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FEDERAL STATISTICS IN LOCAL GOVERNMENTS

Judith Innes de Neufville*

INTRODUCTION

For decades the federal government has used statistics to carry out policy at the local level. Accordingly, much of the local statistical enterprise has evolved in response to federal statistical requirements. Federal programs provided the original impetus and funding, and the changing forms of federalism have left their stamp on local institutions, attitudes and statistical practices. Today however, Reagan federalism has effectively decentralized a broad range of policy making responsibilities to local governments and significantly reduced statistical requirements linked to federal grants. Now if statistics are used, it is more for local than federal purposes. Local governments still rely to a significant degree on federally produced statistics, particularly the Census. Ironically, however, these statistics, which were considered satisfactory--indeed were required for federal reporting--are increasingly seen as unsatisfactory locally. The irony lies in part in the fact that much of the federal purpose in its programs has been to upgrade the quality of local analytic capability and that capability remains comparatively limited. Moreover federal statistics, particularly the Census, are more accurate and detailed today than ever before. Nonetheless, locally a much higher degree of accuracy, detail, and timeliness are demanded for reasons having to do both with the nature of local policy and

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with the ability at the local level to recognize error.

Local and state governments are responding in a variety of ways, on the one hand putting pressure on the Census Bureau and, on the other, developing their own numbers and their own institutional and political processes to assure the statistics' acceptability. With the 1980 Census, however, federal statistical policy will again force the restructuring of local data management activities. The Bureau's decision to decentralize the tabulation of census results to states and private firms is working itself out at the local level in ways that create sharp inequalities in access to information and threaten the processes which have evolved to assure political acceptability of the statistics.¹

LOCAL STATISTICAL CAPACITY: THE HERITAGE OF FEDERAL PROGRAMS

Two important periods in the federal grant system since World War II may be distinguished, each of which had significant, but different, impacts on local statistical activity. The first, from 1946 to 1970, involved predominantly categorical grants and the second, since 1970, has increasingly involved block grant and revenue sharing. Categorical grants were given to local entities for specific activities for categories of programs defined by the federal agencies. Local agencies wrote proposals which were judged competitively and the amount of funding depended on the project. The grant programs of the 70s, on the other hand, gave funding to jurisdictions automatically on the basis of statistical formulas and provided only rough guidelines, if any, about the activities that could be supported by the funds.

These federal grants shaped the growth of local institutions and programs, and became central to local policy making. Grants had such influence because revenue sources available to local governments have always been highly limited. Local taxes are visible and increases are strongly resisted. Only a tiny

percentage of locally raised funds have traditionally been available for discretionary spending, and federal funds provided the opportunity for innovation and for new programs benefitting many local groups. The statistics required for the grants accordingly gained considerable visibility, and affected local expectations and norms for the application of statistics. The markedly different local effects of the two types of grants programs reflects fundamental differences in the role statistics had in each.

The Categorical Programs:

Building Local Capacity and Statistics as Ritual

The statistical requirements embedded in categorical programs had two oddly contradictory consequences. On the one hand, they were largely responsible for the creation and institutionalization of data management activities in local governments. Thus they made possible the use of statistics in decisions and created spokesmen in local government for statistics. On the other hand, the statistics required by the grant proposals and reports were almost entirely ineffectual. The consequence was the evolution of two coexisting norms: one that statistics were important and should be used and the other that they were useless forms of window dressing. The contradiction still affects local governments as they try to determine for themselves the appropriate role for statistics in governance.

The earliest categorical programs included urban renewal, public housing, area redevelopment, and hospital construction and later programs extended into education, transportation, and social services and indeed almost every area of domestic policy. Many grants were concentrated in the larger, older urban areas. This historical pattern of funding is a major cause of the

substantial variations in analytic capability now found among local jurisdictions.

Statistics, and in particular population data, played several parts in these programs. First they were used to demonstrate eligibility. In the case of urban renewal, for example, a community would have to demonstrate statistically that its housing was substantially deteriorated. Income and poverty criteria were also frequently used, as programs were largely designed to aid the disadvantaged. Secondly statistical data were required as part of plans and proposals, typically in a community statistical profile or a needs assessment. Thirdly, statistics were designed to aid in federal program monitoring. Though the statistics were required, the important point is that they were not *central* to the funding decisions. Grant approval depended on bureaucratic discretion and was influenced both by the quality of the proposal and the political importance of the jurisdiction.

While the statistical requirements did provide some rough controls on who received funding, by far their most significant consequence was to assure that local governments hired professional staff capable of manipulating data, who in turn would influence local decision processes. This result was a major objective of federal program designers, who viewed local government as neither particularly competent nor very likely to share federal policy objectives. While some jurisdictions hired consultants, others created data management staff to aid in preparing proposals and reports. This staff then maintained census and other statistics in accessible form such that they could be used in other local activities. The data managers came to be the experts who would help others in local government to understand and use statistics. In many cases the activity came to be viewed as useful enough to be an accepted government function--though often not sufficiently so to be regularly funded from local revenues. The

statistics justified the employment of other professionals--planners, engineers and others who could make use of the data. Indeed the requirements helped encourage the growth of some of these professions, providing a steady source of jobs. This kind of staff came to the tasks with ideologies and values more likely to be in sympathy with federal policies than others in local government and they had, by virtue of the statistics, their presumed expertise, and their role in preparing proposals, a strong voice in local governance.

Historical accident determined the location of data management in local agencies, and as a result, it tends to vary among jurisdictions. The group doing population data analysis was most often located in the planning department. Planning usually administered grants from the Department of Housing and Urban Development (HUD) and its predecessors, which were particularly consistent in their demands for community statistics in most of their programs. HUD also gave out "701" planning grants even to the smaller and better off communities ineligible for most other funds, and these funded a great deal of statistical analysis. However the data management function could well be in other local agencies. For example to get funding, regional transportation agencies were often required to build land use projection models, which depended heavily on population data. Accordingly they became the keepers of data for some jurisdictions.

Thus statistical requirements were used to professionalize local government, influence its policies and promote an ideology that information *ought* to be used in decisions. It became necessary to justify proposals in terms of the community characteristics the statistics represented, rather than simply to take for granted the traditional pork barrel approach. The use of statistics began subtly to change the terms of discourse and to delegitimize blatantly political choices. The participation of the professionals, moreover, made local

compliance with the spirit of federal legislation far more likely².

What the required statistics seldom did was to genuinely inform or to directly affect these program decisions *through* what they showed. They were assemblages of numbers tacked onto proposals and not intrinsic to them. Indeed the preparation of the statistics was often delegated to a junior staff member or data analyst and done independently of the plan. The choice of statistics was often dictated by the funding agency. Frequently Census statistics were required, though they were recognized as substantially out of date from the mid 60s through the early 70s, the heyday of the categorical programs.

Moreover, not only were the statistics often outdated or loosely related to programs, there was little incentive or occasion to use them in any analytic or informative way. The task, as seen by local governments, was to get whatever funding they could in whatever programmatic form it was available. The broad policy making and priority setting that might have been informed by statistics was unnecessary. Nor was it essential to use statistics to match and scale programs to particular populations when the goal was to maximize funding and when programs were, in any case, designed in Washington.

Thus the required statistics became merely window dressing--part of the ritual of grant getting. As such they were not particularly accurate, but they were accepted. Few bothered to point out their limitations. It simply did not matter. The continuing, anachronistic use of similar statistical requirements in the block grants of the 70s highlights this ritual function and illustrates the logic which institutionally protects meaningless data. For CDBG (Community Development Block Grant) funding, cities had to submit a Housing Assistance Plan (HAP)--a large compendium of statistics in defined form, showing such things as the mix of families by size needing housing and the composition of the

subsidized housing stock and its population. The ostensible object was to determine the exact nature of the housing need and to shape local programs to match, (though funding was never enough to meet the defined need). Standard census data was to be used wherever possible, but many items required local estimates.

The task of preparing the HAP was onerous, and many detailed bits of information had to be collected or guessed at.³ By the late '70s it was well recognized that Census data had become highly inaccurate, particularly as a source of detail on housing occupancy and quality. While HUD officials were aware of the data inadequacies, they required comparable numbers across the nation, and could, in any case, check local tabulations only by such mechanical methods as adding rows and columns. Though most data managers did their best to provide honest estimates, some discovered that invented statistics were neater and therefore more acceptable to HUD. Though none of the actors believed in these statistics, there was no incentive for anyone to explode the myth. The standardized numbers were essential to HUD's reports to Congress, and the HAPs provided the appearance that the programs were in accord with national goals. From the communities' view, statistics acceptable to HUD allowed them to conduct their programs without federal interference. The use of the statistics helped absolve each level of the bureaucracy from substantive responsibility for judging the program and reduced the need for conflict or negotiation. The numbers were not just without meaning, they actually operated as a smokescreen.

Emerging Local Uses of Statistics

Despite the ritualistic use of statistics in the federal grant applications and the skepticism over the value of data that was associated with it, some locally motivated data analysis did begin in the '60s. There were creative analysts, sophisticated city managers, agency heads and county supervisors who found ways to use the statistics made available for federal grants to learn about the community, identify needy areas, evaluate proposals, or focus attention on local issues. At times they ordered their own surveys or conducted special studies. In California many growing counties found it worth the cost to have a mid-decade census under state supervision, as these could significantly increase their funding allocations. Staff included special questions in these censuses for other purposes. But such efforts were rare. Even a large city might conduct a survey once in four or five years.

A second major outgrowth of the existence of local data management was the provision of service to the community. Data managers adopted the role of helping citizens and public officials to find, interpret and use data. This happened spontaneously rather than by design, but became a nearly universal practice. While the bureaucratic superiors of these analysts often saw this activity as diversionary, many data managers came to see aiding the the public as one of their primary missions, both in the spirit of education and of improving the quality of participation in governance. Moreover, data managers discovered that the effort gave them an effective constituency. Today in many localities, data managers spend 30 to 40% of their time working with citizen activists, businessmen, marketing analysts, students, and teachers.

Block Grants and Pressures on Methodology

The two primary consequences of the block grants, like the categorical programs, operated in opposite directions in some sense, one encouraging growth of statistics use and the other discouraging it. On the one hand block grants altered both the distribution and the total amount of federal funding. Because they also withdrew the external requirement for data management by reducing required statistical reporting, many local data analysis units were cut or eliminated. On the other hand, the use of statistical formulas fostered the growth of local skill in the methods of data collection and estimation and widened the politics of statistics to both lay and professional groups. These groups were to put pressure both on the Census Bureau and their own data managers as they challenged figures and demanded explanations. Finally, because the formulas were annually updated, a local expectation grew that current estimates were desirable and should be used for many local purposes. Political pressures and the widening understanding of methods were to encourage the development of techniques that would produce more accurate and less assailable numbers, despite the fact that no group provided a constituency for accuracy per se.

Three interlinked political objectives which were embodied in the shift to block grants depended for their implementation on statistics. One objective was to decentralize decision making to the states and localities, a second to reduce government expenditures, and a third to spread federal resources more widely among geographic and income groups. To do this individual categorical programs were collapsed into block funding for entire classes of problems, with localities expected to set their own priorities and design their own programs. Statistical formulas based on such things as population, income, and housing characteristics, dictated how much each locality would get. The formulas

permitted overall cuts to be made at the national level, by displacing the onus for cutting particular programs with strong constituencies onto localities, which would then make the cuts after the legislation was in effect. Statistics made possible redistribution of funding from older cities with concentrations of needy populations to smaller suburban and rural areas, in part by eliminating explicit consideration of need criteria, focusing attention on formulas that could be conveniently assumed to incorporate need issues. The use of formulas also helped in the spreading of funds by guaranteeing benefits to a constituency at the time of voting on legislation, as would be impossible in a program allowing bureaucratic discretion in allocation.

Most of the uses of statistics within block grant programs were, like the formulas, mechanical. The rhetoric of categorical programs that statistics were intended to provide information was virtually eliminated. Statistics instead were used to set programs in motion with a minimum of human discretion and to provide simple forms of reporting. They were used, for example, to provide an appearance that funding was being directed toward Congressional goals, as discussed earlier. Communities were expected to demonstrate by statistical criteria in the CDBG Program that funds were targetted to needy neighborhoods. Unemployment levels and average length of unemployment, were established as statistical triggers to automatically activate programs and benefits. Simple statistics were used for monitoring, and qualitative evaluation became uncommon. Thus the application of statistics was critical to reducing the effort and discretion of federal agencies, and the statistics lent an appearance of even-handedness. All these applications used statistics as means of control rather than as ways of knowing.

The most visible consequences of the statistical requirements of the block grants, came from the use of statistics as *the* criterion for funding. This

changed local expectations and statistical efforts in ways that are likely to be permanent. Most obviously of course, the importance of these statistics drew local attention to the methods and procedures of the Census Bureau, and motivated the unprecedented numbers of legal challenges to the 1980 results. Though Congressional representation had always been an important local issue, the formulas magnified the consequences many times and put them in a form vivid and comprehensible even to citizens. Every person not counted would mean dollars lost from the community.

Secondly, because the undercount was so significantly composed of minorities, the counts became rallying points to mobilize minorities in cities, who wanted funds, representation, and recognition. These groups not only entered into census politics, but also into local debates over statistics and became more sophisticated and knowledgeable as interest groups wanting to influence the numbers. The entrance of these groups into the debate contributed to raising doubts about the Census Bureau's integrity. New York City for example contended that counts in some of the city's minority areas should be done with extra personnel. The Bureau argued it had to treat all areas similarly, but became embroiled in a rather ugly public debate where city officials accused the Bureau of racism.

A third long-lasting consequence of block grants is likely to be the establishment of a new norm of using estimates rather than decennial census figures, not only for grant allocation, but also for many local purposes. Local expectations have been raised for more current and precise data, and this change has encouraged the growth of local expertise in such methods as population modelling and in the improvement of local statistical sources.

None of these activities in themselves offered an incentive for accuracy. The local interest is for figures as large as possible, and federal concern is

primarily that statistics be comparable across the country. Each city fights for higher figures for itself, but cities do not challenge each other's numbers. The goal is peace, not truth. Nonetheless the debates have resulted in learning, and local resources have been applied to developing new methods and making considerable improvements in local data.

During the late '70s, however, federal and local budgets began to be cut, and the effects of funding redistributions began to be felt. Statistical requirements were simplified, and federal funds were no longer earmarked for planning. Operating agencies like public works departments were powerful competitors to data management units for block grant funds. Therefore, by the early '80s, data management had been drastically cut in many cities. Counties and some smaller local jurisdictions on the other hand, had begun to be able to establish analytic capabilities because they were getting federal grants for the first time. Without experience however, they often lacked a clear sense of the purpose of statistics and were naive about the politics of analysis. For example, in one California county, newly endowed with funds and responsibility for block grant planning, staff began an elaborate set of studies of community needs, doing the surveys and analysis the textbooks propose. In a few months all were summarily fired by county supervisors for wasting time.

As some local governments are just beginning to recognize, however, the block grants demand more, not less, local statistical expertise. First, to be able to challenge the methods and estimates of the Census Bureau or other agencies takes considerable skill, along with up-to-date tabulations of local records as evidence. Moreover, virtually for the first time, many local jurisdictions have primary responsibility for areas of policy new to them, and it is they whom voters will blame for mistakes. Most local agencies must now invent decision processes and learn by trial and error how much and what type of information

they require. Data management units are experimenting with ways to support themselves--through user fees, getting agencies to share their budgets, or getting their activities into the budget as line items. They continue to provide public information, but most still have little visibility, recognition or local support.

FEDERAL STATISTICS AND LOCAL POLICY MAKING

As local governments begin to use statistics for their own purposes, they are handicapped by the fact that they have relied so heavily on federal statistics and developed few sources of their own. The statistics were acceptable so long as they were used primarily for federal purposes, but they are proving unsatisfactory at local levels for reasons that may be clustered in three categories. First, the level of accuracy, in particular the limitations on detail and timeliness and the errors and bias in the Census, are all greater problems for local purposes than they were for federal ones. Secondly, the *public* acceptability of statistics is a primary issue which local data managers must confront. The actors in local politics range widely in sophistication and ideologies. They often care intensely about the outcomes of local decisions. In such circumstances statistics used to justify decisions must have sufficient legitimacy to withstand challenges and be sufficiently well understood to be accepted in arguments. While such acceptability is essential any time that statistics are used in critical ways to resolve controversial issues, it is particularly difficult to achieve locally because there are so many sources of direct knowledge to test the numbers. The third obstacle to local use of federal statistics is that changes in federal statistical policy embodied in the dissemination of the 1980 Census have drastically changed the distribution of access to information among the

actors in local politics. Local data management institutions are once again restructuring themselves to respond to federal policy, but the access issues seem likely to remain problematic.

Dependency in Statistics Production

For a variety of reasons, local statistical efforts have been limited largely to tabulating and reorganizing data designed and gathered by other agencies for their own purposes. From an efficiency standpoint, it made little sense for thousands of small-scale governments to maintain the skills and staff to do censuses, when these must be done by the federal government. Nor have many jurisdictions chosen to support the staff and expensive computer hardware necessary to conduct regular surveys, maintain sophisticated data analysis capabilities, or track and tabulate the data that are by-products of local administrative processes. The statistics used have been mostly supplied by the federal government, and the Census has been the single most important statistical source for most local jurisdictions as it offers virtually the only data available on the sub-city level. The Census Bureau, however, makes the decisions on the questions, definitions, geographic concepts, and products. Its objective of comparability across jurisdictions and over time supersedes the desire to analyse localized conditions. Moreover the Bureau has to respond to the demands of many user groups, of which local governments constitute only one, and it is neither the most powerful, nor the most organized. Thus local governments are in the position of relying on data in forms over which they have little control.

The Demand for Accuracy: Local Policies and Perceptions

Local policy making demands a level of accuracy in the statistics it uses which is considerably greater than federal statistics. In particular, a level of timeliness and geographic detail not demanded at the federal level is critical to the utility of the data for local purposes. Moreover a much lower level of error can be tolerated. The reason is not that local policy makers have intrinsically higher methodological standards than federal ones, but rather that local policies have different characteristics than federal ones, and that, at the local level, many participants have the means to check the validity of the numbers.

One of the sources of the conflicting standards lies in the distribution of error in the Census. The percentage error on a national scale is small, but it is concentrated in particular cities and sections of cities and certain ethnic groups. Errors random in national terms are effectively nonrandom in a small city or neighborhood. A missed housing project, or the assignment of a series of blocks to the wrong Census tract can make a big difference in local analyses and in policies based on them.

A second source of local difficulties with federal data is a function of the nature of local decisions. These can be distinguished from many federal policies, which tend to establish guidelines for the nation as a whole or set up programs that are to be used in some, but not all, areas. Local policies, however, tend to be singular in form and specific in operation. It is the difference between a federal policy that funds a housing subsidy for the elderly across the country and a local program that identifies a particular elderly population and designs and sites a project for them. Thus it may be quite sufficient for national statistics to be correct on the average, but local statistics have to be correct in particular.

This need for specificity in statistics is magnified by the fact that urban areas are highly differentiated spatially in their social characteristics, housing types, patterns of blight, and demands for services. The success of many local programs depends on the characteristics of the population in the immediate vicinity. Census tract data often prove to be inadequately fine-grained for local purposes. Tract borders do not correspond to local planning areas, administrative districts, catchment areas for services, or impact areas for projects. While local analysts sometimes make rough estimates from tract data, they seldom consider the results satisfactory--ironically enough, since the Bureau compiles tract data primarily on the rationale that they are locally useful.⁴

Not only is geographic specificity demanded locally, but increasingly the numbers are also expected to be current. This demand is partly, as suggested earlier, supply driven. Current estimates are available because of formulas, and therefore there is an expectation they will be used. But also, at least in growing states like California, dramatic and visible changes can occur in local populations in short periods of time. In view of the usual delay time, many localities seldom directly use the Decennial Census statistics. Rather they rely permanently on estimates, revising them two or three years after the Census, when figures arrive. The Census becomes primarily a benchmark.

These local demands for accuracy are very much the result of the fact that actors at the local level can evaluate for themselves when the data are accurate in ways that are not accessible to federal data users. Local staff can check the Census directly against their own records--address listings, housing permits, school enrollment records and so on--and can identify inaccuracies. Even citizens may be able to tell when small-area data are incorrect, because of their familiarity with the community. This direct and phenomenological awareness of the population's characteristics accounts to a great extent for the discrepancy

in the demands for statistical accuracy and precision between national and local actors.

The Demand for Acceptability:

Processes to Legitimize the Numbers

The consequences of many local policies are apt to be direct, immediate, and predictable. Individuals or businesses will lose or benefit from the construction of a highway off ramp, a shopping center or a condominium project, or from a new library or a tax measure. A policy or project can alter the social character of a neighborhood or threaten its quality of life. Therefore statistics which are prime criteria in arguments for or against local public action must achieve a high degree of public acceptability. The many lawsuits challenging the 1980 Census both reflect and feed the public skepticism over statistics that extends even to that most careful of enumerations. To complicate the task, local jurisdictions now rely heavily on estimates, which present a far greater challenge for public acceptance.

Political acceptability implies normally that the statistics are at least *viewed* as accurate by opposing sides to a debate. At a minimum, acceptable statistics are those recognized by opponents as the numbers which are going to be *taken* as fact for the time being. There have to be no legitimate means to challenge the numbers. For both national and local statistics the legitimacy needed for policy applications is achieved through political and social processes which reassure users that the numbers are professionally produced, without deliberate bias and which lay open methods and evidence for public scrutiny and debate. The Census Bureau has long recognized the importance of such processes and has begun to work with local actors to assure greater acceptability of its numbers, though with mixed results thus far. At the local

and state level some examples are also emerging of processes which are succeeding in legitimizing statistics for controversial applications.

The 1980 Census: Building Local Acceptance. While the Census Bureau has long accepted responsibility to work with local users and explain census methods, for the 1980 Census it decided to get input from local governments in a systematic way. While greater accuracy was one goal, building local confidence in the results was clearly another. Local Review Committees were established before the Census, and local and regional liaison staff were designated. Bureau staff met with these people to discuss methods and problems of taking the Census. In particular, since 1980 was to be a mailback census and enumerators would no longer visit each home, correct prior addresses would be the key to an accurate count. Thus it was planned that local staff would review the Bureau's address listings before the Census and check early counts to identify where obvious errors had occurred, so that immediate recounts could be done. In addition the Bureau encouraged the formation of local community organizations to assure a higher degree of cooperation among minorities.

The effort was a valiant attempt to establish a social process to produce a census that would be both more accurate and more accepted locally. Bureau staff would educate local officials on the logistics and methods of the Census and the rationale for them, and make use of more direct knowledge of local population and housing. The Bureau would maintain its professional standards and its control of the decisions, but, at the same time, would work cooperatively with local staff. Criticisms would be met or explained early on. The numbers that emerged would, at least to some degree, be a product of a mutually accepted set of methods. In addition, probably not unintentionally, the strategy was a public relations ploy, which would create local support to defend the Bureau's methods if they were later challenged.

The idea was only partially successful, though the failures were in part beyond the Bureau's control.⁵ Census counts *were* higher than predicted, and the undercount was substantially reduced. New ties with local agencies were established, and old ones more firmly institutionalized. The Bureau, however, suffered from unexpected budget reductions and extended delays. Local committees often found that address listings were highly inaccurate and could not be changed. They were not able to review early counts because the Bureau sent figures back to their central processing office, where delays were so long that field offices were apt to be dismantled by the time the figures got back to localities. The Bureau's qualms about privacy did not allow much direct local checking of returns in any case. Then a fire destroyed all the records in a minority district of New York City, increasing suspicions in that already tense situation. So while local review did produce some cooperation and mutual learning, local officials' expectations were raised and disappointed. Many began to view the Bureau with a mixture of contempt and distrust.⁶ The effort was not sufficient to prevent the rash of lawsuits. Though the Bureau did not carry out its plan fully, it did build bridges and establish strategies that could be useful in 1990.

Local Population Estimates and Projections. Processes to assure the public acceptability of population estimates and projections have evolved in California, where these are the most visible and influential of statistics. It is testimony to the effectiveness of these legitimation processes that the statistics are so widely used in conflictual situations where substantial funding is involved. In great part because of the state's high growth rate, estimates and projections have come to be crucial in many physical planning decisions, such as determining the need or demand for major public and private investments in fixed facilities, such as highways, shopping malls and schools. They are used in market studies and public agency analyses to select the location and plan the size and

phasing of projects. Projections are part of the justification for plans and regulations, and they are central to such ubiquitous work as assessing environmental impacts of proposed development and predicting its fiscal consequences. Such studies can often lead to reduced project sizes, growth-limiting land use regulations and limits on housing construction.

The consequences of these decisions may be considerable, and the statistics may be pivotal in them. Population projections have been central, for example, to a hard-fought battle over whether to build a rapid transit line in the Wilshire corridor of Los Angeles. The figures chosen will, in turn, influence revenue and ridership projections that will be used to justify the system. In Contra Costa County a bitter public debate over building a new prison facility was settled when staff used a cohort projection model to predict prison population in twenty years. The Environmental Protection Agency requires that official population projections be used for regional air and water quality planning. As a result these figures influence whether and where sewer hookups can be made in countless rural areas and thus set constraints on industrial or housing growth.

Since so much hinges on what the statistics show and since there is no single correct way to make local population estimates, methods become a political issue in themselves. The choice of methods, from a technical standpoint, depends on whether one presumes an area to be growing or declining, on whether its growth is in natural increase or migration and on what types of current data are available. One approach is simple trend extrapolation from benchmark data; another involves a more complex cohort projection; a third estimates population in relation to employment; and the most common at the local level is a method which determines population as a multiple of housing units. Judgment must be used in any of these, and multipliers may be tinkered with to approximate changing fertility rates and ethnic or age mixes affecting

average family size. The leeway is enough that more than one data manager has told me the "population estimate is a policy decision.

Projections have all the methodological complexities of estimates with the addition of assumptions about the future--assumptions which once applied can be self fulfilling. A high growth image for a community can contribute to growth, while an image of decline can hasten that process.⁷ While I have argued that the design of any policy indicator is appropriately, at least in part, a political process,⁸ the rationale for mixing politics with measurement is even clearer for projections.

At the state level in California, local estimates and projections are produced by the Population Research Unit (PRU) in the Department of Finance. It was started in the 1950s to help reconcile competing estimates made by different agencies. The Unit played a more powerful role in the '60s, when it provided the detailed projections on which California's complex, linked system of universities and colleges was designed. It also became more important in that period because it began to make the official estimates for the local allocations of gasoline and liquor taxes.

The PRU was staffed by professionals and for many years headed by a demographer trained at the University of Chicago. Staff from the outset were under pressure from many interests, localities and legislators, but made clear that they would adhere to their professional judgments. They were open to discussions with local staff and listened to their evidence of local growth. For the most part in the early years, they patiently explained why local methods were inadequate. PRU staff maintained their professional standards under even the pressure of a local tax limitation measure, which required the Unit to provide annual population figures for localities. Staff did so, but refused to certify estimates they considered to be based on inadequate information, so these could

not be used for distributing state funds. Needless to say, this tactic provided a strong incentive for growing communities to improve their own data.

The PRU established a reputation for high methodological standards and detachment from daily politics and could defy even direct requests from powerful legislative leaders. It was able to develop this independence not only because of the determined professionalism of its staff, but also because of its location in the state's Department of Finance, where there was no operating responsibility for particular programs, and the unit was not likely to be suspected of bias. Moreover, its policy of openness of method and willingness to discuss estimates helped deflect criticism as well as to educate local staff. In the 1970s outreach has been broadened; workshops and public hearings are held; and PRU staff travel through the state, consulting with local staff and gathering information. The system bears many resemblances to the Census Bureau's own program of outreach.

A variety of other agencies also make population estimates and projections, including COGs (Regional Councils of Government), county governments, the larger cities, and the federal Bureau of Economic Analysis. The projections developed by the COGs are the most public and controversial of all statistics in California politics, as these are widely and visibly used in the siting of regional facilities and they affect a community's public image. ABAG, the Bay area's COG, follows a strategy paralleling the PRU. It sends projections for comment to each locality and holds workshops as well as public hearings. In preparing the projections, agency staff do research on local growth policies, and adjust the numbers if communities can demonstrate that major projects are in the works. Though the projections entail bitter debate, they seem in the end to be accepted and they are used and cited often. In contrast, in another state, where the COG developed projections independently of users, the figures were

simply ignored.

Professionalism, high methodological standards and avoidance of personal or institutional bias are all important factors in the creation of statistics acceptable for public policy debates. But this professionalism does not require discounting the knowledge of users and those less technically skilled, nor ignorance of policy agendas. On the contrary, the legitimacy of statistics for policy and, in some cases, its accuracy as well, depend in many ways on the cooperative development of meanings and methods between professionals and those who intend to use the statistics.

Access to the Census:

The Local Consequences of Federal Statistical Policy

Local governments in the 1980s have weak and widely varying capabilities for data management. In this context, the Census Bureau's policy of disseminating the 1980 data primarily in the form of computer tapes has created pressures on local data management institutions. Perhaps most significantly it has resulted in redistributing access to the Census among jurisdictions and between the public and private sector, as well as between those who can pay and those who cannot. The consequences are particularly acute for the ordinary citizen. To the extent that information lends power to those participating in the political process, power at the local level is being redistributed.

The Bureau decided to supply tapes and tabulation software of the 1980 Census at nominal prices to all comers as soon as they were ready. States were encouraged to establish Census Data Centers, which would prepare printouts, disseminate data, train users, and provide technical assistance. Printed reports would still be published, but substantially later. The purposes were, in

keeping with other federal policies, to decentralize policy making, to cut federal expenditures, to encourage private sector involvement, and to get users to pay their own way. Moreover, from a technical viewpoint, tapes had the advantage of offering more information and more flexibility in the organization of the data than printed reports.

The first inequalities of access arose because there were wide variations in the capabilities of the states. California's Population Research Unit took over State Data Center responsibility, but some states had difficulty finding any agency to take on the role. Since there were long delays at the Bureau in preparation of the tapes, and even longer ones in publication of the reports, and since Census tabulation software turned out to have many bugs, the technical capacity of an agency determined its ability to access the Census. It is taking years for some states to prepare printouts and become capable of performing other analytic tasks. The tapes themselves are effectively inaccessible to all but the largest cities and some counties, as most jurisdictions lack the expertise and massive computer capability that is necessary. Most jurisdictions purchase printouts or order special tabulations from public or private agencies.

The various actors have responded in different ways. In California the COGs have filled some of the gap, preparing their own tabulation software and providing printouts and technical assistance to both public and private census users. On the other hand, libraries, the traditional source of census information, apart from local governments, for the ordinary citizen, teacher and student, have for the most part not yet effectively coped with the changes. Many have ordered the awkward microfiche version of the Census, while others have awaited the long-delayed, but familiar printed reports. A few librarians have discovered, almost by accident, the availability of standard printouts from one or another local agency, but they often have difficulty in cataloguing or making usable the

information in these mountains of printout. The private sector however, was best prepared, and was first to offer printouts of standard tabulations as well as tailor-made analyses and first to produce multicolor census maps and graphs.

Thus a significant consequence in the local context of the Bureau's policy of "do it yourself" census tabulations, was to alter the mix of actors and responsibilities involved in local data management. States, COGs, and private firms were brought in in a major way and small jurisdictions had to rely on these. A second consequence was that agencies began to charge for producing the data and to do so in amounts considerably greater than the cost of printed reports. For example, for a medium-size jurisdiction a printout of data taken from just one of the summary data tapes is priced by a typical public agency at \$75 to \$100, though a few make printouts available at reproduction cost. Consulting advice is charged by the hour and special tabulations could cost hundreds of dollars. The private sector charges prices many times higher than these.

As a result tremendous disparities in access to census data have emerged. While printed reports are limited in their content and flexibility, at least reliance on them gave all some roughly equivalent access to the Census. Their prices were modest and all had equal knowledge about locating them. Now however, some jurisdictions have more complete and timely census data than others. The richer and growing jurisdictions tend in particular to have better statistics than older, declining or smaller places. The flexibility and specialization of private data firms have allowed them to innovate, but they have, for the most part, not designed their products for the public sector nor marketed to it.⁹ Accordingly, the public sector has been left behind technologically, and those who can afford to pay--the large corporations--have the best data. Small businesses have fared relatively poorly, as they rely heavily on local data

managers. The growing use of user fees and the slow adaptation of the libraries, means that citizens, teachers and students have fared worst of all.

The systems of statistical production at the local level are now in a state of flux. The issues of who gets statistics and how quickly and of who pays and how much are all in question. New institutional arrangements are forming and there is vying for territory and uncertainty as to what the practices and divisions of responsibility should be. Private firms produce public statistics, while public agencies charge for services and products as if they were private firms. Some public agencies purchase statistics about their own communities from private firms, while others behave in distinctly entrepreneurial fashion and seek out the business of other public agencies and private firms. As they do so, thinly veiled threats of lawsuits for unfair competition come from the private sector. And public data agencies are caught in dilemmas over pricing their services. High fees would help support their development costs and satisfy their private competitors, but are not justified if data are primarily for public purposes. Moreover, even low fees can disqualify entire groups of public users. Nor does a sliding scale have much promise. Profit-making users contribute to community development and citizens to local democracy. Some in each category have resources and some do not. No simple pricing principle for equity, efficiency, or public good is applicable.

At a time when statistics are beginning to be more central to local public debates, such differences in access raise some troubling issues, even beyond the obvious one that they redistribute the capacity to participate in governance. If the public acceptability of statistics is indeed a prerequisite to their being used in policy controversies, then privately produced data may not be accepted. Public data production, unlike private, can be open and accountable. Its statisticians do not serve particular interests. They can work cooperatively

with all users to develop a shared understanding of the methods and concepts. Without open access and public acceptance, statistics offer the political process only confusion and mistrust.

PREDICTIONS

In the next decade local governments will increase their capacity to produce and use statistics in sophisticated ways. This change will be driven both by the need for "defensive" statistics to fight the battles for state and federal funding and by the growing self awareness of local governments as autonomous policy making bodies. It is harder to predict what institutional forms will evolve to fill these responsibilities, though undoubtedly county and regional agencies will become increasingly important as suppliers of data to at least the smaller governments.

It is too early to tell where the dividing line will be established between the activities of the public and private data providers. It may well be that, as local agencies develop their expertise and improve their technology, they will crowd the private data firms out of many of their markets for basic census analysis. Whatever the case, however, there seem certain to be legal challenges to many of the current practices by both private firms and public interest groups. The current set of conflicting arrangements will not be stable enough to continue indefinitely.

Local governments in the next few years will place growing pressure on the Census Bureau. One sample of the kind of activity the Bureau can expect was a massive letter writing campaign mobilized by local data managers after the Bureau decided it could not prepare printed reports of 1980 tract data. The campaign gave the Bureau enough leverage to get funding restored for the

tract publications. Local governments will become a much stronger lobbying force demanding that Census content and products respond to their needs. If the Bureau is not more successful in its cooperative efforts at conducting the 1990 Census than it was in 1980, legal challenges to the numbers may even increase.

Federal policies will continue to influence local institutions, but these effects may be conscious and desired or they may be unintended byproducts with problematic consequences. Two possible paths seem open. Either federal agencies will find ways to incorporate local knowledge into the data they produce and ways to respond to the demands of localities for such things as current estimates, and fine-grained data, or a dual system of population and housing data may evolve--one set of federal statistics and another of local statistics. Under those conditions, federal-local conflict over statistics could be permanent.

NOTES

1. The analysis in this paper grows out of several of the author's prior studies and professional contacts with many local governments, primarily in California. In addition, for the present paper, a series of in-depth interviews were conducted with data managers and data users from both public and private sectors in California, Vermont, New Hampshire, Massachusetts, and New York in the spring and summer of 1983. Information was gathered, in these and earlier interviews, on major and small cities, suburban jurisdictions, and county and state agencies. The sample was designed to reflect a range of experiences in growing and declining communities, well to do and poor, Eastern, older bureaucracies and the newer, more professionalized Western ones. No pattern emerged to link data analysis capability to any of the obvious factors such as city size, age, or wealth, though some limited correlation with the last variable may exist without being a determining factor.

Since the arguments in this paper are heavily influenced by the California experience, it is worth commenting on the ways this is or is not typical. While there is much diversity within the state in terms of statistical competence, on the whole one finds more developed statistics and applications in California than elsewhere. It has a high growth rate and localities have vested interests in accurate population counts at frequent intervals. Moreover until recently the state has been relatively well off compared to other states, allowing more leeway for the development of statistics. It also has a strong tradition of professional public administration, in sharp contrast to many other areas. There has been more formal acceptance of the idea of formal planning, as the state itself mandates that localities prepare and follow General Plans. Thus California's experience is likely to reflect more sophistication than that of many other states, but by the same token it may reflect some of what the future may be as other

localities in other states move into increased responsibility for statistics.

Relevant work by the author on local statistics includes: Judith Innes de Neufville, *Federal Requirements and Local Planning Capacity: The Case of CDBG*, Institute of Urban and Regional Development Working Paper No. 385 Berkeley: University of California, 1981; *idem*, *Social Indicators in Local Government*, Washington, D.C.: Proceedings of the American Statistical Association, August, 1979; *idem*, *Data and Planning in Local Government*, Department of Housing and Urban Development San Francisco: August, 1981

There has been comparatively little empirical study of local government practices and institutions for the use of information and computer technology. The most studies in informing this paper include: Janet R. Pack, *Urban Models: Diffusion and Policy Application*, Regional Science Research Institute, Monograph Series No. 7, Pennsylvania: University of Pennsylvania, 1978; James N. Danziger et al., *Computers and Politics: High Technology in American Local Governments*, New York: Columbia University Press, 1982; Kenneth L. Kraemer et al., *The Management of Information Systems*, New York: Columbia University Press, 1981; *idem*, "A Requiem for USAC," *Policy Analysis* 5(1979):313-349; J.D. Eveland, *Innovation as Specification: Issues and Implications*, National Science Foundation, Innovation Processes Research Section, Division of Industrial Science and Technological Innovation, unpublished; Everett M. Rogers et al., *Final Report, NSF Grant RDA 75-17952. Executive Summary: The Innovation Process in Public Organizations--Some Elements of a Preliminary Model*, Department of Journalism, University of Michigan, Ann Arbor, March, 1977; and *Computers in Local Government*, Pennsauken, N.J.: Auerbach Publishers Inc., 1980, a useful compendium of how-to articles for local data managers.

2. Martha Derthick in *The Influence of Federal Grants: Public Assistance in Massachusetts*, Cambridge: Harvard University Press, 1970, found in a comparable way that federal requirements ostensibly designed to rationalize procedures and introduce professionals into the local welfare bureaucracy, in fact had the effect of making the local bureaucracy more sympathetic to federal goals.

3. A study of the HAP's outlines this process in more detail. See Berkeley Planning Associates, *Evaluation of Housing Assistance Plans in Meeting the Statutory Objectives of Linking Housing and Community Development*, Berkeley, CA. 1977 and 1978.

4. A new Census Bureau Program to provide cities with statistics tabulated according to locally designed neighborhood boundaries has not been in operation long enough to assess the degree to which it will meet the demand for spatially detailed data.

5. The story of the many problems in preparation of the 1980 Census is told in U.S. General Accounting Office, "The Census Bureau Needs to Plan Now for a More Automated 1990 Decennial Census: Report to the Subcommittee on Census and Population Committee on Post Office and Civil Service, House of Representatives." GA0166D-83-10, 1983.

6. A typical expression of the hopes and disappointment is expressed by San Francisco's data manager, M.F. Groat, in "The Census and the Cities," *American Demographics*, July/August 1981, pp. 32-37.

7. Andrew M. Isserman and Peter S. Fischer, "Population Forecasting and Local Economic Planning: The Limits on Community Control Over Uncertainty," *Population Research and Policy Review*, vol. 3(1), forthcoming.

8. Judith Innes de Neufville, *Social Indicators and Public Policy: Interactive Processes of Design and Application*, New York: Elsevier, 1975) and "Validating Policy Indicators," *Policy Sciences*, 10(1978):177-188.

9. The explanation offered by private firm managers was that the elaborate proposal writing and bidding requirements of governments, the cumbersome decision making process and the slow payment process made marketing to the public sector much less profitable than targetting private business. Another part of the explanation for the difficulty of getting innovative technology integrated into local government activity on a large scale through the private market may be illuminated by Kraemer's study, "Requiem for USAC." He found in evaluating a major federal demonstration project, that the effort to develop model forms of urban data banks was doomed to failure because each government's structure and objectives were so unique. While the cities involved in the project developed useful systems, few aspects of these were transferable to other jurisdictions in any simple form.