Postal Rate Commission
Submitted 7/14/2005 4:04 pm
Filing ID: 46051
Accepted 7/14/2005

BEFORE THE
POSTAL RATE COMMISSION
WASHINGTON, D.C. 20268–0001

POSTAL RATE AND FEE CHANGES PURSUANT TO PUBLIC LAW 108-18	Docket No. R2005–1

RESPONSES OF POSTAL SERVICE WITNESS BOZZO TO ORAL QUESTIONS FROM THE BENCH (July 14, 2005)

The United States Postal Service hereby provides the responses of witness Bozzo to oral questions posed from the bench at the July 6 hearing on his testimony.

Each question is paraphrased and is followed by the response.

Respectfully submitted,

UNITED STATES POSTAL SERVICE

By its attorneys:

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July 14, 2005

Response of United States Postal Service Witness Bozzo
To Oral Questions of Commissioner Tisdale

Tr. 5/1564-5. "Could you provide the Commission with accounting period data for Fiscal Year 2004 disaggregated into as many distinct operations as you have data for? […] Could you also provide the weekly piece-handling productivity data for Fiscal 2004 in the same form?"

Response:

As I noted at Tr. 5/1565, both requests may be fulfilled by providing weekly MODS data by 3-digit MODS operation; accounting period (or quarterly) data may be obtained by summing the appropriate weekly observations. Productivities may be computed by dividing piece handlings by the corresponding hours. Those data are provided in the file mods-wk-op04.xls, to be filed with USPS-LR-K-147.

Response of United States Postal Service Witness Bozzo
To Oral Questions of Commissioner Goldway

Tr. 5/1574-75. Commissioner Goldway requested citations to USPS-T-12 and USPS-LR-K-56 providing information on the instrumental variables methods used in the estimation of the Postal Service's BY 2004 mail processing variability factors, including the specific instrumental variables used in the regressions.

Response:

My direct testimony (USPS-T-12) and sponsored library reference (USPS-LR-K-56) discuss instrumental variables ("IV") estimation at several points. I provide page citations and brief summary descriptions of each citation below.

USPS-T-12 at 6-7. I noted that Professor Mark Roberts, in his 2002 paper, had proposed using IV estimation to resolve possible inconsistency of econometric variability estimates due to measurement error and/or simultaneity in the MODS piecehandling variables. I agree with Prof. Roberts that appropriate IV methods can provide statistically consistent variability estimates in the presence of measurement error and/or simultaneity.

USPS-T-12 at page 26, lines 19-21; page 27, lines 2-3. I discussed the appropriate criteria to use in selecting instrumental variables at page 26, lines 19-21 of my testimony: a good instrument should be correlated with the "true" regressor (that is, the regressor measured without error), and statistically independent of the measurement error component of the observed regressor, which notably implies that instrumental variables themselves need not be free of measurement error.

USPS-T-12 at page 26, lines 16-23; page 27, lines 6-15. I agree with Professor Roberts that measurement errors in FHP should be independent of measurement errors in the piece handling counts in the manual operations for mail of a different shape, in view of the independence of their respective measurement processes.

USPS-T-12, at page 36, line 17, to page 38, line 2. I describe the Limited Information Maximum Likelihood technique I employed to estimate the IV versions of the manual sorting and Cancellation variabilities, and my reasons for preferring LIML to the Two-Stage Least Squares method used by Professor Roberts. This section also contains references to several standard econometric works discussing IV estimation.

USPS-T-12 at page 37, lines 5-13. I discuss the purpose of "over-identifying restrictions tests," which are designed to evaluate the hypothesis that the identifying instrumental variables – those that are part of the set of instruments but do not otherwise appear in the model being estimated – are properly excluded from the model.

USPS-T-12 at page 50. The recommended results for the cost pools using IC estimation are presented in Table 7, and the results of the over-identifying restrictions tests of the IV regressions are presented in Table 8.

USPS-T-12 at page 57, line 15, to page 58, line 21. I discuss the effects of employing IV estimation to obtain the volume variabilities of the manual sorting and Cancellation cost pools by comparing the IV results with those obtained using non-IV estimation methdos (employing both the log-linear and the translog functional forms). I note that the results are "generally consistent with a measurement error attenuation theory of the low variabilities from non-IV models" in the manual and Cancellation cost pools. By contrast, "there is no clear direction of difference between the IV and translog models" in the automated operation cost pools, implying that there is no material errors-in-variables/simultaneity issue.

USPS-T-12 at pages 61-62. Appendix Tables B-1 and B-2 contain comparisons of IV and non-IV estimates of the variabilities for the automated and manual and Cancellation cost pools, respectively.

The TSP programs varmp_man_by2004.tsp (manual flats, manual letters, and cancellation operations) and varmp_pp_by2004.tsp (manual parcel and Priority operations), supplied in USPS-LR-K-56, contain the specific instrumental variables used in the LIML estimation of the volume variabilities for the manual sorting and Cancellation cost pools, these are reported in the table below.. Note that the variables listed in the right hand column of this table constitute the *excluded* (and therefore the *identifying*) instrumental variables used in each listed LIML regression.

Table 1. Identifying Instrumental Variables Used In LIML Variability Regressions for USPS-T-12

Cost Pool	Identifying Instrumental Variables
Manual Flats	log of flats FHP ("lfflt"), log of destinating flats volume ("ldvol11")
Manual Letters	log of letters FHP ("lflet"), log of destinating letters volume ("ldvol12")
Manual Parcels	logs of flats and letters FHPs, log of destinating parcels volume ("ldvol13")
Manual Priority	Logs of flats and letters FHPs, log of destinating parcels volume ("ldvol14")
Cancellations	log of letters FHP, log of destinating letters volume ("ldvol18")

CERTIFICATE OF SERVICE

I hereby certify that I have this date served the foregoing document in accordance with Section 12 of the Rules of Practice and Procedure.

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