Declaration of Robert Fisher:
TFP Accuracy for Performance-based Rate Authority
February 3, 2020

Table of Contents

Introduction ................................................................................................................................ 1
  Biographical Information ........................................................................................................ 1
  Purpose of Declaration ........................................................................................................... 1
Executive Summary ................................................................................................................... 2
TFP Accuracy for Rate Authority Determination ................................................................. 3
  Labor Input ............................................................................................................................. 3
    Composition of Labor Index ............................................................................................... 4
    Impact of CLI Factor on TFP .............................................................................................. 5
    Base Wage Rate versus CLI ............................................................................................... 9
    National Labor Costs Not Reflected in Labor Input and Labor Productivity .................... 10
    Impact of Different Labor Totals on TFP .......................................................................... 16
Materials ................................................................................................................................ 19
  Metric Visibility & Applicability .......................................................................................... 20
  Unknown Adjustment Factors in Published Material Price .................................................. 21
  Material Price Indexes Different than BLS Data .................................................................... 21
Capital ................................................................................................................................... 25
Workload ............................................................................................................................... 26
  Workload Weighting Factor – Output versus Deliveries ..................................................... 26
  Use of Non-Public Data ....................................................................................................... 26
  CRA Differences with TFP .................................................................................................. 27
Methodology Transparency ..................................................................................................... 28
  Adjustments when Methodology Changes ......................................................................... 28
  TFP Results – Preliminary versus Final .............................................................................. 28
  Growth Rate versus Percent Change .................................................................................. 29
Historical Role of TFP ............................................................................................................ 29
Productivity Measurement Role in Rate Regulation ............................................................... 31
Appendix ................................................................................................................................... 32
Introduction

This declaration is made by Robert Fisher.

Biographical Information

Robert Fisher was an executive with the U.S. Postal Service (USPS) for 26 years, taking an early retirement in 2009. He started as an industrial engineer with both a Bachelor’s and a Master’s degree in Industrial Engineering from the University of Wisconsin. He held positions of increasing responsibility in field operations, including Senior Plant Manager and Area executive positions.

At USPS Headquarters he worked with parcel shippers and mailers as the Manager, Service Performance Improvement, initially to implement Parcel Select in operations. He was honored by the Parcel Shippers Association with the George Shannon Award in 2004. In 2008 he began the implementation of the Operations Industrial Engineer (OIE) program. Mr. Fisher was responsible for the creation of numerous performance reporting and operational planning programs. He created the Business Management Guide (BMG) that was used nationally for complement and financial performance planning.

Mr. Fisher has worked in international and domestic postal consulting since 2011. International projects have included operations modernization projects with Russian Post, Canada Post, and Serbian Post. These projects involved postal logistics center design, equipment requirement determination, operational simulation modeling, workroom floor layout and implementation planning.

Mr. Fisher was the lead consultant and principle author of the two papers produced for the Postal Regulatory Commission (PRC) on Total Factor Productivity (TFP) under the project Measuring Postal Service Efficiency in 2017. These papers were incorporated into the RM2017-3 docket as part of the Revised Notice of Proposed Rulemaking as Order 5337.\(^1\)

In 2019 he established Fisher Postal Analytics. He has been doing research and development on Postal Service performance measurement metrics using public data.

Purpose of Declaration

The purpose of this declaration is to evaluate the accuracy and validity of TFP as the measurement for the operational efficiency-based requirement of the performance-based rate authority in the RM2017-3 Revised Notice of Proposed Rulemaking (NPRM). This declaration is focused narrowly on TFP as a measurement and does not address the broader issues of the performance-based rate authority proposal.

---

\(^1\) Northwest Postal Consulting for the Postal Regulatory Commission: Report 1, Adequacy of the Postal Service’s TFP Model and Report 2, Postal Service Productivity Measurement: Before and After PAEA Enactment.
Executive Summary

The Postal Regulatory Commission (PRC), under Docket R2017-3, issued a Revised Notice of Proposed Rulemaking (NPRM) as Order 5337. The Performance-based Rate Authority mechanism was revised from the original NPRM. The measurement used for the operational efficiency-based requirement remains Total Factor Productivity (TFP). This document is intended to answer the question:

Is TFP a valid and accurate measurement for an operational efficiency-based requirement in a performance-based rate authority?

Summary concerns that are identified with TFP demonstrate that TFP is not a valid or accurate operational efficiency-based measurement for performance-based rate authority as currently configured:

1. TFP can have a false positive result due to inappropriate factors and component value issues in its calculation methodology.
2. The TFP result cannot be independently validated and the methodology is not transparent. Adjustments are made to the methodology that result in values different than those using the published formula.
3. TFP includes inputs that are beyond the control of the Postal Service or not reflective of the purpose for the operational efficiency-based rate authority mechanism.

The following specific aspects that support the summary concerns are documented in this declaration:

1. The Composition of Labor Input (CLI) is a not a valid productivity input. CLI would have directly caused a false positive result in 2015.
2. National labor costs of approximately seven (7) billion dollars are not reflected in the Labor Input and Labor Productivity result. The year over year difference in national labor costs are omitted from the Labor Input result. This additional seven billion dollars is included in the weighting between Labor, Materials, and Capital in the calculation of the Total Input. The addition of these seven billion dollars in the weighting calculation causes a higher productivity result.
3. The TFP Labor dollars are overstated by over a billion dollars compared to Cost Segment / National Trial Balance (NTB) costs, increasing the productivity result. This overstatement cannot be explained through the current documentation.

---

2 Order 5337, at 148-150
4. Some Bureau of Labor Statistics (BLS) metrics used in the Material Index calculations have different source values than those used in TFP, distorting the final Material Index result. Other categories use metrics that are not publicly identified or use non-public data. The impact cannot be determined due to outdated documentation and lack of transparency in the calculation methodology.

5. Workload cannot be validated due to non-public data use. Further, in 2017, the weighting value used for mail volume was shifted from Attributable Cost to Volume Variable Cost. Some workload data in TFP does not match the data values in CRA. TFP in its current form should not be used for the measurement of the operational efficiency-based requirement in the performance-based rate authority due to these aspects as identified and documented in this declaration.

**TFP Accuracy for Rate Authority Determination**

TFP is proposed as the measurement for the operational efficiency-based requirement for the performance-based rate authority. This section will evaluate aspects of the TFP methodology that impact the accuracy of TFP results as the operational efficiency-based measurement for rate authority purposes. The concerns documented here are based on results from 2016 through 2018 using public PRC documents. This report uses the TFP Final Results (TFP tables) from FY2018.³

**Labor Input**

The Labor Input represents approximately seventy five (75) percent of total dollar inputs used in TFP.⁴ The term “value” is also used in TFP to refer to dollars or to dollars adjusted for inflation. There are aspects to the Labor Input components and process methodology that directly change the TFP result. These changes can result in a “false positive” result under the proposed operational efficiency-based requirement. A false positive did occur in 2015 based on a single inappropriate factor. There is credible potential for a future false positive under the operational efficiency-based requirement of the performance-based rate authority.

The Labor Input is derived from the change in workhours over the previous year by employee category, with these workhour changes weighted by the share of cost of each employee category. National Payroll Hours System (NPHS) data is used as the source for the workhour and dollar mix between employee categories.⁵

⁴ Ibid

Declaration of Robert Fisher 3 February 3, 2020
Composition of Labor Index

The Composition of Labor Index (CLI) is a factor applied to workhours to adjust for the “employee experience level”. Employee experience level, as measured by years of service, is assumed in TFP to be a key determinant in labor productivity performance. This assumption is flawed on its face, as most of the Postal Service work is not skilled in the professional sense, with no justification that an employee with one (1) year of experience would be more or less productive than an employee with fifteen (15) years of experience.

The CLI factor is examined in detail in the PRC report by Northwest Postal Consulting. In their report, it is shown that CLI had no substantial impact on the TFP result before 2015. The report did note that the first small but noticeable impact change appeared in 2016, the last year of the analysis. Since 2015, CLI has been distorting the TFP result at increasing levels. Its inclusion could lead to a false positive result under the proposed performance-based rate based authority. In fact, a false positive result would have occurred had the rate authority mechanism been in place in 2015.

The CLI factors are calculated by measuring the change in the number of employees in five (5) year increments, weighted by their estimated share of salary cost. It is defined in the only official documentation of TFP available. The CLI factors are provided in the TFP tables.

There is no way to validate how CLI is exactly calculated in public data.

The CLI concept is conceptually and fundamentally flawed. The change in the number of employees, grouped by years of experience in five (5) year increments does not have any relationship to productivity. It now leads to distorted productivity results solely based on recent employee demographic shifts.

In the past four years, non-career employees have been converted to career in large numbers. At the same time, employees have been retiring or leaving due to early retirement incentives. This demographic shift in the number of employees in the five (5) year increments is assumed to be the cause of the shift in CLI factors. Non-Career employees are not considered in the CLI factors. In simple terms, the workhours of an employee moving from non-career to career are considered more productive under the CLI methodology and current factor values. CLI is significantly distorting the Labor Input and the TFP result. This is the single biggest factor that could cause a false positive under the operational efficiency-based requirement in the performance-based rate authority proposal.

---

6 Northwest Postal Consulting for the Postal Regulatory Commission, Report 1, Adequacy of the Postal Service’s TFP Model, March 27, 2017, at 76-81.
7 Ibid, at 76.
9 TFP Annual Tables, As Revised February 11, 2019.
10 2019 Report on Form 10-K, at 25: “During 2019 and 2018, we converted approximately 36,000 and 35,000 employees, respectively, from non-career to career status, as dictated by our operational needs and contractual provisions.”
Impact of CLI Factor on TFP

This section documents the impact of the CLI factor on the TFP result. A model was developed to replicate the relative portions of TFP calculation methodology.\(^{11}\) This model recalculates the Labor Input Index and TFP results with the CLI factor removed. The CLI factor is a value that is multiplied against the actual workhours to get a CLI adjusted workhour value. The model removes this factor and calculates the Labor Input and TFP using actual workhours.

The first step is to remove CLI from the Labor Input Index calculation. These results are shown in Figure 1. The base year for this analysis is 2011.

Figure 1: Impact on Labor Input of CLI Removal

<table>
<thead>
<tr>
<th>Year</th>
<th>Published Labor Input</th>
<th>Model Labor Input</th>
<th>Labor Input with CLI Removed</th>
<th>Impact of CLI Removal on Labor Input</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Actual Labor Input</td>
<td>Model Labor Input</td>
<td>Labor Input Without CLI</td>
<td>+/- Actual Index</td>
</tr>
<tr>
<td></td>
<td>%SPLY</td>
<td>% Actual</td>
<td>%SPLY</td>
<td>%SPLY</td>
</tr>
<tr>
<td>2011</td>
<td>0.8890</td>
<td>0.8890</td>
<td>0.8890</td>
<td>0.0007</td>
</tr>
<tr>
<td>2012</td>
<td>0.8618</td>
<td>-3.06%</td>
<td>0.8631 -0.15%</td>
<td>-0.0007</td>
</tr>
<tr>
<td>2013</td>
<td>0.8342</td>
<td>-3.21%</td>
<td>0.8310 -0.38%</td>
<td>-0.0041</td>
</tr>
<tr>
<td>2014</td>
<td>0.8165</td>
<td>-2.12%</td>
<td>0.8180 -0.19%</td>
<td>-0.0063</td>
</tr>
<tr>
<td>2015</td>
<td>0.8186</td>
<td>0.26%</td>
<td>0.8204 0.21%</td>
<td>0.0008</td>
</tr>
<tr>
<td>2016</td>
<td>0.8214</td>
<td>0.34%</td>
<td>0.8241 0.33%</td>
<td>0.0159</td>
</tr>
<tr>
<td>2017</td>
<td>0.8125</td>
<td>-1.08%</td>
<td>0.8143 0.23%</td>
<td>0.0276</td>
</tr>
<tr>
<td>2018</td>
<td>0.8033</td>
<td>-1.13%</td>
<td>0.8058 0.31%</td>
<td>0.0359</td>
</tr>
</tbody>
</table>

The model result is compared to the actual TFP value to validate the model accuracy. It is not possible to match the TFP results exactly because changes are made to the TFP methodology in some years. For example, in 2014, part-time and full-time employees were combined into a single career employee category for City Carriers. The actual result cannot be duplicated using the documented formulas. It is assumed that in the published result that adjustments were made using data not available in the public file. This is a common occurrence throughout TFP where the published result does not match the defined calculation methodology.

In the Labor Input Index model, the model error is less than 0.4 percent, validating the model’s accuracy for this purpose. The difference between the published Labor Input Index and the model results are graphed in Figure 2.

The model shows that when CLI is removed, the Labor Input Index value increases starting in FY 2015. The published Labor Index shows level performance in 2014 through 2016, then sharp declines in 2017 and 2018. The removal of CLI shows the opposite, with sharp increase in Labor Input in 2015 and 2106, then a leveling off in 2017 and 2018.

\(^{11}\) Fisher Labor Model.xlsx contains the model and Figures 1 through Figure 7.
The model demonstrates that CLI causes a lower level of Labor Input in the resource equation, artificially inflating productivity. The impact of removing CLI in 2018 is a change from a decrease in Labor Input of -1.13% to a decrease of only -0.11%, a difference of 1.02 percentage points. Since 2015 Labor Input is higher without the CLI factor. More importantly, the trend directions with CLI removed diverge significantly from actual trend lines.

The general productivity equation is workload (output) divided by input. Labor Productivity is the Workload Index (numerator) divided by the Labor Input (denominator). Figure 3 shows the published Labor Productivity compared to Labor Productivity with CLI removed. Figure 4 graphs the Published Labor Productivity to the Labor Productivity with CLI removed.

Starting 2015, the impact of CLI removal is significant. Labor Productivity between 2015 and 2018 moves from being positive each year to negative in the range of -0.46 to -1.32 percent. The higher Labor Input value that results from removing the flawed CLI input leads to a lower Labor Productivity, as the Workload numerator is a constant value.

The Postal Service stated in the 2018 Annual Report that “Labor productivity increased for the ninth year in a row in FY2018. Excluding 2009, labor productivity has increased each year since 1997”. If CLI is removed, the last positive Labor Productivity was in 2014. It should also be noted that Labor Productivity is higher prior to 2014 with CLI removed.

---

TFP Accuracy for Performance-based Rate Authority Purposes

Figure 3: Impact on Labor Productivity Index of CLI Removal

<table>
<thead>
<tr>
<th>Year</th>
<th>Workload</th>
<th>Actual Labor Input</th>
<th>Actual Labor Productivity</th>
<th>%SPLY</th>
<th>Labor Input without CLI</th>
<th>No-CLI Labor Productivity</th>
<th>%SPLY</th>
<th>+/- Actual Index</th>
<th>+/- Actual %SPLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>1.3462</td>
<td>0.8990</td>
<td>1.5142</td>
<td>0.8890</td>
<td>1.5142</td>
<td>0.8890</td>
<td>1.5142</td>
<td>0.0012</td>
<td>0.08</td>
</tr>
<tr>
<td>2012</td>
<td>1.3175</td>
<td>0.8618</td>
<td>1.5287</td>
<td>0.96%</td>
<td>0.8611</td>
<td>1.5299</td>
<td>1.04%</td>
<td>0.0078</td>
<td>0.43</td>
</tr>
<tr>
<td>2013</td>
<td>1.3066</td>
<td>0.8342</td>
<td>1.5663</td>
<td>2.46%</td>
<td>0.8300</td>
<td>1.5741</td>
<td>2.89%</td>
<td>0.0122</td>
<td>0.27</td>
</tr>
<tr>
<td>2014</td>
<td>1.2896</td>
<td>0.8165</td>
<td>1.5794</td>
<td>0.84%</td>
<td>0.8102</td>
<td>1.5916</td>
<td>1.11%</td>
<td>-0.0015</td>
<td>-0.86</td>
</tr>
<tr>
<td>2015</td>
<td>1.2982</td>
<td>0.8196</td>
<td>1.5858</td>
<td>0.41%</td>
<td>0.8194</td>
<td>1.5844</td>
<td>-0.46%</td>
<td>-0.0304</td>
<td>-1.83</td>
</tr>
<tr>
<td>2016</td>
<td>1.3142</td>
<td>0.8214</td>
<td>1.6000</td>
<td>0.89%</td>
<td>0.8373</td>
<td>1.5696</td>
<td>-0.93%</td>
<td>-0.0527</td>
<td>-1.42</td>
</tr>
<tr>
<td>2017</td>
<td>1.3012</td>
<td>0.8125</td>
<td>1.6015</td>
<td>0.09%</td>
<td>0.8401</td>
<td>1.5488</td>
<td>-1.32%</td>
<td>-0.0688</td>
<td>-1.03</td>
</tr>
<tr>
<td>2018</td>
<td>1.2923</td>
<td>0.8033</td>
<td>1.6087</td>
<td>0.45%</td>
<td>0.8392</td>
<td>1.5399</td>
<td>-0.58%</td>
<td>-0.1720</td>
<td>-1.70</td>
</tr>
</tbody>
</table>

Figure 4: Labor Productivity Index

The Labor Input is combined with Materials and Capital Inputs to create the Total Input used in the TFP productivity equation. Figure 5 shows the comparison of published TFP to TFP with CLI Removed. Figure 6 graphs the impact of the CLI removal on TFP Input and Productivity.
TFP Accuracy for Performance-based Rate Authority Purposes

Figure 5: Impact on TFP Result of CLI Removal

<table>
<thead>
<tr>
<th>Year</th>
<th>Workload</th>
<th>Actual Input</th>
<th>Actual TFP</th>
<th>%SPLY</th>
<th>Input Index without CLI</th>
<th>No-CLI TFP</th>
<th>%SPLY</th>
<th>+/- Actual Index</th>
<th>+/- Actual %SPLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>1.3462</td>
<td>1.0000</td>
<td>1.2238</td>
<td></td>
<td>1.1000</td>
<td>1.2238</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>1.3175</td>
<td>1.0661</td>
<td>1.2358</td>
<td>0.98%</td>
<td>1.0654</td>
<td>1.2365</td>
<td>1.04%</td>
<td>0.0008</td>
<td>0.06</td>
</tr>
<tr>
<td>2013</td>
<td>1.3066</td>
<td>1.0379</td>
<td>1.2588</td>
<td>1.87%</td>
<td>1.0340</td>
<td>1.2636</td>
<td>2.19%</td>
<td>0.0047</td>
<td>0.32</td>
</tr>
<tr>
<td>2014</td>
<td>1.2896</td>
<td>1.0209</td>
<td>1.2632</td>
<td>0.35%</td>
<td>1.0150</td>
<td>1.2706</td>
<td>0.55%</td>
<td>0.0074</td>
<td>0.21</td>
</tr>
<tr>
<td>2015</td>
<td>1.2982</td>
<td>1.0271</td>
<td>1.2640</td>
<td>0.06%</td>
<td>1.0278</td>
<td>1.2630</td>
<td>-0.59%</td>
<td>-0.0009</td>
<td>-0.65</td>
</tr>
<tr>
<td>2016</td>
<td>1.3142</td>
<td>1.0414</td>
<td>1.2619</td>
<td>-0.16%</td>
<td>1.0568</td>
<td>1.2435</td>
<td>-1.54%</td>
<td>-0.0184</td>
<td>-1.38</td>
</tr>
<tr>
<td>2017</td>
<td>1.3012</td>
<td>1.0370</td>
<td>1.2548</td>
<td>-0.57%</td>
<td>1.0639</td>
<td>1.2231</td>
<td>-1.64%</td>
<td>-0.0317</td>
<td>-1.08</td>
</tr>
<tr>
<td>2018</td>
<td>1.2923</td>
<td>1.0300</td>
<td>1.2546</td>
<td>-0.01%</td>
<td>1.0649</td>
<td>1.2135</td>
<td>-0.79%</td>
<td>-0.0412</td>
<td>-0.78</td>
</tr>
</tbody>
</table>

Starting in 2015, the removal of CLI results in a significantly lower TFP result. In fact, in 2015, a false positive condition is created relative to the proposed operational efficiency-based requirement for the performance-based rate authority.

Figure 6: Impact of CLI Removal on TFP Productivity Result

In 2018, TFP was slightly negative at -0.01% to SPLY. The removal of CLI results in a TFP decline to -0.79% to SPLY, a reduction of -0.78 percentage points. The 2018 Final TFP, at three decimals, is “0.000”, from an actual value of “-0.000112”. However, there is no “negative zero” in rounding in Excel.
TFP Accuracy for Performance-based Rate Authority Purposes

The rule under §3010.201 states “…requires that the Postal Service’s TFP for the measured fiscal year must exceed the previous fiscal year in order to meet the operational efficiency-base requirement.”13 In 2018, any rounding rule would not have resulting in an “exceeds” condition and met the operational efficiency-based requirement. However, it would be possible that a slightly positive result could be rounded up to meet the “exceeds” condition. In this hypothetical situation, only a slight negative impact from CLI could result in a false positive. This came very close to happening in 2018.

Note that the published TFP tables use an econometric “growth rate” formula using logarithms rather than the percent SPLY formula used in virtually every other report.14 This is explained in a later section. This method might also lead to a false positive when there are close results.

The CLI factor could clearly result in a false positive result in the operational efficiency-based requirement and result in granting the performance-based rate authority. A false positive would have happened in 2015. A false positive could happen in the future. The CLI factor is a flawed metric to use to adjust workhours, distorting productivity results. Worse, it could lead to a false positive result for performance-based rate authority purposes.

**Base Wage Rate versus CLI**

One argument that could be made in favor of CLI is that it represents the employee’s position in the salary step pay scale. The salary step scale takes approximately 13 years to reach the top level, depending on the labor craft. In NPHS, the straight-time wage rate, before any taxes or benefits, represents the composite result of all employee’s position in the rate scales. This “base wage rate” can be used to examine the impact of wage levels over time.

Figure 7 graphs the NPHS Base Wage Rate, indexed to 201115. It shows that starting in 2017, the base wage rate (blue line) has been increasing. This is the directly opposite of CLI, where composite CLI has been decreasing since 2014 (red line). The CLI reduction results in lower adjusted workhours and leads to inflated productivity results.

The results also show the net impact of the large scale replacement of career workhours with lower cost non-career workhours and the lowering of the bottom step on the composite rate for each employee craft between 2013 and 2015. The impact of increasing the share of non-career employees leveled off starting in 2016. Collective Bargaining agreements in recent years have generally resulted in increases in the base wage rate and adding lower starting base steps.

---

13 Order 5337 at 150
14 Growth rate is calculated using logarithms. In Excel, growth rate is LN(current year/previous year).
15 Base Wage Rate is from NPHS data files 2011-2018, Line Numbers 01, 03, & 09.
National Labor Costs Not Reflected in Labor Input and Labor Productivity

TFP did not directly include $7.3 billion dollars in national personnel cost in 2018. The methodology to calculate the Labor Index uses the employee percentage mix from the payroll salaries and benefits from NPHS to calculate the Labor Index. These national costs are reallocated to a new total Labor cost using the NPHS (salaries and benefits) percentage mix as a distribution key.\(^{16}\)

The underlying math negates the impact of this $7.3 billion dollars of national cost on the Labor Index itself. The Labor Index is the change in workhours at the employee category level, weighted using the percentage share of dollars for that category. The share of dollars by employee category is calculated in NPHS using salaries and benefits. Using this mix to calculate a new dollar value, adding in the $7.3 billion dollars, does not change the relative percentage share used in the weighting of the Labor Index formula. An example of this calculation is included in the Labor Model.\(^{17}\)

---


\(^{17}\) Excel file: Fisher Labor Model, worksheet Mix Impact.
Simply stated, the Labor Index weighting is solely based on the Salaries and Benefits percentage mix from NPHS. Adding in National labor costs of $7.3 billion has no impact on the Labor Index value. These National labor costs are effectively omitted from the Labor Index result.

The only role these nation labor costs have is on the relative weighting between Materials, Capital, and Labor in calculating the Total Input used in TFP. Capital, Materials, and Labor Index results are combined by the percentage share of dollars in the Total Input index calculation. The impact depends on the relative value of each component’s index and the change in cost share.

In addition to these national labor dollars not being directly incorporated into TFP, the actual dollars (value) used in TFP cannot be validated against the Total Cost in the Cost Segments / National Trial Balance (NTB) based reports. TFP Labor in 2018 is overstated by $1.065 billion dollars of cost, i.e., dollars that cannot be reconciled to the Cost Segments Reconciliation to Financial Statements Report18. This overstatement of Labor dollars further impacts the TFP result by changing the weighting between Capital, Materials, and Labor.

The validation process of TFP dollars versus the Cost Segment dollars, and the overstated value described above, will be quantified through the following set of tables.

Figure 8 summarizes the main components in the comparison of the Cost Segments to TFP for FY 2018. It segregates the Salary & Benefit costs from National Costs. It shows the difference of $1.065 billion dollars between TFP Labor and validated Cost Segment Total Labor cost. The non-labor costs in the Cost Segments total are segregated into Materials, Capital Expense, and costs “Not in TFP”. The “Not in TFP” costs are those that are not considered inputs from a productivity perspective and not listed in the TFP documentation of account numbers.

Figure 8: TFP Value (Dollars) Compared to CRA Total Cost for FY 2018

<table>
<thead>
<tr>
<th>Cost Category</th>
<th>TFP Value</th>
<th>Cost Seg / NTB</th>
<th>+/- TFP to Costs</th>
<th>% TFP to Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries &amp; Benefits</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National Labor Costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labor Total</td>
<td>58,111.7</td>
<td>57,046.0</td>
<td>1,065.8</td>
<td>1.9%</td>
</tr>
<tr>
<td>Materials</td>
<td>15,096.7</td>
<td>15,096.7</td>
<td>0.0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Capital Expense</td>
<td>1,136.9</td>
<td>1,121.4</td>
<td>15.5</td>
<td>1.4%</td>
</tr>
<tr>
<td>Not In TFP, Not Input</td>
<td></td>
<td>1,431.9</td>
<td>-1,431.9</td>
<td></td>
</tr>
<tr>
<td>Total Cost Allocation Model</td>
<td>74,345.3</td>
<td>74,696.0</td>
<td>-350.6</td>
<td>-0.5%</td>
</tr>
<tr>
<td>Total Cost in Cost Segments</td>
<td></td>
<td>74,696.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model to Cost Segments</td>
<td></td>
<td>0.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Figure 9: Personnel Compensation Costs by Cost Segment and TFP Labor & Material Categories

#### Comparison of Cost Segments / NTB to TFP - FY 2018

<table>
<thead>
<tr>
<th>Cost Segment Code</th>
<th>CRA Line Description</th>
<th>Cost Segment / NTB Labor</th>
<th>TFP Materials</th>
<th>Cost Segment Validation</th>
<th>TFP Labor Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 01A</td>
<td>Postmasters</td>
<td>Salaries 1,162,578</td>
<td>Uniforms 99</td>
<td>Personnel Cost Report 1,611,714</td>
<td>Postmasters</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Benefits 428,841</td>
<td>Relocation 624</td>
<td></td>
<td></td>
</tr>
<tr>
<td>01 01B</td>
<td>Postmaster Relief</td>
<td>Salaries 19,327</td>
<td>Labor Other 72</td>
<td></td>
<td>Postmasters</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Benefits 2,065</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02 02A</td>
<td>Supervisors</td>
<td>Salaries 2,129,472</td>
<td>Household Goods 1,070</td>
<td></td>
<td>Supervisors</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Benefits 713,956</td>
<td>Relocation 4,131</td>
<td></td>
<td></td>
</tr>
<tr>
<td>02 02B</td>
<td>Professional &amp; Technical</td>
<td>Salaries 397,413</td>
<td>Travel 17,670</td>
<td></td>
<td>Prof, Admin, Tech</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Benefits 136,015</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>03 03A</td>
<td>Clerks</td>
<td>Salaries 8,400,036</td>
<td></td>
<td>Personnel Cost Report 12,079</td>
<td>Clerks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Benefits 2,637,120</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>03 03B</td>
<td>Mail Handlers</td>
<td>Salaries 2,724,376</td>
<td></td>
<td></td>
<td>Mailhandlers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Benefits 819,091</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>04 04A</td>
<td>Clerks CAG K</td>
<td>Salaries 293,975</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Benefits 86,101</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>06 06A</td>
<td>City Carriers</td>
<td>Salaries 12,444,624</td>
<td></td>
<td>Personnel Cost Report 16,456,282</td>
<td>City Carriers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Benefits 3,939,732</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08 08A</td>
<td>Vehicle Service Drivers</td>
<td>Salaries 568,957</td>
<td></td>
<td></td>
<td>VS Drivers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Benefits 187,537</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 10A</td>
<td>Rural Carriers</td>
<td>Salaries 5,714,900</td>
<td></td>
<td>Personnel Cost Report 7,524,814</td>
<td>Rural Carriers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Benefits 1,800,095</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 11A</td>
<td>Building Maintenance</td>
<td>Salaries 924,719</td>
<td></td>
<td></td>
<td>Maintenance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Benefits 323,606</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 11B</td>
<td>Oper Equip Maint</td>
<td>Salaries 1,117,386</td>
<td></td>
<td></td>
<td>Maintenance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Benefits 372,570</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 11C</td>
<td>Bldg &amp; Plant Maint</td>
<td>Salaries 250,723</td>
<td></td>
<td></td>
<td>Maintenance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Benefits 93,652</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 12A</td>
<td>Motor Vehicle Service</td>
<td>Salaries 395,040</td>
<td></td>
<td></td>
<td>Vehicle Service</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Benefits 141,886</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 13B</td>
<td>Purchasing FSU</td>
<td>Salaries 12,160</td>
<td></td>
<td></td>
<td>Other Personnel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Benefits 4,122</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 13C</td>
<td>Facilities Field Office</td>
<td>Salaries 13,360</td>
<td></td>
<td></td>
<td>Other Personnel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Benefits 4,247</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16 16A</td>
<td>Material Distribution</td>
<td>Salaries 7,405</td>
<td></td>
<td></td>
<td>Other Personnel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Benefits 2,998</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 18A</td>
<td>Field Service Units</td>
<td>Salaries 180,006</td>
<td></td>
<td></td>
<td>Other Personnel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Benefits 61,404</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 18B</td>
<td>Headquarters</td>
<td>Salaries 458,665</td>
<td></td>
<td></td>
<td>Other Personnel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Benefits 126,340</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 18C</td>
<td>Area Administration</td>
<td>Salaries 88,381</td>
<td></td>
<td></td>
<td>Other Personnel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Benefits 26,440</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 18D</td>
<td>Security Force</td>
<td>Salaries 39,239</td>
<td></td>
<td></td>
<td>Other Personnel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Benefits 13,461</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 18E</td>
<td>Inspection Service / OIG</td>
<td>Salaries 340,790</td>
<td></td>
<td></td>
<td>Other Personnel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Benefits 146,818</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Cost Segment 18</td>
<td>Salaries 1,107,281</td>
<td></td>
<td></td>
<td>Other Personnel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Benefits 378,662</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19 19A</td>
<td>MTSC</td>
<td>Salaries 2,732</td>
<td></td>
<td></td>
<td>Other Personnel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Benefits 1,026</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Personnel Compensation Costs**: 37,716,557

**Cost Segment**: 12,073,123

**Total Compensation**: 49,789,680

**Declaration of Robert Fisher**

12 February 3, 2020
Figure 9 validates the Personnel Compensation from the Cost Segments Reconciliation to Financial Statements Report\(^{19}\) to the TFP categories\(^ {20}\). The Personnel Compensation report contains both TFP Labor and Materials categories. The Labor shown on this report is effectively the Salaries and Benefits from NPHS, reset to the Cost Segment dollar values using the NPHS dollar mix.

This table validates that all Salary and Benefit costs in TFP categories match the Cost Segment totals.

Figure 10 shows the national level categories that are included in TFP Labor. The categories used are Salaries, Benefits, Employee Relations, and Other. These are defined in PRC 2010 TFP document.\(^ {21}\) Since 2010, new account numbers have been activated. These are shown as “Account Not Listed” and assigned to the appropriate cost category.

These National labor costs total $7.256 billion dollars. These costs include the Non-Controllable costs as defined in Postal Service financial reports. This total reflects all Labor related costs in the Cost Segment / NTB accounts.

As a separate issue, an argument could be made that Non-Controllable costs should be excluded from an operational efficiency-based measurement for rate authority purposes.

Figure 10: National Labor Costs by Documented TFP Categories.

<table>
<thead>
<tr>
<th>Cost Segment Code</th>
<th>Line Description</th>
<th>Cost Segment / NTB Labor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Salaries</td>
</tr>
<tr>
<td>13</td>
<td>13D Awards &amp; Arbitrations</td>
<td>250,250</td>
</tr>
<tr>
<td>18</td>
<td>18F Unemployment Comp</td>
<td>32,896</td>
</tr>
<tr>
<td>18</td>
<td>18G Holiday Leave Adjustment</td>
<td>2,266</td>
</tr>
<tr>
<td>18</td>
<td>18H Health Benefits - WC</td>
<td>-6,181</td>
</tr>
<tr>
<td>18</td>
<td>18I Retiree Life Insurance</td>
<td>93,836</td>
</tr>
<tr>
<td>18</td>
<td>18J Retirement FERS/CSRS</td>
<td>4,374</td>
</tr>
<tr>
<td>18</td>
<td>18K Miscellaneous Personnel</td>
<td>0</td>
</tr>
<tr>
<td>18</td>
<td>18L Life Insurance Annuity</td>
<td>0</td>
</tr>
<tr>
<td>18</td>
<td>18M Annual Leave Liability</td>
<td>1,439,941</td>
</tr>
<tr>
<td>18</td>
<td>18N Workers Compensation</td>
<td>4,374</td>
</tr>
<tr>
<td>18</td>
<td>18O APP Contra Offset</td>
<td>0</td>
</tr>
<tr>
<td>18</td>
<td>18P Retirement FERS/CSRS</td>
<td>4,374</td>
</tr>
<tr>
<td>18</td>
<td>18Q Retiree Health Benefits</td>
<td>4,480,704</td>
</tr>
<tr>
<td>National Costs Total</td>
<td>-6,181</td>
<td>4,534,052</td>
</tr>
<tr>
<td>Total Labor</td>
<td>37,710,376</td>
<td>16,607,175</td>
</tr>
</tbody>
</table>

\(^{19}\) FY 2018 Quarter 4 YTD Cost Segments & Components Reconciliation to Financial Statements and Account Reallocations, Redacted Version, ACR USPS-2018-5.


\(^{21}\) “Formulas for Total Factor Productivity, Labor Productivity, Postal Inflation, and the Aggregate Labor Price Index”, PRC Filing 68582, June 23, 2010

Declaration of Robert Fisher 13 February 3, 2020
TFP Accuracy for Performance-based Rate Authority Purposes

Figure 11 shows the comparison of the Cost Segments by TFP Category with the Actual TFP values. The TFP methodology uses the NPHS dollar percentage profile to redistribute the national costs to the employee categories.

This chart shows that TFP has a total of $58,111 million dollars, while the Cost Segment Labor has a total of $57,045 million dollars. TFP has $1,065 million MORE than the documented Cost Segment value.

Figure 11: TFP Labor Comparison to Cost Segments Labor

<table>
<thead>
<tr>
<th>TFP Category</th>
<th>CS / NTB</th>
<th>TFP Labor</th>
<th>TFP +/- CS</th>
<th>% CS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postmasters</td>
<td>1,612,812</td>
<td>1,888,734</td>
<td>275,922</td>
<td>17.1%</td>
</tr>
<tr>
<td>Supervisors</td>
<td>2,843,428</td>
<td>3,402,069</td>
<td>558,641</td>
<td>19.6%</td>
</tr>
<tr>
<td>Clerks</td>
<td>11,417,232</td>
<td>13,378,811</td>
<td>1,961,580</td>
<td>17.2%</td>
</tr>
<tr>
<td>Mailhandlers</td>
<td>3,543,468</td>
<td>4,148,837</td>
<td>605,370</td>
<td>17.1%</td>
</tr>
<tr>
<td>City Carriers</td>
<td>16,384,356</td>
<td>19,159,434</td>
<td>2,775,078</td>
<td>16.9%</td>
</tr>
<tr>
<td>VS Drivers</td>
<td>756,495</td>
<td>887,057</td>
<td>130,563</td>
<td>17.3%</td>
</tr>
<tr>
<td>Rural Carriers</td>
<td>7,514,985</td>
<td>8,796,223</td>
<td>1,281,237</td>
<td>17.0%</td>
</tr>
<tr>
<td>Maintenance</td>
<td>3,112,868</td>
<td>3,638,833</td>
<td>525,965</td>
<td>16.9%</td>
</tr>
<tr>
<td>Vehicle Service</td>
<td>536,926</td>
<td>628,929</td>
<td>92,004</td>
<td>17.1%</td>
</tr>
<tr>
<td>Prof, Admin, Tech</td>
<td>533,428</td>
<td>625,152</td>
<td>91,725</td>
<td>17.2%</td>
</tr>
<tr>
<td>Other Personnel</td>
<td>1,533,684</td>
<td>1,557,629</td>
<td>23,945</td>
<td>1.6%</td>
</tr>
<tr>
<td>Salaries &amp; Benefits</td>
<td>49,789,680</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National Costs</td>
<td>7,256,270</td>
<td></td>
<td>-7,256,270</td>
<td></td>
</tr>
<tr>
<td>Total Labor</td>
<td>57,045,950</td>
<td>58,111,709</td>
<td>1,065,759</td>
<td>1.9%</td>
</tr>
</tbody>
</table>

As the following tables will show, all dollars in the Cost Segments are validated to designated categories, demonstrating that TFP Total Labor dollars are inflated by over a billion dollars. This difference cannot be explained from the existing documentation. The reason for the higher value is not known. It does call into question the accuracy of the TFP calculation process.

This overstatement of TFP Labor dollars is independent of the Labor Input and Labor Productivity values. The only impact of this additional billion dollars will be on the relative weighting between Labor, Materials and Capital in determining the Total Input Index.

There is also a discrepancy with the Other Personnel category, as its difference with the Cost Segments is not in the same range as the other categories. Other Personnel differs from TFP by 1.6%, while all other employee categories differ in the 17 to 20 percent range. There appears to be a discrepancy in what is used in the NPHS mix calculation in TFP. This cannot be validated from available data.
TFP Accuracy for Performance-based Rate Authority Purposes

Figure 12 shows that the TFP Materials categories can be almost completely validated against the Cost Segments accounts. The largest difference of $12.5 million in Rail is related to a discrepancy for a credit that is identified as Rail transportation yet is attributed to the Miscellaneous category in TFP. The bottom line total of 15.6 billion matches the Cost Segment total dollars.

This table shows that Labor dollar overage cannot be attributed to any difference in Material dollars.

Figure 12: TFP Material Categories to CSR Accounts

<table>
<thead>
<tr>
<th>Category</th>
<th>TFP Material Category Name</th>
<th>Published TFP Materials</th>
<th>TFP Assignment</th>
<th>Not Listed, Assumed</th>
<th>Total CS / NTB</th>
<th>TFP +/- CS/NTB</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-01</td>
<td>Relocation Costs</td>
<td>2.9</td>
<td>2.9</td>
<td>2.9</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>M-02</td>
<td>Household Goods</td>
<td>5.7</td>
<td>5.7</td>
<td>5.7</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>M-03</td>
<td>Uniforms</td>
<td>78.2</td>
<td>78.2</td>
<td>78.2</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>M-04</td>
<td>Travel</td>
<td>180.0</td>
<td>179.9</td>
<td>0.0</td>
<td>179.8</td>
<td>0.1</td>
</tr>
<tr>
<td>M-05</td>
<td>Supplies</td>
<td>1091.0</td>
<td>1091.0</td>
<td>0.0</td>
<td>1091.0</td>
<td>0.0</td>
</tr>
<tr>
<td>M-06</td>
<td>Building Services</td>
<td>242.6</td>
<td>242.6</td>
<td>242.6</td>
<td></td>
<td>0.0</td>
</tr>
<tr>
<td>M-07</td>
<td>Professional Services</td>
<td>1074.3</td>
<td>1069.0</td>
<td>2.6</td>
<td>1071.6</td>
<td>2.7</td>
</tr>
<tr>
<td>M-08</td>
<td>Computer Services</td>
<td>562.9</td>
<td>562.9</td>
<td>562.9</td>
<td></td>
<td>0.0</td>
</tr>
<tr>
<td>M-10</td>
<td>Vehicle Supplies</td>
<td>822.0</td>
<td>822.0</td>
<td>822.0</td>
<td></td>
<td>0.0</td>
</tr>
<tr>
<td>M-11</td>
<td>Air Domestic Network</td>
<td>2217.0</td>
<td>2217.0</td>
<td>2217.0</td>
<td></td>
<td>0.0</td>
</tr>
<tr>
<td>M-12</td>
<td>Air International</td>
<td>274.9</td>
<td>274.9</td>
<td>274.9</td>
<td></td>
<td>0.0</td>
</tr>
<tr>
<td>M-13</td>
<td>Air Domestic Contract</td>
<td>675.6</td>
<td>675.6</td>
<td>675.6</td>
<td></td>
<td>0.0</td>
</tr>
<tr>
<td>M-14</td>
<td>Highway</td>
<td>4247.0</td>
<td>4107.0</td>
<td>140.0</td>
<td>4247.0</td>
<td>0.0</td>
</tr>
<tr>
<td>M-15</td>
<td>Rail Transport</td>
<td>31.7</td>
<td>19.2</td>
<td>19.2</td>
<td>12.5</td>
<td></td>
</tr>
<tr>
<td>M-16</td>
<td>Water Transport</td>
<td>25.3</td>
<td>25.3</td>
<td>25.3</td>
<td></td>
<td>0.0</td>
</tr>
<tr>
<td>M-17</td>
<td>Oil</td>
<td></td>
<td></td>
<td>15.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M-18</td>
<td>Gas</td>
<td></td>
<td></td>
<td>52.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M-19</td>
<td>Other Fuel</td>
<td></td>
<td></td>
<td>6.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Heating Fuel</td>
<td></td>
<td></td>
<td>74.2</td>
<td>74.2</td>
<td>0.0</td>
</tr>
<tr>
<td>M-20</td>
<td>Electricity</td>
<td></td>
<td></td>
<td>482.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M-21</td>
<td>Water &amp; Sewer</td>
<td></td>
<td></td>
<td>88.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Utilities</td>
<td></td>
<td></td>
<td>571.3</td>
<td>571.3</td>
<td>0.0</td>
</tr>
<tr>
<td>M-22</td>
<td>Telephone</td>
<td>133.2</td>
<td>133.2</td>
<td>133.2</td>
<td></td>
<td>0.0</td>
</tr>
<tr>
<td>M-23</td>
<td>Research &amp; Development</td>
<td>53.2</td>
<td>53.2</td>
<td>53.2</td>
<td></td>
<td>0.0</td>
</tr>
<tr>
<td>M-24</td>
<td>Building Improvements</td>
<td>219.3</td>
<td>219.3</td>
<td>219.3</td>
<td></td>
<td>0.0</td>
</tr>
<tr>
<td>M-25</td>
<td>Vehicle Maintenance</td>
<td>820.3</td>
<td>820.3</td>
<td>820.3</td>
<td></td>
<td>0.0</td>
</tr>
<tr>
<td>M-26</td>
<td>Maintenance</td>
<td>173.1</td>
<td>173.1</td>
<td>173.1</td>
<td></td>
<td>0.0</td>
</tr>
<tr>
<td>M-09</td>
<td>Misc Services &amp; Freight</td>
<td></td>
<td></td>
<td>764.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M-27</td>
<td>Miscellaneous Judgements</td>
<td></td>
<td></td>
<td>146.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M-28</td>
<td>Miscellaneous</td>
<td></td>
<td></td>
<td>3.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total Miscellaneous</td>
<td>899.3</td>
<td>914.6</td>
<td>914.6</td>
<td>-15.3</td>
<td></td>
</tr>
<tr>
<td>M-29</td>
<td>Vehicle Rent</td>
<td>132.9</td>
<td>132.9</td>
<td>132.9</td>
<td></td>
<td>0.0</td>
</tr>
<tr>
<td>M-30</td>
<td>Terminal Settlements</td>
<td>488.9</td>
<td>488.9</td>
<td>488.9</td>
<td></td>
<td>0.0</td>
</tr>
<tr>
<td></td>
<td>Total Materials</td>
<td>15,096.7</td>
<td>14,954.3</td>
<td>142.5</td>
<td>15,096.7</td>
<td>0.0</td>
</tr>
</tbody>
</table>
TFP Accuracy for Performance-based Rate Authority Purposes

Figure 13 shows the Capital Expense categories for Building Rent and Postal Equipment that come from expense dollars in the Cost Segments. There are minor differences totaling $15.5 million dollars, representing a 1.2% discrepancy.

It also shows those accounts that are not in TFP as inputs, grouped into five categories: Depreciation; Gains, Losses, Damages; Interest Expense; Military Credit; and Contingency Provisions. The total dollars for these Not in TFP, Not Input accounts total $1.4 billion dollars.

Figure 13: TFP Capital Expense and Categories Not in TFP in Cost Segments

<table>
<thead>
<tr>
<th>Category</th>
<th>TFP Material Category Name</th>
<th>Published TFP Dollars</th>
<th>TFP Account Assignment</th>
<th>Not Listed, Assumed</th>
<th>Total Cost Segments</th>
<th>TFP +/- Cost Segments</th>
</tr>
</thead>
<tbody>
<tr>
<td>TFP Capital Expense</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C-BR</td>
<td>Capital - Building Rent</td>
<td>1034.6</td>
<td>1,099.2</td>
<td>-71.6</td>
<td>1,027.64</td>
<td>7.0</td>
</tr>
<tr>
<td>C-PE</td>
<td>Capital - Postal Equipment</td>
<td>102.2</td>
<td>93.8</td>
<td></td>
<td>93.78</td>
<td>8.4</td>
</tr>
<tr>
<td>Total TFP Capital (Expense)</td>
<td></td>
<td>1,136.9</td>
<td>1,193.0</td>
<td>-71.6</td>
<td>1,121.4</td>
<td>15.5</td>
</tr>
</tbody>
</table>

Categories / Accounts Not In TFP (Labor, Materials or Capital), Not Considered Input

<table>
<thead>
<tr>
<th>Category</th>
<th>Published TFP Dollars</th>
<th>TFP Account Assignment</th>
<th>Not Listed, Assumed</th>
<th>Total Cost Segments</th>
<th>TFP +/- Cost Segments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depreciation</td>
<td>1,668.6</td>
<td></td>
<td></td>
<td>1,668.55</td>
<td>-1,668.6</td>
</tr>
<tr>
<td>Gains, Losses, Damages</td>
<td>20.2</td>
<td></td>
<td></td>
<td>20.21</td>
<td>-20.2</td>
</tr>
<tr>
<td>Interest Expense</td>
<td>250.6</td>
<td></td>
<td></td>
<td>250.62</td>
<td>-250.6</td>
</tr>
<tr>
<td>Military Credit</td>
<td>-158.4</td>
<td></td>
<td></td>
<td>-158.38</td>
<td>158.4</td>
</tr>
<tr>
<td>Contingencies Provision</td>
<td>-349.1</td>
<td></td>
<td></td>
<td>-349.13</td>
<td>349.1</td>
</tr>
<tr>
<td>Total Not in TFP</td>
<td></td>
<td></td>
<td></td>
<td>1,431.9</td>
<td>-1,431.9</td>
</tr>
</tbody>
</table>

These tables show that all accounts in the Cost Segments Total dollars can be validated and accounted for in a cross-walk to TFP values. The conclusion of this analysis is that TFP Labor dollars are overstated by over a billion dollars in 2018. Since all dollars are accounted for in the Cost Segment total, the billion dollar overage cannot be explained. This discrepancy occurs in previous years, not just 2018. This is a primary example of the potential for a false positive caused by TFP data discrepancies and lack of transparency in the TFP methodology.

Impact of Different Labor Totals on TFP

The previous section identified that there are three different Labor Cost values involved in TFP:

1. Salaries & Benefits: This represents direct employee costs. NPHS is used for the workhour and dollar profiles for calculating the Labor Input and Labor Productivity indexes.

2. Cost Segment Labor: This is the total labor cost from the NTB account level. It is the Salaries & Benefits at the employee level and national costs that cannot be attributed at the employee level.

3. TFP Labor Value: This comes from TFP and is overstated from the Cost Segment labor total.
The differences between these three labor dollar totals have no impact on the Labor Input and Labor Productivity. The Labor Input Index and Labor Productivity are based on the change in workhours and the relative share of cost by employee category. The NPHS percentage mix is the source of the Labor Input Index result.

The dollar value does impact the final TFP result as it affects the percentage share of value (cost). The share of value is used to weight the Material, Capital, and Labor Input indexes in the calculation of the Total Input Index value. This section will calculate the impact of the different weighting on TFP for FY 2018 for the three labor cost alternatives.

Figure 14 shows the Labor dollar totals for the three labor cost alternatives for 2017 and 2018. Note that in 2017 the TFP Labor dollar overage was $1.36 billion dollars, even higher than in 2018. It should also be noted that total labor costs were greater in 2018 than in 2017 for all three categories.

Figure 14:  Labor Costs – Impact of Different Totals on TFP

<table>
<thead>
<tr>
<th>Cost Category</th>
<th>TFP Value</th>
<th>+/- TFP to Costs</th>
<th>% TFP to Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2017</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salaries &amp; Benefits</td>
<td>48,606</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employe Relations / National</td>
<td>6,711</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labor Total</td>
<td>56,677</td>
<td>55,317</td>
<td>1,360</td>
</tr>
<tr>
<td><strong>2018</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salaries &amp; Benefits</td>
<td>49,790</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employe Relations / National</td>
<td>7,256</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labor Total</td>
<td>58,112</td>
<td>57,046</td>
<td>1,066</td>
</tr>
</tbody>
</table>

Figure 15 shows the dollar values for the three scenarios for Labor, with Materials and Capital values, with the resulting Total Input dollars.

Figure 15:  TFP Labor Value Scenarios with Material & Capital Value Constant
TFP Accuracy for Performance-based Rate Authority Purposes

Figure 16 shows the percentage of value (cost) for each scenario. These are the numerical values used directly in the TFP calculation to weight the Capital, Materials, and Labor Input index results to get the Total Input. TFP uses the average of the two years in the weighting formula.

Figure 16: Percentage Share of Total Dollars used in TFP Input Weighting

<table>
<thead>
<tr>
<th>Year</th>
<th>Source of Labor Cost</th>
<th>Percent Share of Value (Dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Capital</td>
</tr>
<tr>
<td>2017</td>
<td>S&amp;B Cost</td>
<td>5.3%</td>
</tr>
<tr>
<td></td>
<td>Labor Cost</td>
<td>4.8%</td>
</tr>
<tr>
<td></td>
<td>Published</td>
<td>4.7%</td>
</tr>
<tr>
<td>2018</td>
<td>S&amp;B Cost</td>
<td>5.2%</td>
</tr>
<tr>
<td></td>
<td>Labor Cost</td>
<td>4.7%</td>
</tr>
<tr>
<td></td>
<td>Published</td>
<td>4.6%</td>
</tr>
</tbody>
</table>

Figure 17 shows the result of the Total Input calculation and the difference to the TFP result from using the higher dollar values. As the higher dollar values of Total Labor cost and TFP dollars are used, the Total Input value decreases. This is due to the relationship between the Input Index values of Materials, Capital, and Labor.

The net impact is that adding MORE dollars (7 to 8 billion) to Labor for weighting results in a LOWER TFP Input value. This is counter-intuitive where adding more dollars leads to lower Total Input.

Figure 17: TFP Input Quantity Results for the Labor Weighting Scenarios

<table>
<thead>
<tr>
<th>Year</th>
<th>Source of Labor Cost</th>
<th>Input Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Labor</td>
</tr>
<tr>
<td>2017</td>
<td>S&amp;B Cost</td>
<td>6,534</td>
</tr>
<tr>
<td></td>
<td>Labor Cost</td>
<td>6,534</td>
</tr>
<tr>
<td></td>
<td>Published</td>
<td>6,534</td>
</tr>
<tr>
<td>2018</td>
<td>S&amp;B Cost</td>
<td>6,460</td>
</tr>
<tr>
<td></td>
<td>Labor Cost</td>
<td>6,460</td>
</tr>
<tr>
<td></td>
<td>Published</td>
<td>6,460</td>
</tr>
</tbody>
</table>
Figure 18 shows the final impact on TFP from using the higher dollar values. The lower Input values result in a HIGHER TFP productivity. The calculated impact shows that adding $8.3 billion dollars in Labor cost increases TFP by 0.06%. This increase could be difference in achieving or not achieving the operational efficiency-based requirement of the performance-based rate authority.

![Figure 18: TFP Results for Different Labor Dollar Values](image)

<table>
<thead>
<tr>
<th>Year</th>
<th>Source of Labor Cost</th>
<th>TFP Calculation Results</th>
<th>% to 2017</th>
<th>+/- to S&amp;B Base</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>S&amp;B Cost</td>
<td>1.2923</td>
<td>0.061%</td>
<td>0.049%</td>
</tr>
<tr>
<td>2018</td>
<td>Labor Cost</td>
<td>1.2923</td>
<td>0.061%</td>
<td>0.049%</td>
</tr>
<tr>
<td>Final Actual</td>
<td>1.2923</td>
<td>1.0300</td>
<td>0.070%</td>
<td>0.056%</td>
</tr>
</tbody>
</table>

Lower Input means higher productivity  
Adding national labor dollars leads to a higher TFP result

The underlying, yet important, issue is that the actual national Labor costs of approximately seven (7) billion dollars a year are not measured for change against the previous year in TFP. The only impact of this additional seven (7) billion dollars in actual cost in the current methodology is to have the Postal Service appear more productive due to the relative cost weighting in the calculation methodology.

**Materials**

The Material component generally reflects non-personnel costs. Non-personnel accounts were grouped into “materials” categories when TFP was created in the 1980’s. There has been some consolidation and adjustments of categories over the years.

The dollars from NTB accounts are indexed using metrics from the BLS and National Income and Product Accounts (NIPA) or using specific postal-derived metrics. The individual category indexes are combined using their share of dollar cost to calculate the Materials Input Index.

There are validity concerns with the Materials Input Index that could impact the operational efficiency-based requirement result and performance-based rate authority outcome.

---

Metric Visibility & Applicability

The metrics used for each Material category are identified in the TFP documentation from 2010. These are summarized in Figure 19. The following issues relate to the visibility and applicability of the index metrics:

1. The categories have been adjusted over the years with no documentation, including the application of undocumented adjustment factors. It is not known what metric is currently being used for some categories. For example, the indexes listed for the Telephone category were discontinued by the BLS in 2018. It is not known what metric replaced them in TFP.

2. The categories Vehicle Maintenance and Vehicle Supplies use the same composite index. The indexes for Motor Fuel and Vehicle Maintenance and Repair are averaged together for the combined metric. This does not reflect that in NTB accounts fuel and maintenance costs are separated and do not have equal weight. Since the index values are averaged rather than weighted for the actual dollar share, the index distorts the true relationships.

3. Utilities and Heating Fuels are Materials categories. Multiple indexes are used for each of these categories. Utilities uses two metrics: Electricity, and Water and Sewer. Heating Fuels uses three metrics: Oil, Gas, and Other Fuels. It is not known how the price index is calculated for these two categories – if it is simply averaged or prorated for the NTB dollar values.

4. For transportation, FedEx and UPS specific metrics are developed with non-public data rather than using existing BLS air freight transportation metrics. There is no way to validate this metric with available public data.

5. Some metrics are indexed using a metric that does not relate to the category. For example, Miscellaneous Judgements was indexed against Gross Domestic Product in NIPA. The BLS or NIPA metric used should relate to the category being measure or at least use the general CPI-U benchmark.

6. Three (3) miscellaneous categories were merged into a single category in 2016. These categories used NIPA metrics instead of BLS metrics. It is not known what metric is used for this consolidated miscellaneous category.

These issues should be transparent in an operational efficiency-based measurement for performance-based rate authority. These issues clearly would distort the Materials result, but the impact cannot be quantified with public data or the existing documentation.

---


24 Figures 19 through Figure 21 in Appendix Excel file: Fisher Figures 19-25.xlsx
**Unknown Adjustment Factors in Published Material Price**

In the TFP Tables, the Price value represents the metric used to convert the actual dollars into the quantity value used in the calculation methodology. TFP Price values cannot be validated against the BLS data values due to unknown adjustment factors. Each category has a percentage difference unique to that category when comparing the Price value to its calculated value. These results are shown in Figure 20 for 2017 and 2018.

This price difference between the published value and the calculated value is not explained. It is assumed to be the result of some previous adjustment process. The impact on the Material results of this factor cannot be validated without expanded research. It does create transparency concerns, as the published Price does not match the defined calculation process.

**Material Price Indexes Different than BLS Data**

The Material Price Index can be validated against BLS metric by comparing the change over the previous year. The ratio relationship should be identical if the TFP metric is using the BLS metric as identified in the existing documentation. This analysis was done for 2017 and 2018, with the results presented in Figure 21.

The results show that the TFP Material results are based on values different than the BLS metric values. These differences are shaded light yellow in Figure 21. These results can be grouped as follows:

1. Some Materials category price change shows no difference from the BLS metric, validating that category result for these years.

2. Some Materials category price change shows no difference in one year, but a difference in the other year. This indicates that something occurred in the TFP process to differ from the BLS metric result. This would distort the TFP result for unknown reasons.

3. Some TFP metrics do not match in either year. This would distort the TFP result for unknown reasons.

The results of the Material Index cannot be validated in part due to these known differences between the published price change in TFP and the BLS metric. The results also cannot be validated because the exact calculation method or necessary data for USPS derived metrics are not available. The actual impact on Material Index or the TFP result cannot be calculated.

The analysis demonstrates that the Material Index cannot be validated, and by extension, could lead to a false positive in the operational efficiency-based requirement.
### Figure 19: Material and Capital Expense Index Metrics

<table>
<thead>
<tr>
<th>Category</th>
<th>Materials Input Category</th>
<th>Price Index from Appendix 2</th>
<th>BLS Category</th>
<th>BLS Category Description</th>
<th>TFP / Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-01</td>
<td>Relocation Costs</td>
<td>PCU48111148111P</td>
<td></td>
<td>Scheduled passenger air transportation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Other lodging away from home including hotels and motels in U.S. city average, urban wage earners and clerical workers</td>
<td></td>
</tr>
<tr>
<td>M-02</td>
<td>Transportation of Household Effects</td>
<td>PCU4841248412P</td>
<td></td>
<td>General freight trucking, long-distance TL</td>
<td>Primary services</td>
</tr>
<tr>
<td>M-03</td>
<td>Uniforms and Work Clothing</td>
<td>PCU5000005AA</td>
<td></td>
<td>Apparel in U.S. city average, all urban consumers</td>
<td>Apparel</td>
</tr>
<tr>
<td>M-04</td>
<td>Travel</td>
<td>PCU4811148111P</td>
<td></td>
<td>Scheduled passenger air transportation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Other lodging away from home including hotels and motels in U.S. city average, urban wage earners and clerical workers</td>
<td></td>
</tr>
<tr>
<td>M-05</td>
<td>Supplies</td>
<td>WPUS42P22</td>
<td></td>
<td>Discontinued by BLS</td>
<td></td>
</tr>
<tr>
<td>M-07</td>
<td>Professional Services</td>
<td>PCUS413-6413-</td>
<td></td>
<td>Architectural, engineering and related services</td>
<td>Architectural, engineering and related services</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M-08</td>
<td>Contractual Computer Services</td>
<td>PCUS1805518051P</td>
<td></td>
<td>Data processing, hosting and related services</td>
<td>Primary services</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M-12</td>
<td>International UHaul</td>
<td>EUC21</td>
<td></td>
<td>SERVICES OUTBOUND Indexes</td>
<td></td>
</tr>
<tr>
<td>M-13</td>
<td>Air Transportation Domestic Contract</td>
<td>PCUS4110411012</td>
<td></td>
<td>Scheduled air transportation</td>
<td>Scheduled air transportation services</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M-14</td>
<td>Highway Transportation</td>
<td>PCUS414248412P</td>
<td></td>
<td>General freight trucking, long-distance TL</td>
<td>Primary services</td>
</tr>
<tr>
<td>M-15</td>
<td>Rail Transportation</td>
<td>PCUS421148211P</td>
<td></td>
<td>Line-haul railroads</td>
<td>Primary services</td>
</tr>
<tr>
<td>M-16</td>
<td>Water Transportation</td>
<td>PCUS493-483-</td>
<td></td>
<td>Water transportation</td>
<td>Water transportation</td>
</tr>
<tr>
<td>M-17</td>
<td>Oil</td>
<td>WPUS57</td>
<td></td>
<td>Fuels and related products and power</td>
<td>Light fuel oils</td>
</tr>
<tr>
<td>M-18</td>
<td>Gas</td>
<td>CUUR00015EH5F02</td>
<td></td>
<td>Utility (piped) gas service in U.S. city average, all urban consumers</td>
<td>Utility (piped) gas service</td>
</tr>
<tr>
<td>M-19</td>
<td>Other Fuel</td>
<td>WPUS61</td>
<td></td>
<td>Fuels and related products and power</td>
<td>Coal</td>
</tr>
<tr>
<td>M-20</td>
<td>Electricity</td>
<td>WPUS542</td>
<td></td>
<td>Fuels and related products and power</td>
<td>Commercial electric power</td>
</tr>
<tr>
<td>M-21</td>
<td>Water and Sewer</td>
<td>CUUR00015EH5G01</td>
<td></td>
<td>Water and sewer maintenance in U.S. city average, urban water and sewer maintenance</td>
<td>Water and sewer maintenance</td>
</tr>
<tr>
<td>M-22</td>
<td>Telephone</td>
<td>PCUS1711057110112</td>
<td></td>
<td>Wired telecommunications carriers</td>
<td>Business and other local telephone service</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PCUS1711057110122</td>
<td></td>
<td>Wired telecommunications carriers</td>
<td>Business switched toll and other toll service</td>
</tr>
<tr>
<td>M-24</td>
<td>Expensed Building Improvements</td>
<td>PCUR00000EH5P04</td>
<td></td>
<td>Repair of household items in U.S. city average, urban wage earners and clerical workers</td>
<td>Repair of household items</td>
</tr>
<tr>
<td>M-26</td>
<td>Contractual Building Services</td>
<td>PCUS567205672P</td>
<td></td>
<td>Janitorial services</td>
<td>Primary services</td>
</tr>
<tr>
<td>M-10</td>
<td>Vehicle Supplies</td>
<td>CUUR00000ESTD</td>
<td></td>
<td>Motor vehicle maintenance and repair, urban wage earners and clerical workers</td>
<td>Motor vehicle maintenance and repair</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CUUR00000ESTB</td>
<td></td>
<td>Motor fuel in U.S. city average, all urban consumers</td>
<td>Motor fuel</td>
</tr>
<tr>
<td>M-25</td>
<td>Vehicle Maintenance</td>
<td>CUUR00000ESTD</td>
<td></td>
<td>Motor vehicle maintenance and repair, urban wage earners and clerical workers</td>
<td>Motor vehicle maintenance and repair</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CUUR00000ESTB</td>
<td></td>
<td>Motor fuel in U.S. city average, all urban consumers</td>
<td>Motor fuel</td>
</tr>
<tr>
<td>M-26</td>
<td>Maintenance</td>
<td>PCUS567205672P</td>
<td></td>
<td>Janitorial services</td>
<td>Primary services</td>
</tr>
<tr>
<td>M-23</td>
<td>Research and Development</td>
<td>PCUS541330541330</td>
<td></td>
<td>Engineering services</td>
<td>Engineering services</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M-39</td>
<td>Miscellaneous Services and Freight Cost</td>
<td>NIPA Table 3-10.4, line 44</td>
<td>Price Indexes for Government Consumption Expenditures and General Government Gross Output</td>
<td>Gross output of general government - Services</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M-27</td>
<td>Miscellaneous Judgments</td>
<td>NIPA Table 1.1.4, line 1</td>
<td>Price Indexes for Gross Domestic Product</td>
<td>Gross domestic product</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M-28</td>
<td>Miscellaneous</td>
<td>NIPA Table 3.5-4, line 16</td>
<td>Gross Investment</td>
<td>Line 16 - Federal - Research &amp; Development</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Miscellaneous compared to R&amp;D Prices/777</td>
</tr>
<tr>
<td>M-31</td>
<td>Consolidation of M-28, M-27, &amp; M-28</td>
<td>Unknown - Not documented</td>
<td>Metric not known</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M-11</td>
<td>Air Domestic Network</td>
<td>USPS Specific calculation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M-29</td>
<td>Vehicle Rent</td>
<td>USPS Specific calculation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M-30</td>
<td>Terminal Settlements</td>
<td>USPS Specific calculation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C-BR</td>
<td>Capital - Building Rent</td>
<td>CUUR00005EHA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C-FE</td>
<td>Capital - Postal Equipment</td>
<td>USPS Specific calculation</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 20: TFP Materials Categories – Validation of Quantity Calculation / Undefined Adjustment Factors

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>M-01</td>
<td>Relocation Costs</td>
<td>BLS</td>
<td>Calculated from 2 metrics</td>
<td>2.7</td>
<td>2.8</td>
<td>2.9</td>
<td>10.478</td>
<td>10.621</td>
<td>10.809</td>
<td>0.2</td>
<td>0.3</td>
</tr>
<tr>
<td>M-02</td>
<td>Household Goods</td>
<td>BLS</td>
<td>PCU48412484121P</td>
<td>4.5</td>
<td>4.0</td>
<td>5.7</td>
<td>3.662</td>
<td>3.678</td>
<td>3.927</td>
<td>1.3</td>
<td>1.1</td>
</tr>
<tr>
<td>M-03</td>
<td>Uniforms</td>
<td>BLS</td>
<td>CUUR00005AA</td>
<td>75.1</td>
<td>78.0</td>
<td>78.2</td>
<td>2.258</td>
<td>2.259</td>
<td>2.254</td>
<td>32.9</td>
<td>34.1</td>
</tr>
<tr>
<td>M-04</td>
<td>Travel</td>
<td>BLS</td>
<td>Calculated from 2 metrics</td>
<td>132.6</td>
<td>144.3</td>
<td>180.0</td>
<td>10.478</td>
<td>10.621</td>
<td>10.809</td>
<td>12.7</td>
<td>13.6</td>
</tr>
<tr>
<td>M-05</td>
<td>Supplies</td>
<td>BLS</td>
<td>WPUSOP2622</td>
<td>1062.0</td>
<td>1089.5</td>
<td>1091.0</td>
<td>4.913</td>
<td>4.979</td>
<td>5.099</td>
<td>216.1</td>
<td>218.7</td>
</tr>
<tr>
<td>M-06</td>
<td>Building Services</td>
<td>BLS</td>
<td>PCU518210518210P</td>
<td>534.7</td>
<td>589.2</td>
<td>562.9</td>
<td>5.877</td>
<td>5.886</td>
<td>5.904</td>
<td>90.4</td>
<td>99.5</td>
</tr>
<tr>
<td>M-11</td>
<td>Air Domestic Network</td>
<td>USPS</td>
<td>1890.7</td>
<td>1858.5</td>
<td>2217.0</td>
<td>2.469</td>
<td>2.575</td>
<td>2.716</td>
<td>776.4</td>
<td>731.8</td>
<td>827.5</td>
</tr>
<tr>
<td>M-12</td>
<td>International Linen Haul</td>
<td>BLS</td>
<td>578.0</td>
<td>622.7</td>
<td>675.6</td>
<td>4.534</td>
<td>4.526</td>
<td>4.537</td>
<td>127.8</td>
<td>138.0</td>
<td>149.3</td>
</tr>
<tr>
<td>M-14</td>
<td>Highway</td>
<td>BLS</td>
<td>PCU48412484121P</td>
<td>3790.3</td>
<td>4013.9</td>
<td>4247.0</td>
<td>3.662</td>
<td>3.678</td>
<td>3.927</td>
<td>1034.6</td>
<td>1091.0</td>
</tr>
<tr>
<td>M-15</td>
<td>Rail Transport</td>
<td>BLS</td>
<td>PCU482114482111P</td>
<td>42.0</td>
<td>41.5</td>
<td>31.7</td>
<td>2.905</td>
<td>2.983</td>
<td>3.137</td>
<td>14.5</td>
<td>13.9</td>
</tr>
<tr>
<td>M-16</td>
<td>Water Transport</td>
<td>BLS</td>
<td>PCU483-483-</td>
<td>24.4</td>
<td>28.2</td>
<td>25.3</td>
<td>5.550</td>
<td>5.465</td>
<td>5.619</td>
<td>4.6</td>
<td>5.3</td>
</tr>
<tr>
<td>M-17</td>
<td>Oil</td>
<td>BLS</td>
<td>WPU0573</td>
<td>51.0</td>
<td>61.8</td>
<td>74.2</td>
<td>8.439</td>
<td>9.441</td>
<td>10.189</td>
<td>6.0</td>
<td>6.5</td>
</tr>
<tr>
<td>M-18</td>
<td>Gas</td>
<td>BLS</td>
<td>CUUR00005SEHF02</td>
<td>531.9</td>
<td>518.9</td>
<td>571.3</td>
<td>6.381</td>
<td>6.543</td>
<td>6.624</td>
<td>83.4</td>
<td>79.3</td>
</tr>
<tr>
<td>M-20</td>
<td>Electricity</td>
<td>BLS</td>
<td>WPU0542</td>
<td>224.5</td>
<td>195.4</td>
<td>219.3</td>
<td>5.598</td>
<td>6.000</td>
<td>6.508</td>
<td>40.7</td>
<td>34.6</td>
</tr>
<tr>
<td>M-21</td>
<td>Water &amp; Sewer</td>
<td>BLS</td>
<td>CUUR00005SEHD01</td>
<td>249.3</td>
<td>218.5</td>
<td>219.3</td>
<td>5.598</td>
<td>6.000</td>
<td>6.508</td>
<td>40.7</td>
<td>34.6</td>
</tr>
<tr>
<td>M-24</td>
<td>Building Improvements</td>
<td>BLS</td>
<td>203.4</td>
<td>247.0</td>
<td>274.9</td>
<td>2.361</td>
<td>2.340</td>
<td>2.391</td>
<td>111.5</td>
<td>105.3</td>
<td>114.7</td>
</tr>
<tr>
<td>M-25</td>
<td>Vehicle Maintenance</td>
<td>BLS</td>
<td>686.5</td>
<td>732.0</td>
<td>822.0</td>
<td>7.647</td>
<td>8.140</td>
<td>8.848</td>
<td>90.5</td>
<td>90.6</td>
<td>93.6</td>
</tr>
<tr>
<td>M-26</td>
<td>Maintenance</td>
<td>BLS</td>
<td>PCU561720656172OP</td>
<td>151.9</td>
<td>168.2</td>
<td>173.1</td>
<td>6.976</td>
<td>7.032</td>
<td>7.061</td>
<td>21.7</td>
<td>23.8</td>
</tr>
<tr>
<td>M-27</td>
<td>Research &amp; Development</td>
<td>BLS</td>
<td>155.5</td>
<td>172.5</td>
<td>185.8</td>
<td>7.647</td>
<td>8.140</td>
<td>8.848</td>
<td>90.5</td>
<td>90.6</td>
<td>93.6</td>
</tr>
<tr>
<td>M-28</td>
<td>Misc Services &amp; Freight</td>
<td>NIPA</td>
<td>29.4</td>
<td>73.3</td>
<td>53.2</td>
<td>9.467</td>
<td>9.665</td>
<td>9.919</td>
<td>3.5</td>
<td>8.6</td>
<td>6.1</td>
</tr>
<tr>
<td>M-29</td>
<td>Miscellaneous</td>
<td>BLS</td>
<td>PCU561720656172OP</td>
<td>151.9</td>
<td>168.2</td>
<td>173.1</td>
<td>6.976</td>
<td>7.032</td>
<td>7.061</td>
<td>21.7</td>
<td>23.8</td>
</tr>
</tbody>
</table>

Declaration of Robert Fisher 23 February 3, 2020
Figure 21: Validation of Material BLS Index Results

<table>
<thead>
<tr>
<th>Category</th>
<th>Category Name</th>
<th>Metric</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2017</th>
<th>2018</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-01</td>
<td>Relocation Costs</td>
<td>BLS</td>
<td>316.8</td>
<td>321.0</td>
<td>328.1</td>
<td>1.0130</td>
<td>1.0220</td>
<td>1.0140</td>
<td>1.0180</td>
</tr>
<tr>
<td>M-02</td>
<td>Household Goods</td>
<td>BLS</td>
<td>139.8</td>
<td>140.4</td>
<td>150.2</td>
<td>1.0040</td>
<td>1.0690</td>
<td>1.0040</td>
<td>1.0680</td>
</tr>
<tr>
<td>M-03</td>
<td>Uniforms</td>
<td>BLS</td>
<td>126.0</td>
<td>126.0</td>
<td>125.7</td>
<td>1.0000</td>
<td>0.9980</td>
<td>1.0000</td>
<td>0.9980</td>
</tr>
<tr>
<td>M-04</td>
<td>Travel</td>
<td>BLS</td>
<td>330.2</td>
<td>334.6</td>
<td>342.0</td>
<td>1.0130</td>
<td>1.0220</td>
<td>1.0140</td>
<td>1.0180</td>
</tr>
<tr>
<td>M-05</td>
<td>Supplies</td>
<td>BLS</td>
<td>Obsolete BLS Index</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M-07</td>
<td>Professional Services</td>
<td>BLS</td>
<td>158.6</td>
<td>161.9</td>
<td>165.6</td>
<td>1.0210</td>
<td>1.0240</td>
<td>1.0210</td>
<td>1.0180</td>
</tr>
<tr>
<td>M-08</td>
<td>Computer Services</td>
<td>BLS</td>
<td>106.1</td>
<td>106.3</td>
<td>106.6</td>
<td>1.0020</td>
<td>1.0030</td>
<td>1.0020</td>
<td>1.0030</td>
</tr>
<tr>
<td>M-11</td>
<td>Air Domestic Network</td>
<td>USPS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M-12</td>
<td>International Line Haul</td>
<td>BLS</td>
<td>141.0</td>
<td>139.1</td>
<td>142.1</td>
<td>0.9860</td>
<td>1.0220</td>
<td>0.9830</td>
<td>1.0220</td>
</tr>
<tr>
<td>M-13</td>
<td>Air Domestic Contract</td>
<td>BLS</td>
<td>150.6</td>
<td>150.4</td>
<td>150.7</td>
<td>0.9980</td>
<td>1.0030</td>
<td>0.9980</td>
<td>1.0030</td>
</tr>
<tr>
<td>M-14</td>
<td>Highway</td>
<td>BLS</td>
<td>139.8</td>
<td>140.4</td>
<td>150.2</td>
<td>1.0040</td>
<td>1.0690</td>
<td>1.0040</td>
<td>1.0680</td>
</tr>
<tr>
<td>M-15</td>
<td>Rail Transport</td>
<td>BLS</td>
<td>195.5</td>
<td>200.8</td>
<td>211.1</td>
<td>1.0270</td>
<td>1.0520</td>
<td>1.0270</td>
<td>1.0520</td>
</tr>
<tr>
<td>M-16</td>
<td>Water Transport</td>
<td>BLS</td>
<td>132.6</td>
<td>130.6</td>
<td>134.3</td>
<td>0.9850</td>
<td>1.0280</td>
<td>0.9850</td>
<td>1.0280</td>
</tr>
<tr>
<td>M-17</td>
<td>Oil</td>
<td>BLS</td>
<td>137.3</td>
<td>163.5</td>
<td>226.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M-18</td>
<td>Gas</td>
<td>BLS</td>
<td>158.2</td>
<td>171.8</td>
<td>173.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M17-18</td>
<td>Other Fuel</td>
<td>BLS</td>
<td>189.3</td>
<td>194.7</td>
<td>196.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M-19</td>
<td>Heating Fuels</td>
<td>BLS</td>
<td>Method not Defined</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M-20</td>
<td>Electricity</td>
<td>BLS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M-21</td>
<td>Water &amp; Sewer</td>
<td>BLS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M20-21</td>
<td>Utilities</td>
<td>BLS</td>
<td>Method not Defined</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M-22</td>
<td>Telephone</td>
<td>BLS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M-24</td>
<td>Building Improvements</td>
<td>BLS</td>
<td>232.4</td>
<td>245.0</td>
<td>258.7</td>
<td>1.0540</td>
<td>1.0560</td>
<td>1.0330</td>
<td>1.0690</td>
</tr>
<tr>
<td>M-25</td>
<td>Vehicle Maintenance</td>
<td>BLS</td>
<td>253.8</td>
<td>270.2</td>
<td>293.4</td>
<td>1.0640</td>
<td>1.0860</td>
<td>1.0640</td>
<td>1.0870</td>
</tr>
<tr>
<td>M-26</td>
<td>Maintenance</td>
<td>BLS</td>
<td>142.6</td>
<td>143.7</td>
<td>144.3</td>
<td>1.0080</td>
<td>1.0040</td>
<td>1.0080</td>
<td>1.0040</td>
</tr>
<tr>
<td>M-27</td>
<td>Research &amp; Development</td>
<td>BLS</td>
<td>162.4</td>
<td>165.8</td>
<td>170.2</td>
<td>1.0210</td>
<td>1.0270</td>
<td>1.0210</td>
<td>1.0260</td>
</tr>
<tr>
<td>M-28</td>
<td>Miscellaneous</td>
<td>NIPA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M27-29</td>
<td>Miscellaneous Consolidated</td>
<td>NIPA</td>
<td>NewMetric not Defined</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Declaration of Robert Fisher 24 February 3, 2020
TFP Accuracy for Performance-based Rate Authority Purposes

Capital

TFP as a “total factor” concept includes the cost of Capital to provide a complete picture of the resources, or input, used. The calculation of the Capital Index for TFP is complex and cannot be independently validated. The value of owned capital is computed as the “imputed rental value” for seven asset classes.\(^{25}\) The Capital component is in some sense more of an academic approach to quantifying the resource value brought to the Postal Service.

The role of capital and the relationship to annual performance is covered in detail in Order 5337. As a general observation, there are concerns about the inclusion of Capital in the operational efficiency-based requirement.

Figure 22 shows that the TFP Input Index would not be substantively changed if the Capital Index was removed. In this scenario, the annual factors used to calculate Total Input are based on Materials and Labor, excluding Capital. The individual Index values for Materials and Labor do not change, only the weighting between them changes in the annual factor calculation. Capital’s share of total TFP value has been less than five (5) percent in recent years, leading to a factor value that has a small impact on the Total Input. This is quantified through the analysis resulting in Figure 22.

If one of the three main components of TFP (i.e., Capital) can be removed with no substantive change to the TFP result, it calls into question the underlying theory of the measurement.

Figure 22: Impact on Input of Capital Removal

---

Workload

There are aspects that can impact the Workload result that are relevant to the operational efficiency-based requirement for performance-based rate authority. These are the weighting of deliveries to output, use of non-public data, and the weighting factor used in weighted mail volume. These are explained in the following sections.

Workload Weighting Factor – Output versus Deliveries

The Workload used in the numerator for TFP is the composite of the Output and Network indexes. Output is the composite of the Weighted Mail Volume and Miscellaneous Output. Network is the number of deliveries, excluding PO Boxes. The weighting factor used in combining the Output and Network indexes is a key input to the TFP result. The implications of this input factor are reviewed in detail in the NWPC reports26.

The operational efficiency-based rate authority result would likely hinge on the value used to weight the Output to the Network indexes. There is no “right” answer for the appropriate value of this factor. The NWPC reports propose a methodology that would use the Other Cost of delivery cost segments to determine the weighting factor for each year.27 The value used to weight, in a general sense, deliveries to mail volume, directly impacts the TFP result. The value of this critical factor was changed in 2016 with no public notice.

Use of Non-Public Data

It is not possible to validate the Workload result due to the use of non-public data. The non-public data is used for very detailed mail categories within TFP. There are nineteen (19) mail categories with non-public data.28 International mail is segregated into detailed categories in the Output calculations. The non-public data precludes any ability to replicate or model the calculations used for TFP results.

The methodology used to adjust for changes in shifts of mail categories between Market Dominant and Competitive cannot be validated. For example, when First Class Parcels moved to Competitive, it is not known how this was reflected in the Weighted Mail Volume determination. This could be relevant to the final TFP result, as the following section demonstrates there are differences between CRA and TFP values in the public data.

---

26 Northwest Postal Consulting for the Postal Regulatory Commission, Report 1, Adequacy of the Postal Service’s TFP Model, March 27, 2017, at 72-76.
CRA Differences with TFP

The Cost and Revenue Analysis (CRA) report is the source of the Attributable Cost used to weight the change in mail class volume in the Weighted Mail Volume index. Figure 23 compares First Class Single Piece Letters and Marketing Mail High Density and Saturation Flats and Parcels to demonstrate discrepancies between CRA and TFP29.

1. Attributable Cost was used for weighting in TFP through 2016. When changes were made to CRA in 2017, instead of using the Attributable Total, TFP now uses the Volume Variable Cost. This is shown in Figure 23. There is no documentation as to why the Volume Variable Cost value is used instead of the more inclusive Attributable Cost value.

This change would distort the Output Index result in 2017 by changing the weighting value used in index calculation methodology. In effect, 2017 would be no longer be equally weighted with 2016 due to the lower values of Volume Variable Cost in 2017 versus the higher Attributable Cost values of 2016.

2. TFP uses the category “High Density and Saturation Flats and Parcels” as one of five components of the Marketing Mail weighted mail volume index. However, the TFP value is higher than the CRA value for this mail class. TFP appears to include some portion of Standard Mail NSAs and Every Door Direct Mail Retail. It is not known how the TFP value is derived from these mail classes.

3. Figure 24 shows the piece volumes from CRA and TFP for the same mail classes as in Figure 23.30 It shows that for First Class Single Piece Letters the mail volume does not match. While the difference is not large or even necessarily significant, the fact that the values are even different is a concern.

Figure 23: Comparison of CRA to TFP for Selected Mail Classes

<table>
<thead>
<tr>
<th>Mail Classes and Products</th>
<th>2015 Attributable Cost</th>
<th>2016 Attributable Cost</th>
<th>2017 Attributable Cost</th>
<th>2018 Attributable Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>C</td>
<td>F</td>
<td>B</td>
</tr>
<tr>
<td>CRA: First Class Single-Piece Letters</td>
<td>5,304.2</td>
<td>5,282.8</td>
<td>21.4</td>
<td>5,321.7</td>
</tr>
<tr>
<td>TFP: Apportioned Cost Single Piece Letters</td>
<td>5,304.2</td>
<td>5,321.7</td>
<td>5,111.9</td>
<td>5,022.3</td>
</tr>
<tr>
<td>Difference between CRA and TFP</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>CRA: High Density and Saturation Flats and Parcels</td>
<td>1,175.7</td>
<td>1,174.3</td>
<td>1.4</td>
<td>1,190.1</td>
</tr>
<tr>
<td>TFP: Apportioned Cost HD &amp; Saturation Flats &amp; Parcels</td>
<td>1,232.3</td>
<td>1,250.8</td>
<td>1,289.6</td>
<td>1,424.3</td>
</tr>
<tr>
<td>Difference between CRA and TFP</td>
<td>55.6</td>
<td>52.5</td>
<td>51.6</td>
<td></td>
</tr>
<tr>
<td>CRA: Standard Mail NSAs</td>
<td>45.7</td>
<td>45.7</td>
<td>0.0</td>
<td>49.2</td>
</tr>
<tr>
<td>CRA: Every Door Direct Mail Retail</td>
<td>51.5</td>
<td>51.5</td>
<td>0.0</td>
<td>54.1</td>
</tr>
</tbody>
</table>


30 ibid.
TFP Accuracy for Performance-based Rate Authority Purposes

Figure 24: Comparison of Piece Volumes: CRA to TFP

<table>
<thead>
<tr>
<th>Piece Volume</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRA: First Class Single-Piece Letters</td>
<td>19,737</td>
<td>18,910</td>
<td>17,832</td>
<td>16,830</td>
</tr>
<tr>
<td>TFP: Single Piece Letters</td>
<td>19,772</td>
<td>18,928</td>
<td>17,908</td>
<td>16,832</td>
</tr>
<tr>
<td>Difference between CRA and TFP</td>
<td>35</td>
<td>17</td>
<td>76</td>
<td>2</td>
</tr>
<tr>
<td>CRA: High Density and Saturation Flats and Parcels</td>
<td>11,232</td>
<td>11,047</td>
<td>11,231</td>
<td>11,592</td>
</tr>
<tr>
<td>TFP: HD &amp; Saturation Flats &amp; Parcels</td>
<td>12,109</td>
<td>11,911</td>
<td>12,010</td>
<td>12,334</td>
</tr>
<tr>
<td>Difference between CRA and TFP</td>
<td>877</td>
<td>864</td>
<td>779</td>
<td>741</td>
</tr>
<tr>
<td>CRA: Standard Mail NSAs</td>
<td>226</td>
<td>228</td>
<td>195</td>
<td>68</td>
</tr>
<tr>
<td>CRA: Every Door Direct Mail Retail</td>
<td>833</td>
<td>810</td>
<td>758</td>
<td>713</td>
</tr>
</tbody>
</table>

Methodology Transparency

TFP results are not transparent and cannot be independently validated. The TFP tables are a complex set of Excel worksheet tabs with values only, no formulas. This section describes specific aspects to the transparency and calculation validity concerns.

Adjustments when Methodology Changes

Adjustments are made to the structure and factors with no public input or acknowledgement. Values change in the tables to from one year to the next with no explanation. There is no way to know what adjustments might have been made in any year to the methodology or results. Non-public data is used in the Output calculations. Simply stated, the TFP result cannot be independently validated. The metric used for the operational efficiency-based requirement for the performance-base rate authority should be publicly transparent and independently validated.

TFP Results – Preliminary versus Final

TFP results are published in two steps. Preliminary TFP is published in December as part of the Annual Report. This Preliminary TFP uses the previous year’s Attributable Cost per Piece to estimate the weighting factors used for the mail volume index. It also uses preliminary Bureau of Labor Statistics (BLS) metric for the last three months of the Fiscal Year. Once the ACR results are released for the current year and the BLS index values are updated in February, a Final TFP is calculated.
TFP Accuracy for Performance-based Rate Authority Purposes

TFP results are published by the PRC after being requested as a Chairman’s Information Request (CHIR) in the ACR docket. In FY2018, the Preliminary TFP result was positive and would have granted the performance rate authority. The Final TFP was negative or zero, depending on the rounding rules in place. The Final TFP results are not published on a fixed schedule. In fact, the TFP Final Tables file was not provided to the PRC through the Daily Listings until July 16, 2019. The use of TFP as the operational efficiency-based requirement measurement would have to ensure the final values of input are used in the results determination.

Growth Rate versus Percent Change

The published TFP tables use the term “Growth Rate” to measure the change from the previous year. This is assumed to be the econometric method using the logarithm based formula. Virtually all other Postal Service reports calculate the change from the previous year using the standard percentage change formula. This distinction and exact formula used will need to be defined in any metric definitions.

In reviewing this issue, it appears that the published TFP results cannot be validated against either formula methodology. Figure 25 demonstrates this discrepancy in calculation results.

Figure 25: Comparison of Formula Results for Change over Previous Year

Historical Role of TFP

TFP is generally considered a valid and widely accepted measure of performance. The NWPC reports documented the methodology through 2016. However, the NWPC reports did not evaluate the accuracy of the data used in the TFP calculations. The proposal to use TFP as the measurement for the operational efficiency-based requirement for performance-based rate authority requires a closer evaluation of TFP. TFP is the only current metric functionally available for this use.

The use of TFP as a general productivity measure versus as an operational efficiency-based requirement measurement for rate authority purposes is a matter of precision. More specifically, it is a matter of a false positive result where rate authority is granted but would not have been granted had specific inputs or methodology processes been different.

---

31 TFP Tables November 21, 2018, FY2018 TFP Growth Rate +0.059; TFP Tables February 15, 2019, FY2018 TFP Growth Rate -0.011.
32 Growth Rate is calculated using the Excel formula: \( \text{LN(current year / previous year)} \times 100 \).

Figure 25 in Appendix Excel file: Fisher Figures 19-25.xlsx
As the 2018 results show, even minor discrepancies could be relevant. If TFP is used only for a couple of paragraphs in the Annual Report, the precision of the current methodology had been sufficient for that purpose up until recent CLI shifts.

The analysis shows that TFP should not be used for the operational efficiency-based requirement measurement for rate authority purposes. The following key TFP methodology and process issues were documented and quantified:

1. The CLI factor significantly alters the TFP result. It alone can make the difference in a false positive determination. This is a condition that only became apparent in the past several years. The concept underlying CLI is flawed, as years of experience is not a measure of relative productivity of a workhour input.

2. The CLI factor could make a difference even when TFP shows a large productivity increase. For example, if TFP was a positive one (1.0) percent, the operational efficiency-based requirement would be met. If taking out CLI showed a negative result, i.e., over one (1.0) percent impact, a false positive condition would be created. This range of difference is demonstrated in Figure 5.

3. The national labor costs of approximately seven (7) billion dollars are not reflected in TFP for year over year change. Instead, the only role of this seven billion dollars is in the weighting between Materials, Capital, and Labor. In fact, the addition of this seven billion dollars in cost results a higher TFP productivity, a counter intuitive result. These costs include the non-controllable costs as defined in financial reporting.

4. The data used in TFP cannot be validated against the NTB / Cost Segment values. The Materials index values cannot be validated against the BLS metric values. Non-public data precludes validation of the Workload Index. Values are substituted as shown by the shift from Attributable Cost to Volume Variable Cost in weighting Output in 2017. These data discrepancies could result in a false positive result.

5. The TFP methodology is not transparent and the result cannot be validated by stakeholders. The methodology is changed from year to year as specific elements are consolidated or changed due to normal business process adjustments. The process for methodology changes or structural adjustment is not known.

The metric used must be accurate at a precision level to prevent a false positive result and transparent to all stakeholders. The current TFP measure does not meet either of these requirements.
Productivity Measurement Role in Rate Regulation

This purpose of this declaration is to answer the question:

*Is TFP a valid and accurate measurement for an operational efficiency-based requirement in a performance-based rate authority?*

It documents that TFP is not a valid and accurate measurement for this purpose.

The role of productivity measurement in the rate regulation process is an underlying question related to the analysis presented here. A valid and accurate productivity measurement can provide insight into the rate regulatory process.

The TFP index calculation methodology is a useful approach to combining the different components of productivity and comparing the different elements. A productivity measure should be based on cost accounts that are within management control. A determination would have to be made at the account level if it should be included in the metric. The Cost Segments structure, as based in the National Trial Balance (NTB) accounts, can be a good source for cost data. Every account should be identified for its assigned category or role in the productivity metric.

The productivity metric should be transparent and able to be publicly validated. A productivity measure should use only public data. Redacted accounts can be calculated as a “redacted sub-total” within each Cost Segment without identifying the underlying account level detail. The methodology should be calculated in Excel, with all files available through the PRC.

There should be monthly and quarterly reports through the year to measure and monitor performance. Input (costs) should be calculated on a monthly basis. Volume and productivity calculations should be done on a quarterly basis, as they are reliant on RPW.

The reports provided should provide insight into the operational segments. The productivity metric should incorporate a detailed reporting structure that identifies the role and relative impact of each major category on the result. For example, the growth in Rural Carrier cost should be quantified relative to total labor costs and impact on total productivity.

Productivity should be a key component in the review of Postal Service performance. It is not included in any meaningful way in current processes. Financial performance should be put into the context of productivity performance. TFP clearly cannot support productivity measurement in any role in the regulatory process in its current form.
Appendix

The following Excel files are provided in support of this declaration:

1. **Fisher Labor Mode.xlsx**: Contains the Labor and TFP models, Figures 1-7, and the Mix Impact example.

2. **Fisher TFP Cost Segment Validation.xlsx**: Contains Figures 8-18 and their calculations.

3. **Fisher Figures 19-25.xlsx**: Contains Figures 19-21 for materials, Figure 22 for the capital graph, Figure 23-24 for Output, and Figure 25 for growth rate.

All data is from public sources obtained through the PRC website.