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PRODUCTIVITY IN THE FEDERAL GOVERNMENT

A STAFF STUDY

PREPARED FOR THE USE OF THE

JOINT ECONOMIC COMMITTEE
CONGRESS OF THE UNITED STATES

MAY 31, 1979

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LETTERS OF TRANSMITTAL

MAY 31, 1979.

To the Members of the Joint Economic Committee:

Transmitted herewith for the use of the Joint Economic Committee and other Members of Congress is a staff study entited "Productivity in the Federal Government."

It points out that a 10-percent increase in productivity in the Federal Government could lead to a cut of more than $8 billion in Federal spending. In addition, the study analyzes various methods to improve productivity in the Federal Government.

The views expressed in this staff study are those of the author and do not necessarily represent my views or the views of any other Member of the Joint Economic Committee.

Sincerely,

LLOYD BENTSEN,
Chairman, Joint Economic Committee.

MAY 29, 1979.

Hon. LLOYD BENTSEN,
Chairman, Joint Economic Committee, Congress of the United States, Washington, D.C.

DEAR MR. CHAIRMAN: Transmitted herewith is a staff study entitled "Productivity in the Federal Government," by Paul B. Manchester, a staff member of the Joint Economic Committee.

The staff study clearly shows that boosting productivity is as important to saving tax dollars in the Government sector as it is to combating inflation in the private sector.

Also, the staff study notes that productivity in the Federal Government increased by an average annual rate of only 1.3 percent during the 10 years, 1967–77, while that of the overall private business sector grew by 1.7 percent annually.

The views expressed in this staff study are those of the author and do not necessarily represent the views of the Members of the Joint Economic Committee.

Sincerely,

JOHN M. ALBERTINE,
Executive Director, Joint Economic Committee.

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PRODUCTIVITY IN THE FEDERAL GOVERNMENT

I. Introduction and Conclusions

The American people are clearly tired of paying more and more for a Federal Government which daily seems to become less and less effective. While they want to put a stop to the growth of big government, they seem to be weary of empty antigovernment rhetoric which offers no solutions for improving its efficiency and lowering its cost. The American people want positive proposals to make the Federal Government work effectively so that its growth can be limited, its cost controlled, and its ability to provide services enhanced.

The way to achieve these goals is to increase the level of productivity in government activities. Of course it is much easier to state this solution than to achieve it. And it is difficult to measure productivity, let alone improve it, in many areas of government. But where feasible, increases in productivity can improve the efficiency and lower the cost of government.

This study examines several aspects of the question of productivity in the Federal Government. The major conclusions are:

(1) If the overall Federal productivity could be increased by 10 percent, personnel costs could be reduced by more than $8 billion without a cutback in services.

(2) Potential savings are even greater from increasing productivity among State and local employees and among "indirect" Federal employees.

(3) There is no relation between growth in compensation and growth in productivity in Federal activities. For example, the Postal Service has had the highest average annual increase in yearly compensation, but one of the weaker productivity records.

(4) Comparisons with the private sector are difficult, but the available evidence suggests that productivity in the Federal Government has risen less rapidly than in the private sector.

(5) The public sector compares unfavorably with the private sector with regard to employee confidence in the quality of supervision, rewards for performance, and employee evaluation of overall organizational effectiveness.

(6) In the area of debt collection activities, the Federal Government could significantly increase its productivity by adopting several practices used by commercial firms.

(7) Coverage of the Bureau of Labor Statistics program of measuring Federal worker productivity could be increased from 64 percent to approximately 85 percent of Federal civilian employee-years.

(8) The Federal activities showing the poorest production performance (in particular, military base services and printing and duplication) are areas of decreasing size.

(9) Results of the BLS (Bureau of Labor Statistics) program of measuring Federal productivity should be published on an agency basis.

(10) Questionnaire results and comparisons with the private sector indicate that the Federal incentive awards program falls far short of making its potential impact on productivity. The Civil Service Reform Act provides the framework for improvement, but not the improvement itself.

(11) Use of productivity data for the Federal Government could lead to a variety of benefits in the budget process. But such data are either not available or are not utilized adequately. Congress can play an important role here.

(12) Fraud and abuse are estimated to amount to 1 to 10 percent of Federal expenditures. Adding mismanagement makes the total higher.

II. Size and Cost of the Federal Labor Force

Federal employment as of September 30, 1978, and estimated personnel costs (compensation and benefits) for fiscal year 1979 are presented in table 1. If overall Federal labor productivity could be increased by 10 percent, the current level of services could be maintained and personnel costs could be reduced by more than $8 billion, freeing these resources for the private sector. Or the cost saving could be used to provide some combination of more services and some tax reduction. Potential savings from increased productivity are even greater at the State-local levels, which account for approximately 80 percent of total government employment.[1]

TABLE 1.—FEDERAL EMPLOYMENT AND COMPENSATION

Branch	Number of employees [1]	Compensation and benefits [2]
Civilian, executive branch	2,164,260	$46,640
Military	2,099,189	26,885
Postal Service	656,076	14,427
Legislative and judicial	52,515	815
Total	4,972,040	$88,767

[1] Full and part time, as of Sept. 30, 1978.
[2] Estimated, for fiscal year 1979, in millions of dollars.

Source: Office of Management and Budget. It has been estimated that in addition to those included above, there are 8,000,000 indirect Federal employees; 3,000,000 do direct work for the Federal Government; the remaining 5,000,000 perform services for others, primarily State and local governments, but are paid with Federal funds. (National Journal, May 5, 1979, pp. 730–733.)

In the private sector the profit and loss system provides an incentive to stimulate efficiency. This factor is lacking in government. In fact, some observers have argued that agency managers have strong disincentives to improve productivity if such gains lead to budget cuts. This possibility means that Congress and the Office of Management and Budget must in effect fill the role played by the profit system in the private sector.

[1] Additional savings could be obtained by increasing productivity among "indirect" Federal employees, discussed in table 1, footnote 1. (Some of these "indirect" Federal employees are direct employees of State and local governments, paid with Federal funds.)

Before productivity in the Federal Government can be improved, it must first be measured. A major program in this area has been developed by the Bureau of Labor Statistics (BLS). A study on this topic was prepared for the Joint Economic Committee in 1972, and hearings were held in 1973.[2]

In the Committee's 1979 Joint Economic Report, major emphasis was placed on the productivity problem in general and productivity in government in particular.

III. Measuring the Level of Federal Government Productivity

Many difficulties arise in analyzing trends in Federal productivity (discussed in the next section), but the problems of measurement and interpretation are much greater when considering the level of Federal productivity. In many cases there is no activity carried out elsewhere which could serve as a yardstick for comparison. Federal activities such as national defense and international diplomacy are unique.

However, some government activities are also performed in the private sector; for these public-private comparisons are feasible. This is most true for State and local governments, in areas such as education, health care, sanitary services, and recreation. But some Federal functions do have private sector analogs—power production and distribution, education and training, printing, transportation, library service, loans and grants, and office management.

Several caveats should be made. Even if activities are similar, simple comparisons of labor productivity (output per hour worked) are inadequate. The roles of other factors—capital, energy, and materials—should be considered. Ideally, comparisons should be based on measures of total (or multiple) factor productivity. And differences in compensation should be taken into account—comparisons should be based on unit cost, not simply on productivity. Both of those adjustments are difficult. Data on factors other than labor input are often unavailable. Comparisons on a unit labor cost basis involve all of the difficulties of comparability between pay in the public and private sectors. Thus these issues are not addressed further in this study.

Comparative Studies

The General Accounting Office has undertaken a series of studies comparing productivity in activities performed in both the public and private sectors. Reports published to date cover debt collection and word processing.[3] Forthcoming studies will analyze hydroelectric power, legal services, day care, and payment centers. A productivity appraisal of the Postal Service is also underway.

Debt Collection

The GAO study of debt collection found that as of September 30, 1977, $84 billion was owed to various Federal agencies. This repre-

[2] "Measuring and Enhancing Productivity in the Federal Sector," a study prepared for the use of the Joint Economic Committee, Aug. 4, 1972. "Federal Productivity," hearings before the Subcommittee on Priorities and Economy in Government, Dec. 17 and 18, 1973.

[3] "The Government Can Be More Productive in Collecting Its Debts by Following Commercial Practices," FGMSD–78–59, Feb. 23, 1979; "Federal Productivity Suffers Because Word Processing Is Not Well Managed," FGMSD–79–17, Apr. 6, 1979.

sented an increase of 21 percent in 1 year. Many of these loans were being paid on schedule, but the Treasury Department estimated that (based on incomplete reporting) the allowance for bad debts was at least $3 billion, an increase of 35 percent in 1 year. In fiscal 1978, nine major agencies alone wrote off $428 million in uncollectible debts.

These direct costs of inadequate debt collection are sizable. But the indirect costs may be of even greater consequence, as stated by GAO:

> Failure to collect amounts of this magnitude costs more than money. When debts are not collected, people are given benefits they did not earn or are not entitled to; self-help programs are converted into grant programs without authority of the Congress; and as word spreads that it is possible to avoid paying, fewer people will pay voluntarily, which means agencies must devote more time to collection.

GAO was unable to make detailed comparisons of public and private productivity in debt collection. But as one indicator of relative effectiveness, some private firms find it cost effective to pursue debts as small as $25; the Federal Government usually doesn't seek judgments on debts of less than $600. Another comparison dealt with the length of time to seek a court judgment—an average of 5 months for commercial firms, 1 year or more for the Federal Government.

GAO concluded its study with a number of recommendations for government adoption of commercial practices in order to collect more debts, collect them faster, and collect them at less cost.

Word Processing

The GAO study of word processing by the Federal Government found that this equipment has the potential for significantly increasing office productivity.[4] But in many cases these machines are not utilized or managed properly.

Federal outlays for word processing equipment amounted to $80 million in fiscal year 1977, and are expected to rise to $300 million by fiscal 1982. The Federal Government employs more than 171,000 secretaries, stenographers, and typists, at a total salary expense of more than $1.5 billion. Thus considerable savings in payroll costs might be attained, and future work expansion need not lead to commensurate increases in secretarial help. The type of gains possible are illustrated by the Social Security Administration's Bureau of Data Processing, where the well-managed use of word processing equipment led to a 45-percent increase in productivity in 1 year.

Attitudes

Measuring the specific impact of work attitudes on productivity is difficult. But the evidence that is available suggests that this is at least as important as the more tangible factors. Thus differences in attitudes between the public and private sectors may have major effects on comparative productivity.

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[4] Word processing equipment includes electronic typewriters, word processors, text editors, and time-sharing systems.

A study on this topic was carried out by the National Center for Productivity and Quality of Working Life.[5]

The NCPQWL compared the responses of several thousand employees in 10 public sector organizations (7 Federal) and 11 private companies to 29 attitude questions.

These questions were grouped into six general subjects. Overall, there were no major differences between the public and private respondents in three areas: job challenge and satisfaction with job content; understanding of job requirements; and equity of treatment in areas such as pay, job security, benefits and working conditions. However, the NCPQWL found that the public sector compared unfavorably with the private sector in the other three areas:

(1) *Quality of supervision.*—Public sector employees had less confidence in the performance of their supervisors, both in terms of technical competence, and in dealing with those who worked for him/her. Overall, 55 percent of public sector employees felt that their immediate supervisor was doing a good job; in the private sector, the corresponding figure was 67 percent.

(2) *Rewards for performance.*—Only 30 percent of public employees agreed that "the better my performance, the better will be my opportunity for promotion to a better job"; in the private sector, 49 percent agreed. Among managers the corresponding figures were 43 percent (public) and 58 percent (private).

(3) *Overall organizational effectiveness.*—In the public sector only 28 percent of employees agreed that "all in all, my organization is an effectively managed, well-run organization," but 44 percent of private employees agreed. Among managers the percentages in agreement were 45 (public) and 53 (private).

IV. Trends in Federal Government Productivity

As mentioned above, in response to a 1970 request from Senator Proxmire, then the Joint Economic Committee Chairman, the Bureau of Labor Statistics has developed measures of trends in productivity in 28 activities (functional groupings) of the Federal Government. Data have been developed retrospectively back to fiscal year 1967. Currently, 319 organizations participate in the Federal productivity measurement program. They produce 1,919 products and services which form the bases for the 28 categories. Indexes are not published for each organization; thus within any functional grouping, the overall averages may mask wide variations between organizations in the productivity levels and trends.

Coverage

The increase in coverage of this program is shown in table 2. The numbers of agencies, elements, and output indicators included have grown markedly, but the increase in the total number of employee-years covered has been small. This indicates that the largest agencies were included in the early years; relatively small operations have been added recently. BLS estimates that with additional funding they could increase the coverage by approximately 600,000 employee-years to 85 percent of the total. The work of the remaining 15 percent of

[5] "Employee Attitudes and Productivity Differences Between the Public and Private Sector," National Center for Productivity and Quality of Working Life, February 1978.

Federal civilian employees (and presumably that of most 2.1 million military personnel) is not susceptible to productivity measurement.

TABLE 2.—COVERAGE OF THE FEDERAL PRODUCTIVITY MEASUREMENT PROGRAM

	Fiscal year coverage						
	1967–71	1972	1973	1974	1975	1976	1977
Agencies [1]	17	45	46	49	51	53	52
Elements [2]	114	187	200	245	279	307	319
Output indicators [1]	605	775	850	1,180	1,320	1,625	1,919
Functional groupings	[3] 26	27	28	28	28	28	28
Civilian employee-years covered (millions)	1.6	1.7	1.7	1.8	1.9	1.9	1.8
Total civilian employee-years (millions)	2.9	2.8	2.8	2.8	2.8	2.8	2.8
Employee-years covered as percent of total	54	60	61	65	66	66	64

[1] Includes all agencies or output indicators that contributed to published indexes during the 1971–77 period.
[2] Offices within agencies.
[3] 24 in fiscal year 1967.

Source: Bureau of Labor Statistics.

Results

Trend rates of change in productivity (output per employee-year), compensation per employee-year, total output, and unit labor cost for the fiscal year 1967–77 period are given in table 3.[6] The average annual rate of change in unit labor cost (labor cost per unit of output) is approximately equal to the difference between the rates of change in yearly compensation and productivity.

TABLE 3.—AVERAGE ANNUAL RATES OF CHANGE IN OUTPUT PER EMPLOYEE-YEAR, COMPENSATION PER EMPLOYEE-YEAR, TOTAL OUTPUT, AND UNIT LABOR COST, MEASURED PORTIONS OF THE FEDERAL GOVERNMENT, FISCAL YEARS 1967–77

Functional grouping	Average annual rate of change			
	Output per employee-year	Compensation per employee-year	Total output	Unit labor cost
Communications [1]	9.2	7.9	9.4	—1.1
Library service	5.4	8.2	8.6	2.7
Loans and grants	4.4	8.0	5.1	3.4
General support services	4.2	7.6	6.2	3.2
Personnel investigations	3.3	6.6	12.9	3.2
Social services and benefits	2.9	7.0	7.9	4.0
Records management	2.8	8.4	—1.8	5.5
Transportation	2.6	8.7	3.3	6.0
Buildings and grounds maintenance	2.3	9.7	.4	7.3
Regulation—Rulemaking and licensing	2.3	6.7	4.4	4.3
Audit of operations	2.2	7.4	—1.7	5.1
Regulation—Compliance and enforcement	2.1	6.8	5.0	4.7
Supply and inventory control	2.1	7.6	—5.0	5.4
Personnel management	2.0	5.2	7.1	3.1
Finance and accounting	1.8	7.5	—.1	5.6
Procurement	1.8	5.3	—1.5	3.4
Specialized manufacturing	1.8	8.5	—.5	6.6
Electric power production and distribution	1.4	8.0	8.3	6.5
Natural resources and environmental management	1.2	7.2	.5	5.9
Postal service	1.1	10.1	.8	8.9
Legal and judicial activities	.5	5.3	4.5	4.8
Equipment maintenance [2]	.3	7.8	—3.6	7.4
Information servcies	.3	5.6	2.0	5.3
Traffic management [3]	.3	5.6	—4.7	5.2
Education and training [2]	.2	8.2	—1.1	8.0
Medical services	—.1	8.0	1.9	8.1
Military base services	—.6	7.5	—4.7	8.2
Printing and duplication	—1.7	9.2	—3.5	11.1
Total	1.3	8.7	1.2	7.2

[1] Fiscal years 1973–77. [2] Fiscal years 1968–77. [3] Fiscal years 1972–77.

Source: Bureau of Labor Statistics.

[6] The algebraic formulations for these index numbers are presented in the Appendix.

Overall, 5 activities show high rates of productivity growth (3.3 percent or more per year), 15 activities moderate rates (1.1 percent to 2.9 percent), 5 activities low but positive rates (0.2 percent to 0.5 percent), and 3 activities show average annual decreases over the decade. Improved equipment and increased use of computers have been major factors in the two leading areas (communications and library services). In the private sector productivity performance is often weakest in declining industries; reductions in output are not matched by commensurate cuts in labor input. This same phenomenon apparently has taken place in the two weakest areas of Federal productivity (military base services and printing and duplication). This is also indicated by the high overall correlation coefficient (0.62) between the first and third columns in table 3.

Compensation

One other conclusion may be drawn from table 3—there is no relation between increases in compensation and productivity improvements. The Postal Service had the highest average increase in yearly compensation, but one of the lowest average annual increases in productivity. Printing and duplication showed the poorest productivity performance, but had the third highest average gain in compensation. (Overall the correlation coefficient between the first two columns of table 3 is 0.07, not significantly different from zero.)

Comparisons With Private Sector

The average annual rate of Federal productivity growth over the fiscal years 1967–77 decade (1.3 percent) is less than the rates for the calendar year decade 1967–77 in the overall private business sector (1.7 percent), nonfinancial corporations (1.6 percent), and private manufacturing (2.3 percent—1.9 percent for durable manufacturing, 3.1 percent for nondurable manufacturing).

However, because many Federal activities have no private sector counterpart, these gross comparisons may be of limited value. BLS has attempted to compare some of the specific functional groupings in table 3 with similar private industries, but due to the lack of data they have been unable to do this to their satisfaction.

Deficiencies in Program

The BLS measures of Federal Government productivity constitute an important new program. However, some modifications and improvements should be considered:

(1) Coverage should be extended. As mentioned above, with adequate funding the percentage of Federal civilian employee-years included could be increased from 64 percent to approximately 85 percent.

(2) Attempts should be made to measure productivity in State and local governments, which account for approximately 80 percent of total government employment. Thus only about one-eighth of all government workers are covered by the productivity measurement program.[7]

[7] Several studies by the NCPQWL and GAO deal with State-local government productivity.

(3) Results should be published on an agency basis. Currently, averages for all agencies involved in a particular activity are published. These averages may mask wide interagency variations. For example, 34 agencies are included under the "Regulation-Compliance and Enforcement" heading; for all activities (except the Postal Service) at least 5 agencies are included.

Data on productivity by agency are available—currently it is returned to the offices for their own use. Thus publication on an agency basis would not require collection of additional data.

(4) Participation by the appropriate agencies should be mandatory, not voluntary. Also, independent auditing of agency data might be considered.

(5) To carry out these recommendations, additional funding should be granted. Currently BLS spends about $200,000 on this program, with a staff of five, most of whom are involved with other projects.

(6) Additional work should be carried out on the measurement problems which have been discussed by BLS officials: [8]

(*a*) Defining and quantifying homogeneous outputs;

(*b*) Taking quality changes into account;

(*c*) Adjusting for various types of labor where currently no such adjustments are made;

(*d*) Attributing outputs with long cycle times to the appropriate years;

(*e*) Making allowances for work which is contracted out;

(*f*) Allocating the time of the increasing number of generalists who are involved in several different work areas;

(*g*) Adjusting data when reorganizations take place; and

(*h*) Developing multiple factor productivity measures.

V. Other Issues Concerning Productivity in the Federal Government

Several additional issues relevant to Federal Government productivity are discussed in this section. These include dealing with nonproductive Federal employees, the Federal incentive awards program, use of productivity data in the budget process, and fraud and waste.

Dealing With Nonproductive Federal Employees

GAO recently issued a report on the difficulties of dealing with nonproductive Federal employees.[9] The great majority of Federal employees are diligent and conscientious; the minority who are not give all Federal workers a negative image, as well as adversely affecting the quality of public services and leading to unnecessarily high budgets.

With regard to the extent of poor performance, GAO found:

> Few people agree on the number of inefficient Federal employees; department and agency managers estimated percentages from less than 1 to at least 10 percent. One agency personnel director said that the number of inefficient employ-

[8] Charles Ardolini and Jeffrey Hohenstein, "Measuring Productivity in the Federal Government," Monthly Labor Review, November 1974; Jerome Mark, "Measuring Federal Productivity," Civil Service Journal, January/March 1979.

[9] "A Management Concern: How To Deal With the Nonproductive Federal Employee," FPCD-78-71, Aug. 10, 1978.

> ees never exceeds 1 percent, while another agency personnel officer estimated that such employees make up 5 percent of the work force. Some officials would not guess. Questionnaire respondents' estimates also varied widely, with a few saying up to half of the employees they supervised were poor performers.

Even if the number is as low as 1 percent, with total Federal civilian employment of 2.8 million, this would correspond to 28,000 nonproductive workers.

The GAO study found that even though Federal employees are supposed to receive performance ratings of "outstanding," "satisfactory," or "unsatisfactory," this system has become of little use, because more than 95 percent are "satisfactory." Managers find it difficult to use the "unsatisfactory" rating due to the time and paperwork involved. The "outstanding" category is also little utilized.

Similarly, within-grade step increases are supposed to be based on merit. But in practice, 99 percent of eligible employees receive these raises, indicating that in fact they are based simply on continued service. One of the goals of the Civil Service Reform Act of 1978 is the elimination of this discrepancy.

The ultimate step in dealing with nonproductive employees is dismissal. This is seldom utilized, and when attempted it may be overturned on doubtful grounds on appeal. GAO cited perhaps the most bizarre case:

> An agency fired an employee for beating his supervisor with a baseball bat. The Federal Employees Appeals Authority (FEAA) overturned the removal, contending the agency had not given the employee adequate notice of the firing. The agency had to reinstate the employee in the same position, under the same supervisor, and reimburse the employee 8 months' back pay.

In other cases, the FEAA has supported the dismissal action, but it has been overturned for dubious reasons at a higher level. For example:

> A personnel director said his agency dismissed a GS–14 engineer and FEAA sustained the dismissal. According to the director, the Appeals Review Board reversed the action on the grounds that the case file was so thick and the agency had amassed so much data, it must have been "out to get" the employee.

GAO recommended a thorough overhaul of the Federal procedures for dealing with nonproductive employees. Many of these recommendations were incorporated into the Civil Service Reform Act of 1978. Thus time will tell if these steps are adequate, or if additional measures are necessary.

Federal Incentive Awards Program

Another recent GAO study analyzed the impact of Federal incentive awards on Federal productivity.[10] Under this program, nearly

[10] "Does the Federal Incentive Awards Program Improve Productivity?" FGMSD–79–9, Mar. 15, 1979.

210,000 quality pay increases and special achievement awards, totaling more than $63 million, were granted in fiscal year 1977. The Office of Personnel Management has estimated that for every dollar awarded, these resulted in benefits to the Federal Government of approximately $4.

By this simple benefit-cost calculation, the incentive awards program appears to be working well. Despite this, GAO found that the program "may have a more negative impact on employee productivity than would having no awards program at all." The main basis for this conclusion was the results of a questionnaire sent to employees of nine agencies:

> Sixty percent felt their organization's program did little, or nothing at all, to change their job motivation.
>
> Forty percent said the current awards program makes little or no contribution to their specific work group's productivity.
>
> One-third believe that improving their performance would probably not affect their opportunity to receive an award.
>
> Sixty percent are not sure cash awards are usually presented to those who are the most deserving.

This same questionnaire found the potential for a very effective program: 58 percent of respondents said a well-designed program would lead to a substantial improvement in their performance. Additional evidence of this potential is the successful use of such programs in the private sector and in one Navy activity and the Patent Office. In order to unleash this potential, GAO made a number of recommendations to the Director of OPM and the Congress. One of the latter would allow agencies to retain a portion of all productivity benefits for increasing future incentive awards. Some of GAO's recommendations are reflected in the Civil Service Reform Act, but this act provides only the framework for change, not the change itself.

Use of Productivity Data in the Budget Process

Budget savings from productivity gains may be substantial, as discussed above, but GAO has found that use of productivity data in the budget process has been sporadic.[11]

The potential benefits from the use of productivity data in budgeting include greater emphasis on productivity improvement by managers; better agency projection of resource needs; increased budget credibility; more accountability of agencies to OMB, the President, and Congress; and enhanced ability of managers to react to the needs for resource reallocation during budget review and execution.

Data from the BLS survey of Federal productivity are available, but apparently it is underutilized in budgeting. To increase the usage of productivity information, GAO advocated replacement of the current disincentives with positive incentives; top management commitment; central guidance and coordination by OPM; and added congressional emphasis. With regard to the latter, GAO specifically advocated—

> requesting productivity data to support requests for staffing increases,

[11] "Improving Federal Agency Efficiency Through the Use of Productivity Data in the Budget Process," FGMSD–78–33, May 10, 1978.

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 budgetary and organizational incentives, and

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

Fraud, Waste, and Mismanagement

The extreme cases of unproductive use of public resources are those involving clear mismanagement, obvious waste, and outright fraud. Mismanagement and waste are difficult to define, and may be somewhat subjective. Fraud is easier to define, because it involves violations of the law.

The Justice Department has recently estimated that fraud and abuse account for 1 to 10 percent of total Federal expenditures, or $5–$50 billion.[12] This figure excludes waste—including it would give a much higher figure, as Justice estimated that fraud, abuse, and waste ranged between $6.3 billion and $7.4 billion in HEW's programs alone.

But these are only rough estimates—the true values will never be known. The Justice Department has stated that "wherever we look deeply with focused investigations, significant fraud and abuse will be detected." This is most true for programs with many participants, dispersed administration, few audits, insufficient enforcement resources, and reliance on private institutions. Examples are the food stamp, CETA, HUD, unemployment insurance, GI bill, medicare, medicaid, and Federal insured student loan programs.

Fraud persists in the Federal Government for a variety of reasons:[13]

Agencies do not have adequate management information systems to determine the extent of fraud detected and the way it is committed.

Agencies have not given fraud detection a sufficiently high priority.

Agencies have not fixed responsibility for identifying fraud.

Many suspected frauds are not referred for investigation.

Agency investigators do not have adequate background and expertise to effectively identify and investigate fraud.

Public concern about fraud and abuse has recently increased. This has led to the passage of the Inspector General Act of 1978. Also the President recently established the President's Executive Group to Combat Fraud and Waste, with the Deputy Attorney General as Chairman, and the Presidential Management Improvement Council cochaired by the heads of OMB and OPM. Thus organizational structures to root out fraud and waste exist. Now the real work of doing it begins.

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[12] Benjamin Civiletti, Deputy Attorney General, statement before Senate Budget Committee, Mar. 15, 1979, p. 1.

[13] Statement of Elmer Staats, Comptroller General, before Senate Budget Committee, Mar. 15, 1979, p. 10.

Appendix.—Algebraic Formulation of BLS Measures of Federal Government Productivity

Base year 0 for weights—FY67 for FY67–72; FY72 for FY73–77; FY77 for FY78–82.

For each activity, for base year 0, current year i:

$q_o\ q_i$ = physical quantity of output
$y_o\ y_i$ = employee-years
$c_o\ c_i$ = employee compensation

For each year i:

O_i = output index
Y_i = employee-years index
P_i = productivity (output per employee-year) index
C_i = compensation per employee-year index
U_i = Unit labor cost (labor cost per unit of output) index

Then:

$$O_i = \frac{\sum \frac{y_o}{q_o} q_i}{\sum \frac{y_o}{q_o} q_o} = \frac{\sum \frac{q_i}{q_o} y_o}{\sum y_o} \times 100$$

$$Y_i = \frac{\sum y_i}{\sum y_o} \times 100$$

$$P_i = \frac{O_i}{Y_i} \times 100$$

$$C_i = \frac{\sum c_i}{\frac{\sum c_o}{Y_i}} \times 10{,}000$$

$$U_i = \frac{C_i}{P_i} \times 100$$

Example for FY77:

$O = 115.7$
$Y = 100.2$
$P = 115.5 = (115.7/100.2) \times 100$
$C = 227.2$
$U = 196.7 = (227.2/115.5) \times 100$

Example of linking indexes for FY73–77 to FY67, the reference base (100) for comparison:

$I_{72/67}$ = index for FY72 with FY67 as base
$I_{73/72}$ = index for FY73 with FY72 as base
$I_{73/67}$ = index for FY73 with FY67 as base

Then:

$$I_{73/67} = \frac{I_{73/72} \times I_{72/67}}{100}$$

Example: $I_{73/67} = 150$
$I_{73/72} = 110$

$$I_{73/67} = \frac{110(150)}{100} = 165$$

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