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Statement of

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Before the
Task Force on Expenditures, Regulations
and
Reorganization
House Budget Committee

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on

Status of the Use of Productivity Data
in the Budget Process

Mr. Chairman and Members of the Task Force:

We are here today at your request to discuss the use of productivity data in the Federal budget process. Your letter of May 6, 1977, requested that we survey this area; we have done so and I will discuss the results of our effort during my testimony this morning.

Although productivity data is being used in varying degrees in the budget process, it can and should be used much more. It can be an extremely useful resource allocation tool for the Congress, executive branch management, and budget reviewers at all levels.

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Before expanding on these thoughts, I would like to discuss some terminology which I will be using in my testimony.

Productivity data is broadly defined, for purposes of this testimony, to include all measures of efficiency. Efficiency measures are used to determine how well an organization is using available resources to produce the required goods and services for a constant level of quality. Efficiency measures include:

1. Productivity measurement data, which is the ratio of output to input or rate of production, is usually expressed as an index comparing a current year to a predetermined base year. For instance, when we say productivity has increased by 2 percent in one year over a preceeding year, we mean in essence that in the latest year the same input will produce 2 percent more output than in the prior year.
2. Work measurement data is the comparison of actual output and input to a standard or targeted performance. For example, the standard time to produce an item might be 10 minutes, while actual time in a specific case may be 9 minutes or about 10 percent better than standard.
3. Unit cost data is a dollar value expression of efficiency expressed as cost to produce a single unit of output. For instance, we might say that it

costs $1 to produce an item in 1976 and $1.05 to produce the identical item in 1977.

I want to emphasize that efficiency measures do not comment on the appropriateness of an activity itself. Thus, limiting one's perspective to solely efficiency measures can lead to a conclusion that an activity is efficient without knowing its need or effectiveness. By the same token, a concentration on whether results are being achieved can produce results costing far more than necessary because wasteful and inefficient methods were followed. Although I will be concentrating on efficiency measures for purposes of this testimony, I want to stress that both efficiency and effectiveness measures are necessary ~~to~~ to get a true picture of an organization's performance.

Background of GAO's involvement in Federal productivity

We in GAO have had a long and continuing interest in improving the management and efficiency of the Federal work force and have undertaken a major effort to monitor the status of productivity in the Government, identify problems associated with its improvement, and improve the state-of-the-art in auditing productivity programs.

In 1970, Congressional interest in the productivity of the public sector prompted us to undertake--in collaboration

with the Civil Service Commission and the Office of Management and Budget--a study designed to determine whether Federal productivity could be systematically measured. We reported positively in a June 1973 report and demonstrated that productivity measurement of the Federal work force is both possible and useful. We concluded that the most important use of productivity measures is in analyzing the causes of change to ascertain what action management can take to influence future trends.

The Bureau of Labor Statistics (BLS) now develops and annually publishes two types of Federal Government productivity measures for two-thirds of Federal civilian employment. The first type is a general indicator for the overall Federal Government. The second type shows measures for 28 functional groupings such as medical services, procurement, and loans and grants. In addition, individual indexes are constructed for the more than 300 organizational units that provide data to the BLS; these are not published, but are returned to the organizations for their internal use.

As part of our audit work, we performed and are performing a number of evaluations designed to assess the adequacy of Federal agency measurement systems. For example, in past GAO reports we have recommended;

--that DOD ensure compliance with its instructions for implementing work measurement systems and provide sufficient resources for the task.

--that DOD and civilian Government agencies use up-to-date work measurement standards to improve real property maintenance.

--that the Department of Housing and Urban Development improve its work measurement system.

We are currently reviewing the use, or potential use, of measurement data by Federal managers in three major agencies--the Forest Service, the Small Business Administration, and the Veterans Administration.

In all cases we have concluded that work measurement is a valuable tool for improving productivity and yielding objective and reliable estimates of personnel requirements.

BENEFITS FROM USING PRODUCTIVITY DATA IN THE BUDGET PROCESS

To preface briefly my discussion of the extent to which productivity data is used in the Federal budget process, I would like to list five basic benefits that accrue when this data is used in the budgeting and, in a larger sense, the management process.

First, agency managers will place greater emphasis on improving productivity if they believe productivity

data will be used for formulating, reviewing, and executing budgets. Because the budget process affects all agency managers, they will tend to focus more on improving productivity if that improvement is a basis for obtaining funds. Emphasis on improvement will require managers to concentrate on techniques proven successful in realizing improvements. Techniques such as work simplification, reorganization, and investment in capital equipment will help managers become more innovative in their approach to the task of management.

Second, using productivity data in conjunction with specific program objectives contributes to better agency projection of resource needs. The capability of OMB and the Congress to review those needs is also improved. Decision makers within the agency, OMB, and the Congress must determine whether requested increases are real, deflated, or inflated. Budget decisions often must be made without access to objective, quantitative measures. Without productivity data, sufficient means is not available to readily assess the appropriateness of the budget base. We believe program needs must be more accurately identified and justified and, to assure this happens, we believe agencies should have productivity programs on which to base their budget analyses.

Third, we believe budget estimates are more credible when they are supported with productivity measures because reliance on judgemental estimates is minimized.

Fourth, clearly presented and meaningful productivity data will make agencies more accountable to OMB, the President, and the Congress. The use of productivity data in budget documents makes changes in the efficiency of program operations more visible. This forces managers to identify poor performance but also provides a means of documenting good performance.

Fifth, because the need for reallocating resources occurs at various times during budget review and execution, the availability of productivity data enhances managers' ability to react accurately and expediently. They are more able to assess the impact of different funding levels and to respond on a timely basis to questions or challenges to the estimates. Productivity data can also help managers determine relative priorities and make funding reallocations among equally deserving activities.

RESULTS OF GAO's 13-AGENCY STUDY

Methodology

Now I want to discuss the results of the 13-agency study we undertook as a result of your request. Before getting into our findings, I want to describe the methodology. We chose a group of 13 labor-intensive

agencies--those with a high ratio of salaries and related expenses to total budget--representing six cabinet level departments and four independent agencies. These agencies comprise about half the Federal civilian work force, excluding the Department of Defense and the U. S. Postal Service. The estimated fiscal year 1978 budget for personnel compensation in the agencies and programs we studied was $8 billion. We went to all levels of Government--agency, department, OMB, and congressional staff--to contact officials involved in these agencies' budget processes.

Departments and agencies visited

U. S. Department of Agriculture

Animal and Plant Health Inspection Service
Forest Service
Soil Conservation Service

U. S. Treasury Department

Customs Service
Internal Revenue Service

U. S. Department of the Interior

National Park Service
Bureau of Land Management

U. S. Department of Transportation

Federal Aviation Administration

U. S. Department of Health, Education, and Welfare

Social Security Administration

General Services Administration

Public Buildings Service

U. S. Department of Commerce

Small Business Administration

Veterans Administration

Benefits Division
Medicine and Surgery Division

National Labor Relations Board

The study's broad scope allowed us to make many meaningful observations but did not include an in-depth, analytical review of all budget justification materials developed by the 13 agencies. Therefore, the results, and to some extent our concluding remarks, are based largely on the perceptions of the officials we visited. We believe, however, that these perceptions, in the aggregate, accurately reflect the use of productivity data in the budget process.

Use of productivity data is sporadic

The process of institutionalizing productivity improvement in the Federal Government is an area where much remains to be done. The use of productivity data as a management tool has been very sporadic, dependent mostly on the motivation and commitment of individual managers. This process now needs to be revived by top executive branch and congresssional support.

Measurable objectives: A prerequisite to using productivity data

A prerequisite to using productivity data in the budget process is a determination of the technical feasibility of

measuring an agency's workload and staff productivity in a manner that will be reliable and useful for budget formulation. Agencies, programs, or activities with more clearly defined missions seem better able to measure their workloads. Examples of the more measurable workloads we encountered in our survey include (1) buildings cleaned and maintained by the General Services Administration's Public Building Service; and (2) cargo imports processed by the U. S. Customs Service. Because these agencies can more readily define their workloads, they can more easily predict future workloads and estimate future staff resource requirements.

On the other hand, some agency objectives are more difficult to measure, but are nonetheless measurable. Generalized services like maintaining national parks and providing medical care or law enforcement are less conducive to measurement than routine processing of cases or applications. When workload data and staffing needs cannot be directly related to overall agency objectives, an agency may find it necessary to identify subobjectives and develop measures for each of them. For example, medical care can be subdivided into inpatient and outpatient care and these can be further subdivided into their component parts.

Some types of activity such as research are not quantifiable under current methodologies and should be

recognized as such. It has been our experience, however, that these types of activities are a small part of the overall Government workload. Our work on the Federal productivity measurement system has shown that the majority of Federal activities can be measured.

A large potential exists for greater use of productivity data

The development of productivity data requires quantification of outputs such as goods and services produced, and inputs, such as staff hours or other resources used in production. A work measurement system requires these two components plus some standard or expected rate of production. Therefore, these output, input, and standards form the building blocks of a measurement system.

Use of these building blocks as a basis for meaningful productivity measurement was present in widely varying degrees in the agencies we visited. For example, all 13 agencies, which in total account for about half a million Federal staff years, had estimates of workload for the coming fiscal year. Ten had some kind of measurement system covering about 367,000 staff years or 78 percent of the total included in our study. However, only 4 of the 10 agencies with measurement systems had developed data with which to accurately predict future staffing requirements and fairly assess past performance.

Also, 9 agencies claimed to measure productivity, but did not use this data in the management process. This seems to be a poor record and, given the importance of a measurement system in generating and using productivity data, it is a record with a large potential for improvement.

In conducting our in-depth evaluation of the Forest Service, we found it had scrapped its work measurement system because of a change in mission from caretaker to manager of national forests. The Forest Service felt the mission change negated a large part of the work measurement system. However, many of the activities the Forest Service presently performs are still susceptible to work measurement. These activities include miles of trail maintained, miles of road maintained, and timber production.

Our evaluation of the Small Business Administration (SBA) shows it has quantifiable products such as number of loans processed by type, but has not developed a measurement system. In fact OMB charged SBA with developing a measurement system but to date SBA has only made limited efforts to do so.

OMB instructs its examiners to ensure that agency management provides for systematic improvement in productivity and efficiency. OMB has also published general requirements for using productivity data in its Circular A-11 (Preparation and Submission of Budget Estimates). For instance, the circular states "work measurement, unit costs, and productivity indexes should

be used to the maximum extent practicable in justifying staffing requirements for measurable workload."

Notwithstanding these instructions, OMB's use of productivity data is uneven and varies from examiner to examiner. Examiners for five of the 13 agencies we surveyed told us they have routine uses for some productivity data in their annual budget examinations. When the data is used, the examiners feel assured that proposed resources will be used in a reasonably effective manner.

OMB's focus is often on whether a program should be funded at all instead of on productivity questions. As a result, 8 of the 13 budget examiners we surveyed do not have routine uses for productivity data and examine program or agency productivity only on a sampling basis.

Providing for systematic improvement requires concentration on techniques which have proven successful. Of the successful techniques, capital investment should be emphasized. Although a significant contributor to productivity improvement in the private sector, it has not been used extensively in the Federal Government. However, where it has been used , significant cost savings or productivity gains have resulted.

For example, a Navy Air Rework Facility found investment in numerically controlled machines resulted in a savings ratio of 7 to 1 compared to conventional metalworking equipment.

The Rework Facility has been able to handle increased workload, cut the personnel required in half, and respond more quickly to requests for parts. Investment in the equipment has been paid back in less than 2 years.

According to committee staff members we contacted, congressional use of productivity data varies. While most staff members believe such data is useful, few said they used it routinely and noted several reasons why;

--time constraints (not enough time to analyze this type of data);

--too much data (the Congress has too much data already and members do not have the time for detailed analysis);

--data reliability (a debate will always exist about whether the data is reliable);

--focus is not on productivity (committees focus more on whether a program is needed than on how efficiently the program accomplishes its objectives; or the committees focus on constitutent concerns and productivity may or may not be related).

Productivity data has, however, received some effective attention from committees when considering justifications for personnel levels and salaries and expense budgets. A strong proponent in the Senate for the use of productivity data is Senator William Proxmire. Testimony before the Subcommittee

on HUD and Independent Agencies of the Senate Committee on Appropriations is dotted with many examples of the Senator's effective interest in productivity measurement and improvement. His questions focus on the most basic aspects of productivity, such as: "Do you have a measurement system?"; "What is your history of improvement?"; and "What percentage of your operation is covered by productivity measurement?" These questions accomplish several purposes. They surface information, they provide an incentive for agencies to establish a productivity measurement and reporting system, and they ultimately stimulate the improvement of productivity itself.

Several staff members we contacted wanted more information on how they could use productivity data. Although most of the staff members contacted serve on House Appropriations Subcommittee staffs, several represent authorizing committee staffs. Although authorizing committees are not as directly involved in the budget review process, they are very interested in using productivity data. For instance, the House Committee on Interior and Insular Affairs had a "Memorandum on Oversight" prepared for its use. The memorandum gives specific guidance on how to assess agency performance and evaluate the impact of new legislation on existing programs. Later in my statement I will describe other examples of where committee interest resulted in the use of productivity data.

We believe a large potential for greater use exists, not only in the labor intensive agencies we studied, but also in many other activities Government-wide. To fulfill this potential, we see five needs that must be met. They are the need for;

--removal of present disincentives to using productivity data in the budget process;

--provision of incentives to using productivity data in the budget proces;

--top management commitment in executive departments and agencies;

--central guidance and coordination in developing and using productivity data; and

--added congressional emphasis to stimulate the use of productivity data.

I will discuss these needs during the remainder of my testimony.

Need to remove disincentives to using productivity data in the budget process

Although the scope of our survey did not include a sampling of attitudes toward incentives for using productivity data in the budget process, we did note, and other studies indicate that managers generally perceive disincentives rather than rewards for using the data.

A joint Civil Service Commission, Office of Management

and Budget, General Accounting Office project team conducted and published a study on using productivity and related data in the budget process. Many of the executives and managers interviewed during the study stated that productivity-related performance improvements result in a penalty rather than a reward. Examples given included arbitrary across-the-board reduction in staffing and reduction of the next year's budget to force continued productivity improvements.

The study concluded that significantly greater use of this data in the budget process is unlikely to occur unless changes are made in the budget policies to counteract the following disincentives:

--Productivity assumptions made by OMB in final budget adjustments are arbitrary, and agencies that submit budgets reflecting actual productivity gains are therefore penalized.

--The budget process has no built-in rewards for self-imposed agency productivity improvement, and current budget policies present less risk to agencies that build their budgets on the basis of last year's requirements instead of productivity analysis.

--The budget process provides no tangible assurance to agencies that agency productivity improvement

will be a determining factor in staffing requirements decisions, and no agency options are provided for reallocation of staffing made available from productivity gains.

Some specific comments by agency officials during our survey support this conclusion:

"Neither the Congress nor OMB has expressed an interest in the data."

"OMB may not listen, even when the data is provided."

"Being too productive and not using all budgeted funds has resulted in questions about the accuracy of the next year's budget request."

"OMB has sometimes cut proposals that would increase productivity."

"Congress has not expressed any interest in productivity data even when it has been offered."

The distressing message expressed in these quotes is that genuine efforts at increasing productivity are often met with, at best, apathy or, at worst, an arbitrary across-the-board budget cut. All the agencies we contacted gave their stories of disappointment and shock when budget reviewers in both OMB and Congress seemed insensitive to sometimes very innovative proposals for increasing productivity. The net effect is a regression to playing the "numbers game" and a continuing lack of serious communication and understanding between those who review budgets and those who execute them.

Provision of incentives
for using productivity data

The removal of disincentives discussed is an important and necessary step if managers are to become serious about using productivity data in preparing budgets. However, the removal of disincentives is not enough. Managers will only support budgets based on productivity data if rewards are provided for doing so. The following incentives must be a part of any new emphasis to encourage greater use of productivity data in the budget process:

--Organizations must be given a share in savings produced through productivity improvements. If all the savings generated through productivity improvement are taken from the manager, further improvements will not occur. This incentive concept has been successfully used by the Internal Revenue Service (IRS). IRS calls it profit sharing and uses the technique with its Regional managers. If a manager improves his organization's productivity over a period of a year, he is granted back resources equal to about one half of the annual savings, to do with as he deems appropriate.

--Managers should be rewarded for achieving productivity improvements within their organizational units. These rewards may take the form of cash awards, special recognition, or bonuses.

--Managers must be given flexibility to reallocate staff based on productivity gains; otherwise, individual incentives for making productivity improvement are lost.

Need for top management commitment in departments and agencies

If the potential benefits of using productivity data in the budget process are to be achieved, a high degree of leadership and management skill must be applied to the development, operation, and use of the data. Using productivity data in the budget process is enhanced strongly when it is accompanied by the commitment of top agency and department managers. Lack of this support will be a serious impediment to the proper use of the data, it will be used, at best, superficially to satisfy external requirements. Of the agencies visited, the National Labor Relations Board (NLRB), the Federal Aviation Administration (FAA), and GSA's Public Building Service (PBS) have long traditions of managerial support for the data. An example of how top management support for using productivity data can have an impact is the Department of Health, Education, and Welfare. Its policy is that no agency in the department will be allowed staffing increases, except in emergency situations, unless the increase can be supported with workload projections and work measurement techniques.

Agency management can do several things to encourage the use of productivity data in budget planning and formulation. When a reliable measurement system does not exist already, agency management should take appropriate steps to develop the capability. To implement the data's use, agency directives

can be issued to specify how the data should be used for formulating budgets. In addition, seminars can be held with budget analysts to show them what data is available, explain how the data can be used, and demonstrate the benefits the data can provide.

National Labor Relations Board: a success story

One agency that has been successful in using productivity data in its budget process is the National Labor Relations Board (NLRB). This success is especially significant because it was achieved through measurement of legal work, a difficult workload to measure. NLRB has had a continuing management improvement and cost reduction program which is spurred by regular budgeted improvements in productivity rates. NLRB's top management has stated its commitment to maintain the highest possible level of voluntary case settlement and the quickest possible case processing time, consistent with due process and resource availability.

As a result of NLRB's efforts, it has a long record of productivity improvements for which to be proud. For instance, from 1970 through 1977 workload increased twice as fast as NLRB's budgeted staff year requirements. In its regional offices, overall productivity increased about 14 percent during the past 2 years.

The NLRB controller credited this success to using productivity data for estimating staff resources and to the

long tradition of top management's support for the data's use. He noted a positive reinforcement for continued use of productivity data was that OMB approved the NLRB budget submission just as it was requested.

Need for central guidance and coordination

A central point in the executive branch for guiding and coordinating the development and use of productivity data does not exist. GAO has studied the circumstances most conducive to developing and using productivity data. We have advocated using it for budget formulation and execution; however, motivation for developing the data and using it in the budget and management processes largely remains an agency's lonely choice.

The National Center for Productivity and Quality of Working Life was given responsibility by OMB for providing guidance and assistance to agencies in developing productivity improvement measurement programs for the executive branch. OMB has stated that it will assist agencies in the establishment or improvement of work measurement and analysis systems. Despite these statements, neither the National Center nor OMB has developed the resources needed to assist agencies in establishing useful work measurement and productivity techniques.

Usually the National Center refers agencies needing assistance to the Bureau of Labor Statistics (BLS) which is responsible for compiling productivity indexes. However,

BLS lacks the staff to develop the detailed productivity data needed for budget formulation in most agencies. As a result, if an agency is motivated to begin its own productivity measurement system for use in budget formulation, there is no government organization that can give the technical assistance needed. Moreover, our survey found many agencies had turned to private sector consulting firms to study the need for and design of productivity measurement systems.

Need for added congressional emphasis to stimulate the use of productivity data in the budget process

The Congressional Budget Act of 1974, gave GAO responsibility for assisting Congressional committees in identifying their needs for budgetary, fiscal and program-related information. We were also given the responsibility for developing improvements in the structures used by Federal agencies in reporting budget, fiscal and program information to the Congress.

In carrying out this work for the appropriation sub-committees on selected agencies, we have proposed improved program structures for use in presenting agency budget requests. This work has also included identifying a broad range of information needed by the committees, including in many cases specific workload and performance measures. We have worked with both the committee staffs and agencies in implementing these identified requirements. For example, we were instrumental

in improving the Farmers Home Administration's budget so it is now presented in terms of the specific programs being carried out as well as program staff years and performance measurement data.

We believe this approach offers significant opportunity for improving and expanding the use of productivity data in the budget process. However, it is a very time consuming and resource intensive undertaking. We plan to explore alternative approaches to perform this work. One is to develop guidelines and sample formats for use in guiding the Federal agencies in providing the necessary measurement information in the budget. This approach would draw on the experience we've gained to date in this work and the experience of those working on productivity approaches. This could result in expanded coverage and still would provide for assurance that congressional interests are adequately considered.

Congress can certainly stimulate agency emphasis in using productivity data by encouraging use of such data for justifying staffing requests. For instance,

--Questions asked the HEW comptroller during fiscal year 1977 budget hearings on how staffing requirements are developed prompted increased emphasis throughout the department in developing work measurement systems that can justify budget requests.

--Interest of the House Government Operations Committee in the degradation of the national parks prompted OMB to direct the National Park Service to develop a system for using productivity data to estimate staffing requirements.

--Interest by Senator William Proxmire in the reliability of the Department of Housing and Urban Development's (HUD) work measurement standards led to our review and subsequent report stating the system has potential but needs improvement. HUD is now making the improvements.

Mr. Chairman, we feel this is a particularly propitious moment for the Congress to assert its leadership in this area of productivity. Surveys indicate that the general public views Government as being inefficient. The Federal budget also continues to increase dramatically causing the taxpayers increasing concern over how their tax dollars are being spent. The Congress, by emphasizing its interest and concern for productivity through appropriation hearings can have a significant impact on Federal productivity improvement.

CONCLUSIONS

We believe budget requests should be based on reliable estimates of personnel requirements. Productivity concepts are one potential answer. Productivity data is necessary for management to accurately determine the personnel and funds required to meet an organization's goals. Emphasizing

productivity during budget preparation and approval can help ensure more efficient use of the Federal budget dollar.

The use of productivity data in the budget process is now limited. A larger potential exists for increasing the use of the data in formulating and executing budgets, especially in labor-intensive agencies. However, this potential will not be realized until the existing disincentives are removed. A recurring theme noted in this survey, as well as in our other audit work on agency measurement systems, has been all the reasons why measurement will not work. We feel the disincentives against using the data cause these negative attitudes. These negative attitudes will persist until disincentives are removed.

A top-down, across-the-board emphasis from the Congress, OMB, and agency top management is the best way to increase Federal managers' use of productivity data, thereby increasing productivity itself.

Last year, the Senate Committee on Appropriations, in commenting on HUD's appropriation bill, stated that "... a need exists in HUD and government-wide for objective, systematic ways to reliably estimate personnel requirements. The Congress, too, needs budget requests that are based on reliable personnel requirements estimating techniques. The concept of work measurement offers potential for yielding

more objective and reliable personnel requirements estimates."

When reviewing agency budgets, oversight committees and appropriations subcommittees can further encourage use of productivity data by;

--requesting productivity data to support agency requests for staffing increases,

--requesting concise statements on the status of agency or department productivity improvement programs, work measurement systems, and the extent to which budgets are based on productivity data.

--creating an atmosphere of positive reinforcement for using productivity data through the use of budgetary and organizational incentives, and

--encouraging agencies to identify major productivity improvements possible through investment in capital equipment.

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Mr. Chairman, this concludes my statement. I shall be pleased to answer any questions.