































## 5 Conclusions

The research team produced a comprehensive, jointly vetted dataset of schedule events and technical parameters for 58 missiles and 53 radars. The research team used JMP® and CO\$TAT to identify potential schedule estimating relationships (SERs) within the dataset. Bivariate linear and multivariate regressions were evaluated for the full dataset and for stratifications of the dataset using OLS and MUPE methods. The team also evaluated other linear models such as power and logarithmic transformations in addition to the nonlinear model.

During the regression process, the team ran and evaluated hundreds of different regression models. A regression was considered a statistically significant SER if (a) the regression had statistically significant coefficients, (b) the  $R^2$  was greater than 0.60, and (c) there were a reasonable number of observations relative to the dataset. Although no SERs were acceptable, the resultant comprehensive missile and radar datasets developed in this study and the descriptive statistics are useful in evaluating future missile and radar program schedules. Also, the bivariate scatter plots, programmatic information, genealogies and technical information are useful in selecting analogies for estimating future missile and radar program schedules.

### Bottom Lines:

- Bivariate plots exhibit too much “scatter” [see Figure 4 and Figure 5] to accept any derived SER.
- The collaboratively-collected data is incredibly useful as a foundation for analogy-based estimating.