

## **JMP Pro 11 output for Prediction of observed LTDadult (age over 50) estimates ...to establish their Heterogeneity**

**I.E. Show that LTDadult effect-sizes behave like predictable fixed (rather than random) effects.**

Each unique analysis platform within JMP software that fits statistical models appears to have its own "best" way to estimate goodness-of-fit-statistics such as R-squared and adjusted R-squared.

In ordinary linear regression theory with a single X-confounder (OLS), the **square of the Pearson-product-moment correlation** between the values of the Y-variable and their least square predictions is the value of **"adjusted R-squared."**

To make consistent, objective comparisons on goodness-of-fit of alternative statistical methodologies for predicting local treatment differences (LTDs) in adult mortality, the Obenchain and Young paper on LC Strategy (2015) exclusively uses this "simple linear regression" definition of **"adjusted R-squared."**

The JMP output documented here consists of four types:

1. Results from the JMP "Multivariate" platform are presented first to document the correlations and adjusted R-squared values reported in Obenchain and Young (2015).
2. Results from the JMP "Partition" platform (for the single best tree) are presented second. The R-squared value reported here agrees with the OLS definition.
3. Results from the JMP Pro "Bootstrap Forest" platform (model averaging over 100 trees) are presented third. The R-squared value reported here not only disagrees with the OLS definition but also would be likely to **change** if the calculations were redone. Bootstrapping is not deterministic; results depend upon the initial random number generation seed value.
4. Results from the JMP "Fit Model" platform (Multi-Variable Regression of degree at most Two) using 4 REIS confounders are presented next. Alternative models that include TSP as a potential predictor are presented last. The R-squared values reported here also disagree with the single-X OLS definition.

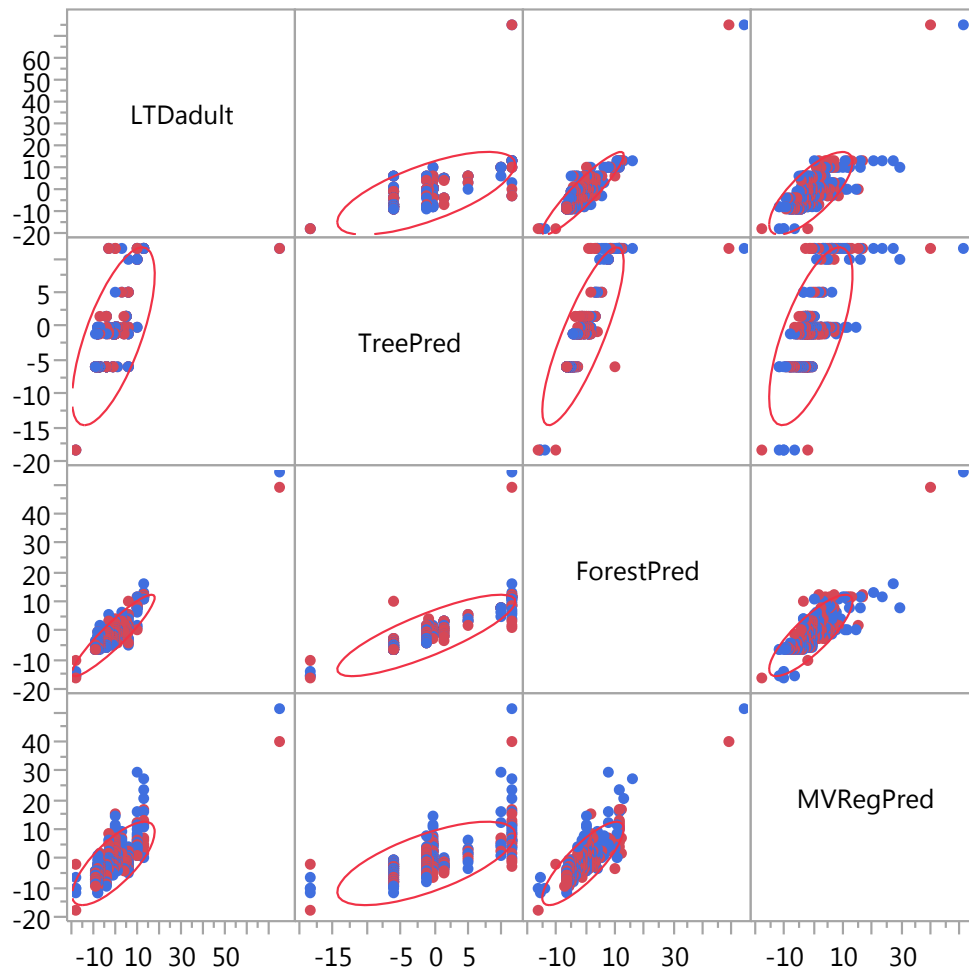
## LTDadult Prediction Correlations

|            | LTDadult | TreePred | ForestPred | MVRegPred |
|------------|----------|----------|------------|-----------|
| LTDadult   | 1.0000   | 0.6993   | 0.9234     | 0.7562    |
| TreePred   | 0.6993   | 1.0000   | 0.8341     | 0.6861    |
| ForestPred | 0.9234   | 0.8341   | 1.0000     | 0.8289    |
| MVRegPred  | 0.7562   | 0.6861   | 0.8289     | 1.0000    |

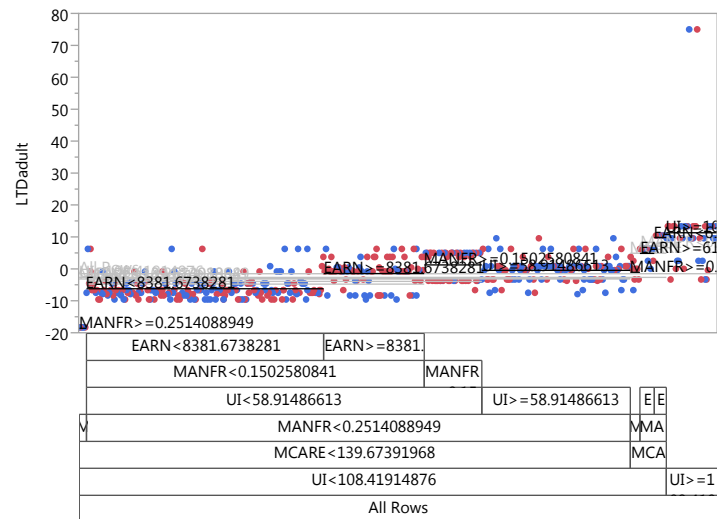
**Adj R-squared**

|        |        |        |
|--------|--------|--------|
| 0.4890 | 0.8527 | 0.5718 |
|--------|--------|--------|

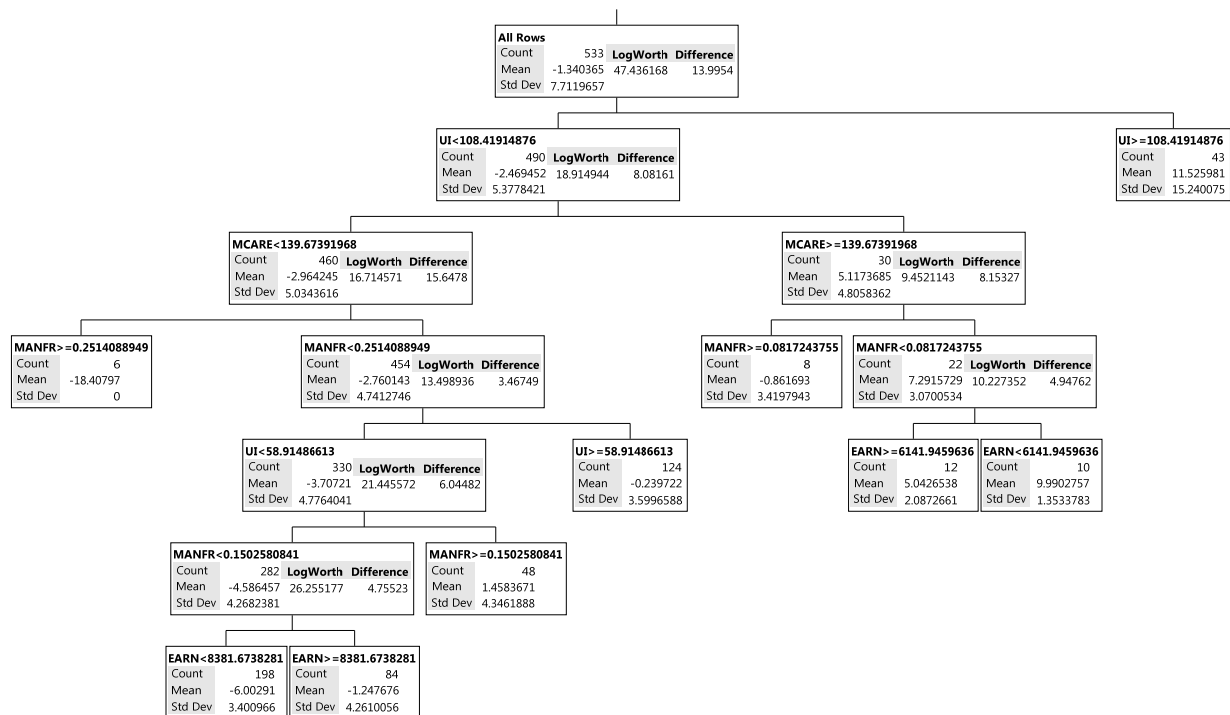
## Scatterplot Matrix



Partition Tree for LTDadult



| RSquare | RMSE      | N   | Number of Splits | AICc    |
|---------|-----------|-----|------------------|---------|
| 0.489   | 5.5076856 | 533 | 8                | 3351.76 |



## Bootstrap Forest Prediction for LTDadult

### Specifications

Target Column: LTDadult

|                                    |     |
|------------------------------------|-----|
| Number of trees in the forest:     | 100 |
| Number of terms sampled per split: | 3   |
| Training rows:                     | 533 |
| Validation rows:                   | 0   |
| Test rows:                         | 0   |
| Number of terms:                   | 4   |
| Bootstrap samples:                 | 533 |
| Minimum Splits Per Tree:           | 7   |
| Minimum Size Split:                | 2   |

### Overall Statistics

| Individual Trees | RMSE     |
|------------------|----------|
| In Bag           | 2.949899 |
| Out of Bag       | 6.238462 |

| RSquare | RMSE      | N   |
|---------|-----------|-----|
| 0.818   | 3.2836583 | 533 |

### Per-Tree Summaries

| Tree | Splits | Rank | OOB Loss  | OOB Loss/N | RSquare | IB SSE    | IB SSE/N  | OOB N | OOB SSE   |
|------|--------|------|-----------|------------|---------|-----------|-----------|-------|-----------|
| 1    | 29     | 45   | 10028.29  | 51.692215  | 0.5494  | 7803.0012 | 14.639777 | 194   | 8896.4254 |
| 2    | 29     | 79   | 15664.863 | 76.413967  | 0.6459  | 6609.7142 | 12.400965 | 205   | 12263.868 |
| 3    | 29     | 74   | 13565.785 | 71.398868  | 0.7549  | 4794.5319 | 8.9953694 | 190   | 9397.6408 |
| 4    | 29     | 35   | 10051.628 | 49.032331  | 0.8152  | 4516.3269 | 8.4734088 | 205   | 4301.5122 |
| 5    | 29     | 98   | 25459.159 | 126.66248  | 0.8783  | 2881.7373 | 5.4066366 | 201   | 18653.208 |
| 6    | 29     | 22   | 9322.0818 | 47.081221  | 0.7011  | 5704.8639 | 10.703309 | 198   | 7460.0091 |
| 7    | 29     | 29   | 9433.056  | 48.374646  | 0.6007  | 7165.9343 | 13.44453  | 195   | 8241.0948 |
| 8    | 29     | 82   | 14493.588 | 77.093553  | 0.6951  | 3874.2045 | 7.2686764 | 188   | 13965.034 |
| 9    | 29     | 23   | 9331.5488 | 47.129034  | 0.8336  | 4047.2281 | 7.5932985 | 198   | 3317.0385 |
| 10   | 29     | 28   | 9787.9735 | 48.216618  | 0.8544  | 3389.2868 | 6.3588871 | 203   | 5732.1041 |
| 11   | 29     | 97   | 22003.108 | 117.03781  | 0.8476  | 3788.3794 | 7.1076537 | 188   | 14479.74  |
| 12   | 29     | 32   | 9573.5996 | 48.596952  | 0.6063  | 7303.0388 | 13.701761 | 197   | 9133.4174 |
| 13   | 29     | 33   | 10028.374 | 48.681429  | 0.8588  | 3257.5965 | 6.1118133 | 206   | 3640.3854 |
| 14   | 29     | 86   | 15041.367 | 78.75061   | 0.8588  | 3478.4775 | 6.5262242 | 191   | 9071.7691 |
| 15   | 29     | 60   | 11302.426 | 55.952604  | 0.7225  | 5027.5016 | 9.4324609 | 202   | 7848.2564 |
| 16   | 29     | 18   | 8671.4937 | 45.16403   | 0.8308  | 4188.2255 | 7.857834  | 192   | 2860.9274 |

| Tree | Splits | Rank | OOB Loss  | OOB Loss/N | RSquare | IB SSE    | IB SSE/N  | OOB N | OOB SSE   |
|------|--------|------|-----------|------------|---------|-----------|-----------|-------|-----------|
| 17   | 29     | 100  | 28336.288 | 142.39341  | 0.8699  | 3085.9727 | 5.7898174 | 199   | 20557.291 |
| 18   | 29     | 17   | 8657.2654 | 45.089924  | 0.5808  | 7731.3839 | 14.505411 | 192   | 8234.5663 |
| 19   | 29     | 59   | 10107.667 | 55.53663   | 0.8485  | 3876.8416 | 7.273624  | 182   | 3938.8001 |
| 20   | 29     | 53   | 10293.16  | 52.785436  | 0.8703  | 3268.1015 | 6.1315225 | 195   | 3954.6346 |
| 21   | 29     | 71   | 14600.085 | 69.856867  | 0.8798  | 2854.9553 | 5.3563889 | 209   | 7931.7358 |
| 22   | 29     | 20   | 8886.0232 | 46.281371  | 0.8323  | 4065.0124 | 7.6266649 | 192   | 2857.0712 |
| 23   | 29     | 69   | 12679.751 | 66.386131  | 0.7133  | 5544.6604 | 10.40274  | 191   | 8994.3211 |
| 24   | 29     | 76   | 14052.824 | 73.191791  | 0.7296  | 3582.6903 | 6.7217454 | 192   | 13932.348 |
| 25   | 29     | 61   | 10976.215 | 56.871582  | 0.5747  | 7681.7743 | 14.412334 | 193   | 10275.483 |
| 26   | 29     | 4    | 5986.665  | 29.933325  | 0.6688  | 6106.8756 | 11.457553 | 200   | 3997.7007 |
| 27   | 29     | 46   | 10295.344 | 51.735399  | 0.8401  | 3829.9525 | 7.185652  | 199   | 4099.7139 |
| 28   | 29     | 31   | 9273.8241 | 48.554053  | 0.8664  | 3251.0492 | 6.0995295 | 191   | 2713.5738 |
| 29   | 29     | 67   | 12198.037 | 61.296669  | 0.8074  | 4591.3235 | 8.6141154 | 199   | 6067.7669 |
| 30   | 29     | 90   | 15374.14  | 81.344657  | 0.8906  | 2646.1531 | 4.96464   | 189   | 8173.3276 |
| 31   | 29     | 12   | 8400.6634 | 42.860528  | 0.8559  | 3535.6452 | 6.6334806 | 196   | 2190.2753 |
| 32   | 29     | 91   | 15269.617 | 81.655709  | 0.7230  | 3636.2483 | 6.8222294 | 187   | 13150.171 |
| 33   | 29     | 88   | 15763.299 | 80.016746  | 0.8705  | 3089.6258 | 5.7966714 | 197   | 8004.9235 |
| 34   | 29     | 85   | 14994.905 | 78.098462  | 0.6687  | 6280.8103 | 11.783884 | 192   | 11801.683 |
| 35   | 29     | 62   | 11324.893 | 56.909012  | 0.8337  | 4062.1488 | 7.6212923 | 199   | 4705.2532 |
| 36   | 29     | 15   | 9107.0611 | 44.209034  | 0.5615  | 7727.7868 | 14.498662 | 206   | 6817.8721 |
| 37   | 29     | 92   | 15513.751 | 82.961234  | 0.8368  | 3929.594  | 7.3725966 | 187   | 9348.5882 |
| 38   | 29     | 25   | 9168.2439 | 47.503855  | 0.8537  | 3570.3646 | 6.6986203 | 193   | 3231.9654 |
| 39   | 29     | 11   | 8074.9604 | 41.410053  | 0.8524  | 3570.058  | 6.698045  | 195   | 4028.4362 |
| 40   | 29     | 64   | 11684.636 | 58.423181  | 0.7098  | 3791.6764 | 7.1138394 | 200   | 13131.852 |
| 41   | 29     | 55   | 10061.513 | 53.518688  | 0.7782  | 5466.8205 | 10.256699 | 188   | 4274.1877 |
| 42   | 29     | 66   | 11313.873 | 60.827272  | 0.8651  | 3167.0516 | 5.9419354 | 186   | 4826.5268 |
| 43   | 29     | 52   | 10222.799 | 52.694839  | 0.8080  | 4698.0164 | 8.8142896 | 194   | 4064.0877 |
| 44   | 29     | 80   | 15095.461 | 76.626705  | 0.7764  | 2808.136  | 5.2685479 | 197   | 14398.453 |
| 45   | 29     | 26   | 9415.2061 | 47.551546  | 0.8227  | 4274.8767 | 8.0204066 | 198   | 3456.1336 |
| 46   | 29     | 65   | 12598.88  | 60.571538  | 0.8794  | 2789.3767 | 5.2333522 | 208   | 6228.242  |
| 47   | 29     | 63   | 10813.459 | 57.518398  | 0.8932  | 2726.281  | 5.1149737 | 188   | 4832.1418 |
| 48   | 29     | 3    | 5569.1428 | 29.781512  | 0.6549  | 6437.0352 | 12.076989 | 187   | 4615.9454 |
| 49   | 29     | 8    | 6857.4409 | 36.282756  | 0.6227  | 6698.2521 | 12.567077 | 189   | 5713.8008 |
| 50   | 29     | 89   | 15620.719 | 80.51917   | 0.8188  | 4229.6594 | 7.9355712 | 194   | 9387.4151 |
| 51   | 29     | 73   | 13087.904 | 71.129912  | 0.6722  | 3767.077  | 7.0676866 | 184   | 13001.39  |
| 52   | 29     | 13   | 9265.8073 | 42.897256  | 0.8424  | 3776.2846 | 7.0849617 | 216   | 2898.8096 |
| 53   | 29     | 81   | 15505.042 | 76.757635  | 0.7253  | 5006.9894 | 9.3939764 | 202   | 12383.712 |
| 54   | 29     | 51   | 10373.781 | 52.392831  | 0.6494  | 6265.1665 | 11.754534 | 198   | 8583.3463 |
| 55   | 29     | 2    | 5952.2899 | 29.466782  | 0.6911  | 5605.702  | 10.517264 | 202   | 4134.8845 |
| 56   | 29     | 72   | 13957.287 | 70.849173  | 0.7434  | 3432.2523 | 6.4394978 | 197   | 12962.921 |
| 57   | 29     | 96   | 19104.088 | 104.39392  | 0.8505  | 3771.7744 | 7.0764999 | 183   | 13148.464 |
| 58   | 29     | 68   | 12212.997 | 66.0162    | 0.6915  | 7704.7239 | 14.455392 | 185   | 9024.5346 |
| 59   | 29     | 19   | 8471.7705 | 45.547153  | 0.8145  | 4418.6097 | 8.2900745 | 186   | 4236.8742 |
| 60   | 29     | 93   | 16397.674 | 83.236924  | 0.8757  | 3081.3758 | 5.7811928 | 197   | 8503.0561 |
| 61   | 29     | 24   | 9691.1183 | 47.273748  | 0.6444  | 5880.1458 | 11.032168 | 205   | 6351.718  |
| 62   | 29     | 44   | 10436.585 | 51.66626   | 0.7393  | 6077.6141 | 11.402653 | 202   | 4692.4462 |
| 63   | 29     | 39   | 9454.2712 | 50.5576    | 0.8830  | 2953.962  | 5.5421426 | 187   | 3086.7296 |
| 64   | 29     | 10   | 7282.1503 | 38.327107  | 0.8774  | 2964.1672 | 5.5612893 | 190   | 3402.9425 |
| 65   | 29     | 40   | 10271.143 | 50.596764  | 0.8722  | 3010.764  | 5.648713  | 203   | 5555.1946 |
| 66   | 29     | 37   | 9497.7372 | 49.726373  | 0.8663  | 3290.8313 | 6.1741676 | 191   | 3515.3876 |
| 67   | 29     | 21   | 9536.0327 | 46.975531  | 0.6815  | 5567.2076 | 10.445042 | 203   | 7097.9278 |
| 68   | 29     | 9    | 7038.499  | 36.658849  | 0.6927  | 5672.7787 | 10.643112 | 192   | 4625.5251 |
| 69   | 29     | 49   | 9916.1833 | 52.190438  | 0.7870  | 5201.4107 | 9.7587442 | 190   | 3543.7013 |

| Tree | Splits | Rank | OOB Loss  | OOB Loss/N | RSquare | IB SSE    | IB SSE/N  | OOB N | OOB SSE   |
|------|--------|------|-----------|------------|---------|-----------|-----------|-------|-----------|
| 70   | 29     | 41   | 9429.4351 | 50.695888  | 0.8660  | 3156.9814 | 5.923042  | 186   | 3464.8983 |
| 71   | 29     | 47   | 10226.551 | 51.911426  | 0.6106  | 7040.8457 | 13.209842 | 197   | 9222.3665 |
| 72   | 29     | 16   | 9379.0264 | 44.662031  | 0.8254  | 4069.9121 | 7.6358575 | 210   | 3895.4481 |
| 73   | 29     | 94   | 16760.746 | 84.650234  | 0.6280  | 4683.5624 | 8.7871714 | 198   | 15978.502 |
| 74   | 29     | 14   | 8398.1833 | 43.513903  | 0.7133  | 5367.5072 | 10.07037  | 193   | 5895.5987 |
| 75   | 29     | 36   | 10005.139 | 49.530391  | 0.8186  | 4570.7416 | 8.5755001 | 202   | 3670.3111 |
| 76   | 29     | 58   | 10394.682 | 53.858456  | 0.8604  | 3261.4779 | 6.1190955 | 193   | 4731.2272 |
| 77   | 29     | 77   | 14719.544 | 73.597718  | 0.8904  | 2638.5587 | 4.9503915 | 200   | 8366.7085 |
| 78   | 29     | 30   | 9248.866  | 48.423382  | 0.8429  | 4040.1466 | 7.5800124 | 191   | 2923.1297 |
| 79   | 29     | 50   | 10029.312 | 52.235999  | 0.8630  | 3331.973  | 6.2513564 | 192   | 3749.6262 |
| 80   | 29     | 75   | 13493.973 | 72.160282  | 0.7292  | 5198.9456 | 9.7541194 | 187   | 11167.563 |
| 81   | 29     | 57   | 10007.635 | 53.804489  | 0.8678  | 3268.031  | 6.1313903 | 186   | 4650.4554 |
| 82   | 29     | 42   | 9449.8466 | 51.080252  | 0.6214  | 7471.0008 | 14.016887 | 185   | 7882.1282 |
| 83   | 29     | 6    | 5797.6815 | 30.514113  | 0.7004  | 5578.1718 | 10.465613 | 190   | 3811.1019 |
| 84   | 29     | 5    | 5898.6925 | 30.09537   | 0.6340  | 6927.5905 | 12.997356 | 196   | 4543.5151 |
| 85   | 29     | 84   | 15303.564 | 78.079409  | 0.7386  | 3109.2157 | 5.8334254 | 196   | 14516.524 |
| 86   | 29     | 87   | 14836.89  | 78.91963   | 0.8647  | 3287.2062 | 6.1673661 | 188   | 8792.4864 |
| 87   | 29     | 7    | 6041.4348 | 31.797025  | 0.7080  | 5684.9085 | 10.66587  | 190   | 5183.6014 |
| 88   | 29     | 95   | 16846.983 | 87.290067  | 0.7116  | 5106.1537 | 9.5800257 | 193   | 14160.581 |
| 89   | 29     | 70   | 13482.768 | 69.142399  | 0.7054  | 5583.5348 | 10.475675 | 195   | 12070.984 |
| 90   | 29     | 78   | 14795.272 | 74.3481    | 0.8472  | 3590.1673 | 6.7357735 | 199   | 9103.2514 |
| 91   | 29     | 83   | 14947.523 | 77.448306  | 0.7442  | 3272.1782 | 6.139171  | 193   | 14143.362 |
| 92   | 29     | 54   | 10120.345 | 52.986102  | 0.6013  | 7658.5823 | 14.368822 | 191   | 9851.2767 |
| 93   | 29     | 56   | 10663.408 | 53.584963  | 0.7139  | 5304.2867 | 9.9517573 | 199   | 8913.4371 |
| 94   | 29     | 48   | 10130.187 | 51.949677  | 0.8250  | 4313.5603 | 8.0929837 | 195   | 3818.5053 |
| 95   | 29     | 34   | 9554.376  | 48.746816  | 0.5977  | 7897.0001 | 14.816135 | 196   | 8692.5114 |
| 96   | 29     | 99   | 26732.46  | 131.68699  | 0.8648  | 3205.1843 | 6.013479  | 203   | 20428.411 |
| 97   | 29     | 43   | 10569.333 | 51.307442  | 0.5980  | 7615.7859 | 14.288529 | 206   | 9148.0676 |
| 98   | 29     | 27   | 9269.1646 | 47.779199  | 0.8500  | 3727.0995 | 6.992682  | 194   | 3254.1053 |
| 99   | 29     | 1    | 5527.6766 | 28.789982  | 0.6997  | 5301.6549 | 9.9468197 | 192   | 4390.9236 |
| 100  | 29     | 38   | 9907.599  | 50.038379  | 0.8115  | 4664.5599 | 8.7515196 | 198   | 4010.6443 |

## MVReg: Response LTDadult Summary of Fit

|                            |          |
|----------------------------|----------|
| RSquare                    | 0.571828 |
| RSquare Adj                | 0.561947 |
| Root Mean Square Error     | 5.104209 |
| Mean of Response           | -1.34036 |
| Observations (or Sum Wgts) | 533      |

## Analysis of Variance

| Source   | DF  | Sum of Squares | Mean Square | F Ratio            |
|----------|-----|----------------|-------------|--------------------|
| Model    | 12  | 18092.853      | 1507.74     | 57.8720            |
| Error    | 520 | 13547.536      | 26.05       | <b>Prob &gt; F</b> |
| C. Total | 532 | 31640.389      |             | <.0001*            |

## Parameter Estimates

| Term  | Estimate  | Std Error | t Ratio | Prob> t |
|---|-----------|-----------|---------|---------|
| Intercept                                   | -9.753637 | 1.338877  | -7.28   | <.0001* |
| Mean(EARN)                                  | 0.0005261 | 0.000151  | 3.47    | 0.0006* |
| Mean(MANFR)                                 | 19.173274 | 5.073141  | 3.78    | 0.0002* |
| Mean(MCARE)                                 | -0.030773 | 0.008549  | -3.60   | 0.0003* |
| Mean(UI)                                    | 0.0686827 | 0.00967   | 7.10    | <.0001* |
| (Mean(EARN)-7811.9)*(Mean(MANFR)-0.08772)   | -0.011193 | 0.00258   | -4.34   | <.0001* |
| (Mean(EARN)-7811.9)*(Mean(MCARE)-90.2131)   | -1.567e-5 | 3.856e-6  | -4.06   | <.0001* |
| (Mean(MANFR)-0.08772)*(Mean(UI)-51.5508)    | -0.856164 | 0.141217  | -6.06   | <.0001* |
| (Mean(MCARE)-90.2131)*(Mean(UI)-51.5508)    | -0.002067 | 0.000235  | -8.81   | <.0001* |
| (Mean(EARN)-7811.9)*(Mean(EARN)-7811.9)     | 2.0103e-7 | 5.344e-8  | 3.76    | 0.0002* |
| (Mean(MANFR)-0.08772)*(Mean(MANFR)-0.08772) | -262.898  | 49.69027  | -5.29   | <.0001* |
| (Mean(MCARE)-90.2131)*(Mean(MCARE)-90.2131) | 0.0015042 | 0.00015   | 10.01   | <.0001* |
| (Mean(UI)-51.5508)*(Mean(UI)-51.5508)       | 0.001341  | 0.000163  | 8.23    | <.0001* |

## MVReg including TSP: Response LTDadult

### Summary of Fit

|                            |          |
|----------------------------|----------|
| RSquare                    | 0.576633 |
| RSquare Adj                | 0.565191 |
| Root Mean Square Error     | 5.085273 |
| Mean of Response           | -1.34036 |
| Observations (or Sum Wgts) | 533      |

### Analysis of Variance

| Source   | DF  | Sum of Squares | Mean Square | F Ratio            |
|----------|-----|----------------|-------------|--------------------|
| Model    | 14  | 18244.908      | 1303.21     | 50.3947            |
| Error    | 518 | 13395.481      | 25.86       | <b>Prob &gt; F</b> |
| C. Total | 532 | 31640.389      |             | <.0001*            |

### Parameter Estimates

| Term  | Estimate  | Std Error | t Ratio | Prob> t |
|---|-----------|-----------|---------|---------|
| Intercept                                   | -10.67685 | 1.40451   | -7.60   | <.0001* |
| Mean(EARN)                                  | 0.0004984 | 0.000152  | 3.27    | 0.0011* |
| Mean(MANFR)                                 | 17.656035 | 5.099642  | 3.46    | 0.0006* |
| Mean(MCARE)                                 | -0.033115 | 0.008577  | -3.86   | 0.0001* |
| Mean(UI)                                    | 0.0707558 | 0.009677  | 7.31    | <.0001* |
| (Mean(EARN)-7811.9)*(Mean(MANFR)-0.08772)   | -0.012223 | 0.002613  | -4.68   | <.0001* |
| (Mean(EARN)-7811.9)*(Mean(MCARE)-90.2131)   | -1.567e-5 | 3.851e-6  | -4.07   | <.0001* |
| (Mean(MANFR)-0.08772)*(Mean(UI)-51.5508)    | -0.81648  | 0.142377  | -5.73   | <.0001* |
| (Mean(MCARE)-90.2131)*(Mean(UI)-51.5508)    | -0.002034 | 0.000234  | -8.68   | <.0001* |
| (Mean(EARN)-7811.9)*(Mean(EARN)-7811.9)     | 2.012e-7  | 5.338e-8  | 3.77    | 0.0002* |
| (Mean(MANFR)-0.08772)*(Mean(MANFR)-0.08772) | -253.8073 | 49.648    | -5.11   | <.0001* |
| (Mean(MCARE)-90.2131)*(Mean(MCARE)-90.2131) | 0.0015255 | 0.00015   | 10.16   | <.0001* |
| (Mean(UI)-51.5508)*(Mean(UI)-51.5508)       | 0.0013191 | 0.000163  | 8.10    | <.0001* |
| Mean(MTSPGM)                                | 0.0197287 | 0.009746  | 2.02    | 0.0434* |
| (Mean(MTSPGM)-65.4098)*(Mean(EARN)-7811.9)  | 1.1728e-5 | 6.382e-6  | 1.84    | 0.0667  |

**Note: TSP interaction with EARN is not significant. TSP main effect is also not significant at 5% level when TSP interaction with EARN is removed from the MVReg model for predicting LTDadult.**

**In any case, the four REIS X-confounders have p-values more than an order of magnitude smaller than those of TSP effects; largest REIS p-value above is for main effect of EARN at 0.0011.**