Before The
POSTAL RATE COMMISSION
WASHINGTON, D.C.  20268-0001

Postal Rate and Fee Changes, 2006            )            Docket No. R2006-1

OFFICE OF THE CONSUMER ADVOCATE
INTERROGATORIES TO UNITED STATES POSTAL SERVICE
WITNESS MICHAEL D. BRADLEY (OCA/USPS-T17-16-24)
(July 7, 2006)

Pursuant to Rules 25 through 28 of the Rules of Practice of the Postal

Rate Commission, the Office of the Consumer Advocate hereby submits

interrogatories and requests for production of documents.  Instructions included

with OCA interrogatories OCA/USPS-T32-1-7, dated June 2, 2006, are hereby

incorporated by reference.

Respectfully submitted,

_____
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OCA/USPS-T17-16.   The purpose of this interrogatory is to obtain information concerning the control variable referenced on page 22 of your testimony.

(a)     Is the control variable in the regression the variable "items," as set forth in Library Reference USPS-LR-L-80?  If your answer is affirmative, please explain why you regard the variable as a control variable, also indicating the meaning of the regressor.  If your answer to this part of the question is affirmative, please ignore parts (b), (c), and (d) of this interrogatory.  If your answer is negative, please answer parts (b), (c) and (d) in this interrogatory.

(b)     Please identify the variable by column in the database, explain its meaning, and show the derivation, definition, or computation of the variable.

(c)     Please show how the variable was used in your regression analysis, referencing the variable and associated computations in the regression(s).

(d)     Please provide the t statistic and other relevant data, as appropriate, associated with regressions using the control variable.

OCA/USPS-T17-17.   The purpose of this interrogatory is to delineate specifically all of the observations dropped from the econometric analysis.

1. On page 23 of your testimony, at lines 13 and 14, you identify five observations with very large volumes excluded from the regression analysis;

2.  On page 23, at lines 17 to 19, you identify a Priority Mail transaction dropped from the regression analysis;

3.  On page 24 you identify a stamped envelope transaction at lines 7 to 8 that is dropped from the regression analysis;

4.  On page 24, at lines 10 through 12, you identify two transactions dropped from the analysis

5.  On page 25, lines 11 through 13, you identify ten transactions related to passports that are dropped; and

6.  On page 25, lines 13 to 19, you identify a number of transactions that were dropped in certain alternative analyses.

(a)    Please specifically identify the observations dropped; presumably this could be accomplished by using the identifier BasketID if this identifier is unique to each line of data in your spreadsheet.  If such is not the case, please use an appropriate method that would uniquely identify data items dropped from your database, wscleanpos.11.3.05.xls.

(b)    Please identify any other observations dropped from the analysis but not specifically referenced above as having been dropped, and please provide an explanation of why the items were dropped.

(c)    Please confirm that BKSKTID and BasketID as used in various parts of your testimony and library references are identical.  If you do not confirm, please explain in detail.

OCA/USPS-T17-18.   This interrogatory seeks to develop information on the variables used in your regressions.

(a)      Please confirm that the variable "General Services" in Table 2, page 26, is identical to the variable "Services" referenced in your response to Presiding Officer's Information Request No. 3, question 9.  If your answer is negative, please explain in detail and provide the correct formula for the variable.

(b)      Please turn to page 4 of Library Reference USPS-LR-L-80; please state where and how the variable INQ is used in the regression analysis.

(c)      Please turn to page 4 of Library Reference USPS-LR-L-80; please explain the composition of the transactions included in the variable "other."

(d)      Please turn to page 5 of Library Reference USPS-LR-L-80.  Please state how the variables "regtype," "posture," and "multi," are used in the regression analysis.


OCA/USPS-T17-19.   This interrogatory focuses on statistical issues associated with the regressions.

(a)      Did you examine whether the data are collinear?  Please explain in detail.

(b)      Unlike SAS, EViews does not appear to print out the intercept term for regression equations.  Please explain how the intercept(s) can be obtained when equations are generated using EViews.  Please be specific as to which EViews files need to be accessed.

OCA/USPS-T17-20.   The purpose of this interrogatory is to obtain the columns

LocID, PeriodID and BasketID for the spreadsheet provided in POIR No. 3,

Question 10.  Please turn to your response to Question 10 of POIR No. 3.  You

provided the Excel version of a spreadsheet of the input data (prior to deletion of

any observations) used to produce "First Estimation:  Calculating Residuals for

Analysis".  This spreadsheet appears to have been based on the spreadsheet

wscleanpos.11.3.05, as modified subsequently.  Please provide line-by-line

entries for LocId, Period ID, and BasketID


OCA/USPS-T17-21.   The purpose of this question is to inquire about a possible

typgraphical error   for one of the dummy variables.

(a)      Your answer to POIR No.3, question 9, indicates that for D14 the value

         should be set to 30422. Please confirm that the value should be 30442.

(b)      If you do confirm, does this change any of the regression output?  If your

         answer is affirmative, then please explain in full.


OCA/USPS-T17-22.   The recommended model, presented on page 8 of Library

Reference USPS-LR-L-80, includes 27 dummy variables.  It appears that all of

the dummy variables are used in the regression.  When one uses dummy

variables, the inclusion of the entire set of dummy variables in the regression

equation can result in the output message that the model is not of full rank and

that the least squares solutions are not unique.  Please explain how you are able

to use all of the dummy variables in the model and obtain a model of full rank.

OCA/USPS-T17-23.  The calculation of $b(0)$ is presented in the Excel Spreadsheet "Calculating Variabilities_49292.xls".  Computation of the term $b(0)$ involves the summation across the values of the regressors for the 27 dummy variables.

(a)     In view of full rank issues associated with the over-inclusion of dummy variables, should there be 27 or 26 dummy variables?  Please explain in detail.

(b)     Would the equation from which you obtained the values used for the dummy variables have an intercept term other than the intercepts for the dummy variables?  If so, what are the intercept terms?

(c)     Is it correct that any general intercept term for the equation would not enter the calculation?  Please explain.

OCA/USPS-T17-24.   Your recommended model is on page 7 of Library Reference USPS-LR-L-80.  OCA has rerun the model in SAS based on the information in your testimony and library references.  The attached program, output, and log summarize the work. (See Attachment, OCA/USPS-T17-24)  As recognized in your response in OCA/USPS-T17-1(a), EViews does not provide programs, program logs, or computer inputs.  There is, accordingly, no certainty that the SAS model is an exact representation of the model in the library reference.

(a)     The EViews output appears to have no intercept term.  Is this correct?  If

        an intercept term is in a workfile in the model, please explain where the

        intercept term can be found.  Alternatively, please explain the absence of

        an intercept term in the equation, including an explanation of how you

        avoided having an intercept.

(b)     The SAS model has an intercept.  Has the SAS model incorrectly

        reproduced the EViews model?  Please explain.

(c)     Assuming that the EViews output has no intercept term, how should the

        SAS model have been structured, particularly as regards to an intercept?

(d)     The SAS model does not reproduce the EViews results, although it

        appears to have been run under the same conditions as the EViews

        program.  Please review the Attachment to this interrogatory and identify

        any reasons that the EViews results are not reproduced.  Please explain

        your answer.

# SAS PROGRAM

```
options linesize=80;
options nocenter;
options nodate;
options nonumber;


DATA bdata;
set bwindows.bdata;
run;




data bdata (rename = (Bounded_Printed_Matter  = bpm Box_Rental = Box
certified = cert
Certificate_of_mailing = CM  Delivery_Confirmation = DC  Domestic_cod =
Domcod
Electronic_Return_Receipt = ERR  Express_Mail = EM  First_Class = FC
First_Class_Enclosure = FCENCL  Hold_Mail  = HM
International_Special_Services = IntSS
Insurance = INS Library_mail = LM Mailing_Payments = MP  Media_Mail =
MM   Money_order = MO
PASSPORT = PASS Parcel_Post = PP  priority = PM Ready_post= RP
Registered_with_insurance = REGINS
Retail_Item = RETAIL   Signature_Confirmation = SC  Stamped_Env =
STMPEN
StampScan = STMPSCN StampNonScan = STMPNO));
set bdata;
run;


**************************************************;
*Addressing missing data                   **;
**************************************************;
Data bdata ;
set bdata;
if bpm = "." then bpm = 0;
if bOX= "." then box = 0;
if cm = "." then cm = 0;
if cert = "." then cert = 0;
if dc = "." then dc = 0;
if domcod = "." then domcod = 0;
if em = "." then em = 0;
if err = "." then err = 0;
if fc = "." then fc = 0;
if fcencl = "." then fcencl = 0;
if hm = "." then hm = 0;
if inquiry  = "." then inquiry = 0;
if ins = "." then ins = 0;
if intss = "." then intss = 0;
if international = "." then international = 0;
if lm = "." then lm = 0;
if mm = "." then mm = 0;
```

```sas
if mo = "." then mo = 0;
if mp = "." then mp = 0;
if other = "." then other = 0;
if pp = "." then pp = 0;
if pvi = "." then pvi = 0;
if pass = "." then pass = 0;
if phonecard = "." then phonecard = 0;
if pickup = "." then pickup = 0;
if postage_due = "." then postage_due = 0;
if pm  = "." then pm = 0;
if retail = "." then retail = 0;
if rp = "." then rp = 0;
if regins = "." then regins = 0;
if return_receipt = "." then return_receipt = 0;
if sc = "." then sc = 0;
if stmpscn = "." then stmpscn = 0;
if stmpno = "." then stmpno = 0;
if bpm = "." then bpm = 0;
if stmpen = "." then stmpen = 0;


data bdata;
set bdata;

Int = IntSS+ International;
GenServ = pickup+HM + MP;
OSS = Return_Receipt +sc+cm+dc+postage_due;
OWR = BPM+LM+ MM;
services = pickup+hm+mp;

run;

data bdata; set bdata;
if tendertype = 1 then cash  = 1;
else cash  = 0;
if tendertype = 2 then check = 1;
else check  = 0;
if tendertype = 21  or tendertype = 22
or tendertype = 35 or tendertype ge 102
then credit  = 1;
else credit  = 0;
if tendertype = 3 then debit  = 1;
else debit  = 0;
run;



data bdata; set bdata;
if locid  = 85098 then d1  = 1;
else d1  = 0;

if locid  = 107799 then d10  = 1;
else d10  = 0;

if locid  = 127189 then d11  = 1;
else d11  = 0;
```

```
if locid  = 40832 then d12  = 1;
else d12  = 0;

if locid  = 116806 then d13  = 1;
else d13  = 0;

if locid  = 30442 then d14  = 1;
else d14  = 0;

if locid  = 4079 then d15  = 1;
else d15  = 0;

if locid  = 120905 then d16  = 1;
else d16  = 0;

if locid  = 118483 then d17  = 1;
else d17  = 0;

if locid  = 126721 then d18  = 1;
else d18  = 0;

if locid  = 123775 then d19  = 1;
else d19  = 0;

if locid  = 98456 then d2  = 1;
else d2  = 0;

if locid  = 27500 then d20  = 1;
else d20  = 0;

if locid  = 30283 then d21  = 1;
else d21  = 0;

if locid  = 70364 then d22  = 1;
else d22  = 0;

if locid  = 119685 then d23  = 1;
else d23  = 0;

if locid  = 69225 then d24  = 1;
else d24  = 0;

if locid  = 128644 then d25  = 1;
else d25  = 0;

if locid  = 4881 then d26  = 1;
else d26  = 0;

if locid  = 119973 then d27  = 1;
else d27  = 0;

if locid  = 84745 then d3  = 1;
else d3  = 0;

if locid  = 69759 then d4  = 1;
else d4  = 0;
```

```sas
if locid  = 39717 then d5  = 1;
else d5  = 0;

if locid  = 21799 then d6  = 1;
else d6  = 0;

if locid  = 20171 then d7  = 1;
else d7  = 0;

if locid  = 2303 then d8  = 1;
else d8  = 0;

if locid  = 36211 then d9  = 1;
else d9  = 0;


run;



**************Deleting Some Outliers********;
data bdata;
set bdata;
If stmpno ge 500 then delete;
If pm ge 120 then delete;
if stmpen ge 400 then delete;
If length ge 2500 then delete;
run;




DATA BDATA;
SET BDATA;
If basketid =    5253926578 then delete;
If basketid =    5228548508 then delete;
If basketid =    5204600699 then delete;
*If basketid =    5230299631 then delete;
If basketid =    5204600585 then delete;
If basketid =    5232851729 then delete;
If basketid =    5232851741 then delete;
If basketid =    5204600396 then delete;
If basketid =    5220160205 then delete;
If basketid =    5230299463 then delete;
If basketid =    5224998539 then delete;


RUN;




proc reg;
model length = cert fc stmpscn stmpno pm mo pp owr em pvi ins rp Int
stmpen regins
pass retail box domcod fcencl oss services  check credit debit items
d1 d2 d3 d4 d5 d6 d7 d8 d9  d10 d11 d12 d13 d14  d15 d16 d17 d18
```

```
d19 d20 d21 d22 d23 d24 d25  d26 ;

run;
quit;
```

# Program Log

```
NOTE: This session is executing on the XP_PRO  platform.


NOTE: SAS 9.1.3 Service Pack 1

NOTE: SAS initialization used:
      real time            1.04 seconds
      cpu time             0.87 seconds

1
2    options linesize=80;
3    options nocenter;
4    options nodate;
5    options nonumber;
6
7
8    DATA bdata;
9    set bwindows.bdata;
10   run;

NOTE: There were 7915 observations read from the data set BWINDOWS.BDATA.
NOTE: The data set WORK.BDATA has 7915 observations and 46 variables.
NOTE: DATA statement used (Total process time):
      real time            0.04 seconds
      cpu time             0.04 seconds


11
12
13
14
15   data bdata (rename = (Bounded_Printed_Matter  = bpm Box_Rental = Box
15 ! certified = cert
16   Certificate_of_mailing = CM  Delivery_Confirmation = DC  Domestic_cod =
16 ! Domcod
17   Electronic_Return_Receipt = ERR  Express_Mail = EM  First_Class = FC
18   First_Class_Enclosure = FCENCL  Hold_Mail  = HM
18 ! International_Special_Services = IntSS
19   Insurance = INS Library_mail = LM Mailing_Payments = MP  Media_Mail = MM
19 ! Money_order = MO
20   PASSPORT = PASS Parcel_Post = PP  priority = PM Ready_post= RP
21   Registered_with_insurance = REGINS
22   Retail_Item = RETAIL   Signature_Confirmation = SC  Stamped_Env = STMPEN
23   StampScan = STMPSCN StampNonScan = STMPNO));
24   set bdata;
25   run;

NOTE: There were 7915 observations read from the data set WORK.BDATA.
NOTE: The data set WORK.BDATA has 7915 observations and 46 variables.
NOTE: DATA statement used (Total process time):
      real time            0.03 seconds
      cpu time             0.03 seconds


26
27
28   *************************************************;
29   *Addressing missing data                  **;
30   *************************************************;
```

```
31    Data bdata ;
32    set bdata;
33    if bpm = "." then bpm = 0;
34    if bOX= "." then box = 0;
35    if cm = "." then cm = 0;
36    if cert = "." then cert = 0;
37    if dc = "." then dc = 0;
38    if domcod = "." then domcod = 0;
39    if em = "." then em = 0;
40    if err = "." then err = 0;
41    if fc = "." then fc = 0;
42    if fcencl = "." then fcencl = 0;
43    if hm = "." then hm = 0;
44    if inquiry  = "." then inquiry = 0;
45    if ins = "." then ins = 0;
46    if intss = "." then intss = 0;
47    if international = "." then international = 0;
48    if lm = "." then lm = 0;
49    if mm = "." then mm = 0;
50    if mo = "." then mo = 0;
51    if mp = "." then mp = 0;
52    if other = "." then other = 0;
53    if pp = "." then pp = 0;
54    if pvi = "." then pvi = 0;
55    if pass = "." then pass = 0;
56    if phonecard = "." then phonecard = 0;
57    if pickup = "." then pickup = 0;
58    if postage_due = "." then postage_due = 0;
59    if pm  = "." then pm = 0;
60    if retail = "." then retail = 0;
61    if rp = "." then rp = 0;
62    if regins = "." then regins = 0;
63    if return_receipt = "." then return_receipt = 0;
64    if sc = "." then sc = 0;
65    if stmpscn = "." then stmpscn = 0;
66    if stmpno = "." then stmpno = 0;
67    if bpm = "." then bpm = 0;
68    if stmpen = "." then stmpen = 0;
69
70
```

```
NOTE: Character values have been converted to numeric
      values at the places given by: (Line):(Column).
      33:10   34:9     35:9     36:11    37:9     38:13    39:9     40:10    41:9
      42:13   43:9     44:15    45:10    46:12    47:20    48:9     49:9     50:9
      51:9    52:12    53:9     54:10    55:11    56:16    57:13    58:18    59:10
      60:13   61:9     62:13    63:21    64:9     65:14    66:13    67:10    68:13
NOTE: There were 7915 observations read from the data set WORK.BDATA.
NOTE: The data set WORK.BDATA has 7915 observations and 46 variables.
NOTE: DATA statement used (Total process time):
      real time            0.06 seconds
      cpu time             0.06 seconds
```

```
71    data bdata;
72    set bdata;
73
74    Int = IntSS+ International;
75    GenServ = pickup+HM + MP;
76    OSS = Return_Receipt +sc+cm+dc+postage_due;
77    OWR = BPM+LM+ MM;
78    services = pickup+hm+mp;
79
80    run;
```

```
NOTE: There were 7915 observations read from the data set WORK.BDATA.
NOTE: The data set WORK.BDATA has 7915 observations and 51 variables.
NOTE: DATA statement used (Total process time):
      real time            0.03 seconds
      cpu time             0.03 seconds
```

```
81
82    data bdata; set bdata;
83    if tendertype = 1 then cash  = 1;
84    else cash  = 0;
85    if tendertype = 2 then check = 1;
86    else check  = 0;
87    if tendertype = 21  or tendertype = 22
88    or tendertype = 35 or tendertype ge 102
89    then credit   = 1;
```

```
90    else credit  = 0;
91    if tendertype = 3 then debit  = 1;
92    else debit  = 0;
93    run;

NOTE: There were 7915 observations read from the data set WORK.BDATA.
NOTE: The data set WORK.BDATA has 7915 observations and 55 variables.
NOTE: DATA statement used (Total process time):
      real time              0.03 seconds
      cpu time               0.03 seconds


94
95
96
97    data bdata; set bdata;
98    if locid  = 85098 then d1  = 1;
99    else d1  = 0;
100
101   if locid  = 107799 then d10  = 1;
102   else d10  = 0;
103
104   if locid  = 127189 then d11  = 1;
105   else d11  = 0;
106
107   if locid  = 40832 then d12  = 1;
108   else d12  = 0;
109
110   if locid  = 116806 then d13  = 1;
111   else d13  = 0;
112
113   if locid  = 30442 then d14  = 1;
114   else d14  = 0;
115
116   if locid  = 4079 then d15  = 1;
117   else d15  = 0;
118
119   if locid  = 120905 then d16  = 1;
120   else d16  = 0;
121
122   if locid  = 118483 then d17  = 1;
123   else d17  = 0;
124
125   if locid  = 126721 then d18  = 1;
126   else d18  = 0;
127
128   if locid  = 123775 then d19  = 1;
129   else d19  = 0;
130
131   if locid  = 98456 then d2  = 1;
132   else d2  = 0;
133
134   if locid  = 27500 then d20  = 1;
135   else d20  = 0;
136
137   if locid  = 30283 then d21  = 1;
138   else d21  = 0;
139
140   if locid  = 70364 then d22  = 1;
141   else d22  = 0;
142
143   if locid  = 119685 then d23  = 1;
144   else d23  = 0;
145
146   if locid  = 69225 then d24  = 1;
147   else d24  = 0;
148
149   if locid  = 128644 then d25  = 1;
150   else d25  = 0;
151
152   if locid  = 4881 then d26  = 1;
153   else d26  = 0;
154
155   if locid  = 119973 then d27  = 1;
156   else d27  = 0;
157
158   if locid  = 84745 then d3  = 1;
159   else d3  = 0;
160
161   if locid  = 69759 then d4  = 1;
162   else d4  = 0;
```

```
163
164  if locid   = 39717 then d5  = 1;
165  else d5  = 0;
166
167  if locid   = 21799 then d6  = 1;
168  else d6  = 0;
169
170  if locid   = 20171 then d7  = 1;
171  else d7  = 0;
172
173  if locid   = 2303 then d8  = 1;
174  else d8  = 0;
175
176  if locid   = 36211 then d9  = 1;
177  else d9  = 0;
178
179
180  run;
```

```
NOTE: There were 7915 observations read from the data set WORK.BDATA.
NOTE: The data set WORK.BDATA has 7915 observations and 82 variables.
NOTE: DATA statement used (Total process time):
      real time            0.04 seconds
      cpu time             0.04 seconds
```

```
181
182
183
184  **************Deleting Some Outliers********;
185  data bdata;
186  set bdata;
187  If stmpno ge 500 then delete;
188  If pm ge 120 then delete;
189  if stmpen ge 400 then delete;
190  If length ge 2500 then delete;
191  run;
```

```
NOTE: There were 7915 observations read from the data set WORK.BDATA.
NOTE: The data set WORK.BDATA has 7906 observations and 82 variables.
NOTE: DATA statement used (Total process time):
      real time            0.04 seconds
      cpu time             0.04 seconds
```

```
192
193
194
195
196  DATA BDATA;
197  SET BDATA;
198  If basketid =     5253926578 then delete;
199  If basketid =     5228548508 then delete;
200  If basketid =     5204600699 then delete;
201  *If basketid =     5230299631 then delete;
202  If basketid =     5204600585 then delete;
203  If basketid =     5232851729 then delete;
204  If basketid =     5232851741 then delete;
205  If basketid =     5204600396 then delete;
206  If basketid =     5220160205 then delete;
207  If basketid =     5230299463 then delete;
208  If basketid =     5224998539 then delete;
209
210
211  RUN;
```

```
NOTE: There were 7906 observations read from the data set WORK.BDATA.
NOTE: The data set WORK.BDATA has 7896 observations and 82 variables.
NOTE: DATA statement used (Total process time):
      real time            0.04 seconds
      cpu time             0.04 seconds
```

```
212
213
214
215
216  proc reg;
217  model length = cert fc stmpscn stmpno pm mo pp owr em pvi ins rp Int stmpen
217!   regins
218  pass retail box domcod fcencl oss services  check credit debit items
```

```
219  d1 d2 d3 d4 d5 d6 d7 d8 d9  d10 d11 d12 d13 d14  d15 d16 d17 d18
220  d19 d20 d21 d22 d23 d24 d25  d26 ;
221
222  run;

223  quit;

NOTE: PROCEDURE REG used (Total process time):
      real time              0.06 seconds
      cpu time               0.06 seconds
```

# Program Output

```
The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: length length

Number of Observations Read        7896
Number of Observations Used        7896
```

### Analysis of Variance

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|---|---|---|---|---|---|
| Model | 52 | 59882446 | 1151585 | 151.65 | <.0001 |
| Error | 7843 | 59555735 | 7593.48912 | | |
| Corrected Total | 7895 | 119438181 | | | |

| | | | |
|---|---|---|---|
| Root MSE | 87.14063 | R-Square | 0.5014 |
| Dependent Mean | 120.12386 | Adj R-Sq | 0.4981 |
| Coeff Var | 72.54231 | | |

### Parameter Estimates

| Variable | Label | DF | Parameter Estimate | Standard Error | t Value |
|---|---|---|---|---|---|
| Intercept | Intercept | 1 | 51.65526 | 5.34465 | 9.66 |
| cert | Certified | 1 | 8.69351 | 3.03932 | 2.86 |
| FC | First_Class | 1 | 16.10242 | 0.89199 | 18.05 |
| STMPSCN | StampScan | 1 | 3.77803 | 0.69445 | 5.44 |
| STMPNO | StampNonScan | 1 | 0.60566 | 0.09526 | 6.36 |
| PM | Priority | 1 | 28.58527 | 1.35249 | 21.14 |
| MO | Money_Order | 1 | 36.83947 | 1.69888 | 21.68 |
| PP | Parcel_Post | 1 | 42.40892 | 3.30393 | 12.84 |
| OWR | | 1 | 26.85482 | 2.50144 | 10.74 |

### Parameter Estimates

| Variable | Label | DF | Pr > |t| |
|---|---|---|---|
| Intercept | Intercept | 1 | <.0001 |
| cert | Certified | 1 | 0.0042 |
| FC | First_Class | 1 | <.0001 |
| STMPSCN | StampScan | 1 | <.0001 |
| STMPNO | StampNonScan | 1 | <.0001 |
| PM | Priority | 1 | <.0001 |
| MO | Money_Order | 1 | <.0001 |
| PP | Parcel_Post | 1 | <.0001 |
| OWR | | 1 | <.0001 |

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: length length

                        Parameter Estimates

                                     Parameter      Standard
Variable    Label               DF    Estimate         Error    t Value

EM          Express_Mail         1    79.05960       4.19299      18.86
PVI         PVI                  1    34.61411       6.14336       5.63
INS         Insurance            1    35.47438       3.37186      10.52
RP          Ready_Post           1    11.56199       3.04379       3.80
Int                              1    67.19711       2.64474      25.41
STMPEN      Stamped_Env          1     1.08450       1.27115       0.85
REGINS      Registered_with_Insurance  1  188.65403  15.35605     12.29
PASS        Passport             1   524.90624      11.28631      46.51
RETAIL      Retail_Item          1    52.30052       9.19169       5.69
Box         Box_Rental           1   119.18208       7.78181      15.32
Domcod      Domestic_COD         1   168.59154      29.23781       5.77
FCENCL      First_Class_Enclosure  1   56.85115      87.32429       0.65
OSS                              1     8.43248       1.72890       4.88
services                         1    41.16860       3.62702      11.35
check                            1    27.04368       4.53231       5.97
credit                           1    27.53754       3.43257       8.02
debit                            1     9.25119       4.44461       2.08
Items       Items                1    12.76367       1.33812       9.54
d1                               1   -31.22791       9.60835      -3.25
d2                               1   -30.69453       7.89271      -3.89
d3                               1   -16.45980       7.41908      -2.22
d4                               1   -20.40004       7.34201      -2.78
d5                               1   -18.83304       6.47142      -2.91
d6                               1   -17.32566       6.69446      -2.59
d7                               1   -16.97214       6.12743      -2.77
d8                               1   -20.65433       7.59813      -2.72
d9                               1    -9.47245       7.68343      -1.23
d10                              1    -6.71419      11.77593      -0.57
d11                              1   -18.39773       6.92188      -2.66
d12                              1   -10.88667       6.41427      -1.70
d13                              1    -1.18271       8.26126      -0.14
d14                              1    60.23339       8.16663       7.38
d15                              1    44.23389       6.94604       6.37
d16                              1    36.15548       7.25461       4.98
d17                              1    22.73888       6.73630       3.38
d18                              1   -35.23594       7.70955      -4.57
d19                              1     6.46746       7.12765       0.91
d20                              1     2.03762       8.81876       0.23
d21                              1     0.11143       7.04298       0.02
d22                              1    22.24434      10.05902       2.21
d23                              1     0.02410       7.13075       0.00
d24                              1     7.60560       6.38774       1.19
d25                              1     8.03580       6.69672       1.20
d26                              1    -3.24387       6.83742      -0.47

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: length length

Parameter Estimates

| Variable | Label | DF | Pr > \|t\| |
|----------|-------|----|----------|
| EM | Express_Mail | 1 | <.0001 |
| PVI | PVI | 1 | <.0001 |
| INS | Insurance | 1 | <.0001 |
| RP | Ready_Post | 1 | 0.0001 |
| Int | | 1 | <.0001 |
| STMPEN | Stamped_Env | 1 | 0.3936 |
| REGINS | Registered_with_Insurance | 1 | <.0001 |
| PASS | Passport | 1 | <.0001 |
| RETAIL | Retail_Item | 1 | <.0001 |
| Box | Box_Rental | 1 | <.0001 |
| Domcod | Domestic_COD | 1 | <.0001 |
| FCENCL | First_Class_Enclosure | 1 | 0.5150 |
| OSS | | 1 | <.0001 |
| services | | 1 | <.0001 |
| check | | 1 | <.0001 |
| credit | | 1 | <.0001 |
| debit | | 1 | 0.0374 |
| Items | Items | 1 | <.0001 |
| d1 | | 1 | 0.0012 |
| d2 | | 1 | 0.0001 |
| d3 | | 1 | 0.0265 |
| d4 | | 1 | 0.0055 |
| d5 | | 1 | 0.0036 |
| d6 | | 1 | 0.0097 |
| d7 | | 1 | 0.0056 |
| d8 | | 1 | 0.0066 |
| d9 | | 1 | 0.2177 |
| d10 | | 1 | 0.5686 |
| d11 | | 1 | 0.0079 |
| d12 | | 1 | 0.0897 |
| d13 | | 1 | 0.8862 |
| d14 | | 1 | <.0001 |
| d15 | | 1 | <.0001 |
| d16 | | 1 | <.0001 |
| d17 | | 1 | 0.0007 |
| d18 | | 1 | <.0001 |
| d19 | | 1 | 0.3642 |
| d20 | | 1 | 0.8173 |
| d21 | | 1 | 0.9874 |
| d22 | | 1 | 0.0270 |
| d23 | | 1 | 0.9973 |
| d24 | | 1 | 0.2338 |
| d25 | | 1 | 0.2302 |
| d26 | | 1 | 0.6352 |