

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

PERIODIC REPORTING  
(PROPOSAL TEN)

Docket No. RM2020-2

**RESPONSES OF THE UNITED STATES POSTAL SERVICE  
TO QUESTIONS 1-5 OF CHAIRMAN'S INFORMATION REQUEST NO. 5**  
(August 4, 2020)

The United States Postal Service hereby provides its response to the above listed questions of Chairman's Information Request No. 5, issued July 23, 2020. The deadline for responses was extended by Order No. 5602 (July 27, 2020) until August 10. The questions are stated verbatim and followed by the response.

Respectfully submitted,

UNITED STATES POSTAL SERVICE

By its attorney:

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August 4, 2020

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1. As it relates to the computation of Postmaster cost variability, please confirm that, in both the existing methodology currently used by the Postal Service and the methodology proposed by the Postal Service in Proposal Ten, the Workload Service Credit (WSC) data from the EAS system do not include data related to post offices that are staffed by clerks (and not by Postmasters). If not confirmed, please explain.

**RESPONSE:**

Confirmed.

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2. As it relates to the total accrued cost used to compute Postmaster cost variability, please confirm that, in both the existing methodology currently used by the Postal Service and the methodology proposed by the Postal Service in Proposal Ten, the computations do not include the salaries of clerks in charge of post offices and include only Postmaster salaries. If not confirmed, please explain.

**RESPONSE:**

Confirmed.

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3. Please refer to the responses to Chairman's Information Request No. 4, questions 1.a. and 1.b.<sup>1</sup>
- a. Please confirm that the method described in Responses to CHIR No. 4, questions 1.a. and 1.b. implies that the decrease in WSCs will result in a decrease in Postmaster costs and that the percent decrease in Postmaster costs will be divided by the percent decrease in WSCs to yield a positive variability when the following is true:
    - i. Both the higher grade (EAS-21) and lower grade (EAS-20) of the EAS grade pair are included in the computation of Postmaster cost variability;
    - ii. The historical growth rate of WSCs is used in the computation of Postmaster cost variability; and
    - iii. The historical growth rate of WSCs is negative.
  - b. If not confirmed, please explain.

**RESPONSE:**

- a.
  - i. Not Confirmed
  - ii. Not Confirmed
  - iii. Not Confirmed
- b. It is not clear what is meant by "the" decrease in WSCs mentioned in part a., as the responses cited in the question referred only to increases in WSCs. Generally speaking, a decrease in WSCs will not increase Postmaster costs, but it is possible that a decrease in WSCs could lead to no change in

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<sup>1</sup> Responses of the United States Postal Service to Questions 1-2 of Chairman's Information Request No. 4, July 2, 2020 (Responses to CHIR No. 4); see also Chairman's Information Request No. 4, June 26, 2020 (CHIR No. 4).

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Postmaster costs. Thus, the variability is not guaranteed to be positive, but it is guaranteed to be non-negative. If the magnitude of the decrease in WSCs does not cause any offices to change grade, then there would be no change in costs compared to the baseline, and the variability would be zero.

Otherwise, the variability would be positive, indicating that the costs change in the same direction as the change in WSCs (i.e., an increase in WSCs results in an increase in costs, and a decrease in WSCs results in a decrease in costs).

In terms of the three criteria listed on part a, the following observations apply. First, the variability will be non-negative whether just the lower grade is included in the calculation of the elasticity, or both grades are included in the calculation of the elasticity. Second, the variability will be non-negative whether a historical growth rate in WSCs is used to calculate the variability, or a structural WSC change is used. Third, the variability will be non-negative whether the applied historical or structural WSC change is positive or negative.

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4. Please refer to responses to Chairman's Information Request No. 2, question 6.b. and the computation of the historical growth rates of WSCs.<sup>2</sup>
- a. Please confirm that the historical growth rates of WSCs presented in the table are based on the total WSCs for years 1979 and 2019 only, and that no other year's WSCs are included in the computation. If not confirmed, please explain.
  - b. Please confirm whether yearly data associated with the total WSCs for the years 2000 through 2018 are available. If not confirmed, please explain.
  - c. If question 4.b. is confirmed, please provide the total WSCs for each year between 2000 and 2019.
  - d. If question 4.b. is confirmed, please discuss the appropriateness of the following time periods of historical growth in WSCs for use in the computation of Postmaster cost variability. In evaluating the appropriateness of each time period, please discuss the impact of factors that may affect the growth of WSCs, such as volume trends, or the economic, regulatory, and operational environment.
    - i. The computation of historical growth in WSCs from 2001 through 2019, using the yearly total WSCs for each year in that time period in order to compute the year-to-year WSC growth rate for the entire time period. In addition to discussing the appropriateness of the time period for use in the computation of Postmaster cost variability, please report in a table, for each EAS grade, the average and median WSC growth rates over the entire time period, along with the average annual growth rates based on only the starting year in the time period and the final year in the time period.
    - ii. The computation of historical growth in WSCs from 2007 through 2019, using the yearly total WSCs for each year in that time period in order to compute the year-to-year WSC growth rate for the entire time period. In addition to discussing the appropriateness of the time period for use in the computation of Postmaster cost variability, please report in a table, for each EAS grade, the average and median WSC growth rates over the entire time period,

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<sup>2</sup> Responses of the United States Postal Service to Questions 1-7 of Chairman's Information Request No. 2, January 29, 2020 (Responses to CHIR No. 2); see also Chairman's Information Request No. 2, January 17, 2020 (CHIR No. 2).

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along with the average annual growth rates based on only the starting year in the time period and the final year in the time period.

- iii. The computation of historical growth in WSCs from 2011 through 2019, using the yearly total WSCs for each year in that time period in order to compute the year-to-year WSC growth rate for the entire time period. In addition to discussing the appropriateness of the time period for use in the computation of Postmaster cost variability, please report in a table, for each EAS grade, the average and median WSC growth rates over the entire time period, along with the average annual growth rates based on only the starting year in the time period and the final year in the time period.
- e. For any of the time periods presented in question 4.d. of historical growth in WSCs that the Postal Service finds to be appropriate to use in the computation of Postmaster cost variability, please discuss the appropriateness of the following potential options for Postmaster cost variability calculations in future years:
  - i. computing a fixed variability of Postmaster costs based on the historical growth in WSCs for the selected time period and applying it each year until an alternative methodology is adopted in a future proceeding, or
  - ii. computing the variability of Postmaster costs and then updating the variability annually. This would be accomplished by adding each year's WSC growth to the original time period, annually expanding the selected time period of historical growth in WSCs by an additional year.

**RESPONSE:**

- a. Confirmed.
- b. Not confirmed. There are yearly data available for WSCs from 2012 through 2020. WSC data for previous years are not available.

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- c. The total WSCs by year for which WSC data are available are provided in Table 1, below. For consistency, the WSC totals are from April in each of the years.

<b>Table 1</b>	
Total WSCs by Year	
<b>April of Year</b>	<b>Total WSCs</b>
2012	120,973,240
2013	127,717,331
2014	134,684,001
2015	136,409,097
2016	135,313,882
2017	136,361,751
2018	137,228,138
2019	138,067,978

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- i. Total WSC Data are not available prior to 2012, so the requested analysis cannot be performed.
  - ii. Total WSC Data are not available prior to 2012, so the requested analysis cannot be performed.
  - iii. This response contains WSC data from 2012 through 2019 due to the unavailability of 2011 WSC data. In its response to Chairman's Information Request No. 2, Question 6.b (January 29, 2020), the Postal Service computed the historical growth rates using the

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compound annual growth rate (CAGR) which, as explained in footnote 8 of that response, is provided by the following formula:

$$\rho = \left( \frac{WSC_{t+n}}{WSC_t} \right)^{\frac{1}{n}} - 1.$$

This question asks for calculation of the simple average growth rate (AGR), which is given by the following formula:

$$g = \frac{WSC_t}{WSC_{t-1}} - 1.$$

The two growth rates can provide different answers. For example, suppose the initial value of WSCs was 100,000 and in the first year WSCs grew by 100 percent. Further suppose that in the following year, WSC's fell by 50 percent. The three-year values for WSCs would be 100,000, 200,000, and 100,000. The AGR would be given by the average of the 100 percent increase and the 50 percent decline and would thus be 25 percent per year. An average growth rate over the two years of 25 percent would seem to suggest that WSCs were higher in the third year than they were in the first year, but in fact they were not. In contrast, the equality of the starting and

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ending levels is reflected in the CAGR. which would take on a value of zero.

Such an extreme example is not required to point out the advantage of using the compound annual growth rate. Consider the following two patterns of growth rates, both of which yield a simple average growth rate of 10 percent.

**Table 2**  
Two Patterns of Annual and Average Growth Rates

<b>Year</b>	<b>Pattern One</b>	<b>Pattern Two</b>
1	10%	40%
2	10%	40%
3	10%	-10%
4	15%	5%
5	5%	-25%
Average	10%	10%

Again starting with a value of 100,000 WSCs, the first pattern would provide a WSC value of 160,718.3 after five years of growth, while the second pattern would provide a materially smaller value of 138,915.0. Despite the two patterns having the same average growth rate, the ending value for WSCs for the first pattern is 15.7 percent greater than the ending value for the second pattern. This difference in ending values is reflected in the two CAGRs for the two

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patterns: 9.95 percent for Pattern One and 6.79 percent for Pattern Two. Finally, when there is relatively little variation in the average growth rate, as in Pattern One, the CAGR and AGR will be very close. In sum, the CAGR provides the advantage of controlling for high variations and uneven patterns in annual growth rates, without giving up accuracy in the event of steady growth rates. For these reasons, it is preferred as a measure of growth.

The annual growth rates in total WSCs for the 2012-2019 period, along with the simple average growth rate, are provided in Table 3.

(Calculations can be found in the Excel file electronically attached to these responses).

<b>Table 3</b>		
<b>Growth in Total WSCs from April 2012 through 2019</b>		
<b>April of Year</b>	<b>Total WSCs</b>	<b>Annual Growth</b>
2012	120,973,240	
2013	127,717,331	5.57%
2014	134,684,001	5.45%
2015	136,409,097	1.28%
2016	135,313,882	-0.80%
2017	136,361,751	0.77%
2018	137,228,138	0.64%
2019	138,067,978	0.61%
<b>Period</b>	<b>Average Growth Rate</b>	
2012-2019	1.93%	

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If the Commission chooses to employ an historical growth period to compute the percentage change in WSCs needed to compute a variability, then the 2012 to 2019 period, or a subset thereof, is the most relevant, as those are the only years over the requested period for which annual WSCs are available. Nevertheless, there are some fluctuations in WSCs that should be considered. First, between 2012 and 2013, there was a relatively large increase in the total WSCs. This increase was not volume related, but was due to the presence of newly implemented EAS-18 offices under POSTPlan. The number of EAS-18 offices more than doubled during this period, while the number of smaller offices was reduced. Second, total WSCs contracted between 2015 and 2016 despite an increase in revenue. During this time, some very large offices transitioned from being considered EAS-26 to PCES level, and were thus removed from the EAS system, resulting in an overall decrease in WSCs. In this period the number of EAS-26 offices was reduced by seven, which diverges from other one-year periods where EAS-26 office numbers were more stable, usually fluctuating by no more than two offices in an annual period. As shown in the table, after 2016, the growth has been more stable than the preceding periods. Due to the changes in patterns of growth from 2012-2019, this time range should be used with caution, as the

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Postal Service does not expect to see the growth experienced in WSCs between April 2012 and 2014 to occur again. Finally, there was a potential structural change in 2016 with the removal of larger offices from the system.

In sum, the methodology presented in Proposal Ten is consistent with any historical growth rate or with a structurally chosen growth rate. The Postal Service originally suggested a relatively high WSC growth rate to assure the Commission that the recommended variabilities were not a function of choosing a very small WSC change. As previously demonstrated, the computed variabilities are robust over reasonable variations in the underlying WSCs growth rates, and the Postal Service is not opposed to using historical growth WSC rates to calculate the variabilities. Caution is required, however, because WSCs are the cost driver for Postmaster costs. Ideally, any historical WSC growth rates would include only volume related WSC changes and would exclude any non-volume-related structural changes. The requested growth rates, by EAS grade are presented in Table 4 below.

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<b>Table 4</b>						
<b>Metric</b>	<b>EAS-18</b>	<b>EAS-20</b>	<b>EAS-21</b>	<b>EAS-22</b>	<b>EAS-24</b>	<b>EAS-26</b>
Average	6.8%	1.3%	1.1%	2.5%	1.4%	-0.4%
Median	0.4%	0.3%	0.9%	1.8%	0.2%	1.4%
CAGR	6.0%	1.2%	1.0%	2.4%	1.4%	-0.7%

In the above table, the EAS-18 average growth rate is somewhat skewed by an outlier which is the increase at the outset of POSStPlan from 2012-2013. If this growth is excluded, the average growth rate for the grade would be 1.22 percent.

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i. and ii. When there are large changes in the size or composition of a component of a cost driver, then there are advantages to updating the variability calculation to account for those changes. However, the data for Postmasters suggest that the volume-induced annual changes in WSCs are modest and relatively stable. In this circumstance, there is little to be gained by updating the variability annually. Moreover, given the possibility of non-volume-related changes in WSCs due to structural changes, annual updates raise the possibility of incorporating noise into the variability calculation. These considerations suggest that maintaining the calculated variability though time is prudent,

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assuming that an update of the variability analysis would take place following any material structural change.

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5. Please refer to Responses to CHIR No. 4, question 2.h. and the responses to Chairman's Information Request No. 3, question 3.a.<sup>3</sup> In Responses to CHIR No. 4, question 2.h., the Postal Service states "[t]here is no elasticity of average cost defined in the Response to CHIR No. 3, question 3.a., so no such comparison can be made. Moreover, it is not clear what the elasticity of average cost is, or should be." See Responses to CHIR No. 4, question 2.h.
- a. Please confirm that the calculated point elasticity of the estimated logit-form probability (39.6377), does not help compute the point elasticity of the average salary as discussed in Responses to CHIR No. 3, question 3.a.
  - b. If not confirmed, please compute the point elasticity of the average salary at the average value of the WSC for the Postmasters falling into the EAS-20 and EAS-21 grades.

**RESPONSE:**

- a. Not Confirmed.
- b. As explained in previous responses, the "elasticity of the average salary" is not a well-defined product cost concept, making it difficult to derive an explicit formula for its calculation. However, question 5.b. provides some additional insight into what may be meant by the phrase when stating that it is the elasticity "at the average value of the WSC." Conceptually, it may be possible to calculate a point elasticity of Postmaster cost for the EAS-20 to EAS-21 step at the mean value for WSC for the EAS-20 and EAS-21 grades.

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<sup>3</sup> See Responses to CHIR No. 4, question 2.h.; Responses of the United States Postal Service to Questions 1-5 of Chairman's Information Request No. 3, March 18, 2020 (Responses to CHIR No. 3); see also Chairman's Information Request No. 3, March 5, 2020 (CHIR No. 3).

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In such an approach, it seems like the point elasticity would be the percentage change in total EAS-21 cost associated with a given percentage increase in WSCs. The total EAS-21 cost would be the product of the EAS-21 salary ( $S_{21}$ ) and the probability of an office being in the EAS-21 grade at the average level of WSCs ( $\pi(\overline{WSC})$ ). Formally a point elasticity could thus be expressed as:

$$\lambda = \frac{\partial(\pi(\overline{WSC})S_{21})}{\partial WSC} \frac{\overline{WSC}}{\pi(\overline{WSC})S_{21}}.$$

Calculating the derivative with respect to WSC yields:

$$\lambda = \left[ S_{21} \frac{\partial(\pi(\overline{WSC}))}{\partial WSC} + \pi(\overline{WSC}) \frac{\partial S_{21}}{\partial WSC} \right] \frac{\overline{WSC}}{\pi(\overline{WSC})S_{21}}.$$

The salary for EAS-21 does not respond to changes in WSCs, so the partial derivative of  $S_{21}$  with respect to WSC is zero. The elasticity expression can thus be simplified to:

$$\lambda = \left[ S_{21} \frac{\partial(\pi(\overline{WSC}))}{\partial WSC} \right] \frac{\overline{WSC}}{\pi(\overline{WSC})S_{21}}.$$

The  $S_{21}$  terms cancel and one is left with:

$$\lambda = \left[ \frac{\partial(\pi(\overline{WSC}))}{\partial WSC} \right] \frac{\overline{WSC}}{\pi(\overline{WSC})}.$$

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This last equation is the expression for the point elasticity of the probability provided in response to Chairman's Information Request Number 3, Question 3.b. (March 18, 2020), and thus demonstrates that, at least in this formulation of the point elasticity of cost with respect to WCS, the probability elasticity is helpful. Under this approach, the numerical value for the point elasticity of Postmaster costs for the EAS-20 to EAS-21 step, calculated at the WSC mean, is 39.64, as before. More generally, the elasticity of Postmaster costs with respect to changes in WCS will depend upon the number of offices that change grade in response to those WCS changes. This important linkage suggests that the point elasticity of the probability of switching grades may be a useful piece of information in calculating a point elasticity of Postmaster costs with respect to WCS changes. Finally, performing this calculation does not imply that a point elasticity is appropriate for calculating the required Postmaster variability. As the Postal Service has pointed out before, there are important reasons why a discrete approach to calculating the Postmaster variability is appropriate.