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# REPORT TO THE CONGRESS

Improvements Needed In  
Collection Of Data For  
The United States Postal  
Service's Revenue And  
Cost Analysis System

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BY THE COMPTROLLER GENERAL  
OF THE UNITED STATES

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FEB. 20, 1973



COMPTROLLER GENERAL OF THE UNITED STATES  
WASHINGTON D C 20548

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

This is our report on improvements needed in collection of data for the United States Postal Service's revenue and cost analysis system.

Our review was made pursuant to the Budget and Accounting Act, 1921 (31 U.S.C. 53), and the Postal Reorganization Act of August 12, 1970 (39 U.S.C. 2008).

Copies of this report are being sent to the Director, Office of Management and Budget, the Postmaster General, and each of the Governors of the United States Postal Service.

A handwritten signature in black ink, reading "James B. Axtell".

Comptroller General  
of the United States

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ABBREVIATIONS

GAO	General Accounting Office
SPRs	small parcels and rolls
OA	Office of Audit, Postal Inspection Service

D I G E S T

WHY THE REVIEW WAS MADE

Under its revenue and cost analysis system, the United States Postal Service allocates total postal revenues and in-office labor costs to the various classes of mail and types of services. This is done on the basis of a statistical sampling of revenue and cost data at selected post offices.

The Postal Service uses the allocated revenues and costs in assessing the adequacy of postal rates and fees and in determining appropriations needed to cover costs of handling congressionally declared free and reduced-rate mail.

In fiscal year 1971, postal revenues totaled about \$6.8 billion and costs totaled about \$8.9 billion. About 40 percent of the total costs was for in-office labor costs. Of approximately 32,000 post offices, 563, including the 83 largest, participated in the revenue sampling and 503, including 501 of the 563 post offices, participated in the cost sampling.

The General Accounting Office (GAO) reviewed the Postal Service's system of sampling of revenue and cost data to see if it provided reliable information.

FINDINGS AND CONCLUSIONS

The Postal Service's procedures for collecting data under the revenue

and cost analysis system were not properly followed by participating post offices, and as a result, erroneous data was entered into the system. The Postal Service believes that the net effect of these errors may be minimal because of compensating errors. GAO recognizes this possibility.

On the other hand, the important uses being made of this data dictate the need for a high level of system integrity. This can be achieved only by collecting sampling data as accurately as possible, considering the inevitability of human error.

Following are typical errors disclosed by GAO's review:

- Employees who made revenue tests for the system independently counted and weighed the same mail and obtained different results (See p. 10)
- Lists of potential sampling units were not current or complete (See p. 13)
- Not all mail which should have been counted was counted (See p. 14)
- Mail volume was reported on the basis of estimates rather than actual counts (See p. 15)
- Supervisors observed employees' work activities at other than scheduled times (See p. 16)

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The Postal Service should improve its monitoring of the system and its supervision and training of employees involved in the collection of data (See p 22 )

Internal audit reviews and visits by regional and headquarters officials to the participating post offices generally corroborated GAO's findings (See pp. 24 and 25 )

Total estimated revenues by classes of mail and types of services derived under the system had consistently exceeded total actual revenue recorded by the Postal Service in its accounting records, except for the fourth quarter of fiscal year 1971. In GAO's opinion, continuous overestimating of revenues can adversely affect the allocation of actual revenues among the various classes of mail and types of services (See p 28.)

#### RECOMMENDATIONS OR SUGGESTIONS

The Postal Service should implement an effective monitoring program to detect and correct deficiencies in collecting revenue and cost data and should assess current training and retraining of employees collecting data and, when necessary, intensify such training and retraining. (See p 27 )

The Postal Service also should review the reliability of the revenue estimates derived under the system and, when necessary, implement procedures to provide for develop-

ing more accurate estimates (See p 30 )

#### AGENCY ACTIONS AND UNRESOLVED ISSUES

The Postal Service generally concurred with GAO's recommendations and said that a number of corrective actions had been taken in recent months which anticipated GAO's recommendations. The Postal Service pointed out, for example, that the number of inspection visits to the participating post offices had increased during fiscal year 1972 from 138 in the first quarter to 595 in the last quarter.

The Postal Service said that it was developing additional training programs and that it was making further reviews relating to the reliability of its estimates.

GAO did not review the effectiveness of corrective actions undertaken by the Postal Service (See p 31.)

#### MATTERS FOR CONSIDERATION BY THE CONGRESS

This report does not contain recommendations requiring legislative action by the Congress. It does contain suggestions for improvement by the agency. This report should be of interest to the Congress because it pertains to part of the system used by the Postal Service to set postal rates and fees on a fair and equitable basis.

## CHAPTER 1

### INTRODUCTION

The United States Postal Service, under the revenue and cost analysis system, allocates total postal revenues and in-office labor costs to the various classes and subclasses of mail and types of services. The Postal Service uses these allocated revenues and costs in assessing the adequacy of postal rates and fees and in determining the congressional appropriations needed to cover the cost of handling congressionally declared free and reduced-rate mail, which includes mail for the blind and authorized nonprofit organizations.

In fiscal year 1971 the Postal Service had about 729,000 employees and about 32,000 post offices which handled about 87 billion pieces of mail. During that year, postal revenues totaled about \$6.8 billion and costs totaled about \$8.9 billion.

The Postal Service classifies mail as follows

First-class mail (including airmail)--Letters, post cards, and all matter sealed or otherwise closed against inspection.

Second-class mail--Newspapers, magazines, and other periodicals.

Third-class mail--Generally advertising matter, such as circulars and pamphlets, and parcels weighing less than 1 pound.

Fourth-class mail--Generally parcels weighing 1 pound or more.

The Postal Service has established about 21 rates for the four classes of mail. For example, rates for second-class mail differ for nonprofit, classroom, regular, and intra-county publications and for advertising and nonadvertising matter. Also the rates differ for special services, such as registered and collect-on-delivery mail.

## POSTAL REORGANIZATION ACT

The Postal Reorganization Act approved on August 12, 1970 (39 U S C 101), abolished the Post Office Department and created the United States Postal Service and the Postal Rate Commission as independent establishments within the executive branch of the Government. The act provides the Board of Governors of the Postal Service with broad authority to carry out postal operations. The Commission is responsible for submitting to the Governors of the Postal Service a recommended decision on changes in postal rates and fees proposed by the Postal Service. The Governors may approve, allow under protest, reject, or modify the recommended decision.

The act provides that postal rates and fees be set so that postal revenues (including appropriations that the Congress may make for public service costs and for congressionally declared free and reduced-rate mail) equal expenses as nearly as practicable. Public service costs are costs incurred by the Postal Service in providing effective and regular postal service in communities where post offices may not be deemed self-sustaining.

The act provides also that proposed changes in postal rates and fees be based on several factors and includes the requirement that

"\*\*\* each class of mail or type of mail service bear the direct and indirect postal costs attributable to that class or type plus that portion of all other costs of the Postal Service reasonably assignable to such class or type."

On February 1, 1971, the Postal Service requested the Commission to recommend a decision on proposed changes in postal rates and fees. The proposal was based, in part, on the revenue and cost estimates developed under the revenue and cost analysis system for the fiscal year ended June 30, 1970. On June 5, 1972, the Commission rendered its recommended decision on the Postal Service's proposed changes, and on June 28, 1972, the Governors approved the decision of the Commission to be effective July 7, 1972.

## REVENUE AND COST ANALYSIS SYSTEM

The nature and size of postal operations make it impracticable for the Postal Service to account for revenues and costs by each class and subclass of mail and type of service. For example, when postage stamps are sold, usually it is impossible to determine the class of mail for which they will be used by the purchasers. Similarly, when a letter carrier sorts mail for delivery, he may sort, within a few minutes, letters, post cards, Government mail, newspapers, advertising matter, and other types of mail, and it is difficult to determine the amount of time he spent sorting each class of mail.

The Postal Service therefore established the revenue and cost analysis system (formerly the Cost Ascertainment System) by which it estimates the revenues and in-office labor costs attributable to each class and subclass of mail and type of service.

The Postal Service classifies costs as either institutional or attributable costs. "Institutional costs" are those costs, such as building and maintenance costs, which are not directly responsive to changes in mail volume or which are not related to a specific type of service. These costs are allocated to the various classes and subclasses of mail and types of services on a judgmental basis after considering a number of factors specified in postal law, such as the value of mail services to both the sender and the recipient, the available alternative means of sending and receiving mail, and the degree of preparation of mail by the mailer before its entry into the postal system.

"Attributable costs" account for about 50 percent of total costs and consist of (1) costs, such as mail-processing and transportation costs, which vary with changes in mail volume and (2) costs which are specifically related to a type of service, such as labor costs of employees who work solely on registered mail.

The Postal Service estimates the revenues and in-office labor costs attributable to each class and subclass of mail and type of service primarily on the basis of statistical-sampling data collected at a small number of post offices.

These post offices are selected by use of random selection techniques, and their operations are considered to be representative of the total operations of all post offices.

In fiscal year 1971 the revenue and volume of each class and subclass of mail and type of service were sampled at 563 post offices, including the 83 largest. These post offices accounted for about 64 percent of the total revenues. The work activities of about 1 percent of the employees were observed each week at 503 post offices. These offices, which included 501 of the post offices where the revenue and volume of each class and subclass of mail and type of service were sampled, accounted for about 70 percent of all postal employees.

At the participating post offices, designated postal employees record (1) the revenue and volume of a random sample of mail and of a random sample of services (referred to hereinafter as the revenue test) for each day in each postal quarter and (2) observations of a random sample of employees' (supervisors, clerks, carriers, etc.) work activities by classes and subclasses of mail and types of services (referred to hereinafter as the cost test) for each week in each postal quarter.

The Postal Service has designed forms for reporting the sampling revenue and cost data. After being reviewed at the participating post offices and at the cognizant regional offices, the forms are forwarded to headquarters for final review and for use in developing nationwide estimates of revenues and costs.

For each postal quarter, headquarters develops nationwide estimates of revenues and costs by (1) totaling the mail-sampling data by classes and subclasses of mail and the services-sampling data by types of services and (2) statistically increasing the sampling data to represent nationwide estimates of revenue and volume for each class and subclass of mail and type of service. The sampling data on observations of employees' work activities are totaled by class of employee and by type of work activity--classes and subclasses of mail and types of services. The total in-office labor costs for each class of employee are then allocated to each work activity on the basis of the ratio of observations

for each class of employee for each activity to total observations for that class of employee for all activities.

The transportation costs--about 20 percent of the attributable costs--are allocated to the various classes of mail generally on the basis of the estimated nationwide mail volumes and weight developed as described above.

Because only a small part of the total volume of mail and services and of the number of postal employees are sampled at the participating post offices, accurate sampling data is particularly vital for developing accurate nationwide estimates. In some small post offices one piece of first-class mail represents 90,000 pieces of first-class mail for purposes of the revenue test. Thus the failure to count and record one piece of first-class mail weighing 1 ounce and carrying 8 cents postage would result in an underestimate in the nationwide estimates of 90,000 pieces of mail weighing 5,625 pounds and carrying \$7,200 postage.

Until July 1, 1971, two offices within the Postal Service's Support Group shared responsibility for the revenue and cost analysis system. The Revenue and Cost Analysis Division, Finance Department, was responsible for administering the system, and the Office of Statistical Programs and Standards, Management Information Systems Department, was responsible for developing and implementing the statistical-sampling techniques to be used in collecting data for the system. On July 1, 1971, the Office of Statistical Programs and Standards was given complete program responsibility for the statistical data collection aspects of the system. For fiscal year 1970 the cost of operating the revenue and cost analysis system was about \$7 million.

#### SCOPE OF REVIEW

Our review was made to determine whether the data collection process for the revenue and cost analysis system provided accurate data for estimating postal revenues and costs. We made our review at Postal Service headquarters, Washington, D.C ; at the former San Francisco and Seattle regional offices; and at the following eight post offices. San Francisco, San Jose, San Mateo, and Lafayette, California, Seattle, Spokane, and Ellensburg, Washington; and Portland, Oregon.

We reviewed Postal Service policies, procedures, and records relating to collecting data, monitoring the revenue and cost analysis system, and training employees. We also interviewed headquarters, regional office, and post office employees.

## CHAPTER 2

### IMPROVEMENTS NEEDED IN COLLECTING DATA FOR THE REVENUE AND COST ANALYSIS SYSTEM

Postal Service procedures for collecting data under the revenue and cost analysis system were not properly followed by Postal Service field employees, and as a result, erroneous data was entered into the system. We found that.

- Employees who made revenue tests for the system independently counted and weighed the same mail and obtained different results.
- Lists of potential sampling units<sup>1</sup> were not current or complete.
- Not all mail which should have been counted was counted.
- Mail volume was reported on the basis of estimates rather than actual counts.
- Supervisors observed employees' work activities at other than scheduled times.

Postal Service officials told us they believed that the net effect of the foregoing errors might be minimal because of compensating errors. We recognize the possibility that such errors in data collection may tend to be compensating. However, the important uses being made of data derived under the revenue and cost analysis system dictate the need for high system integrity. This can be achieved only by collecting sampling data as accurately as possible considering the inevitability of human error.

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<sup>1</sup>Mail delivery points at which revenue tests are made. A delivery point is usually the last mail-processing point prior to delivery of mail, such as a post-office-box section or a carrier station.

The Postal Service should improve its monitoring of the system and its supervision and training of employees involved in collecting data under the system.

After being advised of our preliminary findings, Postal Service headquarters' officials informed field employees that any deficiencies of the type we had noted had to be corrected and that monitoring of the system had to be increased. However, subsequent visits by Postal Service officials to post offices not included in our review revealed the same or similar deficiencies in data collection.

#### COLLECTING AND REPORTING OF REVENUE DATA

##### Erroneous data recorded by employees counting or classifying mail

To test the validity of the data recorded during revenue tests, we had two clerks, who regularly counted mail for the tests at seven of the eight post offices included in our review, independently count an identical sample of mail and record the results. At the other post office, only one clerk regularly counted mail for the revenue test, and our test of the data recorded by that clerk is discussed later.

When practicable, we selected the mail samples from mail scheduled to be counted for the revenue test. Because we wanted our sample to contain a certain mix and quantity of mail, we selected some mail which was not scheduled to be counted for the revenue test but which was representative of such mail. Our selection consisted of a total of 20 mail samples to be counted at the seven post offices. The number of pieces of mail in the samples ranged from 44 to 2,206. At each of these post offices, the two clerks recorded the results of their counts of the selected samples on the forms used to report data for the revenue test.

Our review of the 40 completed forms, after they had been reviewed by employees at both the post offices and the regional office, showed that the clerks had recorded identical information for only two of the 20 tests. In the remaining 18 tests, the clerks' counts differed as to the volume and/or the classification of mail in the samples. In

one test, for example, one clerk recorded 993 pieces of mail and the other clerk recorded 1,109, in another test, the two clerks both recorded 588 pieces of mail but they classified the mail differently, as follows:

<u>Classification</u>	<u>Number of pieces</u>	
	<u>Clerk 1</u>	<u>Clerk 2</u>
First-class letters, large-size envelopes, small parcels, and rolls	479	500
First-class post cards	30	8
First-class Federal Government mail	30	31
Airmail, 7 ounces or less	19	20
Federal Government airmail, 7 ounces or less	2	1
Second-class transient mail	1	-
Third-class bulk-rate (other than non-profit) mail	-	1
Third-class ounce-rate mail	13	13
Fourth-class zone-rate mail	5	6
Special fourth-class-rate mail	<u>9</u>	<u>8</u>
Total	<u>588</u>	<u>588</u>

In another test, one clerk recorded 646 pieces of first-class mail and the other clerk recorded 686 pieces. The difference of 40 pieces, when statistically increased nationwide, represents about 280,000 pieces. Such a difference, if widespread, could significantly distort the estimated nationwide count and could result in inaccurate allocations of revenue to such mail.

At the post office where only one clerk counted mail for the revenue test, we used the Postal Service's "training deck" to evaluate the clerk's capability to make accurate counts. The training deck is about 100 cards showing classes and types of mail a clerk should recognize in conducting mail counts. It was introduced in July 1970 to teach clerks the proper classification and recording procedures when making revenue tests. We also used the training deck to test three clerks who made revenue tests at two other post offices. Each clerk was instructed to record data from the cards as if he were counting mail for the revenue test.

Our comparison of the clerks' recorded data with what the correct data should have been follows.

<u>Type of error</u>	<u>Number of errors made</u>			
	<u>Clerk 1</u>	<u>Clerk 2</u>	<u>Clerk 3</u>	<u>Clerk 4</u>
Entry on reporting form misclassified	1	-	6	23
Local or nonlocal mail recorded improperly	2	1	2	4
Required entry not made	2	1	11	15
Noncountable mail recorded (note a)	-	-	4	9
Improper weight recorded	-	-	2	2
Improper revenue recorded	-	-	3	4
Total	<u>5</u>	<u>2</u>	<u>28</u>	<u>57</u>

<sup>a</sup>Mail, such as magazines mailed by publishers and third-class advertising mail, which does not show the amount of postage paid on each piece by the mailer. This mail is shipped under bulk-mailing permits granted by the Postal Service, and the amounts of postage, the number of pieces, and the weights of the mail are determined from forms submitted to the originating post offices by the mailers.

At five post offices we noted that clerks recorded different weights for the same pieces of mail. The different weights were due to inaccurate scales or to errors made by clerks in either reading the scales or recording the weights. For example, the weight of six pieces of priority mail was recorded by one clerk as 7 pounds 5 ounces and by another clerk as 6 pounds 4 ounces. At another post office two clerks weighed the same sample of four pieces of priority mail on the same scale. One clerk recorded the weight as 5 pounds 8 ounces and the other as 4 pounds 10 ounces.

Errors in counting, classifying, and weighing sampled mail can affect the validity of the revenue and cost analysis system, because nationwide estimates derived from such tests would be based on erroneous sampling data. We believe that the test counts and the results of the training-deck tests indicated that such sampling data might be erroneous.

Lists of potential sampling units  
not current or complete

Each post office selected for the revenue test was required to maintain a current list of all mail customers designated as firms. Basically, firms include those customers whose mail is sorted by name rather than by address, primarily because they receive large volumes of mail. At the end of each accounting period (every 4 weeks), the post offices are required to report additions to and deletions from these lists to headquarters. Each quarter, headquarters furnishes each post office with an updated list for verification.

Headquarters uses the updated lists to select the firms to be designated as sampling units for the following quarter. The failure of post offices to properly report changes in the lists could result in inaccurate estimates of mail revenues, because both the selection of the sample and the resulting projections would be based on incomplete data.

For example, if a customer was not reported to headquarters as being a firm, it would not be listed as a potential sampling unit. Moreover the firm would not be considered in developing the projection factor for firm mail counted in the revenue test, and the revenue received from firm mail and the volume and weight of such mail would be understated when projected nationwide.

Following are examples of post offices' failures to update or verify their lists of firms.

1. An official of one post office advised us that the list of firms for his post office had not been updated or verified for over 1 year. We noted, however, that about 2 months prior to our review, the postmaster reported to headquarters that the list was correct. Subsequent to our review at that post office, we were advised that headquarters had been informed of 41 additions to and 43 deletions from the list and that more corrections would be required to update the list.

2. Another post office did not report 19 firms to headquarters for addition to its list until we brought the matter to its attention.

3. An official of a third post office advised us that 13 firms had not been reported to headquarters for addition to the list because of a misunderstanding of the reporting criterion. However, the official advised us that the 13 firms would be added to the list during the next accounting period.

4. At a fourth post office, 41 customers that should have been classified as firms had not been. Discussions with an official of the post office indicated that the post office was designating customers as firms on the basis of obsolete headquarters' instructions. He advised us that the 41 customers would be reported to headquarters as firms.

Officials of the Office of Statistical Programs and Standards advised us that failure to add or delete firms from a post office's list could cause bias in the sample and could result in underestimating or overestimating the mail volume when projected nationwide.

We found that a list of stations and branches for the above-mentioned fourth post office did not include one station that should have been included as a potential sampling unit. Local officials informed us that the station had not been included primarily because of the travel expenses that would have been incurred in sending a clerk to the station to count mail in the event the station was designated as a sampling unit. Regional officials verified our finding after a visit to the post office and advised us that the station would be reported to headquarters as a potential sampling unit.

Tests did not include all the mail  
which should have been counted

All mail scheduled for delivery at a sampling unit during a selected 24-hour period is to be counted for the revenue test. At one post office, however, not all the mail was being counted because clerks were assigned to count mail during only one tour of duty (8 hours). For example, some mail for rental boxes and firms was processed outside the 8-hour period. A regional official stated that, as a result, as much as 20 percent of the mail for rental boxes and firms during the year would not be counted for the revenue test.

We reviewed reporting forms for the revenue test submitted by this post office for the first quarter of fiscal year 1971 at Postal Service headquarters. The reported data, when projected nationwide, showed that the post office had contributed about 5.1 million pieces of mail weighing 423,000 pounds and producing about \$418,000 in revenue to the nationwide revenue-test results for the rental-box sections and firms for the quarter. If the post office had not reported 20 percent of the mail for the rental boxes and firms, the contribution to the nationwide revenue-test results for these categories for the quarter would have been understated by 1.3 million pieces weighing 106,000 pounds and producing \$105,000 in revenues. Officials of the Office of Statistical Programs and Standards agreed with our computations.

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Mail volume reported on the basis of  
estimates rather than actual counts

A clerk at one post office was estimating, rather than counting, part of the sample mail for carrier routes. This post office receives a large volume of mail about the time that city and rural carriers report to work to prepare mail for delivery. The clerk told us that it was difficult for him to count the mail without delaying its delivery because he was under pressure from the carriers to get the mail to them promptly. He informed us that, to expedite the mail, he had estimated parts of the sample mail for the revenue test and had not weighed and recorded the weight of mail in each category. As a result some data that the clerk reported for the revenue test on the type and amount of mail handled on test dates may not have been accurate.

## COLLECTING AND REPORTING COST DATA

To determine how the in-office cost of postal employees is to be distributed among the classes of mail and types of services, the Postal Service samples the daily work activities of selected postal employees. Postal Service headquarters randomly selects the employees who will be included in the sample each week. The sample consists of about 1 percent of the total postal employees of the post offices included in the sample. The work of these employees is considered to be representative of the work performed by all postal employees. The activities of each employee included in the sample are required to be observed for 1 week. At statistically selected times during the employee's tour of duty, the employee's supervisor is to observe the employee's activity and record on a reporting form the type of mail handled or other services performed.

Postal Service instructions direct that the observations be made at the scheduled time. However, to provide a supervisor with some flexibility in making observations and still provide statistically sound results, the instructions provide that the supervisor may make the observation within 3 minutes before and 10 minutes after the scheduled time. If the observation is not made within that time, the supervisor is to record that the observation was "missed" and the reason why.

According to an official of the Office of Statistical Programs and Standards, observations made within 3 minutes before and 10 minutes after the scheduled time will not affect the randomness of the sample. The official stated, however, that, when observations are made prior to or after the prescribed interval or when a supervisor does not make the observation but guesses the activity of the employee at the scheduled time, the randomness of the sample could be affected.

To determine whether supervisors were properly observing and reporting data for the cost test at seven of the eight post offices included in our review, we observed employees at the time they were scheduled to be observed by their supervisors or reviewed the reporting forms recording the employees' work activities before or after the scheduled

time of the observation. No employees were scheduled to be observed by their supervisors during our visits to the other post office included in our review.

Our observations of employees and our review of the reporting forms covered 70 observations, or about 7.5 percent of the total observations scheduled on the days we visited the post offices.

Of the 70 observations, 23, or about 33 percent, were made outside the scheduled time. Of these 23 observations, eight were made more than 3 minutes before the scheduled time, often at the beginning of the employees' work day, and 15 were made more than 10 minutes after the scheduled time. However, our subsequent review of the reporting forms covering the 23 observations showed that the 23 were reported as having been made when scheduled.

For 32 of the 70 observations covered, we also observed and noted the work activities of the employees at the scheduled times of the observations. Our review of the reporting forms for the 32 observations showed that 11 did not show the correct work activities.

For example, we observed that one employee was sorting a tray of third-class, bulk-rate, nonprofit mail at the time he was scheduled to be observed. The employee's supervisor did not conduct the observation at the scheduled time and had not done so by 13 minutes after the scheduled time. We reviewed the reporting form the supervisor had submitted to the post office and noted that it showed that the observation had been conducted when scheduled and that the employee was working on first-class mail at the time of the observation. As a result the labor costs for the employee in the sample would be allocated to first-class mail instead of to third-class, bulk-rate, nonprofit mail.

We noted that the reporting form for another employee in the sample had been filled out at least 15 minutes before the scheduled time of the observation and showed that the employee was at lunch. If an employee is reported at lunch during the scheduled time of the observation, the labor cost associated with that time is allocated among all the classes of mail and types of services. We observed,

however, that the employee had returned to her station about 6 minutes before the scheduled time of the observation. We also reviewed the reporting form for the employee after post office employees had reviewed it and noted that it still showed that the observation had been conducted at the scheduled time and that the employee was at lunch.

We also reviewed other reporting forms for employees who were involved in the 15 previously mentioned observations made more than 10 minutes after the scheduled time. We found that an additional 18 observations had not been made during the prescribed interval but were subsequently reported as though they had been made when scheduled.

For example, at one post office we reviewed the reporting form for a letter carrier in the sample about 1 hour after the carrier's supervisor was to have recorded his fourth observation of the employee for that day. We found that reporting form and a reporting form for a previous day in an unopened envelope and noted that no entries had been made for observations scheduled for the 2 days. About 2-1/2 weeks later we reviewed copies of the two reporting forms at the regional office and noted that a work activity was shown for all observations and that all observations were shown as having been conducted when scheduled.

Several postal supervisors told us that their failures to make scheduled observations were often due to their preoccupation with other, more pressing responsibilities. An official at one post office said that the employees who reviewed reporting forms at the post office returned those forms which showed that observations had been missed to the appropriate supervisors and instructed them to enter work activities for the missed observations. A supervisor at the post office advised us that he missed approximately 15 percent of the observations he was scheduled to make and that he guessed at the employees' activities at the scheduled time of the observations. Another supervisor at the post office advised us that he rescheduled missed observations.

At another post office a supervisor advised us that, when observations were missed, he guessed at the employees' activities at the scheduled times because he had been

instructed by a post office official not to submit reporting forms which showed that observations had been missed.

Postal employees advised us that the reporting of observations made in advance of the scheduled times were usually based on the supervisors' knowledge of the employees' expected activities at the scheduled times of the observations. For each of the eight previously mentioned observations (see p. 17) that had been made more than 3 minutes before the scheduled time, we observed the employees' activities at the scheduled times and found that the reporting for three of the observations had been incorrect.

Because the validity of the Postal Service's revenue and cost analysis system is based on statistical-sampling techniques, accurate reporting is particularly vital, and using estimates and failing to make observations during the prescribed intervals distorts the representativeness of the sample and may affect the validity of the cost estimates developed from the system.

Although emphasis should be placed on making all observations when scheduled, we recognize that circumstances may prevent some observations from being made when scheduled. The reporting of a work activity performed after the scheduled time is more detrimental to the validity of the cost test than is reporting a missed observation, because work activity reported for the missed observation may not be the same as the activity that was being carried out at the scheduled observation time.

#### Questionable reporting of activities of employees handling sacked parcel post mail

Supervisors observing the activities of postal employees handling sacks of parcel post mail were not accurately reporting the types of mail being handled because they were not examining the contents of the sacks.

At two of the eight post offices, we either observed supervisors recording the results of their observations of employees handling sacked mail labeled "parcel post" or asked supervisors how they would record such observations for the cost test. We observed, and postal employees told

us, that, although these sacks primarily contained parcels, they sometimes contained large-size envelopes (flats) and small parcels and rolls (SPRs). In accordance with Postal Service instructions for reporting employee activities for the cost test, such mail should be reported in one of three categories: (1) parcels, (2) mixed SPRs and parcels, or (3) mixed flats, SPRs, and parcels.

Supervisors at the two post offices told us that, when employees are handling sacks marked "parcel post," they usually report the activity for the cost test in a fourth, general category: "mixed, all shapes."

An employee's activity charged to any one of the aforementioned categories in the cost test is generally prorated under the revenue and cost analysis system among the types of mail, as shown below.

<u>Category</u>	<u>Proration to types of mail</u>			
	<u>Parcels</u>	<u>SPRs</u>	<u>Flats</u>	<u>Letter mail</u>
Parcels	x			
Mixed SPRs and parcels	x	x		
Mixed flats, SPRs, and parcels	x	x	x	
Mixed, all shapes	x	x	x	x

At one post office we examined 10 sacks of mail labeled "parcel post," which postal supervisors told us they would report as "mixed, all shapes" for purposes of the cost test. The typical sack contained parcels, flats, and SPRs. If supervisors had reported that the employee was working on "mixed, all shapes," part of the employee's labor cost would have been allocated to letter mail; thus the total labor cost for letter mail would be overstated and the total labor cost for parcels, flats, and SPRs would be understated.

Supervisors at the two post offices told us that they report sacks of mail labeled "parcel post" as "mixed, all shapes," because they do not know the specific content of the sacks. Supervisors at one of the two post offices told us that local postal officials had instructed them not to open sacks to determine their contents for the cost test. A supervisor at the other post office told us that he would

not open sacks to determine their contents because Postal Service instructions for the cost test did not specify that this be done

We believe that sacks of mail should be examined by supervisors reporting data for the cost test, because supervisors cannot otherwise accurately report the work activity of the postal employees handling the sacks and the labor cost of those employees cannot be accurately prorated.

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Postal Service officials advised us that they believed that the net effect of the aforementioned errors might be minimal because of compensating errors. For example, they stated that employees who count pieces of mail for the revenue test should not estimate a count, but if some percentage of such employees do estimate, any individual estimating error is as likely to be high as it is to be low and the estimates will tend to compensate for each other.

We recognize the possibility that the errors in data collection we noted may tend to be compensating. However, we believe that the important uses being made of data derived from the revenue and cost analysis system dictate the need for high system integrity. In our opinion, this can only be achieved by collecting sampling data as accurately as possible, considering the inevitability of human error.

NEED TO IMPROVE SYSTEM MONITORING  
AND EMPLOYEE TRAINING

The conditions we noted indicate that the revenue and cost analysis system was not being monitored adequately to insure the collection of accurate data and that employees collecting data might not have been trained adequately to carry out the required activities.

Postal Service procedures required that regional office officials visit each post office included in the revenue test at least once a year to make a detailed review of the operation of the revenue test but did not specify how the review was to be made. Although the Postal Service required that regional office officials visit post offices to monitor the cost test, it had not prescribed the frequency of such visits. However, we noted that, when visits were made to post offices, generally both the revenue and cost tests were reviewed. During such reviews, regional office officials observed the recording of revenue and cost data, reviewed completed reporting forms, and discussed procedures with post office employees.

In fiscal year 1970 officials of the San Francisco regional office visited 10 of the region's 62 post offices participating in the data collection system to review the operation of the system. One of these 10 post offices was included in our review.

During fiscal years 1969 and 1970, the Seattle regional office made detailed reviews of the system's operation at seven of the region's 23 offices participating in data collection for the system. One of the seven post offices was reviewed three times, and two of the seven offices were included in our review.

At five of the seven post offices, Seattle regional officials identified several problem areas, such as the failure to update lists of firms and the need for additional training of data collection employees, and discussed the necessary corrective actions with local management officials. Generally no followup visits were made to determine whether the corrective actions had been taken.

The Postal Service instructions require that regional offices rank post offices on the basis of the number of errors on the reporting forms for the revenue and cost analysis system. The instructions also provide that, when scheduling visits to post offices, regional officials visit those post offices which ranked highest in the number of errors. Postal Service officials informed us, however, that visits to post offices were seldom based on the number of errors but usually on the proximity of the post offices to the regional office or to other locations being visited by regional officials.

In fiscal year 1967 Postal Service headquarters held revenue-test orientation classes for regional office employees, who, in turn, instructed and trained local post office employees. A Postal Service headquarters official told us that regional office employees did not retrain clerks participating in the revenue test, because retraining was the responsibility of the local post offices.

At the post offices we visited, training of clerks participating in the revenue test was conducted by post office employees and consisted of providing the clerks with handbooks, instructional material, and on-the-job training. On-the-job training varied among post offices, but it generally consisted of new clerks' observing and participating in actual mail counts by experienced clerks.

In the Seattle region, retraining efforts had consisted of discussing erroneous entries on reporting forms with the clerks involved in the revenue test. During our review three of the four post offices we visited in the Seattle region started using the Postal Service's training deck.

Training of post office supervisors and other employees involved in collecting data for the cost test was provided in 1969 by Postal Service headquarters and regional officials. In July 1970 all employees involved in collecting data for the cost test in the Seattle and San Francisco postal regions, except Los Angeles post office employees, received refresher training for the cost test.

Regional officials designated as cost officers and their assistants are responsible for retraining post office employees who oversee the cost test. These post office

employees, in turn, are responsible for training and periodically retraining all supervisors who make scheduled observations of employees.

In the Seattle region, training of employees participating in the cost test had been limited primarily to that given by the individual post offices. Post office officials told us that retraining of supervisors was limited to post office or regional office officials pointing out to supervisors the errors made in reporting forms.

San Francisco regional officials informed us that employees participating in the cost test had been trained only when requested by each post office. One official stated that during June 1969 a training information pamphlet on the cost test was given to all supervisors but that the regional office had not determined whether the supervisors had used the pamphlet.

In view of the deficiencies in data collection that we noted, we believe that the Postal Service should assess the quality of the training and retraining of postal employees who collect data for the revenue and cost analysis system

#### REGIONAL OFFICIALS' COMMENTS

San Francisco regional officials advised us that the deficiencies found during our review of the revenue and cost data collection activities in the San Francisco region could have been found in most of the 62 post offices that participated in collecting data for the system in that region, because data collection at about 52 of the 62 post offices needed improving. The officials advised us that the regional office's large workload prevented adequate training of employees and adequate monitoring of the revenue and cost analysis system.

Seattle regional officials advised us that the complexity of the classifications and subclassifications of mail and the structure of the postal rate system resulted in differences in revenue data collected by different sampling clerks. Moreover they said that it was difficult to find employees who had the ability to classify all mail correctly and that it therefore was not surprising that we had found differences in the data collected for the revenue test

Seattle regional officials told us that some of the data reported for the cost test was incorrect because the cost part of the system was complex.

The Seattle regional officials agreed with us that training postal employees in proper methods of data collection should be emphasized. They also said that monitoring of the system had been relaxed because of the lack of manpower.

#### OFFICE OF AUDIT REVIEWS OF THE SYSTEM

At the time of our fieldwork, the Postal Service's Office of Audit (OA), Postal Inspection Service, had issued three reports on reviews of the revenue test part of the system. The reports, issued in January and August 1969 and February 1970, covered the Cincinnati, Atlanta, and Denver regions, respectively. The reports showed problems similar to those we noted, particularly mail-counting errors, inaccurate lists of firms, and the need for increased monitoring of the system. In response to OA's reports, Postal Service regional officials stated generally that corrective actions would be taken. For example, the Cincinnati regional office informed OA that it would update the list of firms and the Atlanta regional office agreed that increased training was needed for employees who collected data for the system. However, OA generally made no followup reviews at the regional offices to ascertain whether the proposed corrective actions had been taken.

#### ACTION BY POSTAL SERVICE HEADQUARTERS

After we discussed our preliminary findings with regional officials, the Assistant Postmaster General, Finance and Administration Department, in a letter dated December 24, 1970, advised the Assistant Postmaster General, Operations Department, that the conditions we had noted in the Seattle and San Francisco regions could not be tolerated. He said that it was particularly disturbing that we had noted the deficiencies when certain regional and post office officials were specifically responsible for monitoring the system.

On December 31, 1970, the Assistant Postmaster General, Operations Department, informed all regional directors that postmasters at all post offices participating in the revenue

and cost tests would be held strictly accountable for the integrity of the revenue and cost analysis system. He informed them further that system integrity was as important as the prompt dispatch of mail and improved productivity and that negligent or indifferent reporting found by regional or Postal Service headquarters' officials would be documented and reviewed in evaluating the postmasters and their staffs.

The regional directors were instructed to schedule monitoring visits to each post office at least once a quarter and that:

--For the revenue test, visits should include spot checks of the accuracy of firm lists, the accuracy of mail classifications, and the completeness of mail counts.

--For the cost test, visits to representative locations where cost data is obtained should be unannounced and should include examinations of the forms used to report data.

The regional directors were instructed to submit reports to headquarters on the results of the monitoring visits.

On January 28, 1971, the Deputy Assistant Postmaster General, Operations Department, advised all regional directors that an official of the Office of Statistical Programs and Standards would visit all regions to observe the procedures used in monitoring the revenue and cost analysis system. This official informed us that, from January through May 1971, he visited seven of the 15 regions. He said that generally he had found that procedures used to monitor the system could be improved and that weaknesses existed in data collection for the revenue and cost analysis system similar to those we had noted. For example, he said that a Boston Post Office supervisor was reporting observations for the cost test after the scheduled time of the observations and that the Jacksonville Post Office was not updating its lists of firms for the revenue test.

Our review of reports submitted by the regions on monitoring visits showed that in many cases the regions reported the same or similar deficiencies in data collection activities as those we had noted. For example, several reports

showed that clerks needed additional training, lists of firms were not current, the revenue tests were questionable because mail counts were inaccurate, recordings for cost tests were incorrect, and post offices were not performing required monitoring duties.

The reports showed also that the regional offices were not monitoring the revenue and cost analysis system in accordance with the December 31, 1970, directive of the Assistant Postmaster General, Operations Department. Although the Assistant Postmaster General required that a visit be made each quarter to each of the post offices participating in the revenue and cost tests, regional officials had visited only about 44 percent of the 563 post offices during the quarters ended March and June 1971. Moreover, according to Postal Service records, regional officials visited only 34 of the post offices during the quarter ended September 1971.

A Postal Service official informed us that increased monitoring had not been achieved because of the reorganization of the Postal Service and because of the lack of employees due to retirements.

We believe that the quality of the revenue and cost data collected must be improved to provide reasonable assurance that the statistically derived results are reliable and representative of the revenue and costs associated with the various classes of mail and types of service, because such results are used in assessing the adequacy of postal rates and fees and in requesting appropriations.

#### RECOMMENDATIONS TO THE POSTMASTER GENERAL

We recommend that the Postal Service (1) implement an effective monitoring program to detect and correct deficiencies in collecting revenue and cost data under the revenue and cost analysis system and (2) assess the current training and retraining of employees collecting the data for the system and, when necessary, intensify such training and retraining.

### CHAPTER 3

#### OBSERVATION ON RELIABILITY OF ESTIMATES

##### DERIVED UNDER THE REVENUE AND COST ANALYSIS SYSTEM

The total estimated revenue by classes of mail and types of services as derived under the Postal Service's revenue and cost analysis system has consistently exceeded the total actual revenue recorded by the Postal Service in its accounting records, except for the fourth quarter of fiscal year 1971. The continuous overestimating of revenue can adversely affect the allocation of actual revenue among the various classes of mail and types of services.

Each postal quarter the estimated revenue is allocated to the various classes of mail and types of services on the basis of the data derived from the revenue test under the revenue and cost analysis system. The total estimated revenue and actual revenue recorded in the accounting records are compared and the estimated revenue previously allocated is adjusted to reflect an allocation of the actual revenue. This is done by increasing or decreasing the estimated revenue by each class and subclass of mail and type of service on the basis of the ratio of total actual revenue to total estimated revenue.

Assuming, for a postal quarter, that the actual revenue was \$2 billion, or four-fifths of the estimated revenue of \$2.5 billion, the estimated revenue allocated to each class of mail would be adjusted to reflect an allocation of actual revenue, as illustrated below.

<u>Class of mail</u>	<u>Estimated revenue</u>		<u>Estimated revenue adjusted to reflect an allocation of actual revenue</u>
	<u>Percent</u>	<u>Amount</u>	
			——(000,000 omitted)——
First class	40	\$1,000	\$ 800
Second class	30	750	600
Third class	20	500	400
Fourth class	10	250	200
Total	100	<u>\$2,500</u>	<u>\$2,000</u>

Each quarter since the implementation of the revenue and cost analysis system in 1966, except the fourth quarter of fiscal year 1971, the total estimated revenue derived under this system has been higher than the total actual revenue. The graph on page 30 shows the estimated and actual revenue, by quarters, since 1966.

The Postal Service's Office of Statistical Programs and Standards made a study of the revenue part of the revenue and cost analysis system to determine why the actual and estimated revenue differed. The study report, dated April 2, 1969, stated that, if the sample were representative of the actual revenue, it would be expected that the estimated revenue would be in close agreement with actual revenue although the estimated revenue sometimes would be higher or lower than the actual revenue because of sampling variations. The report stated that a significant part of the difference between the actual and estimated revenue was due to overestimates of the revenue to be derived from mail with insufficient postage (postage-due mail).

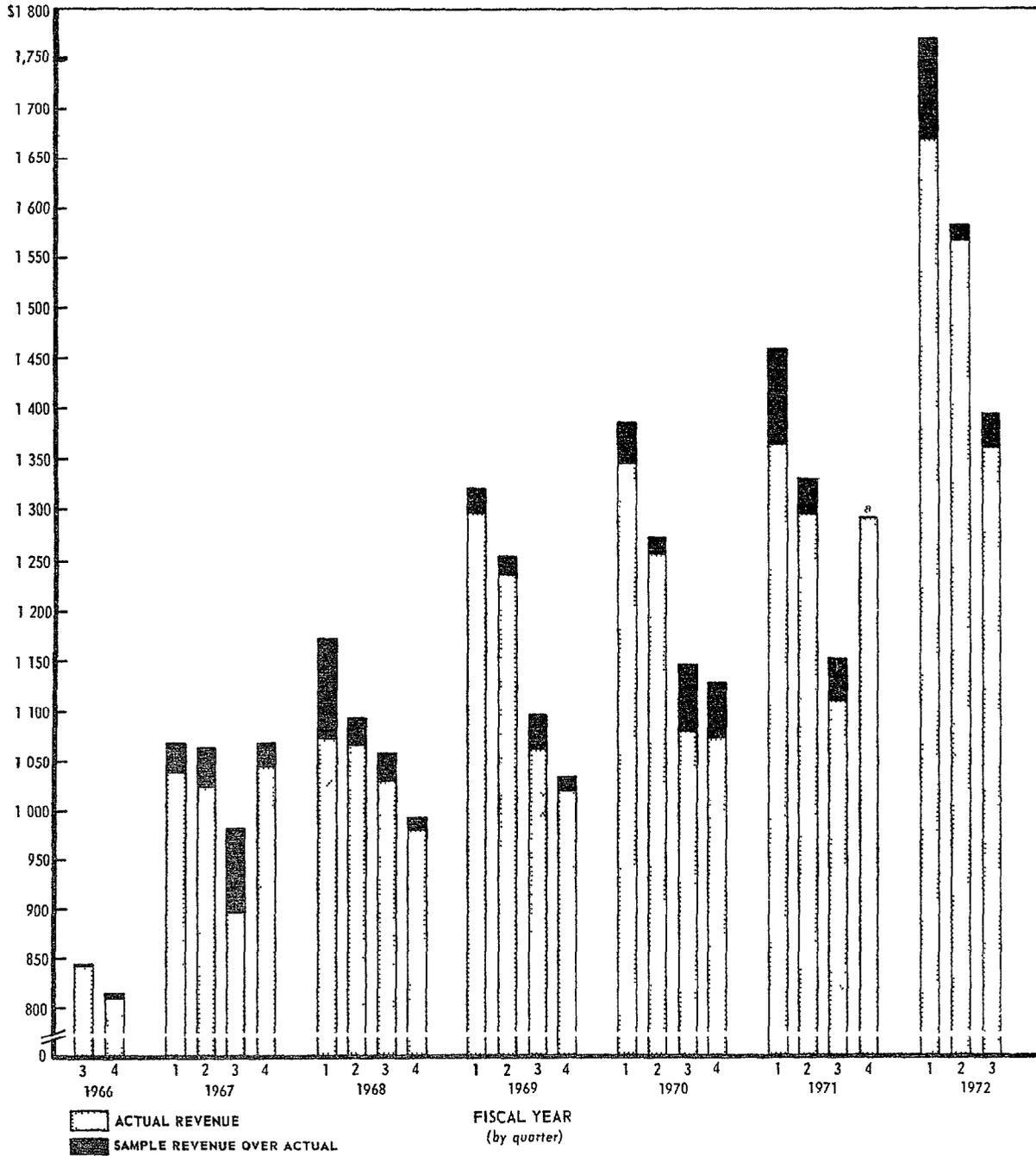
The report stated also that other known causes of the differences between the estimated and actual revenue were overestimates of revenue due to thefts of stamps, reuse of noncancelled stamps, accounting adjustments, erroneous counting of noncountable mail, and special service fees. The report estimated that stamp thefts accounted for about a \$400,000 overestimate each quarter but provided no dollar estimates for the other causes.

The report stated that:

"\*\*\* it is reasonable to conclude that some reduction in the discrepancy has occurred through improved quality of the source data, no doubt gained through experience, training and the effectiveness of Regional and Department quality control practices. However, the discrepancy remaining is still substantial averaging about \$35 million a quarter in PFY [postal fiscal year] 1968."

## COMPARISON OF ESTIMATED REVENUE WITH ACTUAL REVENUE

(MILLIONS)



<sup>a</sup> ACTUAL REVENUE EXCEEDED SAMPLE REVENUE BY \$23 MILLION

SOURCE: PROBABILITY SAMPLING PROGRAM FOR DOMESTIC MAIL COMPARISON ESTIMATED REVENUE WITH ACTUAL REVENUE REVENUE AND COST ANALYSIS DIVISION OFFICE OF RATES AND CLASSIFICATION SUPPORT GROUP

The report stated also that further study was expected to shed more light on the differences between total actual and estimated revenue

Officials of the Office of Statistical Programs and Standards told us that the procedures for reporting postage-due mail identified during the revenue test had been revised to eliminate the overestimates of revenue attributed to postage-due mail. They informed us, however, that further studies had not determined all causes of the differences between estimated and actual revenue.

The difference between estimated and actual revenue has continued since the issuance of the April 2, 1969, report by the Office of Statistical Programs and Standards. The estimated revenue exceeded the actual revenue for fiscal year 1970 by about \$176 million, or about 3.7 percent of the actual revenue; for fiscal year 1971 by about \$145 million, or about 2.9 percent; and for the first three quarters of fiscal year 1972 by about \$133 million, or about 2.9 percent.

We believe that the consistent variance between estimated and actual revenue indicates deficiencies in the collection of sampling data and a need for further study of the sampling system.

#### RECOMMENDATION TO THE POSTMASTER GENERAL

We recommend that the Postal Service review the reliability of the revenue estimates derived under the revenue and cost analysis system and, when necessary, implement procedures to provide for developing more accurate estimates.

## CHAPTER 4

### AGENCY COMMENTS AND GAO EVALUATION

In commenting on a draft of this report by letter dated August 14, 1972, the Postmaster General stated that the Postal Service agreed with the main thrust of the report and with its principal recommendations. He said, however, that the report was based on a small sample of post offices and observations and that errors cited in the report were unquantified and therefore did not permit an evaluation of their impact on the final results of the system.

We did not attempt to quantify the effect of errors on the final results of the revenue and cost analysis system, because we believe that such quantification is the responsibility of the organization responsible for the operation of a statistical system.

The Postmaster General stated that in recent months the Postal Service had initiated a number of corrective actions which anticipated our recommendations. He stated also that the Postal Service had expanded its monitoring efforts since the period covered by our report and was strengthening its monitoring staff. He said that monitoring visits during fiscal year 1972 had increased from 138 in the first quarter to 595 in the last quarter and that the Postal Service (1) had been taking corrective action on training deficiencies disclosed during its monitoring, (2) was developing additional training programs and aids, including a motion picture, to improve the overall quality of training in support of the system, and (3) was making further reviews relating to the reliability of its estimates.

We did not review the effectiveness of the corrective actions being taken to improve the accuracy of source information for the revenue and cost analysis system. Postal officials advised us, however, that, due to manpower limitations at the regional offices, local post office employees on detail to regional offices conducted many of the monitoring visits during fiscal year 1972. In accordance with the Postmaster General's directive of March 29, 1972, the practice of placing employees on temporary or permanent detail was discontinued on July 1, 1972. Postal Service officials

informed us that the elimination of detailing employees might severely hamper the monitoring efforts during fiscal year 1973.

The Postmaster General said that the Postal Service knew that the revenue and cost analysis system was sound and was determined to give the system whatever administrative support it might require and to take disciplinary action when necessary to insure proper performance. He said that, after the improvement efforts had had time to take effect, the Postal Service would welcome our further review of the system.

We plan to keep abreast of the Postal Service's effort to improve the accuracy of the data collected for the revenue and cost analysis system, including further study of the reliability of the estimates derived under the system.



METHODOLOGY OF SAMPLE SELECTION FOR  
THE REVENUE AND COST ANALYSIS SYSTEM  
AND GAO EVALUATION

The revenue and cost analysis system has two data-gathering segments, one for revenue and one for cost.

REVENUE DATA COLLECTION SEGMENT

In selecting the post offices where mail and services will be sampled, the Postal Service groups all post offices into 11 categories on the basis of total revenue collected by each post office. The listing of selected post offices is updated annually on the basis of the total revenue received during the previous year. The following table shows, for fiscal year 1971, the 11 categories, the range of annual revenues of post offices in each category, the number of post offices in each category, the number of post offices from each category included in the sample, and the percentage of total revenue represented by the post offices in each category and in the sample.

<u>Category</u>	<u>Annual revenue (000 omitted)</u>	<u>Post offices in each category</u>	<u>Post offices in sample</u>	<u>Percent of total revenue</u>	
				<u>Post offices in each category</u>	<u>Post offices in sample (note a)</u>
A	\$26,499 and higher	28	28	35.5	35.5
B	8,833 to 26,499	55	55	14.4	14.4
C	1,767 to 8,833	325	175	20.2	11.4
D	883 to 1,767	356	57	7.4	1.2
E	353 to 883	859	70	8.0	.7
F	160 to 353	1,327	44	5.2	2
G	71 to 160	2,106	36	3.8	.1
H	32 to 71	3,048	25	2.4	(b)
J	14 to 32	4,305	13	1.5	(b)
K	2.7 to 14	12,571	30	1.4	(b)
L	Less than 2.7	<u>7,021</u>	<u>30</u>	<u>2</u>	<u>(b)</u>
Total		<u>32,001</u>	<u>563</u>	<u>100.0</u>	<u>63.4</u>

<sup>a</sup>Total does not agree because of rounding.

<sup>b</sup>Less than 0.1 percent.

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Because about 50 percent of the total revenue is collected by the post offices in categories A and B, all post offices in those categories are included in the sample. A random statistical selection is made of post offices from the other categories to obtain a sample representative of the revenue collected by the post offices in these categories. The random selection avoids subjectivity or personal preference, is more likely to reflect actual conditions, and permits an evaluation of the precision of the derived estimate. Although only about 1.8 percent of all post offices were included in the sample for fiscal year 1971, they accounted for about 63.4 percent of the total revenues collected.

The mail sampled at the selected post offices is counted at sampling units, usually the last mail-processing point prior to delivery. All mail for delivery by a post office flows through one of the following delivery points.

1. City delivery routes
2. Parcel post routes
3. Certain firms receiving large volumes of mail
4. Rural delivery routes
5. Third-class post offices
6. Fourth-class post offices
7. Special delivery sections
8. General delivery sections
9. Rental-box sections
10. Star route deliveries to rural boxes

Because counting all the mail at the selected post offices would be burdensome and expensive, the Postal Service takes a random sample of mail to be delivered. Postal Service headquarters prepares listings of all possible designated delivery points reported by the selected post offices as the potential universe of sampling units. For example, all city delivery routes at the selected post offices are designated as potential sampling units.

Postal Service headquarters randomly selects the sampling units from the potential universe where mail is to be tested each day in a postal quarter. A new list of sampling units is prepared for each postal quarter. All mail delivered to the selected unit during each day in the test period is

counted by designated clerks who record the total revenue, the number of pieces, and the weight of all mail received for delivery on the day of the sample.

A summary of the information recorded by a clerk counting rental-box mail for one customer follows.

<u>Type of mail</u>	<u>Number of pieces</u>	<u>Revenue</u>	<u>Weight</u>	
			<u>Pounds</u>	<u>Ounces</u>
First-class letters, flats, and SPRs--13 ounces or less				
Local	52	\$ 3.90	2	7
Nonlocal	224	19.98	13	11
First-class Federal Gov- ernment mail.				
Nonlocal	1	-	-	3
Airmail letters, flats, and SPRs--7 ounces or less	9	1.70	-	15
Priority mail (heavy pieces).				
Nonlocal	9	14.36	18	5
Third-class bulk rate·				
Nonprofit organizations, 1.6 cents per piece-- nonlocal	2	.03	-	1
Other than nonprofit organizations, 4 cents per piece--nonlocal	2	.08	-	5
Fourth-class zone-rate parcel post.				
Nonlocal	3	5.40	23	5

Mail at about 110,000 sampling units is tested during each fiscal year. In fiscal year 1971, the 110,000 units represented about 1.8 percent of the potential sampling units within the post offices included in the sample. According to the Postal Service, this size sample was expected, at a 90-percent confidence level, to result in an estimate of total mail volume that would be within plus or minus 0.7 percent of the actual volume.

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In practice, however, the resulting estimate has been within plus or minus 3.5 percent of the actual volume. The level of confidence desired and the degree of tolerable error are matters for management discretion. The reliability of the system can be increased only by increasing the size of the sample and commensurately increasing the cost. In our opinion, the Postal Service's method of sampling is statistically acceptable for producing the data desired.

Certain categories of mail which do not show the amount of postage paid on each piece by the mailer, such as magazines mailed by publishers and third-class advertising mail, are excluded from the above-described mail test. The amounts of postage required for this mail are determined by the mailers and the Postal Service for the entire quantities at the time of mailing. This mail is shipped under bulk-mailing permits granted by the Postal Service. The amounts of postage, the number of pieces, and the weights of the mail are shown on forms submitted to the post offices by the mailers.

### COST DATA COLLECTION SEGMENT

Cost tests are made at the same post offices in categories A through J where the revenue tests are made and are concerned only with the in-office operations at those post offices.

In-office operations include all mail-processing functions performed inside a post office. In-office costs include the salaries and fringe benefits of clerks, mail-handlers, supervisors, technical employees, and postmasters plus about 40 percent of the labor costs for letter carriers and special-delivery messengers, which covers the time they spend performing duties inside the post office. In-office costs account for about 80 percent of the total attributable costs. The remaining attributable costs are principally transportation costs.

In-office operations do not include letter-carrier costs for delivery of mail and other labor costs for employees not directly involved in mail processing, such as those performing vehicle and custodial services. These costs are generally classified as institutional costs.

At the post offices in categories A through J where the cost tests are made, supervisory employees observe and record the types of work being performed and the types of mail being handled by a sample of employees at scheduled times during the employees' workdays. According to the Postal Service, the concept supporting this type of work sampling is that at any point in time (i.e., a second) an employee involved in in-office operations is handling, or can be associated with, a specific class of mail or type of service. During the day the employee may handle different classes of mail or perform different types of services.

According to the Postal Service, an analysis of the sampling of work activities will provide statistically valid estimates of the amount of in-office costs attributable to each class of mail and type of service if (1) a sample of employees at the sample post office is selected at random, (2) records are kept of the types of mail handled by the employees at certain times during the day, and (3) this sampling of work activities is continued throughout the year with different employees being sampled each week. In our opinion, this method of work sampling provides statistically acceptable estimates of the work activities of postal employees by classes of mail and types of services.

Postal Service headquarters selects, on a random basis, the employees who will be included in the sample each week. The sample consists of about 1 percent of the total postal employees of the post offices included in the sample. The work of these selected employees is considered to be representative of the work performed by all postal employees. The activities of the employees included in the sample are observed for 1 week. At statistically selected times during the employees' tours of duty, the employees' supervisors observe the employees' activities and record on a special form the types of mail being handled or other work being done.

For example, the form may provide for a supervisor to observe an employee at 4:51 p.m., 6:51 p.m., 8:51 p.m., and 10:51 p.m. and to record the activities being carried out by the employee at those times. To provide the supervisor with some flexibility in making his observations and still provide statistically sound results, Postal Service instructions

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provide that the supervisor may make his observation within 3 minutes before and 10 minutes after the scheduled time. Each completed form includes the observations made for 1 day of the sample week.

An employee included in the sample may be observed four or five times during the day, depending on his tour of duty and the scheduled times of the observations. Assuming that an employee included in the sample was observed four times each day, the observations for a week might be as shown below.

<u>Type of mail being handled or service performed</u>	<u>Number of times observed performing the activity</u>	<u>Percent</u>
First-class mail	8	40
Second-class mail	4	20
Third-class mail	6	30
Fourth-class mail	1	5
Insured-mail service	<u>1</u>	<u>5</u>
Total	<u>20</u>	<u>100</u>

Because the 20 observations statistically represent the type of work that the employee performed throughout the week, the weekly labor cost for that employee can be prorated among the various classes of mail and types of services in accordance with the sampling results.

Each quarter the Postal Service totals the number of observations of employees reported for each class and subclass of mail and type of service by type of employee (clerk, carrier, supervisor, etc.) and by category of post office. Because the total sample observations for each type of employee statistically represents the type of work performed by all similar employees, the Postal Service assigns total labor cost for each class of employee to each work activity--class or subclass of mail and type of service--on the basis of the ratio of observations for each class of employee for each work activity to total observations for that class of employee for all activities.

Because the scheduled times of observation are selected at random, it is important that the supervisor make the observations at the proper time and correctly record the activity being performed. To do otherwise could distort results when projected nationwide. To illustrate the effect of an incorrect recording, assume that an employee was to be observed at 10 01 a.m., and that during the entire time allowed for the observation (from 3 minutes before until 10 minutes after 10:01 a.m.) the employee was handling third-class mail; however, the supervisor did not observe the employee within the proper time. If the supervisor observed the employee after the proper time, the employee might have been handling, for example, first-class mail. Reporting this observation would result in the amount of the employee's labor cost attributed to third-class mail being understated and in the cost attributed to first-class mail being overstated. Using our aforementioned example, the number and percentage of the observations for first-class mail, as shown in the above table, would be increased to nine observations and 45 percent, respectively, while the number and percentage of observations for third-class mail would be decreased to five observations and 25 percent, respectively.

During one week in each postal quarter, the Postal Service also samples the work activities of employees at selected post offices in categories K and L. The selected post offices consist of 159 post offices--none of which are included among the post offices selected for the revenue test--chosen by management officials as representative of small-size post offices. The results of the quarterly sample are used to estimate the results of operations of all post offices in categories K and L during the respective quarters.



THE POSTMASTER GENERAL  
Washington, DC 20260

August 14, 1972

Dear Mr Staats

Thank you for the chance to comment on the draft of your proposed report to the Congress entitled "Improvements Needed in the Collection of Data for the Revenue and Cost Analysis System "

The report describes a review made during August 1970 - November 1971 covering policies, procedures and records relating to the data collection aspects of the revenue and cost analysis system, interviews with Headquarters and regional personnel, and observations at eight of the 563 post offices collecting data for the system. It finds the Service's method of sampling to be statistically acceptable to produce the data desired, but calls attention to deficiencies in the performance of some of the personnel involved in collecting data, and recommends improving the monitoring of the system, better supervision and training of data collection personnel, and a further review of the reliability of our estimates.

Although the report is based on a small sample of offices and observations and the errors it cites, being unquantified, do not permit an evaluation of their impact on the final results of the system, we agree with the main thrust of the report and with its principal recommendations.

With the help of informal discussions with your staff, we have initiated a number of corrective actions in recent months which anticipated the recommendations made in your report. For example, we have expanded our monitoring efforts since the period covered by the report and are strengthening the monitoring staff. Monitoring visits during Fiscal Year 1972 increased from 138 in the first quarter to 595 in the last quarter.

As our increased monitoring discloses training deficiencies, we have been taking corrective action, and we have additional training programs, aids and a motion picture under development to improve the overall quality of training in support of the system.

As your report recommends, we have been making further reviews relating to the reliability of our estimates.

We know the revenue and cost analysis system itself is sound, and we are determined to give it whatever administrative support it may require and to take firm disciplinary action where necessary to insure proper performance.

After our improvement efforts have had time to take effect, we would welcome your making a further review of the total revenue and cost analysis system

Detailed comments on the technical aspects of the draft are being made directly to your staff.

Sincerely,

A handwritten signature in black ink that reads "E. T. Klassen". The signature is written in a cursive, slightly slanted style.

E. T Klassen

Honorable Elmer B. Staats  
Comptroller General of the  
United States  
Washington, D. C 20548

APPENDIX III

PRINCIPAL MANAGEMENT OFFICIALS

OF THE POSTAL SERVICE

RESPONSIBLE FOR THE ADMINISTRATION OF ACTIVITIES

DISCUSSED IN THIS REPORT

	<u>Tenure of office</u>	
	<u>From</u>	<u>To</u>
POSTMASTER GENERAL:		
Elmer T. Klassen	Jan. 1972	Present
Merrill A. Hayden (acting)	Oct. 1971	Dec. 1971
Winton M. Blount	Jan. 1969	Oct. 1971
W. Marvin Watson	Apr. 1968	Jan. 1969
Lawrence F. O'Brien	Nov. 1965	Apr. 1968
DEPUTY POSTMASTER GENERAL.		
Vacant	Oct. 1972	Present
Merrill A. Hayden	Sept. 1971	Sept. 1972
Vacant	Jan. 1971	Sept. 1971
Elmer T. Klassen	Feb. 1969	Jan. 1971
Frederick C. Belen	Feb. 1964	Jan. 1969
SENIOR ASSISTANT POSTMASTER GENERAL SUPPORT GROUP (note a).		
Benjamin F. Bailar	Apr. 1972	Present
Vacant	Mar. 1972	Apr. 1972
James W. Hargrove	July 1971	Feb. 1972
ASSISTANT POSTMASTER GENERAL BUREAU OF FINANCE AND ADMINISTRATION (note a).		
James W. Hargrove	Feb. 1969	July 1971
Ralph W. Nicholson	Mar. 1961	Feb. 1969

<sup>a</sup>Effective July 1, 1971, the responsibilities of the Bureau of Finance and Administration were transferred to the Senior Assistant Postmaster General, Support Group.

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