

BEFORE THE
POSTAL REGULATORY COMMISSION
WASHINGTON, D.C. 20268-0001

ANNUAL COMPLIANCE REVIEW, 2012

Docket No. ACR2012

RESPONSES OF THE UNITED STATES POSTAL SERVICE TO
QUESTIONS 5-7 OF CHAIRMAN'S INFORMATION REQUEST NO. 9

The United States Postal Service hereby provides its responses to the above-listed questions of Chairman's Information Request No. 9, issued on February 15, 2013. Each question is stated verbatim and followed by the response.

Respectfully submitted,

UNITED STATES POSTAL SERVICE

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Question 5

In the Postal Service's response to CHIR No. 4, question 23, the Postal Service stated that "The decrease in the measured productivity for the Outgoing BCS Secondary group is driven largely by a decrease in productivity for MODS operation 892 ("DBCS/DIOSS BCS O/G SECONDARY). Volume (workload) in operation 892 has declined sharply from FY 2010 to FY 2012, but workhours have not declined proportionally." The Postal Service further explains that the primary underlying factor is a "Sort Program Optimization (SPO) program." Upon examination of the FY 2012 MODS data provided in USPS-FY12-NP31, there are some facilities logging work hours to operation 892 (without any accompanying webEOR TPF/TPH volumes on a daily tour basis). In its response to Interrogatory PR/USPS-4 in Docket N2012-1, the Postal Service explained that "Some workhours for an operation may be recorded in a tour adjacent to the tour in which the associated workload is recorded." While this dynamic is visible in some of the FY 2012 MODS daily tour data, some facilities also log work hours to operation 892 for several days without any accompanying volume in the adjacent tour or the next day(s) for operation 892. Some examples are included in the attached dailytouroperation892.pdf file, filed under seal as Attachment A. How does the Postal Service distinguish between volume declining (attributed to the SPO program) versus volume declining due to misclocked work hours in operation 892?

RESPONSE:

Volume declines due to the SPO program may be observable by examining trends in processing volumes (e.g., TPH, TPF) or machine utilization (runtime). For automated operations, the Postal Service believes machine-counted volumes and runtime statistics are generally quite accurate. Note that misclocked work hours do not, themselves, cause volume declines.

Distinguishing the impacts on productivities from operational changes such as the SPO program, and from misclocking, is difficult. Data anomalies such as those indicated in the dailytouroperation892.pdf file—with too many workhours due to apparent misclocking—would tend to reduce measured productivities, other things equal. However, those observations are offset, at least to some extent, by other cases where workhours may be understated.

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While errors in workhours need not lead to biases in productivities per se, particularly when the errors can be aggregated (or, equivalently, averaged) over large numbers of observations, the Postal Service recognizes that some forms of misclocking may lead to bias (not necessarily downward bias) in measured productivities.

Alternative methods for calculating productivity measures, possibly including stricter data quality screens and/or the use of robust statistics, are under investigation with the intent of minimizing potential biases.

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Question 6

Using the MODS data provided in USPS-FY12-NP31, the Outgoing BCS Secondary productivity/operation group results were replicated. SAS 9.3 was used to apply the same "default ops" screen shown in the FORTRAN modsprod.f (USPS-FY12-23) and the same additional data screens (1% elimination of outliers and only use of MODS observations with both positive work hours and volume) applied in the TSP program (USPS-FY12-23, yr_scrub.tsp). The resulting 'scrubbed obs' (aggregated monthly facility TPF and work hours) show that there are a number of very low value FacilityMonthlyPRs (monthTPFsum divided by monthhoursum), despite the screening procedures currently used (these scrubbed obs are listed in the PRgrp8obs.pdf file). Some of these scrubbed obs may be low, due in part, to what appears to be daily tour work hours logged to operation 892 (without accompanying volume) that are not eliminated by the screening procedures currently in place when aggregated to the monthly and productivity group level. Several facilities and days are shown as examples in the dailytouroperation892.pdf file, filed under seal in Attachment A.

- a. At what value is a facility's monthly observation (based on the FacilityMonthlyPR value shown in the PRgrp8.pdf) too low to be considered accurate?
- b. At what value is a facility's monthly observation (based on the FacilityMonthlyPR value shown in the PRgrp8.pdf) too high to be considered realistic?

RESPONSE:

There is not an unambiguous range of valid productivities. As a practical matter, workloads (processing volumes) in automated operations are likely to be more accurate than workhours, since the workloads are obtained directly from machine operating statistics, while the workhours depend on actual staffing levels and clocking practices. If a machine is staffed by at least one clerk, then the true productivity cannot exceed the machine's throughput; there is no theoretical minimum.

Since the productivity statistics are based on sums (or, equivalently, means) of TPF and hours, the calculations are tolerant of errors in workload and workhour measurement to the extent the errors are symmetrically distributed. Even if the measurement errors are relatively large for individual observations, the relative errors in

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the aggregates used in the productivity calculations decrease with the square root of the sample size. As such, data screening cutoffs may be chosen primarily to minimize the possibility that extreme observations will bias the productivities, rather than to try to eliminate all errors. (As noted in the response to Question 5, the Postal Service is considering alternative procedures that may better serve to eliminate certain data with large measurement errors.)

For a candidate range of productivities, see for example Docket No. R2000-1, USPS-T-15, at 111 (Table 5). The low cutoff for BCS operations from that table, 500 TPF/hour, is lower than the Postal Service would expect from normal operations. However, the Postal Service believes a relatively low cutoff value of a similar magnitude would nevertheless suffice to eliminate measurement errors large enough to cause a serious risk of biasing the productivity statistics. Likewise, the high cutoff of 22,500 TPF/hour, while considerably lower than machine throughputs for BCS operations (which have not changed materially), is somewhat higher than a productivity would be expected from normal staffing and overhead levels, but not so high as to imply excessively large measurement error from the perspective of the productivity calculation.

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Question 7

MODS operation 482 daily tour data are aggregated to the month for a facility and screened prior to being aggregated with other operations mapped to the Outgoing BCS Secondary productivity group. This screen, shown in the modsprod.f program of USPS-FY12-23, simply eliminates a facility's entire monthly work hours logged to operation 482, if no volume has been entered for the entire month in this operation. Despite this screening measure, aggregating to the month appears to mask some daily tour errors in operation 482 that do not get eliminated when the grouped operations data are scrubbed for outliers in the yr_scrub.tsp program provided in USPS-FY12-23. See selected examples in the dailytouroperation482.pdf file, filed under seal in Attachment A.

- a. Please explain the inclusion of daily tour data that appear to be errors, particularly for an operation that may contain default hours, in the scrubbed productivity ratio calculation.
- b. The MODS M-32 Handbook (March 2009) contains a section titled "8-6 Making Adjustments" at 118. Are adjustments made for the daily tour errors in operation 482? If so, please show where this appears in the raw FY 2012 MODS data provided in USPS-FY12-NP31.

RESPONSE:

a. The Postal Service examined the effects of screening operation 482 data at higher frequencies than monthly. Dropping tour-level anomalies prior to aggregation eliminates high and low work hour errors, with the effect that higher-frequency screening results in anomalously lower measured productivities for operation 482. Thus, the Postal Service believes that the monthly screen is at least as effective at reducing bias in operation 482. Please also see the response to Chairman's Information Request No. 4, Question 21.

Effects of alternative default screening procedures* for MODS operation 482

Screening procedure	TPF	Hours	Productivity
Unscreened Data	341,457,150	251,994	1,355
Monthly Screen	299,097,047	90,321	3,312
Tour-level Screen	143,433,968	53,272	2,692

* Source: Analysis of USPS-FY12-NP31 data. Screens are elimination of anomalies with zero TPF and positive hours, or positive TPF and zero hours.

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b. Adjustments to MODS data are primarily made in the source data systems (TACS and WebEOR). The adjustments are not directly observable in MODS. While MODS data are frequently adjusted, not all tour-level anomalies are corrected.