this field. Consequently it should here be possible to study the impact of grants on unrestricted local government behavior.

This has been done (Murray, 1981a) over the period 1960-75 for the national aggregate. The study showed i.a. that if net costs per place to a municipality was reduced by 11%, either by grants or by lower prices, the municipal decision-makers could be expected to react by increasing their

desired number of day-care places by 12%.¹ Per-capita income did not seem to have any significant effect on the desired number of day-care places.

Grants may thus have a definite effect, both on demanded quantities of local government goods and on the rate at which they are forthcoming. Construction subsidies influence this rate. Although construction subsidies may be insignificantly small compared to the value of a guaranteed stream of current transfers the above-mentioned study showed them as being rather important in determining the rate of implementation of municipal plans for day-care centers.

The study also showed that the effects of new grants may operate for several years. The impetus of the fast expansion of new categorical subsidies in the 70s can thus be expected to last for some years before it tapers off.

There is one further aspect of grants to be considered. It concerns the question whether grants influence expenditures or expenditures determine grants -- if grants have a pure income effect or a price effect. Block grants are usually thought to have a pure income effect. Consequently we estimate the effect on expenditures per dollar of the granted sum. However, block grants do not drop like manna from heaven -- the central government often uses them to help out the more needy local governments or those with the highest costs. Though there are no formulas, there may be implicit decision-rules which give rise to a correspondence between the granted sum and the expenditures

¹ The number of places in alternative forms of municipal child-care was used as a measure of unsatisfied municipal demand for day-care centers.

of the local government. If that is the case the price of local government goods is immediately affected. That is, constituents do not have to pay as much on the margin for local government goods as they would have had to do without the grants.

On the other hand categorical or matching grants are usually thought to operate through a change of costs or prices for the local government. But if the total sum of grants is limited or if local government activities are otherwise regulated, the price effect might vanish and we might be back again to a pure income effect.

Some preliminary econometric estimates, carried through by the author, seem however to indicate that in the Swedish case the sum of granted money should be treated as a lump sum addition to local government revenues. Estimates based on this specification show that aggregate municipal current expenditure will increase by 1.32 SEK for each SEK of grant money. A very similar spending propensity was estimated for the counties.

There are also intuitive reasons for not expecting strong substitution effects of categorical grants. In most cases the grants are coupled with regulations and the total amount is also often limited. In 1977 two thirds of the categorical grants subsidized activities that municipalities were obliged to carry out.

That grants should have a pure income effect and no substitution effect seems however paradoxical in view of the strong price or cost effect found in the study of day-care centers.

The existence of market substitution effects in some areas of expenditures despite the predominant income effect of total grants, may be explained in the following manner. The current expenditure budget as a whole could be determined in the first step of the municipal decision process. At this step the sum of grant money (or maybe last year's sum) plays a decisive role. As the allocation to various ends proceeds within the fixed budget, net costs -- influenced by categorical grants -- come into play. In my cross-sectional study of municipalities in 1975 this model of local government budgeting was used (Murray, 1981a).

There is another puzzle in respect to grant effects. It concerns that kind of block grants which is aimed at evening out differences in tax base.

This grant is constructed in a way which should make the amount of the grant endogenous to some extent. The formula for the grant is the local tax rate times a central government addition to the tax base. The idea is that central government should guarantee local governments a certain amount of taxable income per capita. The guarantee varies from one local government to another according to regional policy aims. The granted sum that the individual municipality receives thus varies according to the tax rate decided upon by the local government. If a local government had a zero tax rate there would be no grants at all. As it raises the tax rate it will receive more grant money. The truly exogenous variable is thus the amount of added tax base.

The use of this specification leads however to the puzzling result that the spending propensity is larger when the tax base grows than when grants

are "added" to the tax base. These effects were estimated in a two-equation simultaneous model of municipal expenditures. The propensity to spend out of the tax base was estimated at 0.15, whereas the propensity to spend out of additions to the tax base was only half -- 0.08.

The result is contrary to what could be expected if the local government is thought to disregard the private needs of its constituents. But it may well occur if the local government considers their total well-being, derived both from local government goods and private consumption. As shown in the appendix, the result can be expected as long as the tax base grant takes the form of a fixed additional amount.

However, there is at the same time some evidence indicating the presence in Swedish local government of the so-called "flypaper effect". This name denotes the often observed fact that money given to local government "sticks" to it and stays in its purse instead of being used to add to private consumption possibilities (lower tax rate). This effect implies a disregard of the private needs of local households.

Block grants in Sweden -- or the sum of all grants -- has an effect (per SEK received grant) which has been estimated to be nine times that of household incomes. Consequently, it matters a great deal to local government expenditures if the local government or its constituency receives the money. This seemingly supports a model incorporating a "flypaper effect".

The true model might lie somewhere in between these extremes with private consumption being

taken into account only incompletely. The "fly-paper effect" may not become operative when the grants are formulated as additions to the tax base. From the observations above one can perhaps draw the conclusion that if central government aims at a reduction of tax rates while wanting to limit local government expenditures, grants should be modeled as additions to the tax base rather than as flat sums or block grants. Block grants have however been used on those occasions when agreements on tax rate limitations have been made.

With the impact of grants on local government expenditures in mind, it might be interesting to look more closely at the change in total grants over time. From Table 18 we see that the increases vary a great deal, especially on investment grants. Timing over the business cycle could be better. For example the rapid increase of investment grants in 1969 and 1970 and the decrease in 1979, when there was a downturn of economic activity, seems ill advised in retrospect.

The 70s stand out as an exceptional period with rapidly increasing grants. The increase in local government consumption seems to be related to this increase. If the goal of a 5.3% annual increase 1980-85 is reached, this will mean a drastic decrease in expansion with consequential effects on local government expenditures.

CONCLUSIONS

Traditionally central government has tried to influence local governments mainly by general economic policy, indicative planning and agreements on tax rates in order to achieve short-run stabiliza-

Table 18 Central Government Grants to Local Government, 1950-80
Annual change, percent

		Grants for	
		current expenditures, incl. block grants	investment expenditures
Economic activity:			
<u>High</u>	<u>Low</u>		
1950			
1951		21.3	22.1
	1952	35.3	4.8
	1953	4.4	58.6
1954		4.7	32.6
1955		7.4	2.2
1956		15.0	16.5
	1957	11.8	2.3
	1958	50.5	22.0
	1959	10.2	16.9
1960		6.9	32.4
1961		1.2	23.2
	1962	8.2	15.2
	1963	8.2	15.2
1964		10.5	22.5
1965		1.1	22.0
	1966	20.6	9.0
	1967	46.8	18.7
	1968	9.0	6.2
1969		12.1	16.6
1970		14.8	18.7
	1971	4.4	- 1.0
	1972	24.1	51.1
	1973	17.6	- 6.0
1974		18.0	0.8
1975		15.3	3.4
1976		16.4	13.6
	1977	21.0	12.3
	1978	20.5	-10.0
1979		15.1	4.5
1980		13.0	8.2

Source: National accounts.

tion goals. However, local governments show a very low sensitivity in regard to credit policy, investment taxes and building control. Indicative planning and agreements have not had any appreciable effect.

Grants constitute an effective, and until now under-utilized, means of control. Central government has used grants in order to influence resource allocation. To a large extent these efforts seem to have been in vain. This is because grants are coupled with regulation, which tends to eliminate any price effect.

So far grants have not been used for what they are good at, namely to influence aggregate local government expenditures and tax rates. At present a change in policy in this respect is under way. Besides general restrictions on grants, measures reducing local government liquidity and incomes have recently been introduced.

Regulations seem to have a substantial effect by equalizing standards between local governments. However, since local government expenditures are determined so much by socio-economic factors it is highly questionable if it is possible to influence the long-term growth and allocation by regulations or indeed by any other means of direct control. The long-term development of local government expenditures is determined by the demand for services and thus by economic development and structural change in the society. As long as the general division of responsibilities is not changed the service expansion will mainly occur within the local government sector.

It has also proven very difficult for the central government to influence the timing of local government expenditures over the business cycle. Central government has lately discovered means to influence income and liquidity of local governments quickly and dramatically. However, the local government response still seems so sluggish that the possibilities of stabilizing demand this way are yet uncertain.

Central government seems however to have a fair chance to steer local government development over a period of four to six years according to macro-economic needs. The medium-term perspective would thus appear to hold most promise for an effective central control of local governments.

APPENDIX

A grant addition to the local government tax base can either be in the form of a fixed amount (T) or a fixed multiplier ($c > 1$). The question is how changes in c or T affects local government spending compared to changes in the original tax base (Y).

Let us specify the following goal function for the local government:

$$U = \beta_{\lambda} \cdot \log(X_{\lambda} - \bar{X}_{\lambda}) + \beta_p \cdot \log(X_p - \bar{X}_p), \quad (1)$$

where

X_{λ} = local government services

X_p = private goods

The budget constraint for the community can be defined in the following manner:

$$Y - X_{\lambda} P_{\lambda} / c - X_p P_p = 0 \quad (2)$$

where

P_{λ} = price of local government services

P_p = price of private goods

$$c = \frac{T+Y}{Y}.$$

A tax base dependent grant of the form c can thus be viewed as a general price subsidy for local government consumption.

Maximizing (1) subject to (2) gives us the familiar expenditure function:

$$X_{\lambda} P_{\lambda} / c = \bar{X}_{\lambda} P_{\lambda} / c + \beta_{\lambda} (Y - \bar{X}_{\lambda} P_{\lambda} / c - \bar{X}_{\rho} P_{\rho}) \quad (3)$$

We now want to compare the effects on local government spending of a change in tax base (dY) with those resulting from tax base dependent grants (dc or dT).

Let us start with the case of grants in the form of c, where c is a constant (>1) when Y changes.

$$\frac{\partial (X_{\lambda} P_{\lambda})}{\partial Y} = \beta_{\lambda} c < \frac{\partial (X_{\lambda} P_{\lambda})}{\partial c} = \beta_{\lambda} (Y - \bar{X}_{\rho} P_{\rho}), \quad (4)$$

where the inequality holds under normal conditions, i.e., as long as c is small compared to the value of local public consumption. What (4) shows is simply that increases in the tax base will only be multiplied by c and will thus normally affect local government spending less than a change in the tax base multiplier, c, which will be blown up by the full amount of the community income.

In the alternative case grants have the form T, where T is a constant when Y changes.

$$\frac{\partial (X_{\lambda} P_{\lambda})}{\partial Y} = \beta_{\lambda} (1 + \bar{X}_{\rho} P_{\rho} T / Y^2) > \frac{\partial (X_{\lambda} P_{\lambda})}{\partial T} = \beta_{\lambda} (1 - \bar{X}_{\lambda} P_{\lambda} / Y), \quad (5)$$

where the inequality will always hold. (5) demonstrates the fact that added taxable incomes, which will increase the consumption possibilities of both households and government, will affect local government spending more than an increased amount of grant which only affects the spending power of government.

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LOCAL AUTHORITIES, ECONOMIC STABILITY AND THE EFFICIENCY OF FISCAL POLICY

by Bengt-Christer Ysander and Tomas Nordström

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INTRODUCTION

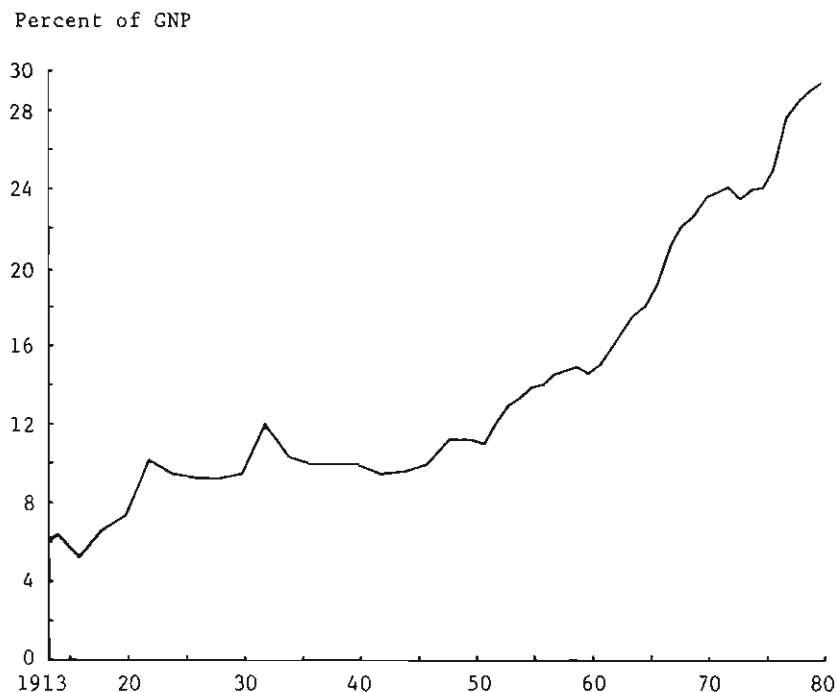
The rapid expansion of the local government sector in the postwar period has led to an intensified interest in the mechanisms of the local government economy and its impact on the rest of the national economy. With the threat of a prolonged stagflation dominating the prospects of the 80s, it is particularly important to gain more knowledge about the stabilizing or destabilizing effects of local government spending and taxing and about the way the development of the local government economy affects the efficiency and range of the stabilization policies of central government. The aim of this paper is to illustrate some of these problems by simulating and comparing alternative stabilization policies for the Swedish economy in the 80s. The simulations are carried out with the use of a growth model, in which both the spending and the taxing of local authorities are endogenously determined.

1 THE PROBLEM

1.1 The Crucial Role of Local Authorities in the Swedish Economy

One of the most striking features of the Swedish economy today is the growing dominance of the local government sector. Out of the national income almost 1/3 is channeled through the budgets of local governments, which employ 1/5 of the labor force. As can be seen from Figure 1, local government spending has been outrunning GNP with a growing margin, doubling its share over the last 20 years.

Figure 1 Local Government Expenditure, 1913-80



Source: Ysander-Murray (1983)

The restructuring of the Swedish economy in post-war years has been rapid, although not exceptional compared to other western countries. Over the 30 years since 1950, agricultural employment has been drastically reduced and corresponds today to less than 5% of the total labor force. A matching increase has occurred in the service sectors, particularly in the public services, which doubled their share of GNP and trebled their employment share.

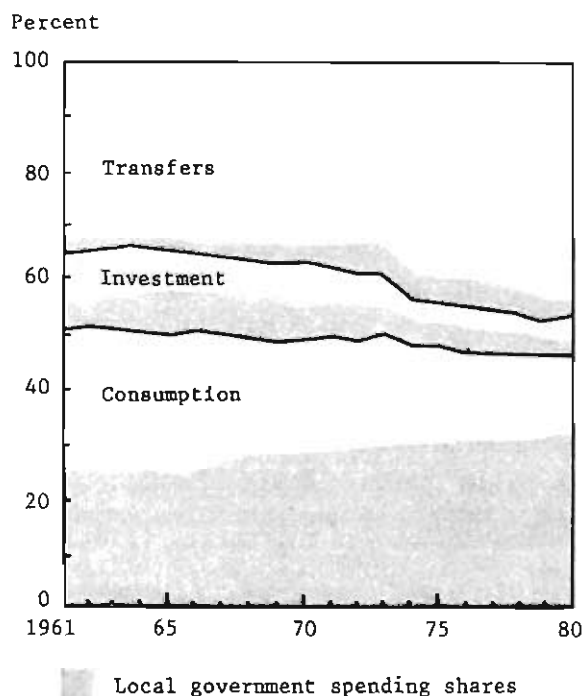
The major part of this expansion took place within the local government sphere -- in education, medical care and social welfare. Figure 2 shows the

increasing dominance of the local governments in public consumption.

Manufacturing industry meanwhile kept its share both of GNP and employment relatively unchanged. The enlarged public service provision -- and the simultaneous increase in social insurance and other transfer payments -- was almost entirely paid for by taxes, which trebled relative to GNP. Local authorities were responsible for the major part of the income tax increase.

Organizational power has grown with the money. In the postwar period there has been a gradual concen-

Figure 2 Consumption, Investment and Tranfers to Private Sector as Shares of Total Public Expenditures, 1961-80



tration of the decision-making process. While the number of local governments has decreased to about 1/4 in the last 15 years -- to 24 counties and 277 municipalities in 1981 -- some of the most expansive areas of service production, like mental health care and secondary schools, have been taken over from the state.¹

Throughout this expansion the local governments have retained a degree of financial independence, which is rather high by west-european standards. Of their total gross expenditures less than 25% is on average paid by central government grants, while local income taxes make up 45%, fees and user charges 20% with loans and capital income financing the remaining 10%.²

The degree of grant dependence varies however greatly between different kinds of expenditures. About 1/3 of all local government expenditure is used for purposes which are not supported by grants -- nor subject to central government regulation. For some obligatory and highly regulated activities, like comprehensive primary schools, the grants however may cover as much as half of the total cost.

In recent years there has been a rising concern in Sweden about the development of local government expenditures. Rapid expansion of local government services explains the major part of the rising tax

¹ For a detailed account of the shifting demarcation of local government powers cf. Murray (1981).

² The structure of local government finance has changed little over the last three decades. A survey of local government finance is given in Ysander (1979). Cf. also SOU 1977:20, and Ysander-Murray (1983).

rates and is thus indirectly responsible for the various disruptive tendencies connected with tax evasion and tax accommodation. It has also often been suggested that local government competition in the labor market has contributed significantly to wage inflation and recruitment problems within Swedish industry. There are at the same time other groups and observers who tend to regard the local government employment as non-competing with industrial employment and to view any fluctuations in local government spending as mainly due to shifts in labor supply and participation rates.

Looking ahead into the 80s it seems fairly certain that local government expansion will not be maintained at the rate averaged through the 60s and 70s. There are neither the goods nor the people to sustain that kind of growth. Even in absolute amounts the annual increases in local government resources will probably have to be reduced if Sweden is to get rid itself of its external payment deficit before the 90s, and avoid having to lower real net wages and private standards.

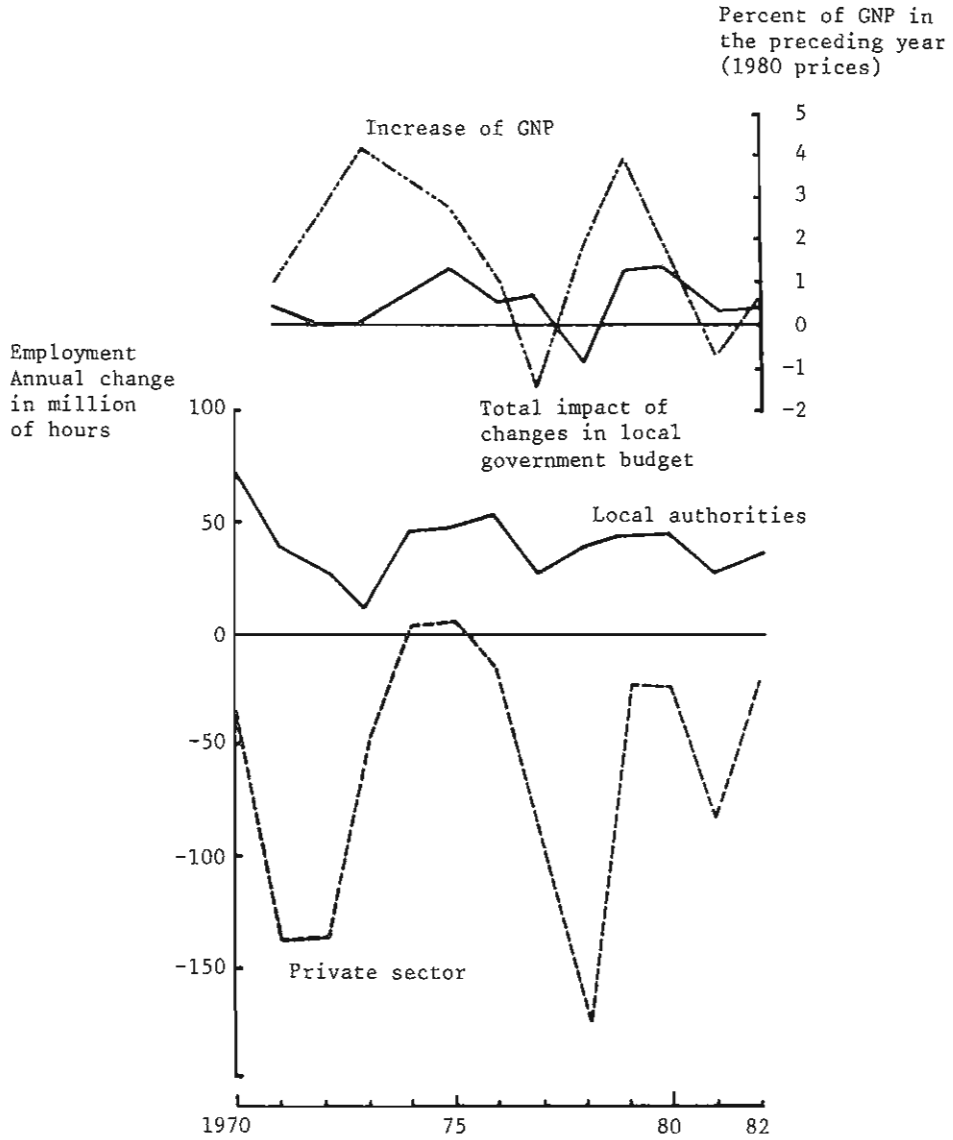
In the last few years the rate of increase in local government spending and in local tax rates has indeed become considerably lower, partly undoubtedly as a belated response to the restraining efforts made by the central government since the middle of 70s. The experience however illustrates the difficulties of making municipalities, with good liquidity and rather rigid planning procedures, change fast enough into a new growth-track. To find ways of making local governments more flexible and more responsive to macroeconomic developments and to the policy aims of central government may well prove a crucial problem for medium-term economic policy in the coming years.

The experience of the 70s has also given rise to a growing concern about the short-term cyclical behavior and impact of local government spending and taxing. According to conventional wisdom in Sweden, building on postwar developments up to the middle 60s, local governments tend to have a counter-cyclical and stabilizing impact, due i.a. to the two-year lag in the disbursement by central government of local tax payments. The annual changes in local government activity during the 70s, seem however to show a distinct cyclical, and with that destabilizing, pattern. As illustrated by Figure 3, this is true not only in terms of total net impact, but also in terms of expenditure or employment -- i.e. even when disregarding the effects of local taxes and user charges. There is thus an acute need for studies of the mechanisms behind cyclical patterns in local government behavior, of their interaction with the rest of the economy, and the implications of this for future stabilization policy.

1.2 The Tasks and Limits of Fiscal Policy

Like many other west-european countries Sweden entered the 80s with an external payment deficit and with a manufacturing sector in need of restructuring. Partly the problems were imported and connected with rising oil prices and stagnating world markets, partly new problems of our own making were added by an over-optimistic and ill-timed domestic demand management, that bought high employment to the price of falling shares on our foreign markets. Being a small and exceptionally open economy with a traditional orientation towards investment goods -- wood products, iron and

Figure 3 Local Government and the Business Cycle, 1970-82



steel and heavy engineering -- Sweden is particularly vulnerable to shifts in world market prospects and relative unit costs.³ A primary concern of fiscal policies in Sweden during the remainder of the 80s will undoubtedly be the need to shift some of the demand from domestic to foreign markets, moderating the increase in domestic consumption to make room for an expansion of the trading sector.

While everyone recognizes the strategic role of local government spending, there is still much uncertainty and controversy about the way the spending could and/or should be controlled. In the planning documents of the Swedish central government, local government spending is still treated as determined exogenously -- i.e. by control of central government. However, the actual efforts of central control -- working mainly by way of voluntary agreements on limits for local expenditure growth -- have so far (i.e. through the early 80s) been both inconsistent -- with grant shares continuing to rise -- and ineffective.⁴

Any attempt to deal with Sweden's stabilization problems must face a series of general questions about the impact of local government on the tasks and limits of fiscal policy. In what way and to what extent do local government spending and taxing tend to stabilize or destabilize the national economy, both as regards the long-term structural balance and the short-term fluctuations in

³ For an extensive discussion of our industrial policies and problems in the 70s cf. e.g. Eliasson-Ysander (1983).

⁴ For a detailed survey and evaluation of these control efforts cf. Ysander-Murray (1983).

economic activity? Does the local government sector tend to produce economic oscillations of its own? Does it crowd out private investment and exports? How does the existence of a relatively independent local government sector affect the efficiency and range of fiscal policy? Can specifically the task of redressing the proportion of domestic relative to foreign demand be fulfilled without effective control of local government spending? Is effective control of local government spending possible, is it necessary and does it perhaps even enable us to dispense with some other instruments for stabilization policy like wage policy? How does grant policy compare to tax limits as an instrument not only for reallocating total consumption but also for alleviating employment and external deficit problems?

We cannot, of course, provide any clear-cut answers to these questions. But we do hope that in analyzing the questions and simulating alternative policy options we can contribute to a better understanding of the problems and uncertainties still remaining.

Our main instrument of analysis is a macroeconomic growth model for Sweden, in which local government spending and taxing is endogenously determined by way of a submodel. This enables us to study explicitly the interaction between the local government sector and the rest of the economy, as well as cyclical patterns and properties of local government behavior and to evaluate the total impact over time of alternative central control measures, directed towards the local governments.

2 THE MODEL

2.1 Momentum and Inertia in a Swedish Growth Model

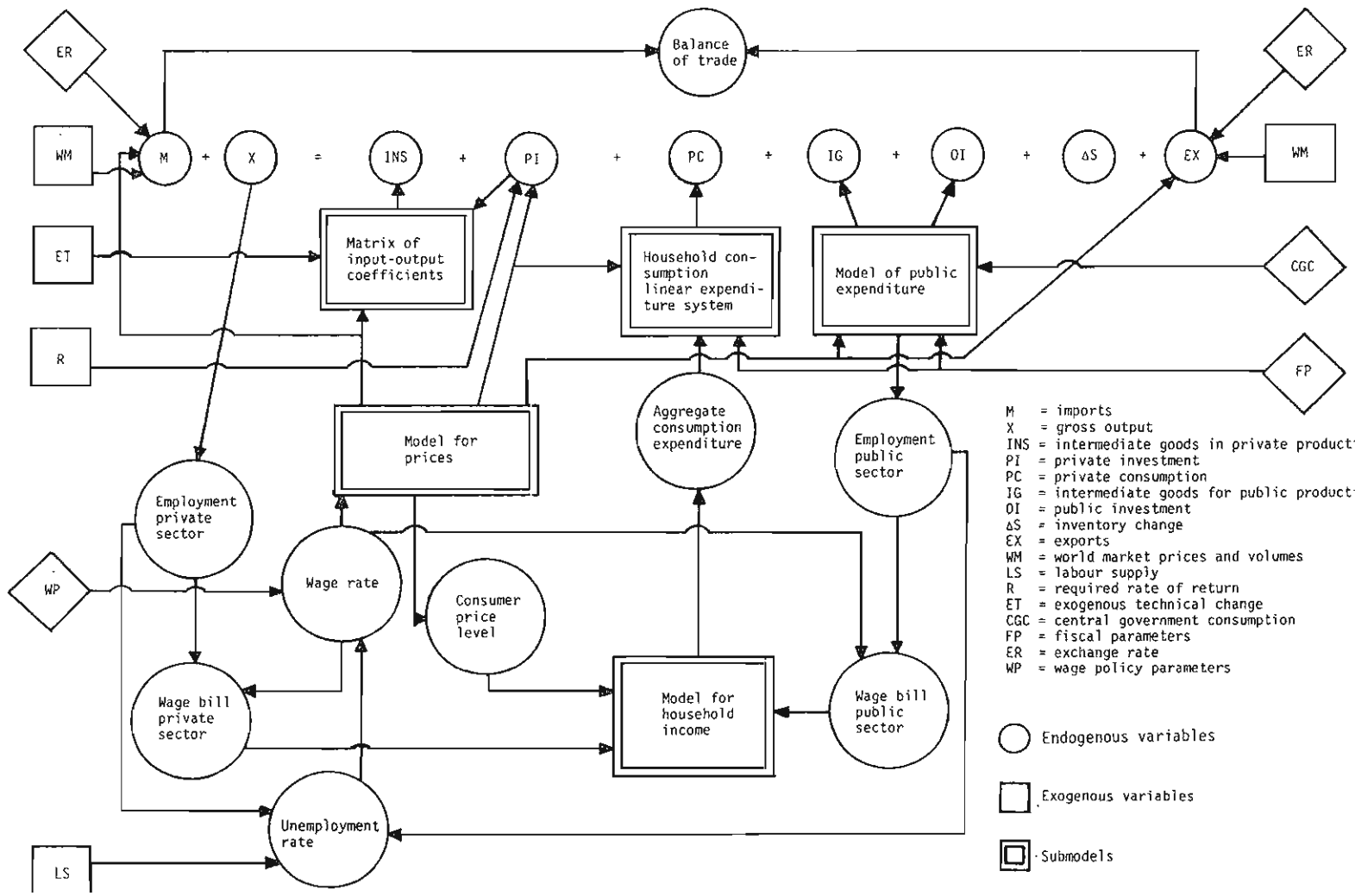
A synoptical view of the growth model used is given in Figure 4. The balance equation at the top of the figure represents a 23-sector model which can be characterized as a dynamic Keynes-Leontief model. The arrows emerging from the sector products indicate roughly the way in which an exogenously initiated change would work itself through the model.⁵

Since the structure of growth models of this kind is by now well known, we can restrict ourselves here to briefly mentioning some of the features that determine the dynamic properties of the model.

Let us start by pinpointing the exogenous factors that introduce change and give momentum to the growth process in the model. There are four types of exogenous factors specially marked (by single-line square frames) in the block diagram.

A major determinant of growth in the Swedish economy is the development of the world markets. These are linked with the domestic economy by import and export functions which mainly depend on the development of Swedish producers' prices relative to world market prices. Other important factors are the central government consumption and the development of the various fiscal policy parameters. Also

⁵ A compact but complete presentation of the formal structure of the model -- called ISAC or Industrial Structure And Capital growth -- is given in Ysander-Nordström-Jansson (1985).



exogenously treated in the model is the development of labor supply and that part of labor productivity change in industry which is due to autonomous technical change.

How various exogenous changes work their way through the economy depends to a large extent on the rigidities and adjustment mechanisms built into the model. Three sources of inertia deserve special attention: they are connected with capital formation and with the formation of wages and prices respectively.

A vintage approach has been used in modeling capital formation within manufacturing. In most branches the volume of investment each year is determined by an investment function of cash flow type. Choice of technique for a new vintage, i.e., the input coefficients for intermediate goods, electricity, fuels, labor and capital, is determined by an ex-ante production function. The vintages are depreciated in proportion to the quasi-rent they are earning. The result will be a slowly moving aggregate input/output matrix with, on the average, some 60% of total labor productivity development being explained by the introduction of new vintages. The vintage approach thus helps to explain the adjustment of industrial capital to new trends and price levels on the world markets.⁶

The formation of wages is explained by a Phillips-curve type of wage determination. The rate of nominal wage increase is a function of unemployment, profit margins, inflation, and finally labor

⁶ Since independent measures of capacity are available for the iron and steel industry, a slightly more sophisticated vintage model has been applied to this industry. Cf. Janson (1983).

productivity. With the exception of the unemployment rate these independent variables are all lagged one year. Industrial wage thus works as an equilibrating mechanism for the labor market in the current period but the wage claims also reflect the developments of last year. The estimated dependence on current unemployment turns out to be fairly strong which means that we have in this way provided a direct link between the local government sector and the industrial sector since the labor market is assumed to be homogeneous. This link is further enforced by the assumption that wage changes in the public sector are the same as in the business sector, although lagged one year.

Finally, the change in Swedish producer prices, both on foreign markets and in the domestic trading sector, is a weighted average of the change in domestic production cost and the change in world market prices. Gross profits will thus act as a buffer between costs at home and competitors' prices abroad. The exchange rate is treated as an exogenously given policy parameter and in most of the model simulations a fixed exchange rate regime is assumed.

2.2 The Local Government Submodel

The core of the LOcal Government Spending - LOGOS - model is a system of ten linear equations⁷.

In a simplified form they can be derived from the following two expressions:

⁷ For a detail account of the model, see Ysander-Mellander (forthcoming).

$$U = (Q, (1-T)Y, SC, W) \quad (1)$$

$$TY + G_0 = \Pi_Q Q + \Pi_I I + rD \quad (2)$$

Expression (1) is a quadratic utility function. The first argument, Q , represents seven different kinds of current expenditures. The first five are service volumes in respectively education, health, social welfare, roads and central administration, etc. Number six and seven stand for transfer payments that are subsidies to public utilities and housing respectively. All direct subsidies from local government to households are here interpreted as "housing subsidies".

The second type of argument is disposable income, here defined as total taxable income minus the proportionate local taxes, $(1-T)Y$. The inclusion of this argument is meant to reflect the fact that local government in its budgetary decisions must strike a balance between private and collective consumption. The third type of argument is aggregate surplus capacity, SC , here measured by the fluctuations around a long-term capital-output trend estimated for local government production. The idea behind including this argument is that free capacity to some degree is valued for its own sake and that short-term bottlenecks and capacity restrictions should affect the marginal value of further increases in current expenditure.

Finally, decision-makers are supposed to view favorably any increase in local government net wealth, W , defined as the difference between the value of capital stocks and long-term debts. As a matter of fact existing laws for local governments forbid any decrease in net wealth. This constraint has, however, hardly ever been binding.

On the left side of the budget restriction (2) are the various sources of income for local government. Besides tax income there are non-categorical state grants and other kinds of income not affecting marginal decisions on current expenditure, G_0 . On the right side are the various kinds of expenditures. Added to current and investment expenditure is the term rD which represents the cost of debt management. Prices, Π , are netted for fees and categorical state grants, and thus reflect the unit cost actually facing the local decision-makers.

From utility maximization over (1) and (2) explanations for current expenditures and transfer payments are derived. Current service expenditures will reflect the impact of changes in prices, income, surplus capacity and in marginal capital-output ratio.

The expression for the investment volume will determine the gradual adjustment to the volume needed to avoid bottlenecks and will also depend on prices, income and the current required rate of return on capital. The change in debt will strike a balance between the desire to increase community wealth and the reluctance build into the model to raise taxes to finance investments. Finally solution of the accounting equation (2) yields the current tax rate.

The equations actually estimated contain certain further complications.⁸ Some lags have been introduced to reflect inertia in the decision-making

⁸ The authors are much indebted to Erik Mellander who made the estimations for this version, as well as for earlier and more disaggregated versions, of the local government model.

process and the formation of expectations. This also greatly simplifies estimation of the system. There is also a two-year delay between the time when local taxes are collected by the central government and the time when they are finally disbursed to the local governments. Finally shift variables have been introduced to let expenditure levels shift as a function of population changes and other such influences.

In integrating the submodel of the local government into the growth model, some further links have to be added. The local government purchases of goods from the business sector are described by a matrix distributing the purchases between different industrial branches. Employment is derived from production levels by way of productivity assumptions. In the simulation-experiments reported below a somewhat simplified version of the LOGOS-model was used. In fact only the five equations determining the service volumes were used together with the budget restriction in order to facilitate the interpretation of the results in this first attempt to put the two models together. Categorical grants are measured as shares of gross expenditures for the different services, and these shares are used as policy variables in the simulations. Non-categorical grants are throughout the experiments assumed to develop according to total current expenditures.

No explicit guide lines as to long-term debt policy and liquidity positions can be derived from the equations used in the simulations.⁹ Changes in financial assets occur only as a result of "plan-

⁹ The simulations were carried out in 1981 with 1980 as the starting year.

ning failures". In the model, local governments plan their expenditure volumes for next year on the basis of price forecasts, mainly depending on the observed wage development. Errors in these price estimates can thus give rise to unplanned deficits or surpluses.

Local governments in Sweden, however, started the 80s with good liquidity. The moderating influence of stagnating price and income developments should therefore, according to the model, lead to cuts in the local rates during the next few years. No such cuts have, however, occurred since the middle of the 50s and a reoccurrence now seems for many reasons unlikely. To make our simulations more "realistic" we have therefore chosen to introduce an ad hoc floor restriction on local rates, meaning that on the average local tax rates can rise but never fall.

Such a floor restriction obviously means that during certain periods local governments would be accumulating considerable liquid assets. All this money would then by definition be used for paying off the still rather small amount of outstanding debt, without affecting expenditure. Such a behavior would undoubtedly be regarded by most observers of the Swedish local government scene as very improbable. We have therefore supplemented our floor restriction with a rule, saying that any surplus, accumulated over the last two years, in excess of two percent of the corresponding expenditure, will be used to scale up expenditures proportionately. This is equivalent to say that we have restricted the possible annual rate of improvement in local government liquidity. Unless otherwise stated this liquidity rule has been used throughout the simulations. We have, however, made simula-

tions without this rule to check that the conclusions we want to draw, do not critically depend on this ad hoc assumption.

3 THE EXPERIMENTAL SET-UP

3.1 The Targets and Instruments of Fiscal Policy

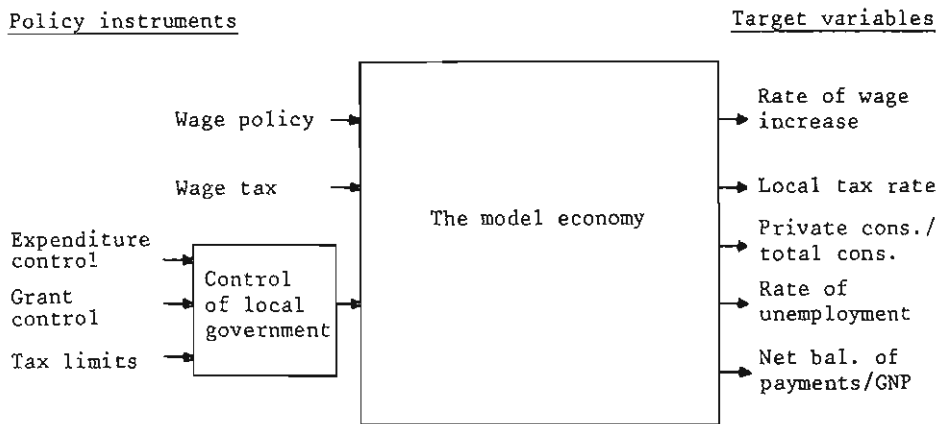
There are in principle a great many ways of controlling our model economy and of measuring the results. Our choice for the simulations has been guided both by the actual priorities in current Swedish policy and by our wish to explore the interaction between local governments and the rest of the economy.

The target variables we focus on are all in the center of current policy concern. The rate of unemployment and the net balance of payments, measured as percentage of GNP, reflect the two major real imbalances of the Swedish economy: the low level of domestic activity and the small export share of total production. The rate of wage increase is used as a representative measure of how well inflation is kept in check and the competitive situation abroad. The proportionate local income tax rate, which by now dominates the total rate for personal income tax, will be decisive for the outcome of the current efforts to bring down the marginal tax rates and to keep average rates from rising. The relative development of private and local government consumption respectively during the stringent regime needed in the 80s is, finally, an intensely debated issue with strong distributional implications.

As depicted in Figure 5 there are five different policy instruments available in the model system to attain the five targets. "Wage policy" really means controlling the long term growth trend of wages during the decade. Technically this is attained in the simulations by varying the constant term in the estimated expression for the growth rate of nominal wages. In actual life this could correspond to the efforts, frequently exemplified during the 70s, to keep down the nominal wage claims in the collective bargaining by various fiscal adjustments, particularly directed towards the rates of personal income tax. It should be stressed that wage growth is assumed equal between all sectors in the model. Shifts in relative wages, e.g. between local government and the business sector, are not considered.

The second type of policy instrument is the wage tax, which is assumed to be entirely shifted back onto the wage earners. It can be looked upon as a

Figure 5 The Targets and Instruments of Fiscal Policy



representative of a wide variety of tax and transfer policy measures. It is, however, a natural candidate since there are strong reasons to suppose that future increases in state taxation will predominantly take this form. It also has the characteristic, important in our simulations, that its variations affect local governments directly by changing their tax base, since wage taxes are deductible from gross wages when calculating income taxes.

Finally we experiment with three different ways of controlling local government spending. The first one is a full control of aggregate local government expenditures. One could read many of the current planning documents in Sweden, all treating local government spending as exogenously determined, as presupposing some kind of expenditure control. The experience over the last few years does, however, suggest that any such assumption is ill-founded.

The second instrument is grant control which can take the form of varying either the categorical grants -- in the model treated as open-ended, reducing the net production prices¹⁰ -- or non-categorical block grants giving rise to income effects through the budget restriction. Grant control as a way of affecting the total local governments spending has so far not been much used, although recently much talked about, in Sweden.

¹⁰ The few attempts made at testing this interpretation of the Swedish categorical grants have all been inconclusive but do not justify rejecting the hypothesis. Cf. e.g. Gramlich-Ysander (1981).

Finally we also experiment with tax limits, which in the simulations take the form of restricting the annual increase of the local government tax rate.

Among our policy instruments we have not included an active exchange policy. The reason is that, in the model, changes of the exchange rate will have only temporary effects on target variables. The price compensation claims, built into the equation explaining the rate of wage increase, tend to counteract and, after a while, almost completely neutralize any change of the exchange rate. That an active exchange rate thus requires the cooperation of the parties on the labor market would seem to agree rather well with our experiences from the 70s. On the other hand, the effects of wage policy in the model, seem to run rather parallel to those of an active exchange policy. For these reasons the exchange rate is assumed fixed in all the simulations.

To investigate all effects of all possible policy packages would obviously make the results difficult to survey and account for. We have therefore chosen to restrict our questions. Although we throughout account for the development of the five target variables we mainly concentrate our discussions to what happens to unemployment and the balance of payment deficit. On the policy side we focus on studying the possibility of attaining the desired results by coupling two of the policy instruments or by changing a single instrument.

In using the various fiscal instruments we have not attempted any "fine tuning" of year-to-year stabilization. We have restricted ourselves to setting once and for all the levels or growth rates

of the instruments for the whole period in question. In the majority of cases we are mainly concerned with long-term balance of payment problems etc. measured in terms of the target values in 1990.

3.2 Developments in the Eighties - the Reference Case

As a measuring rod for our simulations¹¹ we have used a "reference case", i.e. a standard scenario for the development of the Swedish economy in the 80s. The assumptions concerning the international markets and the domestic labor supply are listed in Table 1. We assume that the rate of increase in the volume of international trade will be stable but somewhat lower than in previous post-war decades. For raw materials and semifinished goods this will mean an annual rate of increase of 2.3 percent while the trading in finished goods is supposed to increase annually 5.7 percent and that of services 4.5 percent.¹² There are good reasons to expect a stagnating supply of labor in the 80s. The number of hours worked will continue to decrease, although slowly, while the number of people in the labor force will increase slightly. In the same way as for the policy instruments, yearly growth rates of autonomous variables are set equal to average growth rates for the decade.

As to fiscal policy we assume in the reference case that all policy instruments can be used to

¹¹ The simulations were carried out in spring 1981.

¹² These are aggregate growth rates based on figures set for each separate branch.

Table 1 Assumptions for the Eighties

World trade development

	Annual increase 1980/90, %	
	Volume	Price ^a
Raw materials and semifinished goods ^b	2.3	5.5
Finished goods	5.7	6.4
Services	4.5	7.0

^a In international currency.

^b Includes the following branches: Agriculture, forestry and fishing; mining and quarrying; manufacture of wood products, pulp and paper; basic metal industries.

Labor supply development

	1980/90
Number of persons ^a	32.7
Number of persons ^b	0.7
Hours worked per employee ^b	-1.0
Labor supply, number of hours ^b	-0.3

^a Yearly change in thousands of persons.

^b Yearly percentage growth.

maximal advantage. This means that the economy will be directed not only by wage tax and wage policy but also by exercising full control over local government expenditures. As can be seen from Figure 6 this makes it possible to attain all targets, i.e. to keep down unemployment to 2 percent -- usually considered the "natural" rate of frictional unemployment in Sweden -- to get rid of the balance of payment deficit by 1990, to keep wage inflation under two digits, to avoid any considerable rise in the local rates and, finally, to share out the shrinking margins of consumption increase roughly proportionally between private and local government consumption.¹³ The average growth rate during the 80s for private consumption becomes 1.5 percent and for local government consumption 1.7 percent per year.

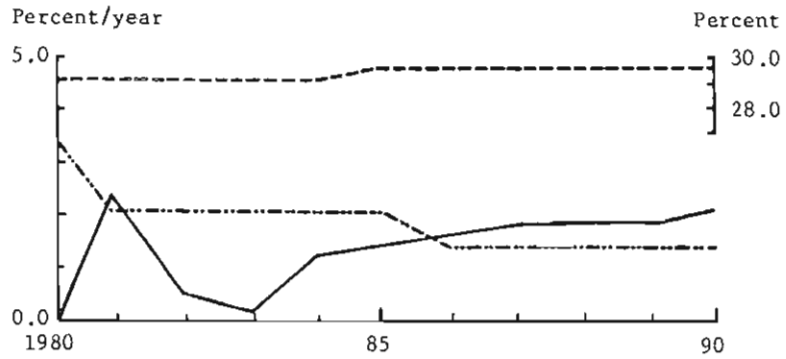
Unless otherwise stated we have in the following simulations used the same general assumptions as in the reference case, while varying the policy instruments.

Since the distribution between private and local government consumption, within the narrow margins of increase expected for the 80s, is so much in the center of present controversy, it may be of some interest to illustrate the reference case by looking more closely at the trade-off between private and local government consumption. It should be emphasized that we are here dealing with the trade-off possible within a retained balanced growth path, i.e. without giving up either the goal of full employment or the 1990 target of a

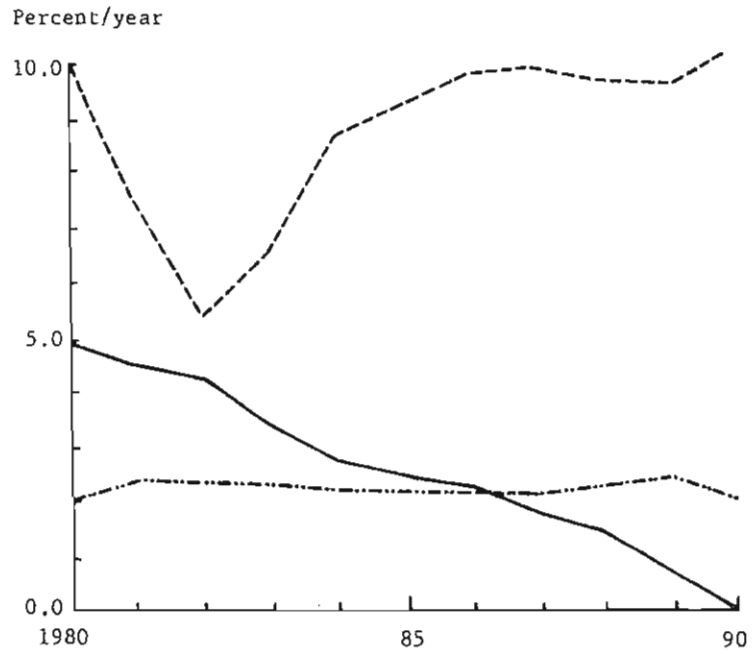
¹³ For a more detailed discussion of possible conditions and results of economic development in Sweden during the 80s, cf Nordström-Ysander (1980).

Figure 6 **Development of the Swedish Economy**
in the Reference Case

- 6a. Private consumption growth rate (—)
- Local consumption growth rate (-·-·-·)
- Local tax rate (- - -), right scale



- 6b. Balance of payment deficit, percent of GNP (—)
- Unemployment rate (-·-·-·)
- Wage rate increase (- - -)



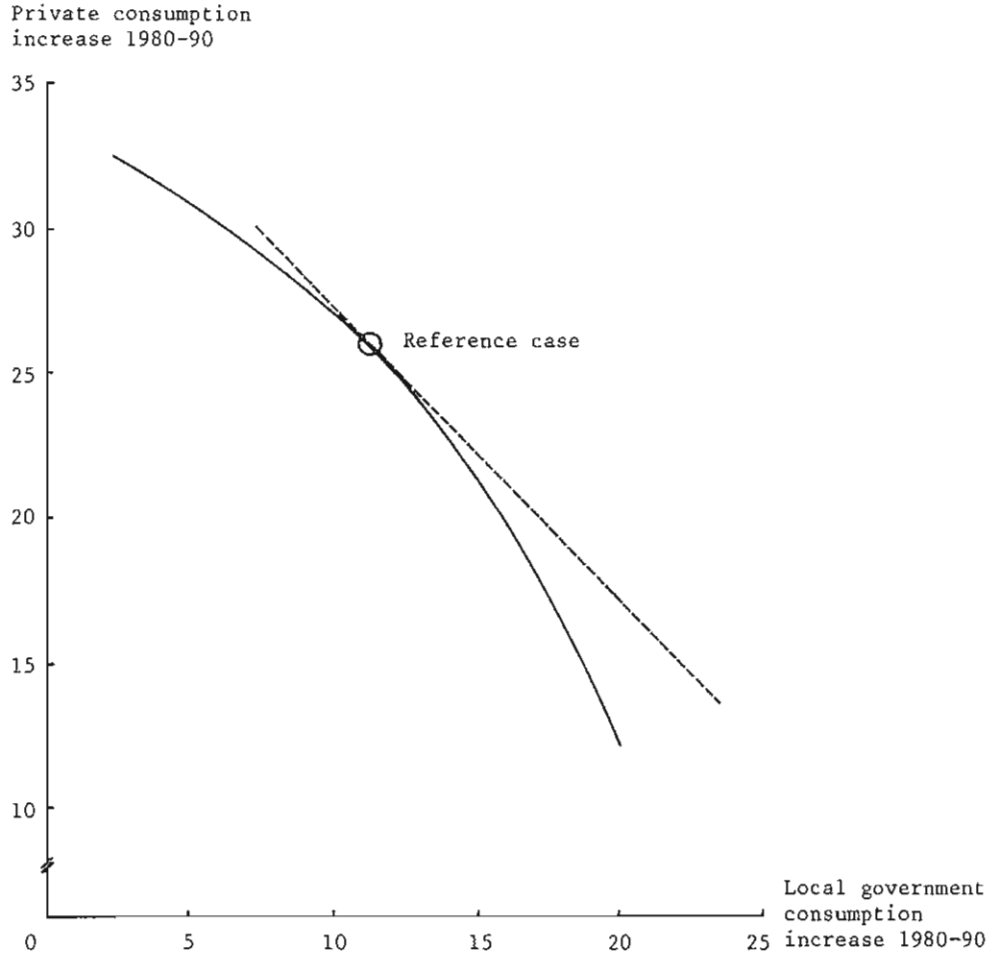
balance in external exchange. Figure 7 shows the "consumption frontier" for the year 1990. The substitution has been generated by wage policy and by changing local government expenditure. It turns out that with marginal changes we can roughly get one million worth of private consumption by sacrificing one million worth of local government consumption. The further we go in preferring one type of consumption, however, the more sacrifice it will take.

4 LOCAL GOVERNMENT AND FISCAL POLICY IN THE MEDIUM-TERM PERSPECTIVE

Having a macro model with endogenously determined local government behavior enables us to study more closely the interaction between local government and the rest of the economy by experimental simulations. Even the best planned numerical simulations are of course bad substitutes for analytical solutions. They can never systematically cover the full range of possible situations and must appeal to a fallible intuition when it comes to entangling the web of causal chains involved. However, when deductive analysis of the full scale problem appears to be unmanageable, numerical simulations may help to map the problems and possible solutions and to trace the need for more detailed partial analysis. It is with this aim -- and with all due reservations -- that the following numerical examples are presented.

The main purpose here is to try to measure the impact on the economy of central control measures directed towards local government -- expenditure control and grant policy. We will start, however, with a discussion of the dynamic properties of the local government model.

Figure 7 The Trade-off between Private and Local Government Consumption
Billions of SEK, 1975 prices



Note: The trade-off between private and local government consumption is equal to unity along the dotted line.

4.1 Patterns of Interaction between Local Government and the Rest of the Economy

To illustrate the possible cyclical patterns of local government spending we have removed the central expenditure control assumed in the reference case, thus allowing local government spending and taxing to develop according to the model described in Section 2.2. We still assume, however, that the same wage tax and wage policy is applied and we retain all other assumptions on exogenous factors. What we then simulate is a situation, illustrated in Figure 8, where a long-term policy aiming at balanced growth is kept unchanged even though the intended expenditure control on local government is ineffective. The development over the 80's of our five target dimensions are shown in the figure and measured relative to the reference case. In Figure 8a real private and local government consumption respectively are given in index form with 100 being equal to reference case levels for each year. For the local tax rate the absolute difference relative to the reference case is measured against the right hand scale. In Figure 8b the absolute difference of percentage points, relative to the reference case, is shown for wage increase, unemployment and the external deficit respectively. Figures 8c-d give growth numbers etc in absolute percentage terms without using the reference case as a measuring rod.

The overall picture of the developments without central expenditure control of local governments is a steep rise in expenditures relative to the reference case during the first years. The rise is mainly due to the combination of a very high initial liquidity, recent increases in tax rates and a relatively favorable development of wage costs

during the early years of the decade. This expansion will strongly affect the labour market as well as the balance of payment as can be seen from Figure 8b.

Towards the end of the decade neither unemployment nor the external deficit will differ much from the levels aimed at in the reference case. This long run stabilizing behavior is mainly due to the wage functioning as an equilibrating mechanism. High wages tend to bring down demand not only in the foreign markets but even within local governments. The loss of exports is compensated by the shifts into import-saving public consumption with import-intensive private consumption held back by local tax increases.

Figure 8a shows that the balance between public (local) and private consumption has by 1990 changed from that attained in the reference case. The local tax rate increases that are necessary to finance the expenditure growth cut into the income of the households.

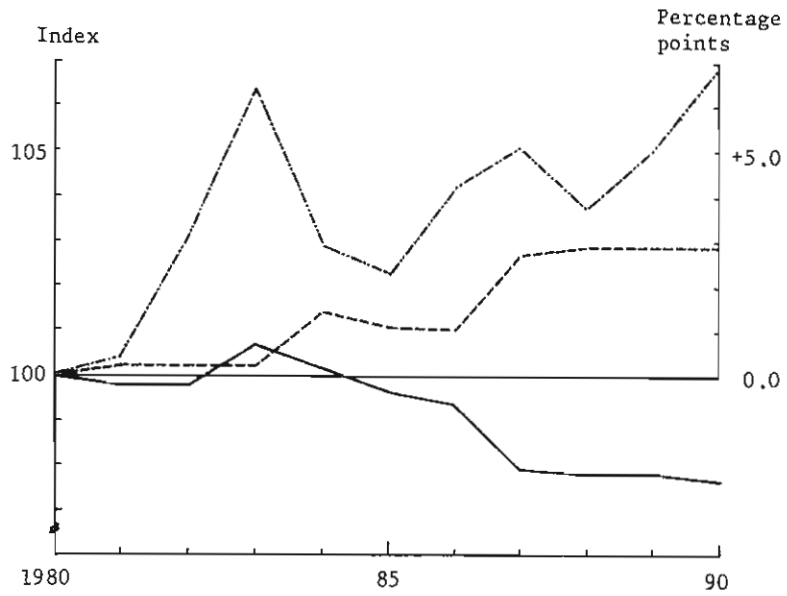
If we look closer at what happens in absolute terms, in Figures 8c-d, we can discern certain oscillations in local government spending. At the start of the decade accumulated high liquidity combined with a falling rate of wage increase -- making delayed tax income develop favorably relative to current wage cost -- leads to a steep rise in service production. The increased demand for labor can only be realized by an overbidding in the labor market which pushes up wage inflation.

After 2-3 years, costs will, however, catch up with incomes and with a vengeance. The high rate of wage increase in industry has by that time been

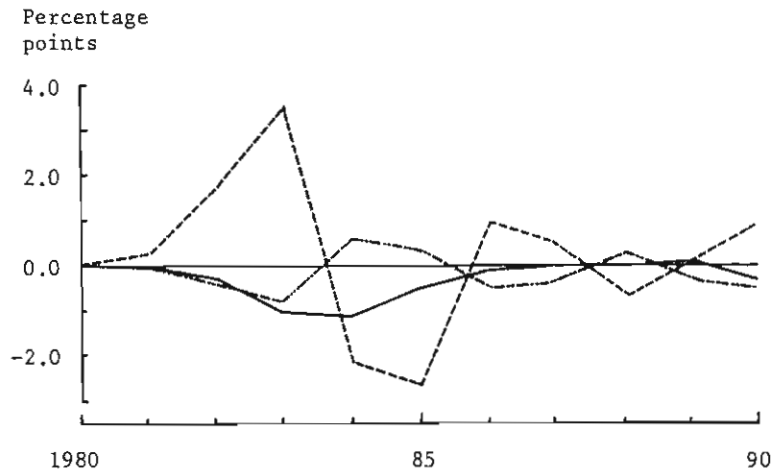
Figure 8 Cyclical Spending Pattern with "Uncontrolled" Local Authorities

Relative to the reference case

- 8a Private consumption (——)
- Local consumption (-----)
- Local tax rate (----), right scale

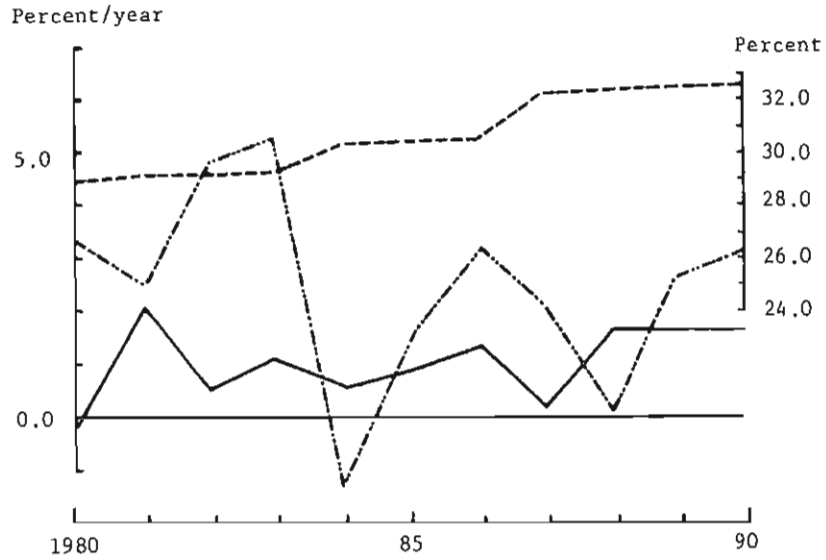


- 8b Balance of payment, percent of GNP (——)
- Unemployment rate (-----)
- Wage rate increase (----)

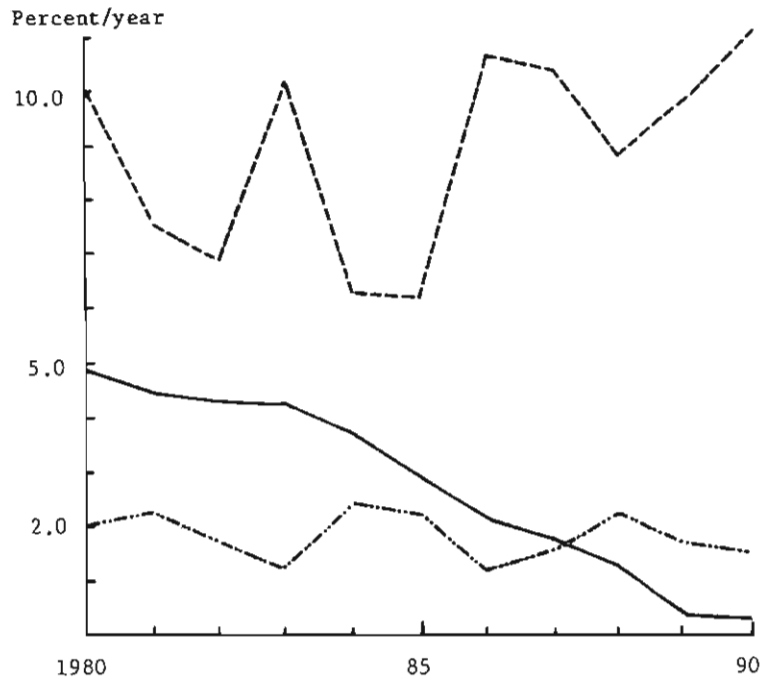


In absolute terms

8c Private consumption growth (———)
Local consumption growth (---)
Local tax rate (----), right scale

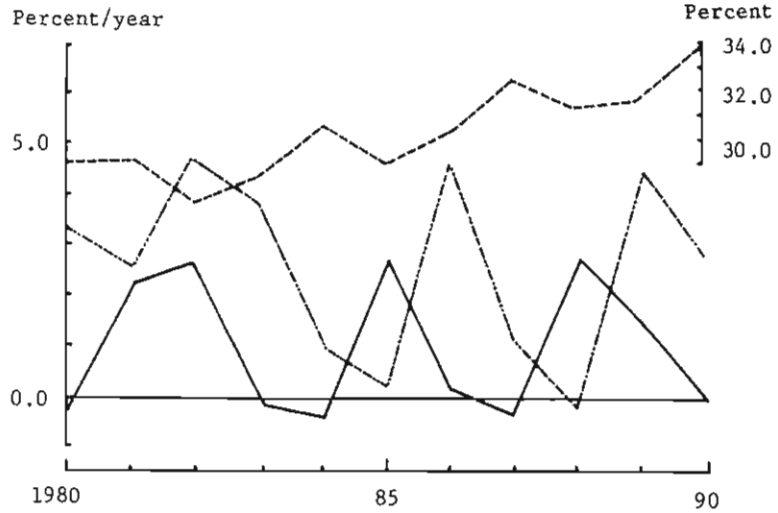


8d Balance of payment deficit, percent of GNP (———)
Unemployment rate (---)
Wage rate increase (----)

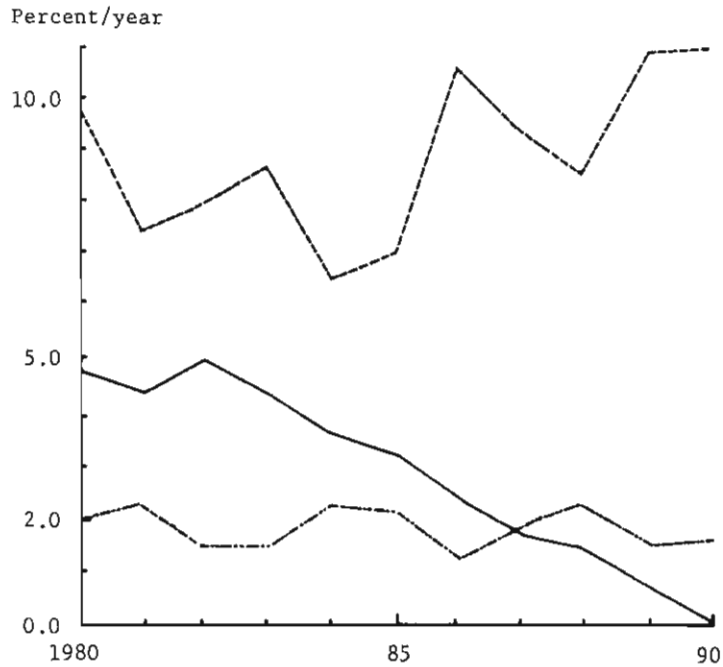


Without any ad hoc restrictions on local government behavior

8e Private consumption growth rate (———)
Local consumption growth rate (- - - - -)
Local tax rate (- - - - -), right scale



8f Balance of payment deficit, percent of GNP (———)
Unemployment rate (- - - - -)
Wage rate increase (- - - - -)



braked by the unemployment problems it created, but in the model it is assumed to hit the local governments as compensation claims with a one-year lag. High wage costs then combine with a stagnating tax base to dampen effectively the local government expansion and to necessitate a considerable tax rate increase. The relatively weakened demand of the local governments tends in turn to keep the rate of wage increase stable for a while.

When the delayed disbursement of inflated tax incomes is due, the local governments can spend the money at reasonable prices without increasing the local tax rate. This favorable situation, to which is added accumulated liquidity, will unleash a new bout of expansion, which simultaneously drives up employment figures and wage inflation rates. This again sets the scene for the new reversal -- with the cost push making the local governments revise their plans downwards, relieving some of the inflationary pressures on the labor market, etc.

As can be seen from Figure 8c the interaction between local governments and the labor market thus leads to an oscillatory pattern with an average length of about four years, where periods with stagnating service demand and rising tax rates are succeeded by periods of rising demand and stagnating rates.

As Figures 8c-d also exemplify, the cycle is overlaid and interwoven with other lag structures in the model. One main example of this is the lagged dependence of export demand on industrial wage costs. Rising wage costs tend to be absorbed to a certain extent by squeezed profit margins. It also takes some time before the rising relative unit

costs in Swedish industry is fully registered in terms of falling market shares on the international markets. This introduces an inertia in the system which allows wage inflation to run its course for some time before being rectified and compensated.

As mentioned in Chapter 2.2, two ad hoc restrictions have been added to the estimated expenditure model. Local rates are assumed never to be cut and the consequential possible liquidity surpluses are assumed to be used to increase expenditures rather than to be saved. These restrictions are used in all simulations to give a more "realistic" picture of local government behavior. Figures 8c-f illustrate the effects of removing these two restrictions.

Compared to the restricted case (in Figure 8c), Figure 8e shows that the local government spending cycle remains although its timing and amplitude may differ somewhat.

As can be seen from Figure 8f, the cyclical pattern in the labor market is not very much altered either. The ups and downs are, however, somewhat dampened. This is explained by a more smooth development of total consumption demand (private plus local) in the unrestricted case. As shown in Figure 8e, letting the tax rate vary freely will tend to give private consumption a counter-cyclical role in the local government spending cycle.

4.2 Multiplier Effects of Changes in Local or Central Government Behavior

After having seen the results of "decontrolling" local government, we shall next try to measure the effects of various means of control -- expenditure control and grant policy. This means estimating elasticities and multipliers for the local government sector and it will at the same time enable us to learn more about the pattern of municipal reaction to and reinforcement of changing conditions.

When prices or incomes for the local governments are changed by way of grant policy a chain of events, that can be split into two parts, goes into motion. The immediate reaction within the local government sector, the effect on service volumes, can be measured by the usual (partial) price and income elasticities. How changes in local government spending will in turn be transmitted within the national economy and what the end results will be for employment, private consumption, foreign trade and inflation can be measured by a kind of generalized multiplier concepts.

The results of such measurements will, however, necessarily depend on in what phase of the fluctuating economic events, the change is introduced. We shall therefore be content to give some numerical examples of the possible sizes involved.

Let us start by reviewing some of the partial elasticities. In Table 2 average values of elasticities for service demand in the 80's are presented. Three kinds of elasticities are discerned.

Equal in absolute size but with an opposite sign to the price elasticity, is the elasticity with

Table 2 Average Elasticities for Service Expenditure: of Local Authorities, 1980-90

Category	Price	Tax base (=-price)	Income elasticity
Education	-0,21	0,21	0,33
Health	-0,36	0,36	1,03
Social welfare	-0,33	0,33	0,84
Roads	-0,76	0,76	0,34
Administration, etc.	+0,28	-0,28	1,02
Σ	-0,18	0,18	0,85

regard to the tax base. This measures the impact on service production of changes in taxable income in the year $t-2$. Together with the current tax rate, the tax base will determine the tax income actually disbursed to local governments during the current year. It thus corresponds to a particular kind of "income elasticity", working by way of the budget restriction. The absence of pure substitution effects in the model means, that a fall in prices has the same relative effect on production volumes as a corresponding rise in tax income.

Changes in current income affect demand by way of the goal function, where disposable private income is one of the arguments. Increases in current income make the political decision-makers more inclined to satisfy new service claims. If this effect is added to the tax base effect, together measuring the effect of a sustained income rise from year $t-2$ and onwards, we get what in the table is called "income elasticity".¹⁴

¹⁴ For a discussion of partly divergent estimates of elasticities obtained from earlier versions of the local government model, cf. Ysander (1979).

The elasticities computed for the various categories seem to fit fairly well with common preconceptions. Educational expenditures in Sweden are strongly regulated, primarily determined by changes in the youth population and therefore considered insensitive both to price and income. Standards in health and social welfare on the other hand, although showing a relatively low price elasticity, tend to follow the income. Since the early 70's, roads tend to get a low priority but budgeting decisions here seem to be rather price sensitive. That road work appears negatively correlated with current income reflects the fact that some major cut-backs in the early seventies occurred in periods of growing income. The expansion of central administration (including also things like fire service, economic services and community planning), finally, seems to capture a constant share of any new income -- getting a further boost from any adverse price developments! Total local government service expenditure appears to keep pace with income changes but to be rather insensitive to net prices. The low price elasticity can, however, still be enough, as we will see below, to make categorical grant policy a worthwhile instrument of stabilization policy.

The total results of changing the determinants of local government spending in a dynamic economy are exemplified by the multipliers in Table 3 which includes feed-back effects between the local government sector and the rest of the economy. To standardize the results as far as possible we have measured them against a balanced growth scenario, with "uncontrolled" local governments. The resulting development, used as a standard of measurement for the multiplier effects, is discussed in more detail later (cf. Figure 10 below).

Table 3 Multiplier Effects

Resulting change in:	3a Of increasing "planned" service production with 2 % 1986-90						3b Of cutting categorical grants with 25 %, 1986-90						3c Of cutting bloc grants with 50 %, 1986-90					
	86	87	88	89	90	Aver- age	86	87	88	89	90	Aver- age	86	87	88	89	90	Aver- age
	Local government, percent	1.3	2.1	-0.1	4.7	1.0	1.8	-2.3	-2.9	-3.6	-3.8	-3.9	-3.0	0.6	0.3	2.0	-1.4	-1.9
Local tax rate	-	1.6	1.1	-	-	0.6	0.1	0.7	0.6	0.6	0.7	0.5	-	1.2	0.7	-	-	0.2
Private consumption, percent	0.2	-1.8	-0.8	-1.0	-0.5	-0.8	-0.3	-1.5	-1.7	-1.9	-1.9	-1.5	0.1	-1.5	-1.0	-1.4	-1.4	-1.0
Rate of wage increase	1.0	0.4	-1.7	2.7	-1.0	0.3	-2.1	-1.1	-1.0	-0.1	0.3	-0.8	-0.7	-0.2	-1.1	-0.2	-0.1	-0.4
Rate of unemployment	-0.2	-	0.4	-1.0	0.3	-0.1	0.7	0.5	0.5	0.3	0.3	0.5	0.1	0.1	0.4	0.1	0.2	0.2
Net balance of payment as percentage of GNP	-0.2	-	0.1	-	-0.2	-0.1	0.2	0.9	1.2	1.4	1.4	1.0	0.1	0.6	0.7	0.9	0.9	0.6

In the first experiment we increase with 2 percent the "planned" service production during the years 1986-90. The production volume determined by the equations in the model are simply multiplied by a factor 1.02, as would be the case with a shift upwards of local government spending attitudes. Due to the liquidity rule, superimposed on the model, the actual extra production increase may, as shown in the table, be both smaller and bigger depending on how much surplus tax money that remains. If we look at the actual added production, we can as well interpret the experiment as a way of studying the efficiency of central expenditure control. Without the liquidity rule the results of a decrease would be largely symmetrical.

The story told by the numbers in Table 3a is simple and straightforward. The main effect of the planned increase is a shifting of consumption possibilities from households to local governments. As it happens, however, the given initial tax rate allows an overall expansion of consumption to occur, driving up the wage rate. The next few years will therefore show a reinforced liquidity cycle. The tax rate will rise sharply, providing financial room for a new and stronger expansion later on. Summed over the years local government consumption will expand more than private consumption will shrink, leading to a slight "excess demand" in the labor market and to external deficit.

Table 3b gives the effects of cutting categorical grant each year 1986-90 with 25%. Compared to the foregoing experiment on expenditure control, this change in grant policy not only aims at shifting consumption between private and public hands, but is also a way of controlling total domestic con-

sumption. This is already clear from the average figures, which show that the 3% decline in local government consumption is accompanied by a fall in private consumption of about the same amount absolutely, and about half percentage-wise. The weakening of domestic demand leads, as could be expected, to more unemployment, more moderate wage increases and a considerable strengthening of the external payment situation.

In Table 3c, a corresponding 50% cut in bloc grants is made. We already know that the effects of a loss of budget income are equivalent to those of a comparable general price rise (cf above on the equivalence between the elasticities with regard to price and tax base). This table then does not really have a new story to tell. What really differs from Table 3b is the size of the initial amount of money withdrawn from local government, being in Table 3c half the size of that in Table 3b. Already a cursory glance will reveal that the various effects in the two tables are roughly analogous. We will therefore have no further need to distinguish between stabilization policies using bloc grants and categorical grants respectively.

4.3 The Efficiency of Policy Instruments

We will now go on to take a closer look at the way in which various central government policy instruments work in an environment with relatively independent local governments.

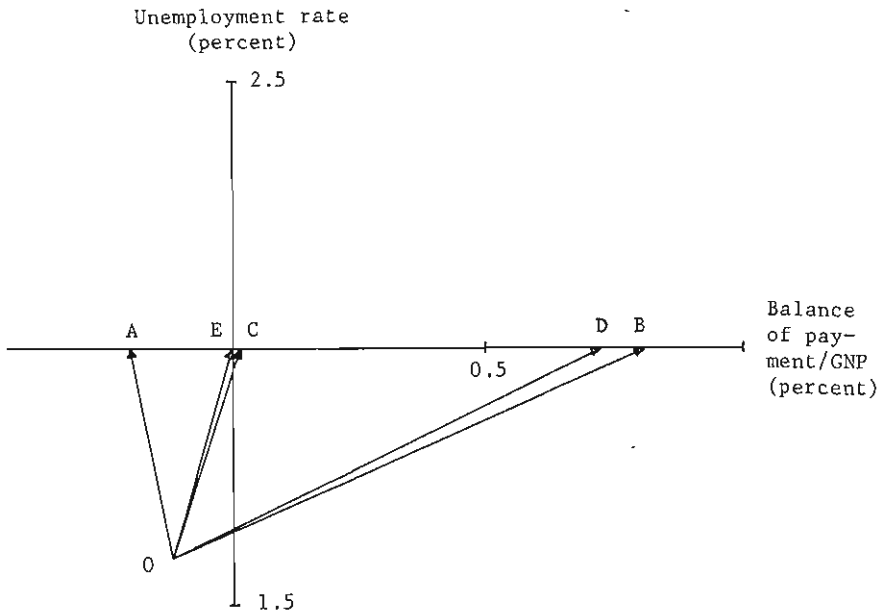
By "policy" we mean, as stated before, a level or a rate of growth of a policy parameter, set for the whole decade. Our discussion is thus concerned

with long-term guide-lines, not with year-to-year compensatory policies. We further restrict our task by dealing mainly with unemployment and external deficit, only in passing registering effects in the other targets. Also, balance is defined in terms of the situation in 1990. The simulation runs are standardized by using each instrument to regain a balanced employment situation and then reading off the attained change in deficit.

The five instruments we study are wage policy, wage tax, tax limits, grant policy and expenditure control. In Figure 9 the effects of our five policy instruments are shown as arrows. We start from the case with "decontrolled" local governments, illustrated above in Figure 8 -- point O in Figure 9 -- and use the five instruments in turn to bring unemployment to "normal" levels -- 2%. A very slight increase of wage rates (A) turns out to be sufficient to raise unemployment to "normal" levels, without more than a marginal worsening of the balance of payment situation. If we try to accomplish the same with a small increase of the wage tax (B), which will further force down domestic consumption, we get, as a side effect, a considerable strengthening of the balance of payment situation. A 10% yearly cut in categorical grants (D) has very similar effects. Even a very liberal tax limit (C), restricting the annual rate increase to, at most, 0.75 percent, turns out to be equivalent in these respects to a full expenditure control. It enables us to regain simultaneous balance on both markets although the balance between private and local consumption will be different.

There are many reasons to be cautious in interpreting and drawing conclusions from this kind of experiment. What we are trying to map, very roughly

Figure 9 The Direction of Policy Effects



Arrows show the 10-year effects of the following policy actions:

- Wage policy
- Wage tax
- Tax limits
- Grants policy
- Expenditure control (reference case)

Starting point for the policy variations, O, is the case with "uncontrolled" local governments shown in Figure 8a-d.

and very locally, is the set of equations relating changes in target values to changes in the policy instruments -- with other exogenous variables all regarded as given. Even if restricted to the two target values immediately relevant here, it would indeed be astonishing if a change in one instrument always pushes the targets along a line in one unique direction, irrespective of the values of other policy instruments. What we at most can hope for, is that in a certain neighborhood the "effect curves" of an instrument does not veer too far from a main direction. If we can ascertain that much -- and this we have tried to do by repeated experiments from different starting points and with different sign and size of the change in the instrument variable -- we can put the results to some practical use. Since the policy effects of different instruments will then be approximately additive within that neighborhood, we can look for instruments which complement each other by having roughly orthogonal effect curves. Let us now, with this word of caution still in mind, take a closer look at the arrows in Figure 9, starting with wage policy and wage tax.

A raised trend in the long-term wage (A) will affect production costs and lead to losses in foreign demand. These losses will not be fully compensated by domestic demand, since local government spending will be dampened by the rising costs, while for private consumption the rise in wage rates will be more than offset by high prices, increased local tax rates and lower employment. The end result will be a higher unemployment coupled with a slightly less favorable external payment situation.

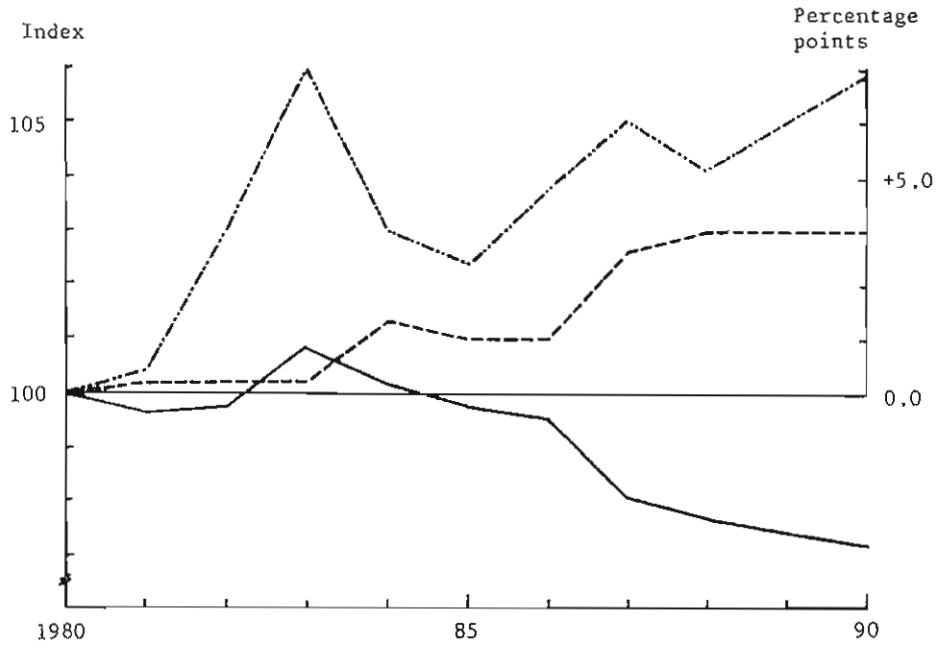
A raised wage tax (B) will on the other hand directly cut down domestic consumption. Since payroll taxes in the model are assumed to be shifted backwards, the tax base of the local governments will shrink. They will react partly by adjusting expenditure downwards, partly by raising tax rates. The disposable income of households is forced down by higher local rates, as well as by the initial wage tax increase. Decreased private consumption will hold back imports, but the main gain in the balance of payment is caused by the improvement of international competitiveness which follows from relieving the inflationary pressure on the labor market.

Within the neighborhood investigated, wage tax and wage policy thus seem complementary and suitable to be paired off for the task of simultaneously rectifying both the employment and the external deficit problems. Figure 10 shows a simulation where changes in the instrument variables are calibrated to reach these goals. The variables in the figure are related to the controlled reference case in the same way as in Figures 8a and 8b. The complementarity of instruments make fairly small changes in wage tax and wage policy sufficient to move the 1990 situation from point 0 in Figure 9 to origo. Most of the change is accomplished by raising the wage trend, only a small increase in wage tax being needed to improve the external balance.

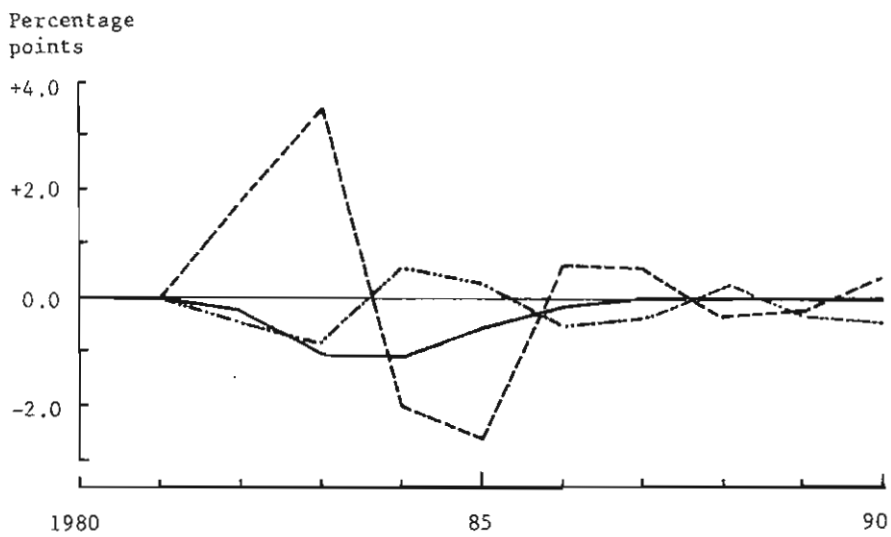
Let us now go on to look at the various means of controlling local government, starting with expenditure control (E). Expenditure control means that central government can determine at will the spending pattern of the local governments. Reimposing expenditure control on the "decontrolled" local

**Figure 10 Balance without Control of Local Authorities
but with the Use of Wage Policy and Wage Tax**

10a Private consumption (———)
Local consumption (-----)
Local tax rate (----), right scale



10b Balance of payment, percent of GNP (———)
Unemployment rate (-----)
Local tax rate (----), right scale



governments in point O, means by definition that we return to the original reference case, where local government spending was treated as exogenous -- i.e. as centrally controlled. Cutting down public service production by way of expenditure control means -- ceteris paribus -- providing more expansion room for private consumption. This expansion, due to lower tax rates, will not, however, be equivalent in size to the cuts in public spending, part of which is payed by grants. One would thus expect a certain increased unemployment to be a dominant effect in this case. The moderation in wage increase, induced by increased unemployment, will gradually lead to a shift towards more foreign sales, thus strengthening somewhat the external payment situation.

That a sufficiently tight tax limit control (C), defined as a maximal annual increase in local rates, can be made equivalent to an expenditure control, is evident. Since local tax rates are raised, although very slowly, in the reference case, the expenditure control could at least approximately, be substituted by a tax limit. Even where no such equivalence exists, the direction of the effects should be the same for both kinds of control. The fact that the effect lines happen to cover each other completely in the illustrated simulation is simply a coincidence.

Expenditure control and tax limits will however not necessarily yield equivalent private and public consumption shares. In Figure 9, e.g., we limited the annual tax increase to 0.75 percentage points for case C giving a private consumption share that differs a good deal from the share resulting from the use of expenditure control. However, the smaller we make the yearly permitted tax

increase the larger the private consumption share will become. At the same time total domestic demand will then be smaller, resulting in unemployment and external surplus.

With grant policy (D), finally the story is different. Deprived of grants from central government local authorities will react by both raising taxes and slowing down expenditure growth. The effects induced on the rest of the economy by this primary response, are very much like those induced by an increased wage tax. The fall in total consumption will be large enough to keep wage costs down, thus improving international competitiveness. The result will be an external surplus at the end of the period. Compared to tax limits grant policy is a more restrictive measure, forcing down local government production and advancing the time for the necessary rate increases.

If we accept provisionally these results some practical conclusions can be drawn. In the absence of wage control, expenditure control or tax limits may be used to complement wage taxes in the efforts to regain balance both on the labor market and in our external payments. The effects of grant policy on the other hand seem to run too parallel with those of wage tax to be useful as a complementary tool of stabilization policy.

SUMMING UP

The dominant role played in the Swedish economy by relatively independent local governments makes it important to investigate how these local governments can affect the stabilization problems facing the economy during the 80s. How can the local

governments be expected to react to price and income developments? Do they have their own built in tendencies for short-term fluctuations. How can their spending be controlled by central government and how does for instance grant policy and tax limits compare as to effects and efficiency? We have in the present paper, with the help of a growth model with endogenously determined local government expenditure behavior, given some illustrations and tentative answers to these and other related questions. Our results, although not very dramatic and seemingly well in accord with theoretical preconceptions, have at least demonstrated the danger inherent in the common practice of treating local government spending as if it was subject to central control.

The dynamics of local government spending was measured in terms of elasticities and multiplier effects and its interaction with the rest of the economy was illustrated by simulations of economic developments. These simulations revealed i.a. a tendency for local government spending, interacting with the labor market, to develop according to a cyclical pattern.

In trying out various fiscal policy measures we focused on comparing the efficiency of the various instruments in ensuring balance in the labor market and in external payments. Of particular interest and relevance to the current Swedish policy debate is the question of what kind of control of local government spending, that could be used to complement central government tax measures in a situation where no efficient control of wage trends is possible. In comparing grant policy and tax limits from this point of view, we found reason to stress the difference in overall effects

on domestic consumption. While grant cuts first and foremost hold back total consumption, only marginally affecting the distribution between private and public, tax limits can be viewed as an imperfect expenditure control, mainly shifting resources from local governments to households.

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