

INVESTOR GROWTH EXPECTATIONS APPENDIX

Residual Analysis

- Linearity of the regression function
- Variance of the error terms

The following pages display the scatter plots of the residuals against the predicted P/E ratio scores, and residuals against each growth rate. These graphs show that the regression function is appropriate for the data being analyzed.

Figure 1.1 – 1.12 Utility and non-utility companies combined
Figure 2.1 – 2.12 Utility companies
Figure 3.1 – 3.12 Non-utility companies

In all figures, the residuals are generally centered around zero displaying no systematic tendencies to be positive or negative. No pattern is indicated in any of the plots, confirming the linearity and homoscedasticity of the relationship. Nonconstant error variance can also be observed from these plots. The cloud of dots (+) display a homoscedastic model indicating that the variance of residual error is constant for all values of the independent variables.

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Figure 1.1 Residual Plot: Historical Growth 2001

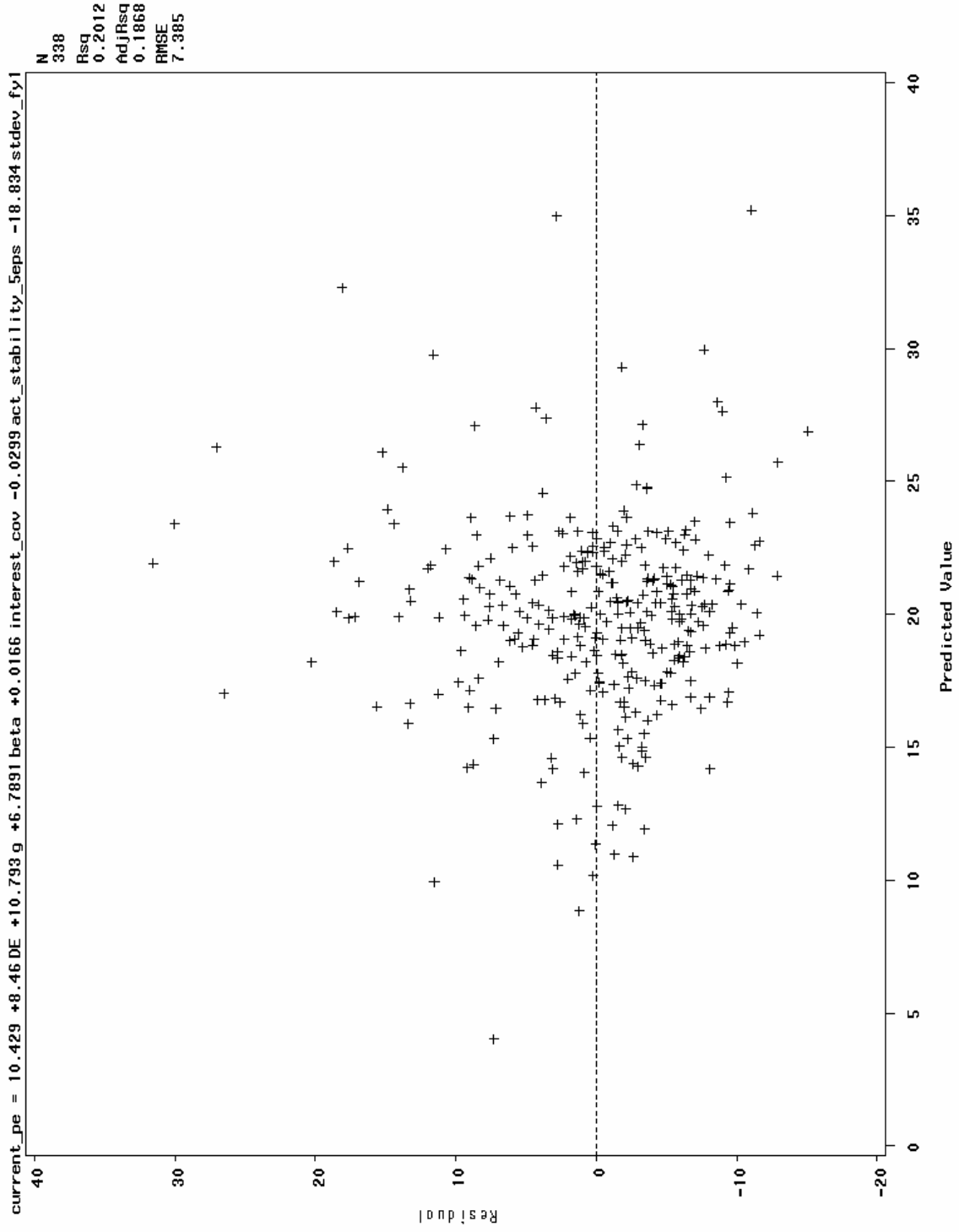


Figure 1.2 Residual Plot: Historical Growth 2002

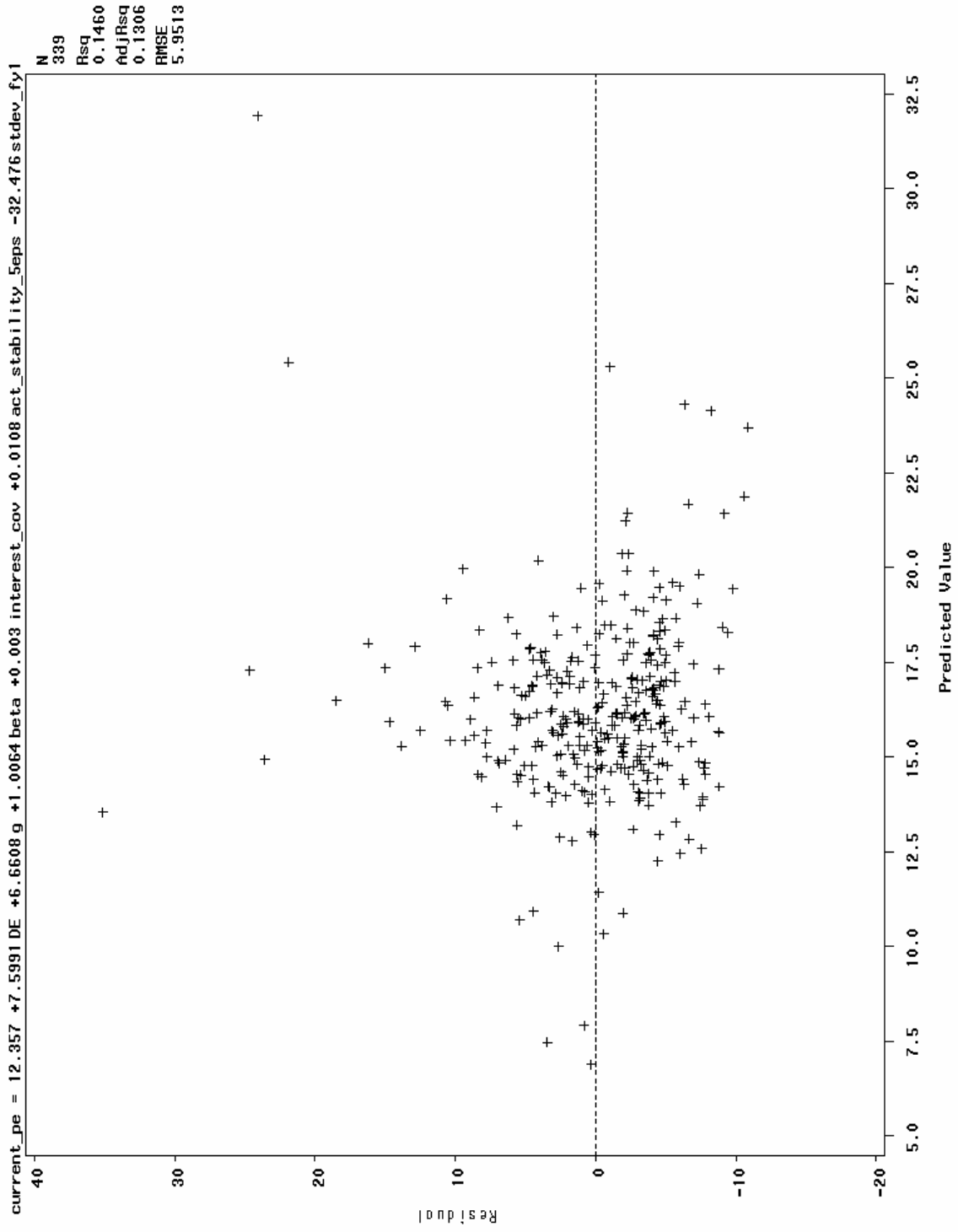


Figure 1.3 Residual Plot: Historical Growth 2003

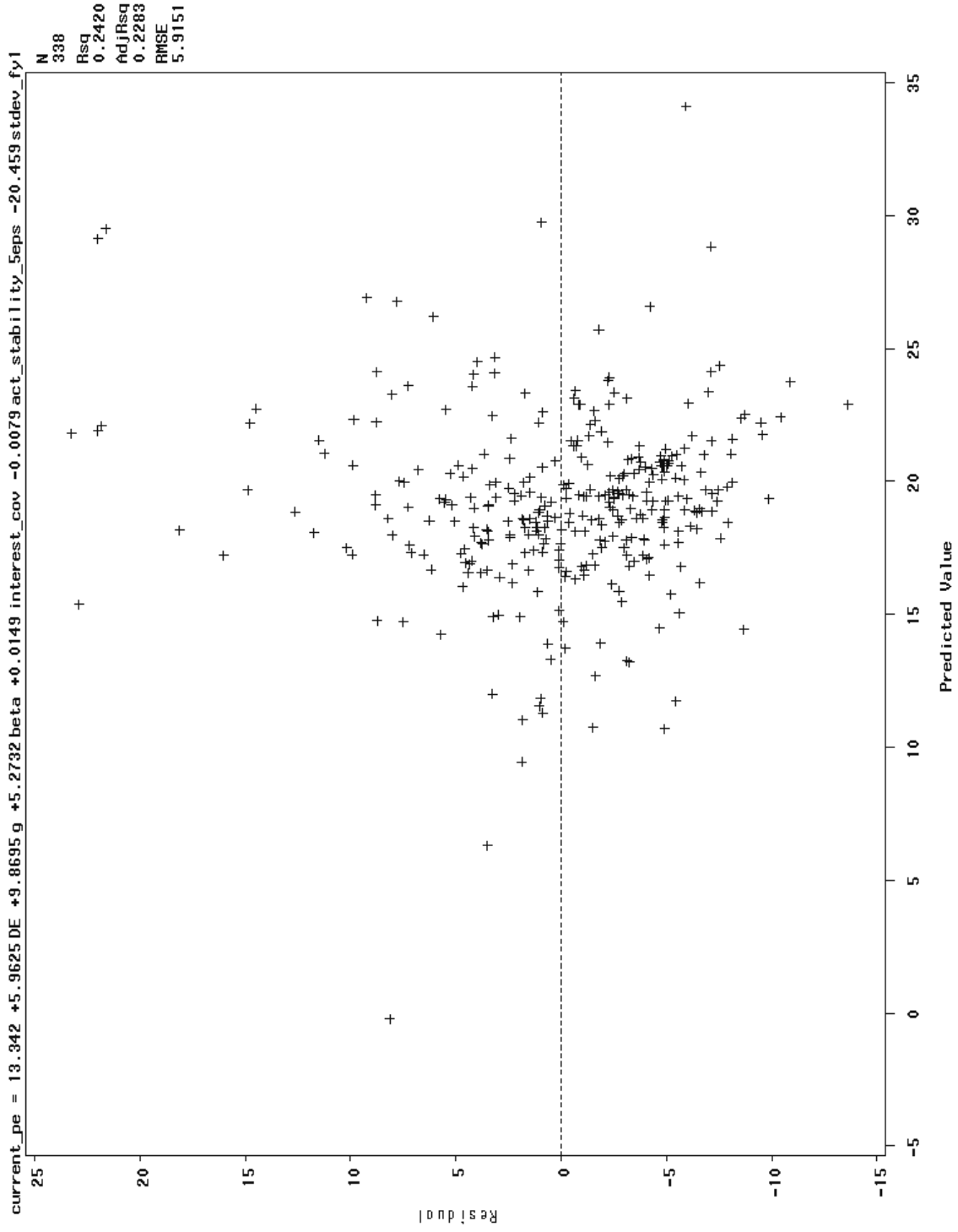


Figure 1.4 Residual Plot: Analysts' Forecast 2001

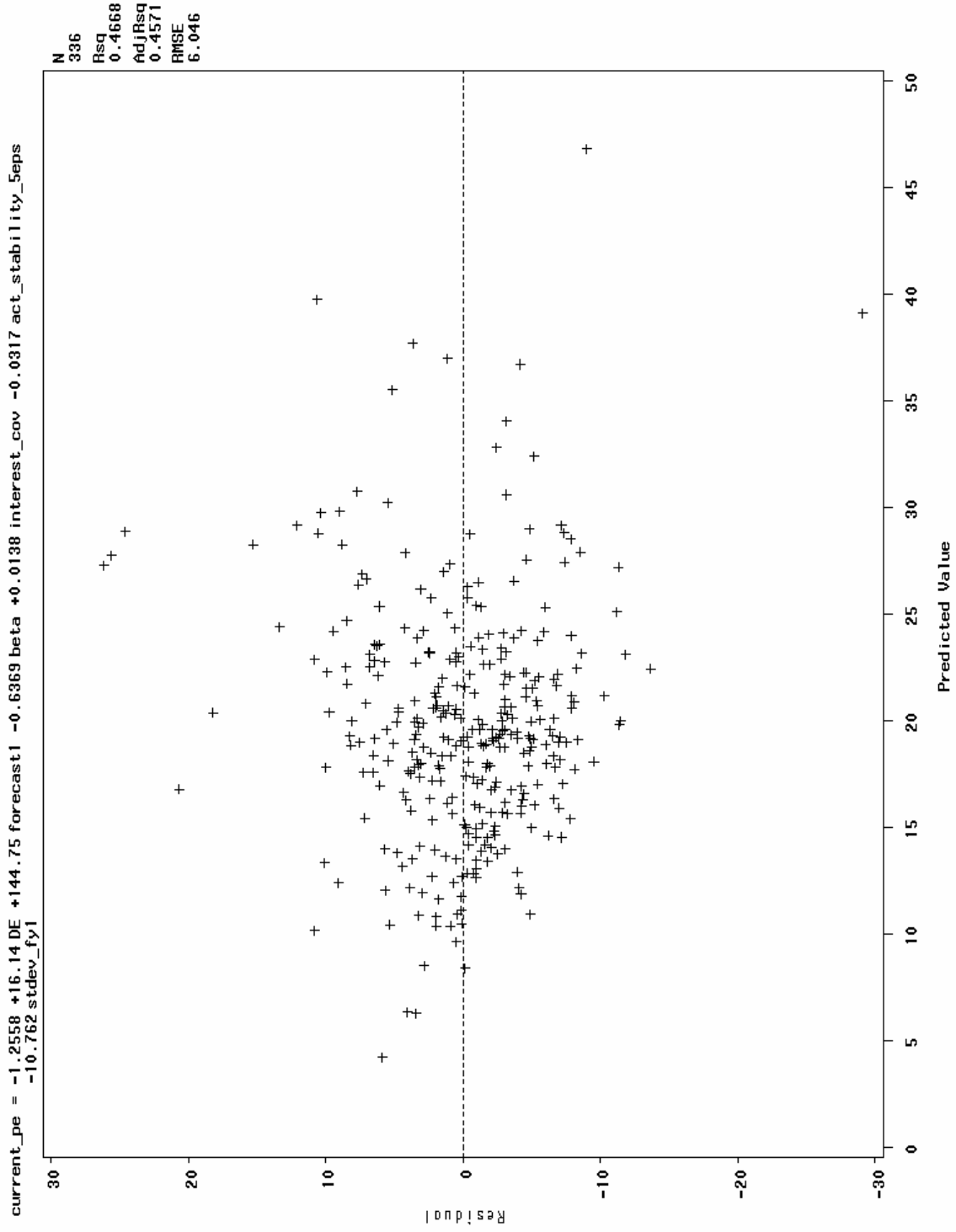


Figure 1.5 Residual Plot: Analysts' Forecast 2002

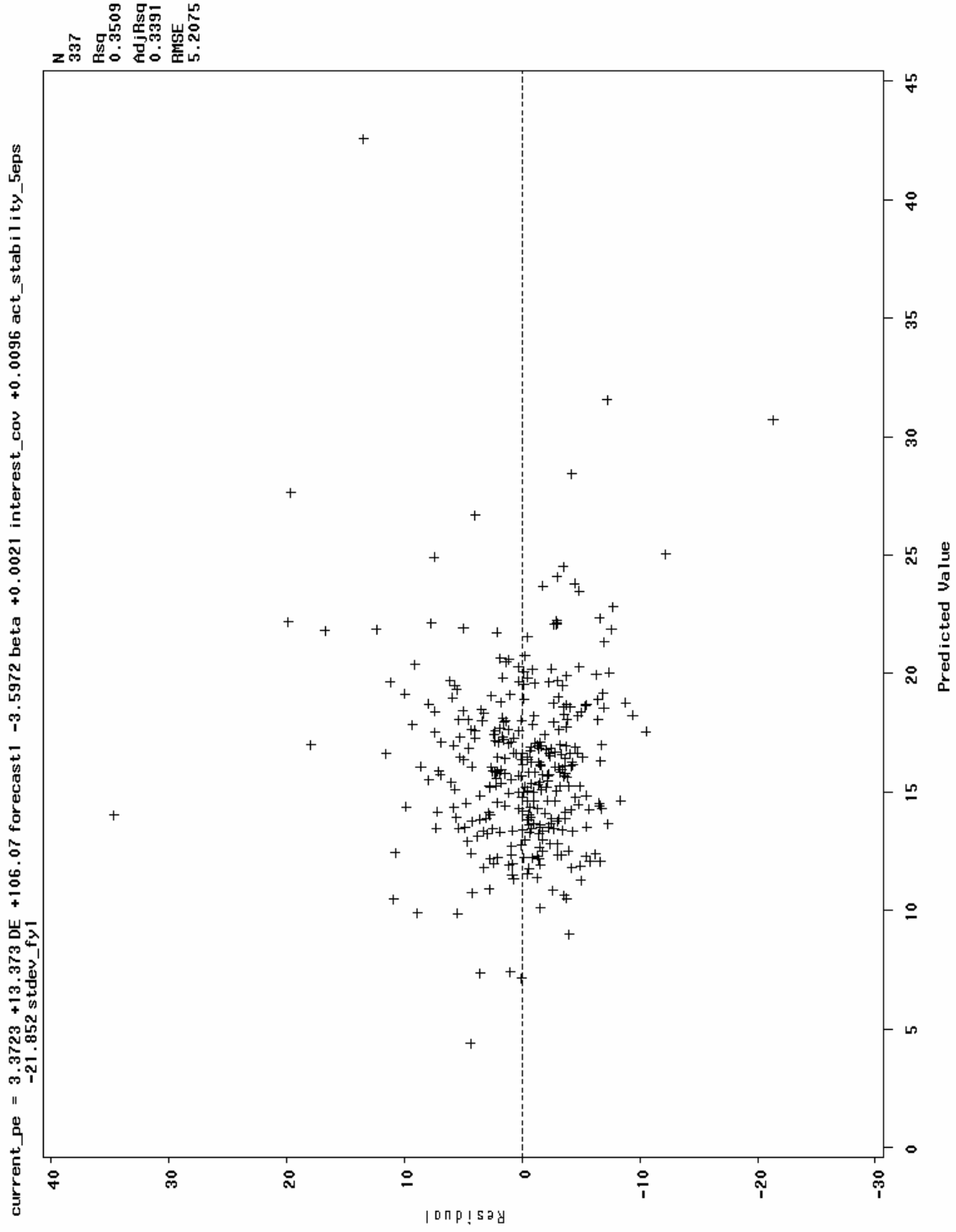


Figure 1.6 Residual Plot: Analysts' Forecast 2003

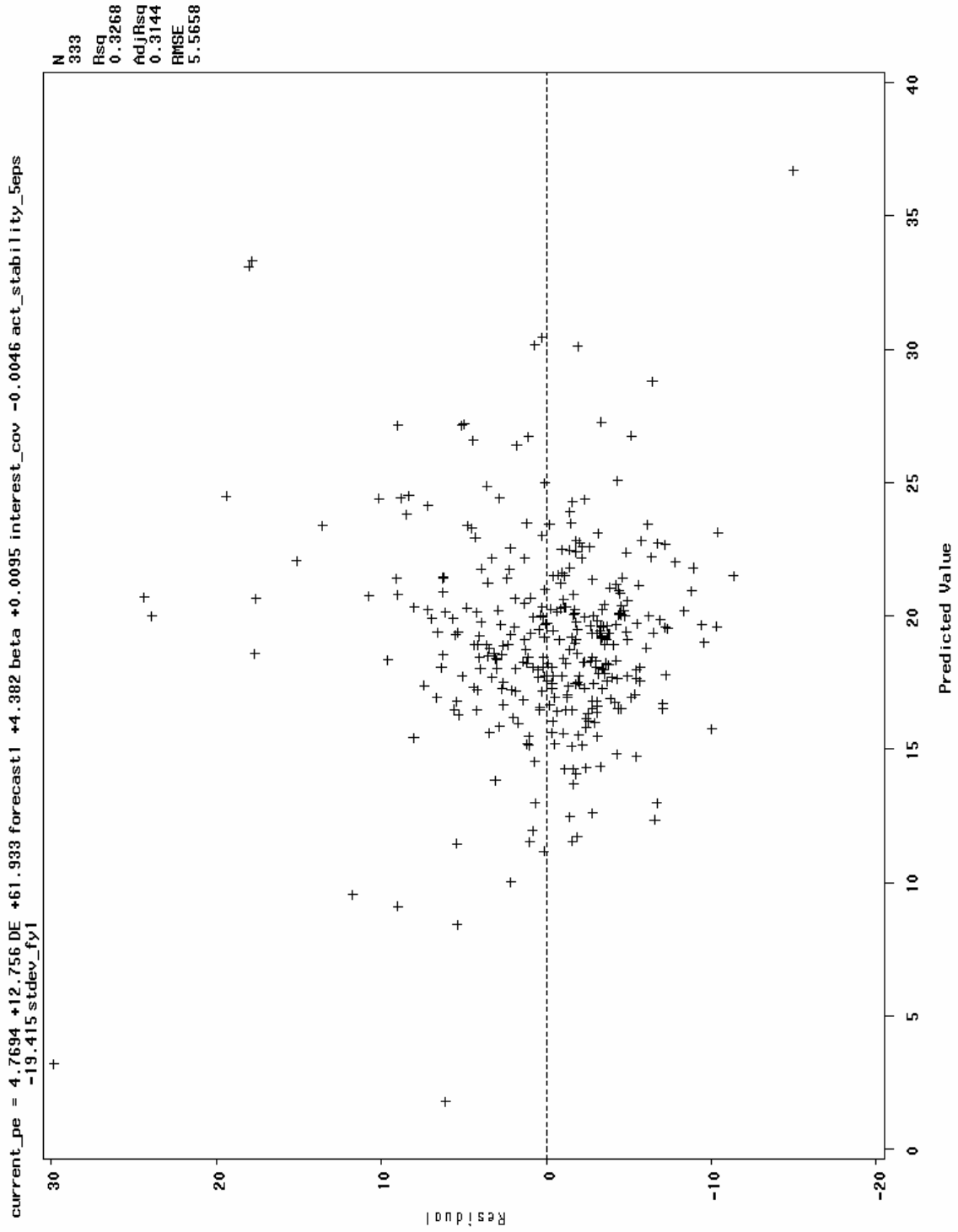


Figure 1.7 Residual Plot: Residual vs. Historical Growth (3yr Plowback Ratio) Plot 2001

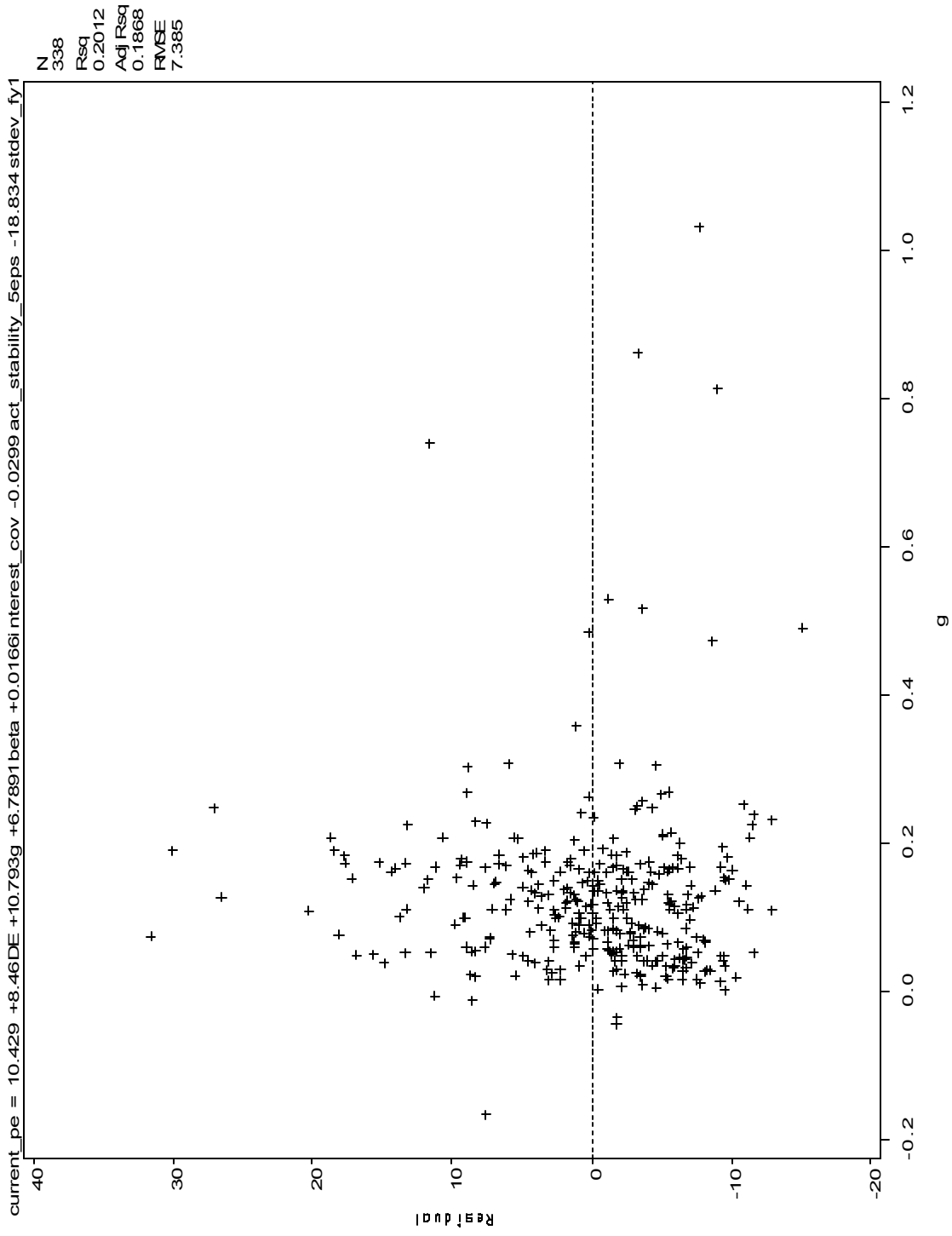


Figure 1.8 Residual Plot: Residual vs. Historical Growth (3yr Plowback Ratio) Plot 2002

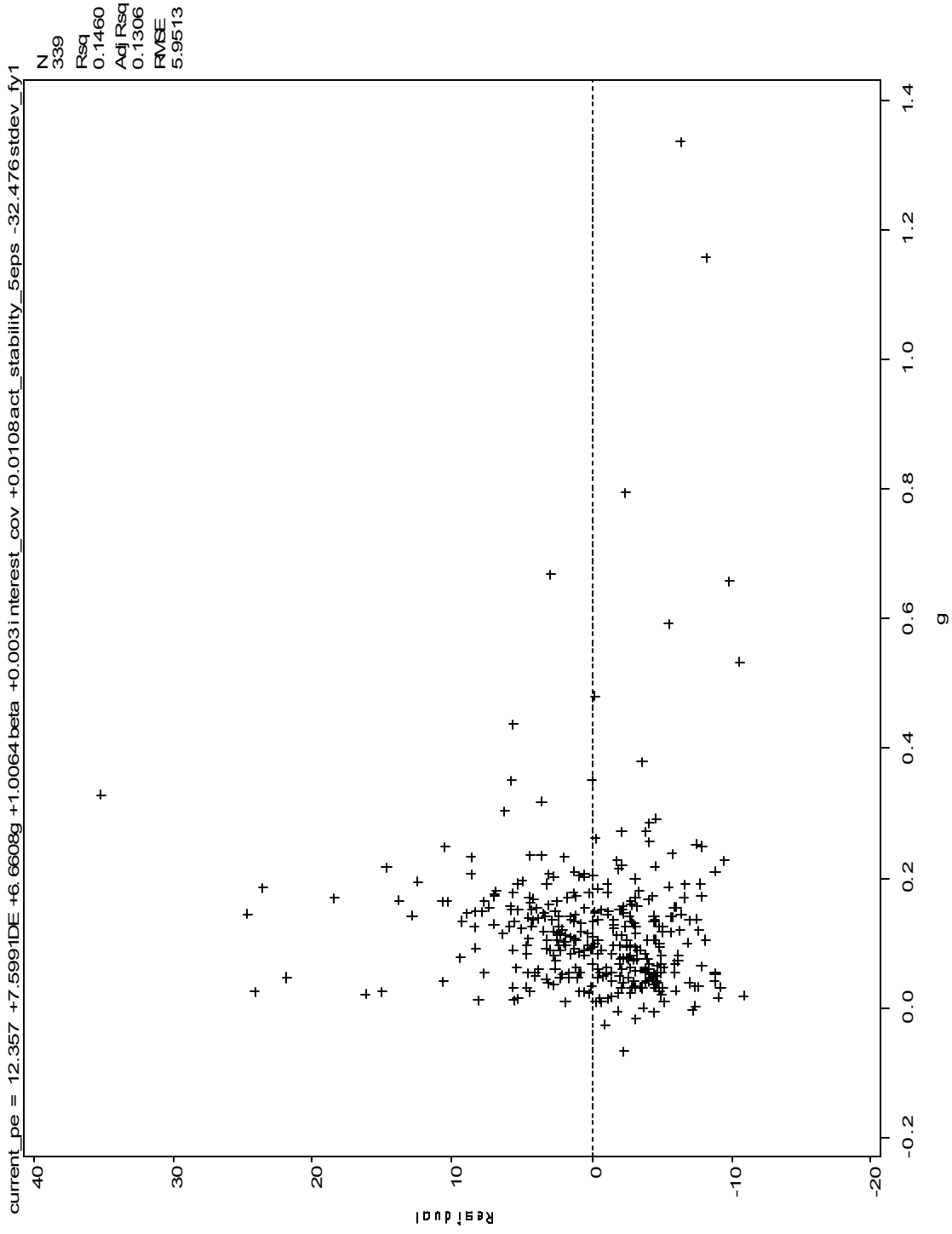


Figure 1.9 Residual Plot: Residual vs. Historical Growth (5yr EPS) Plot 2003

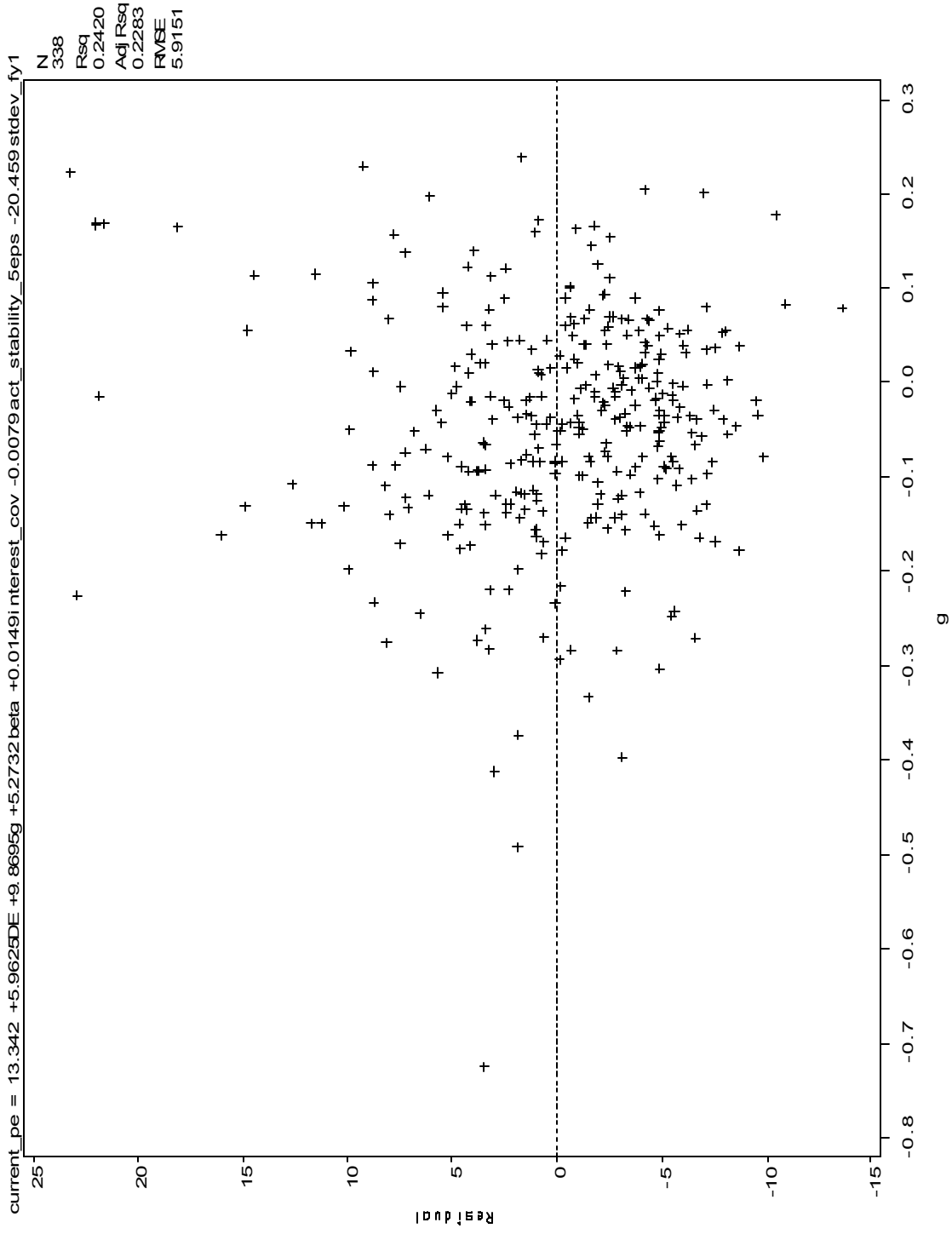


Figure 1.10 Residual Plot: Residual vs. Analysts' Forecast 2001

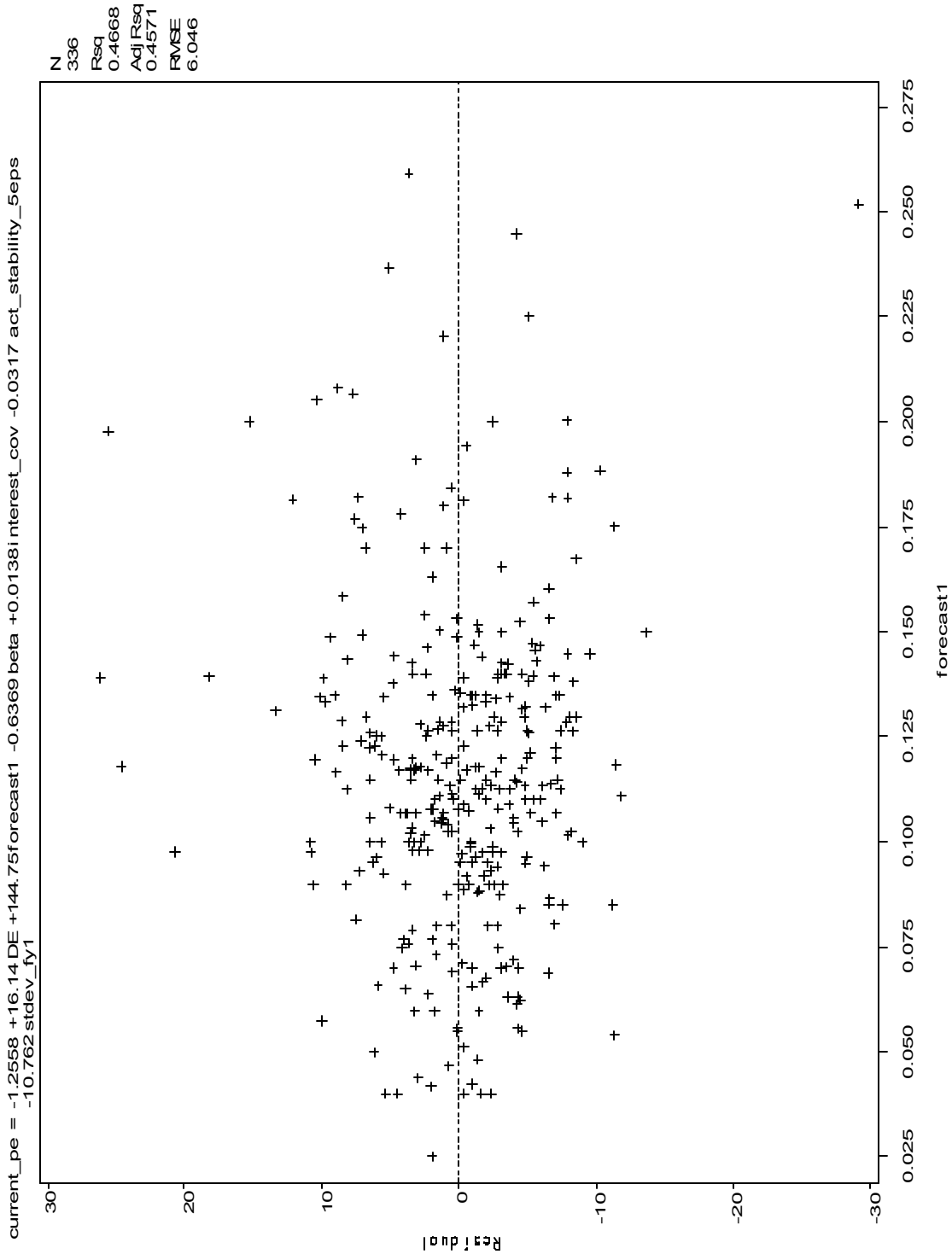


Figure 1.11 Residual Plot: Residual vs. Analysts' Forecast 2002

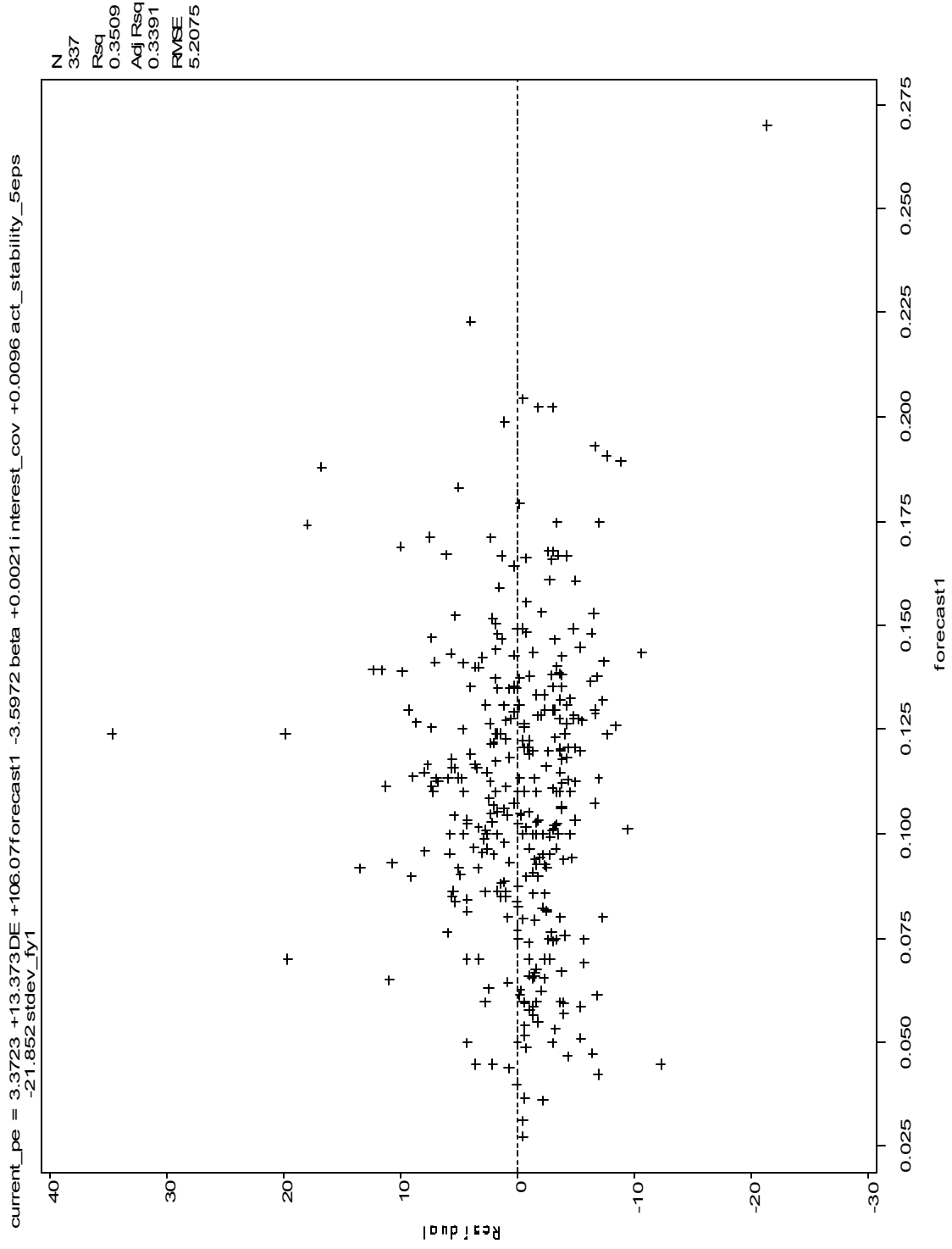


Figure 1.12 Residual Plot: Residual vs. Analysts' Forecast 2003

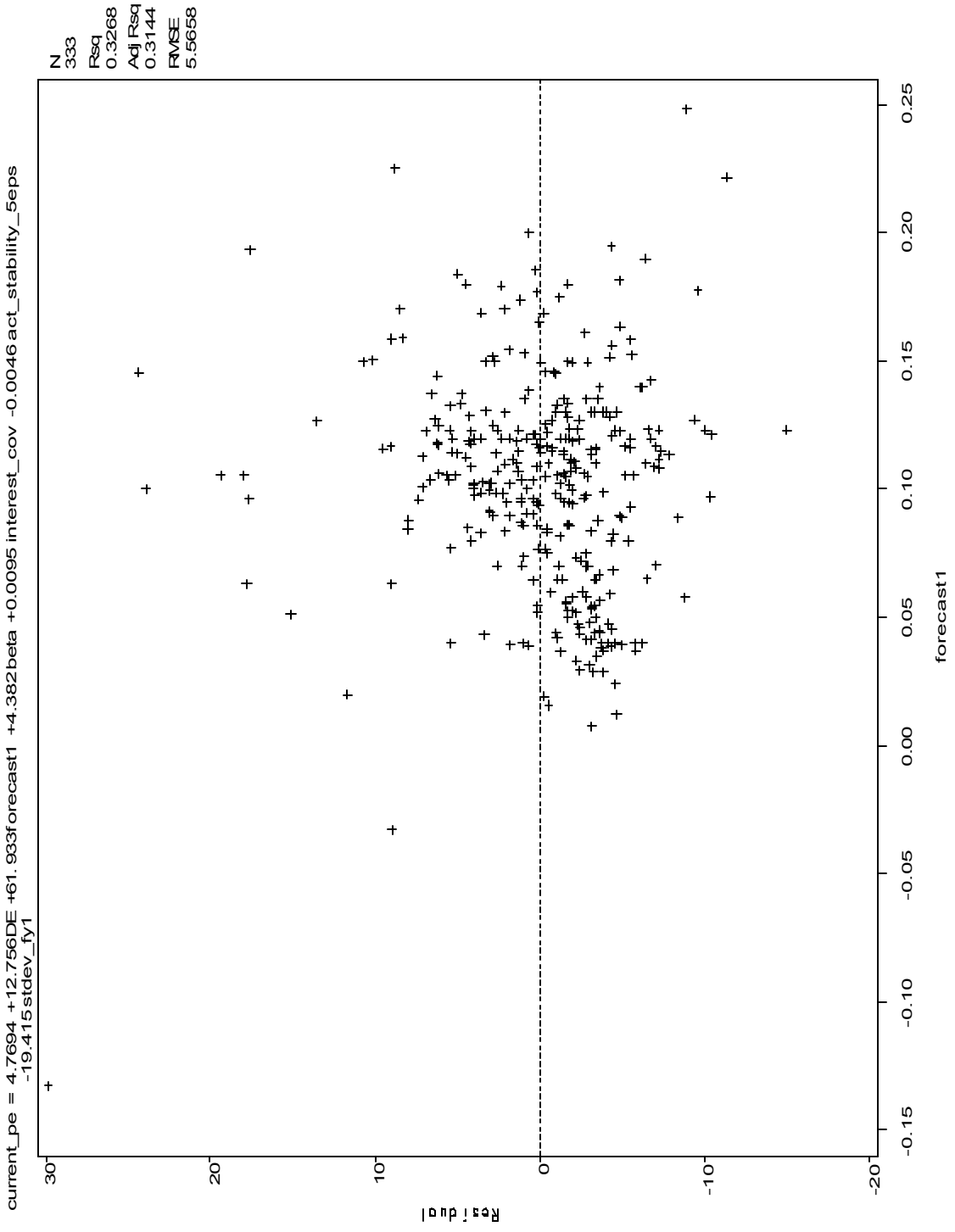


Figure 2.1 Residual Plot: Utility Companies – Historical Growth 2001

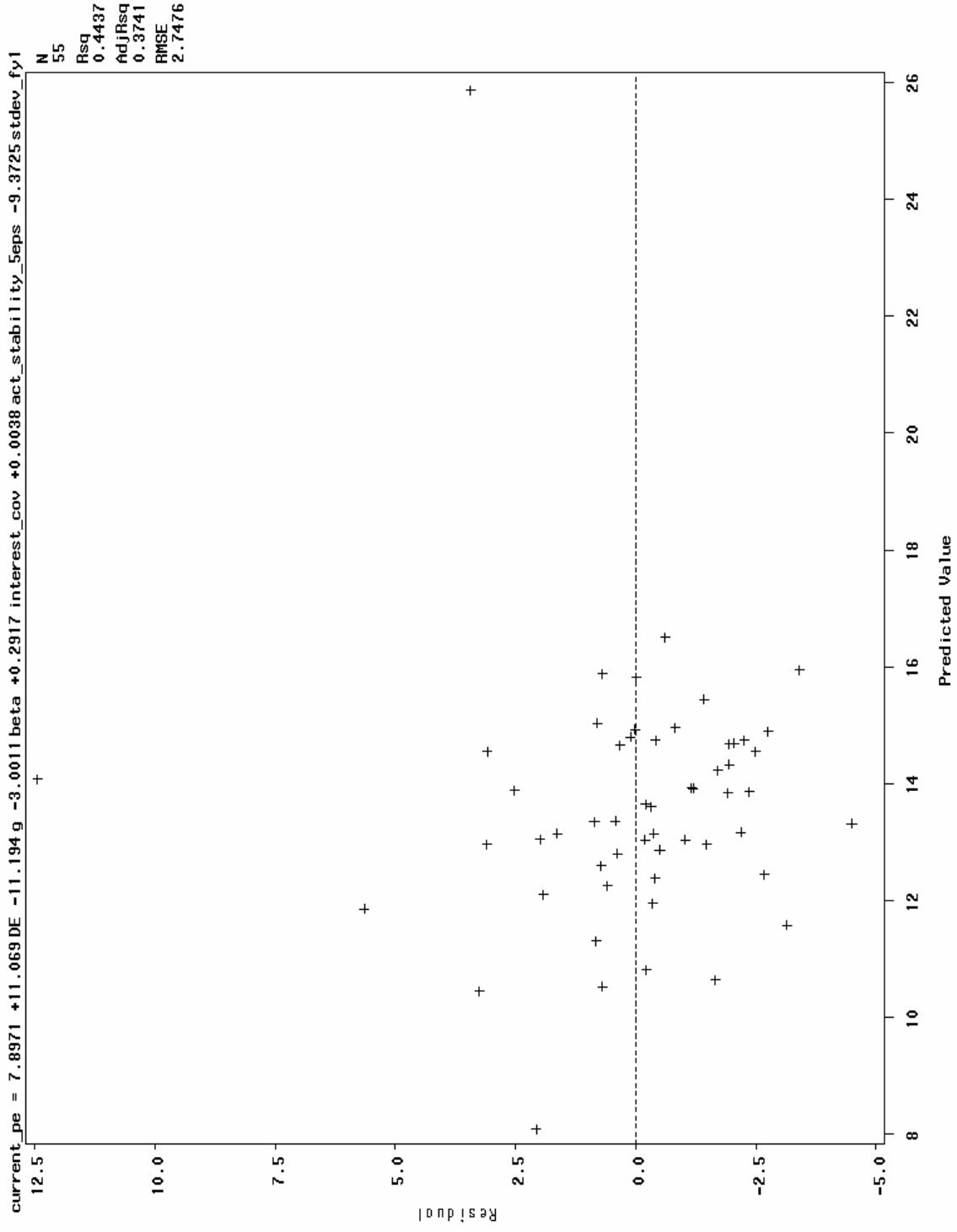


Figure 2.2 Residual Plot: Utility Companies – Historical Growth 2002

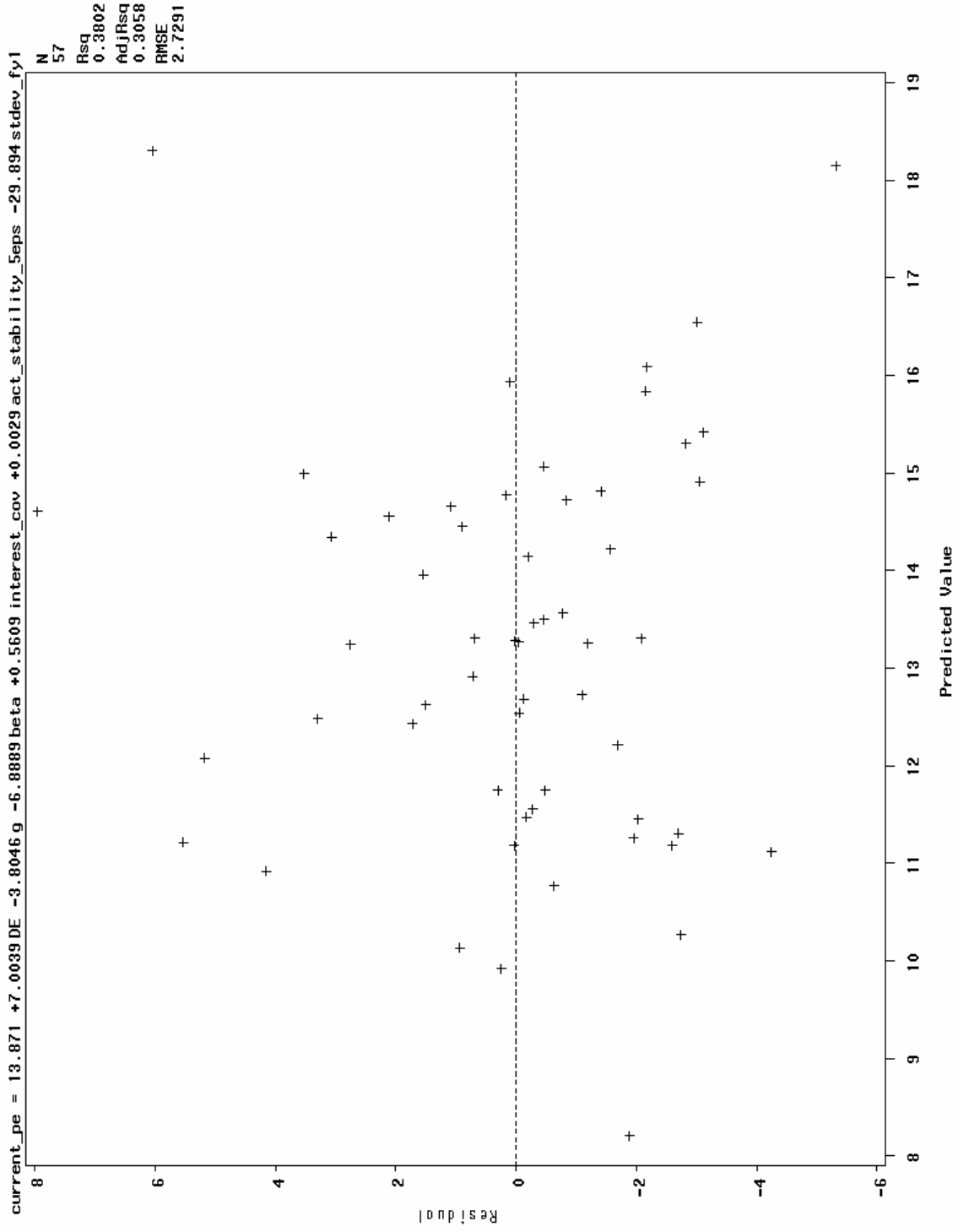


Figure 2.3 Residual Plot: Utility Companies – Historical Growth 2003

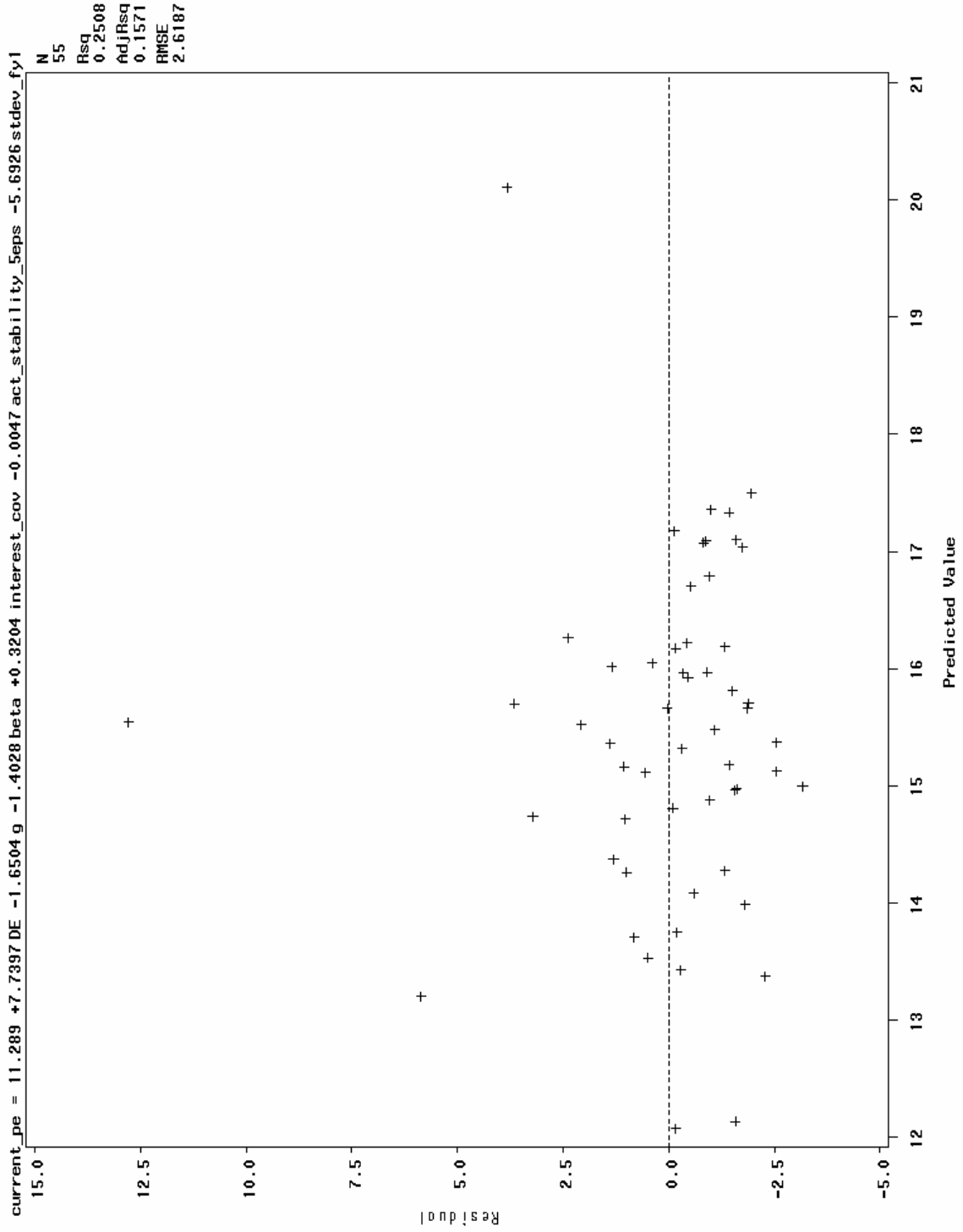


Figure 2.4 Residual Plot: Utility Companies – Analysts’ Forecast 2001

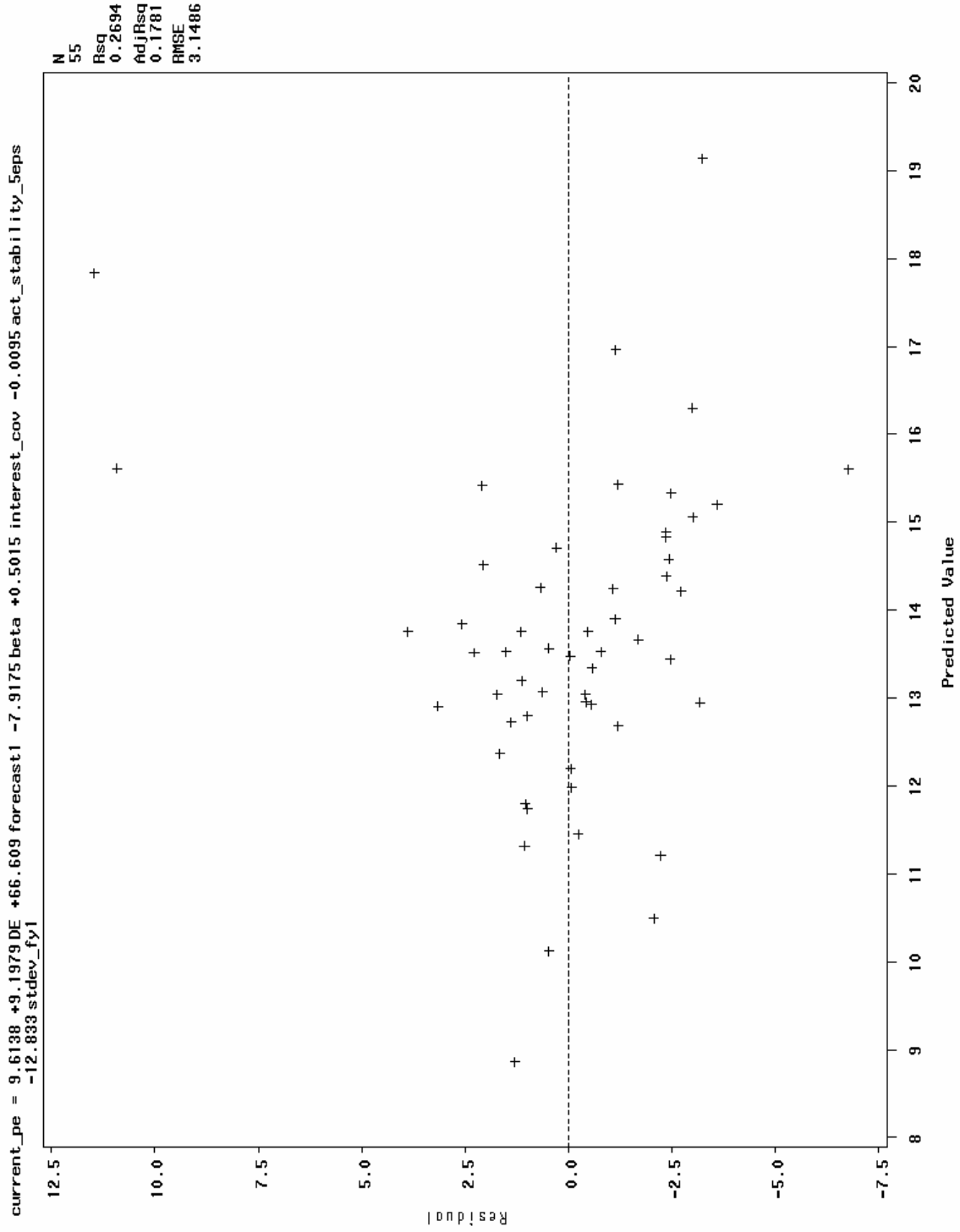


Figure 2.5 Residual Plot: Utility Companies – Analysts’ Forecast 2002

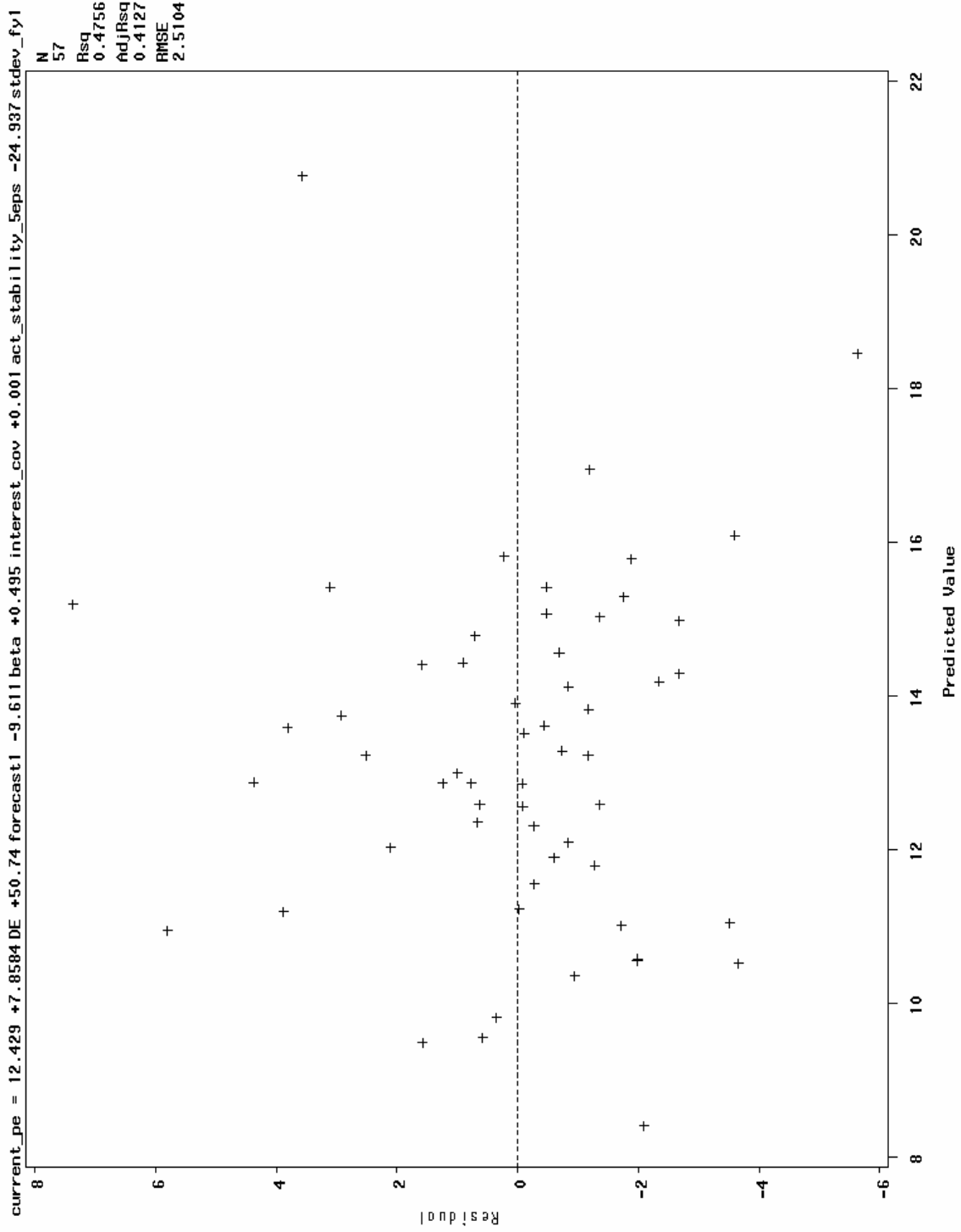


Figure 2.6 Residual Plot: Utility Companies – Analysts' Forecast 2003

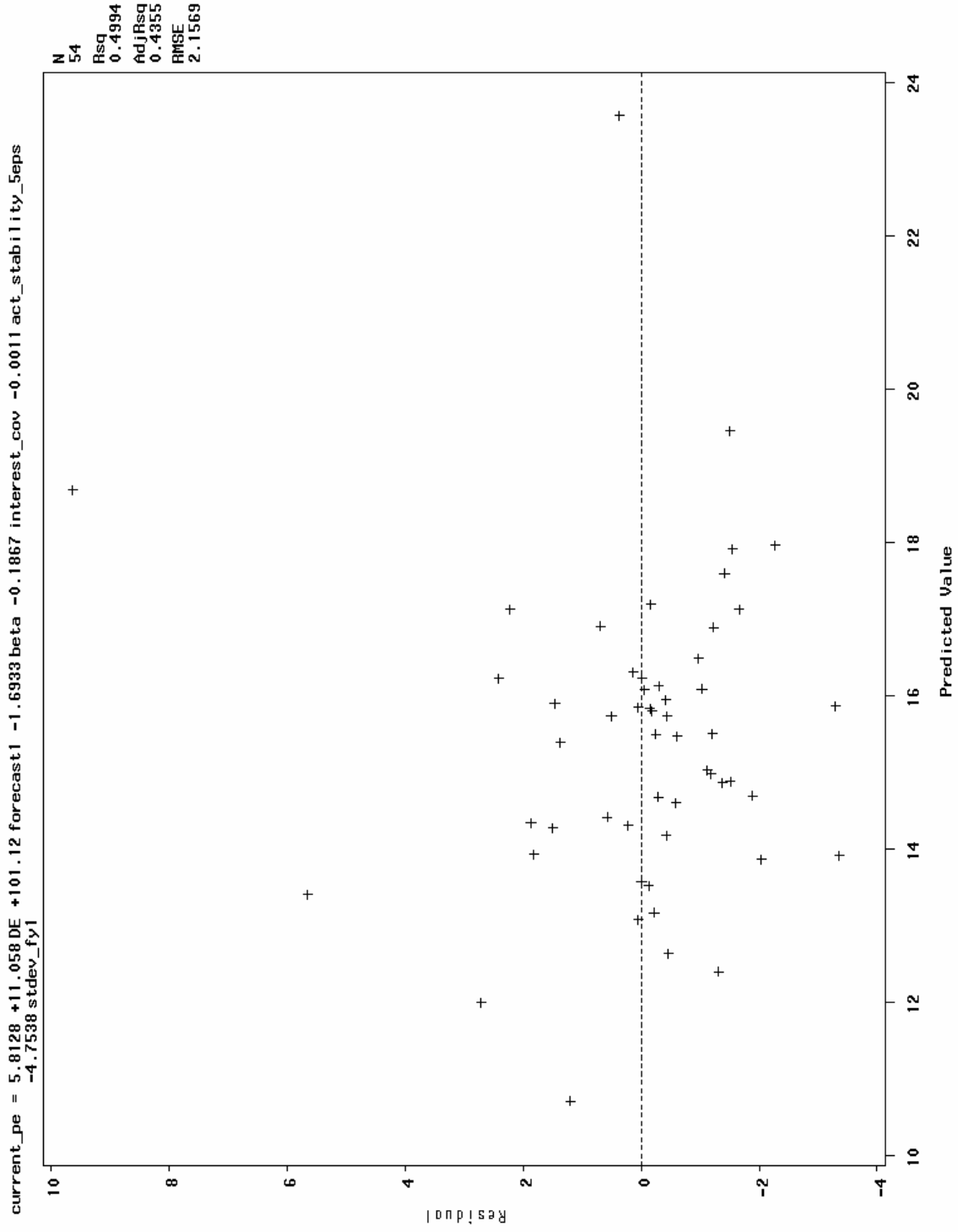


Figure 2.7 Utility Companies – Residuals vs. Historical Growth (2yr EPS) Plot 2001

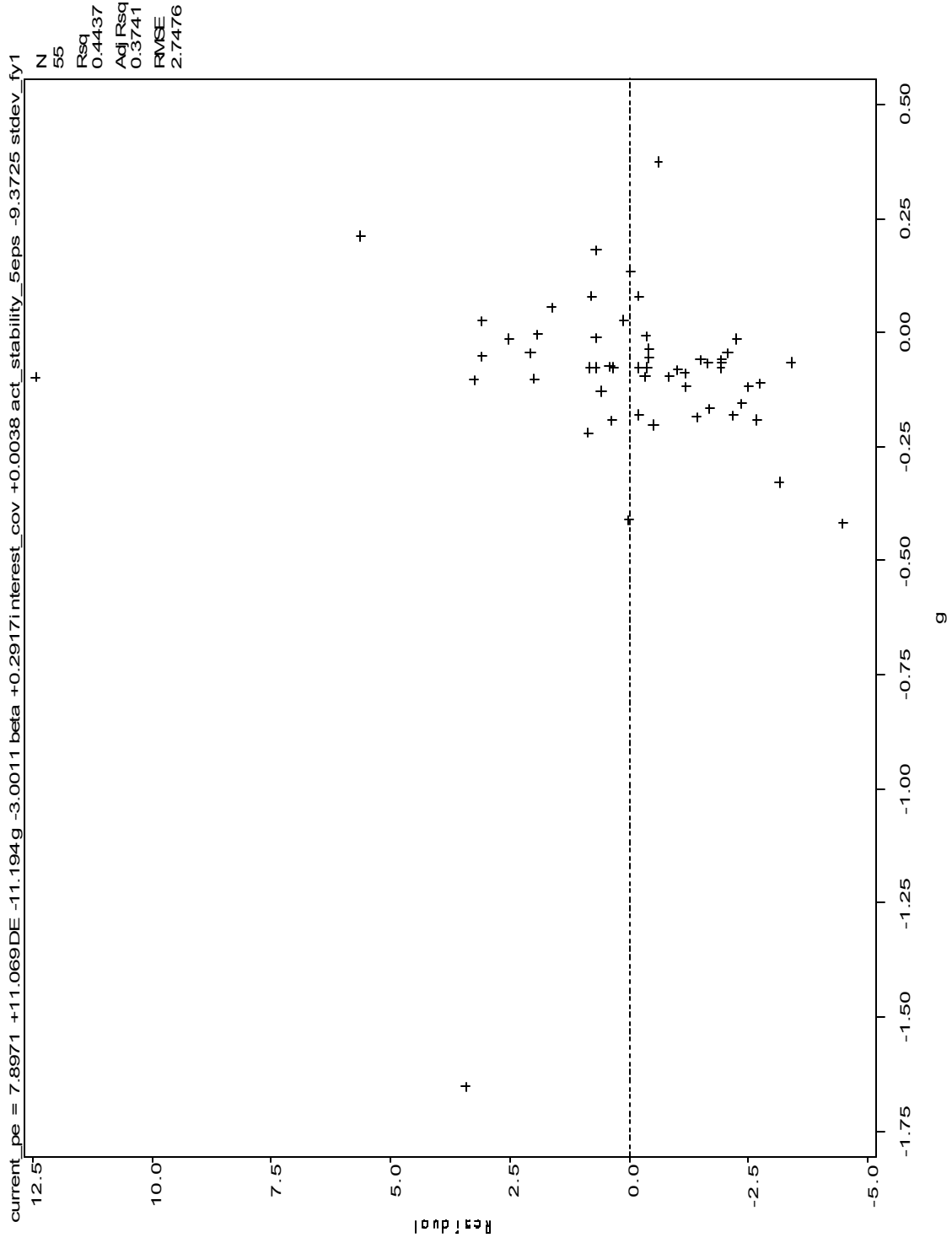


Figure 2.8 Utility Companies – Residuals vs. Historical Growth (4yr EPS) Plot 2002

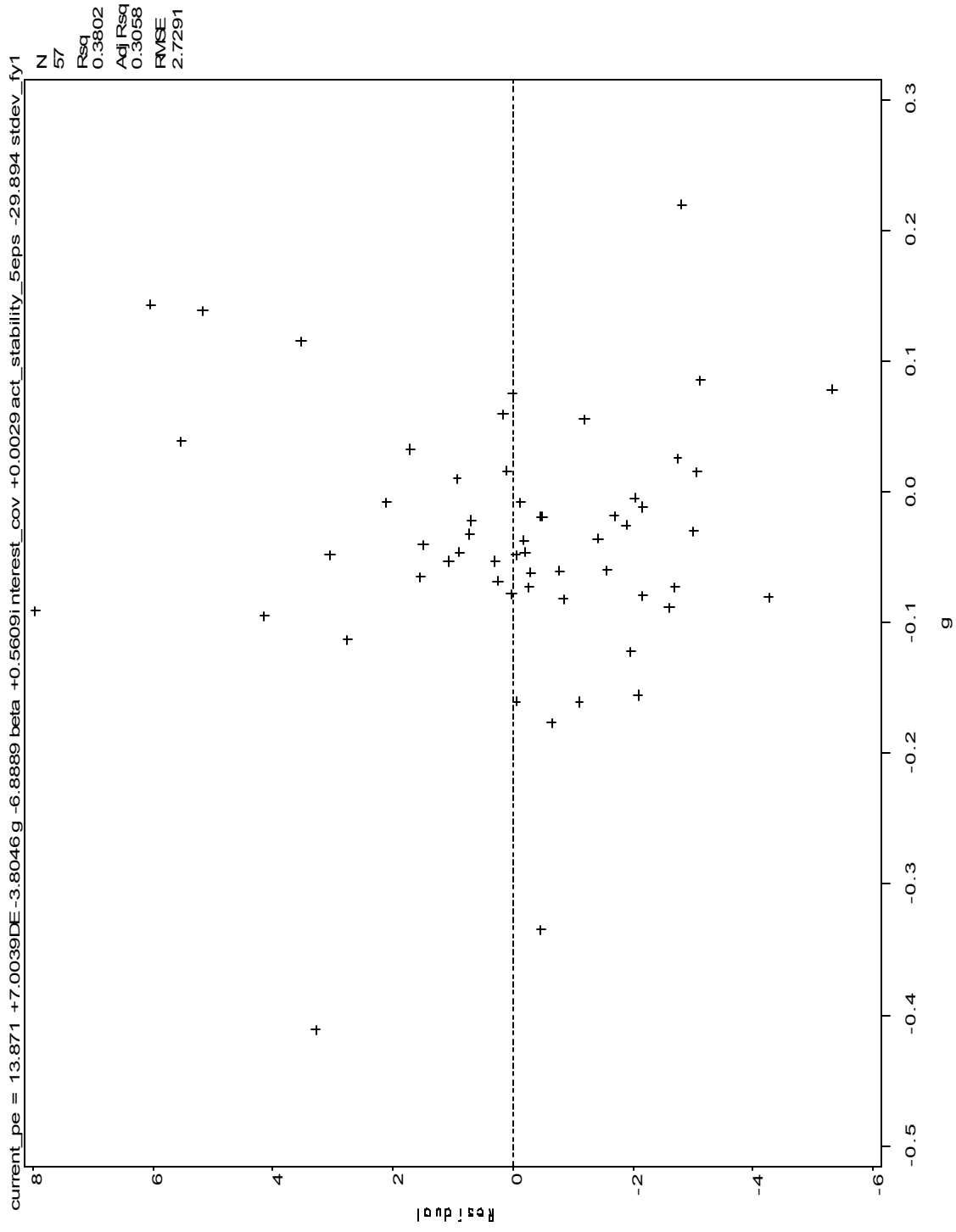


Figure 2.9 Utility Companies – Residuals vs. Historical Growth (6yr EPS) Plot 2003

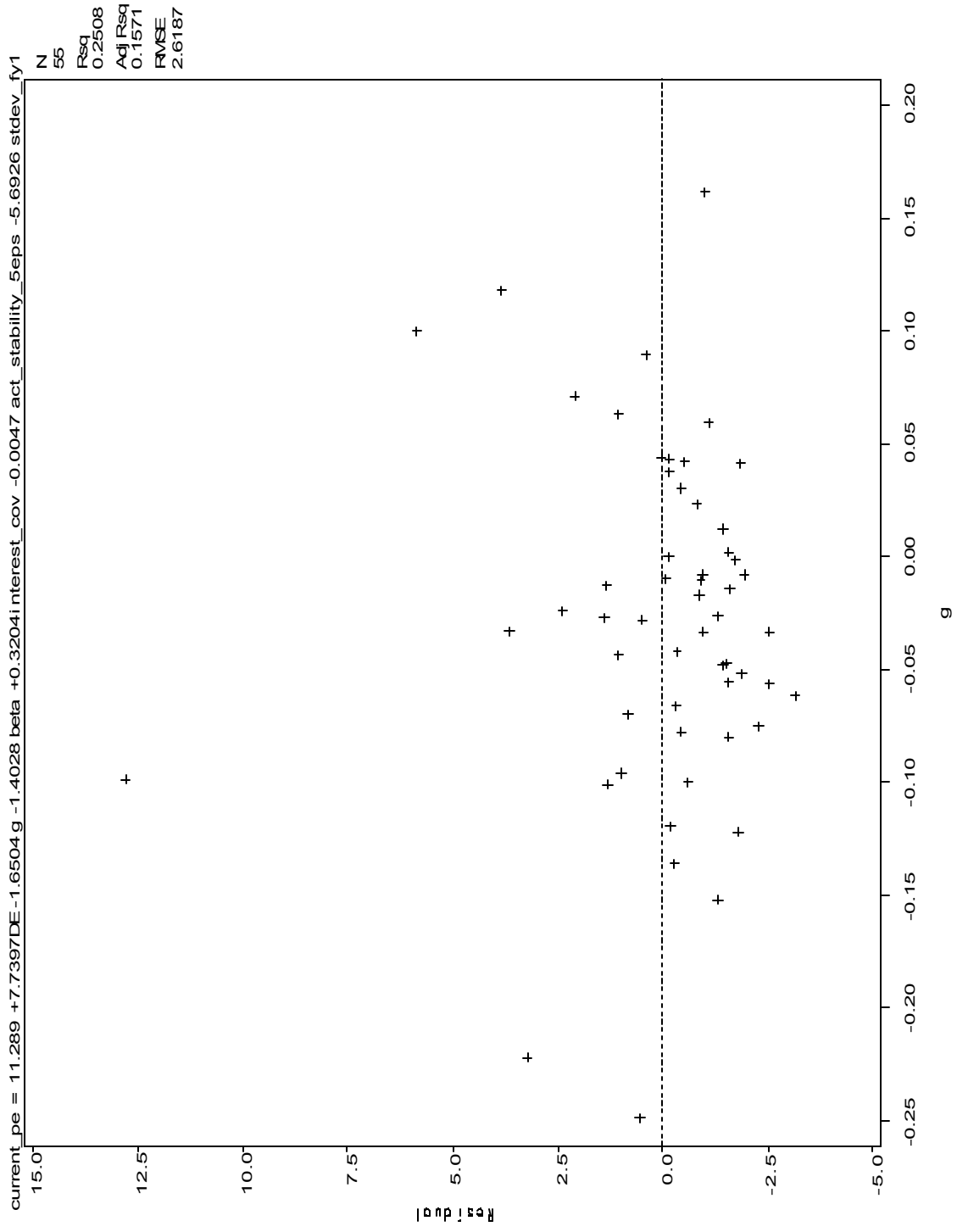


Figure 2.10 Utility Companies – Residuals vs. Analysts' Forecast 2001

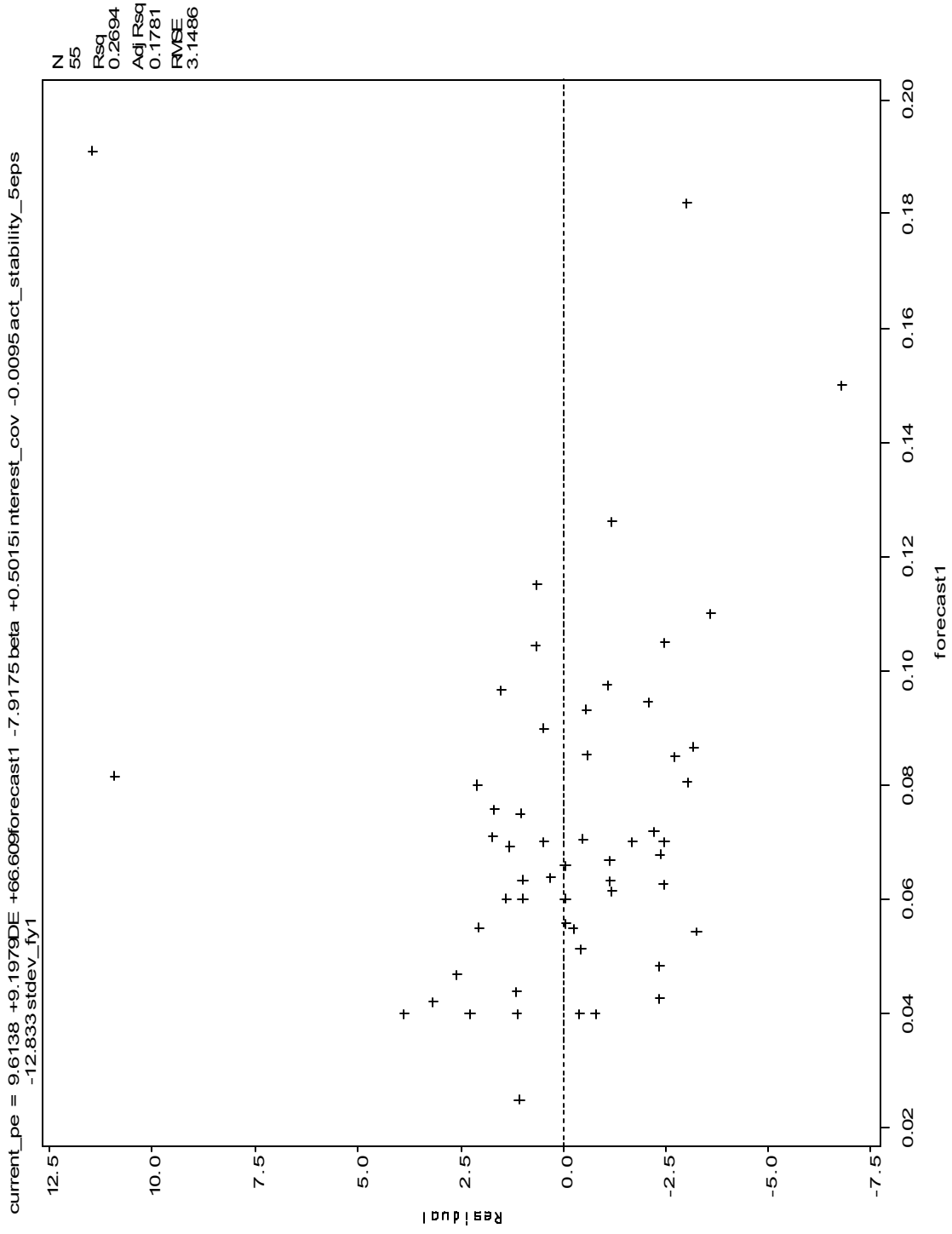


Figure 2.11 Utility Companies – Residuals vs. Analysts' Forecast 2002

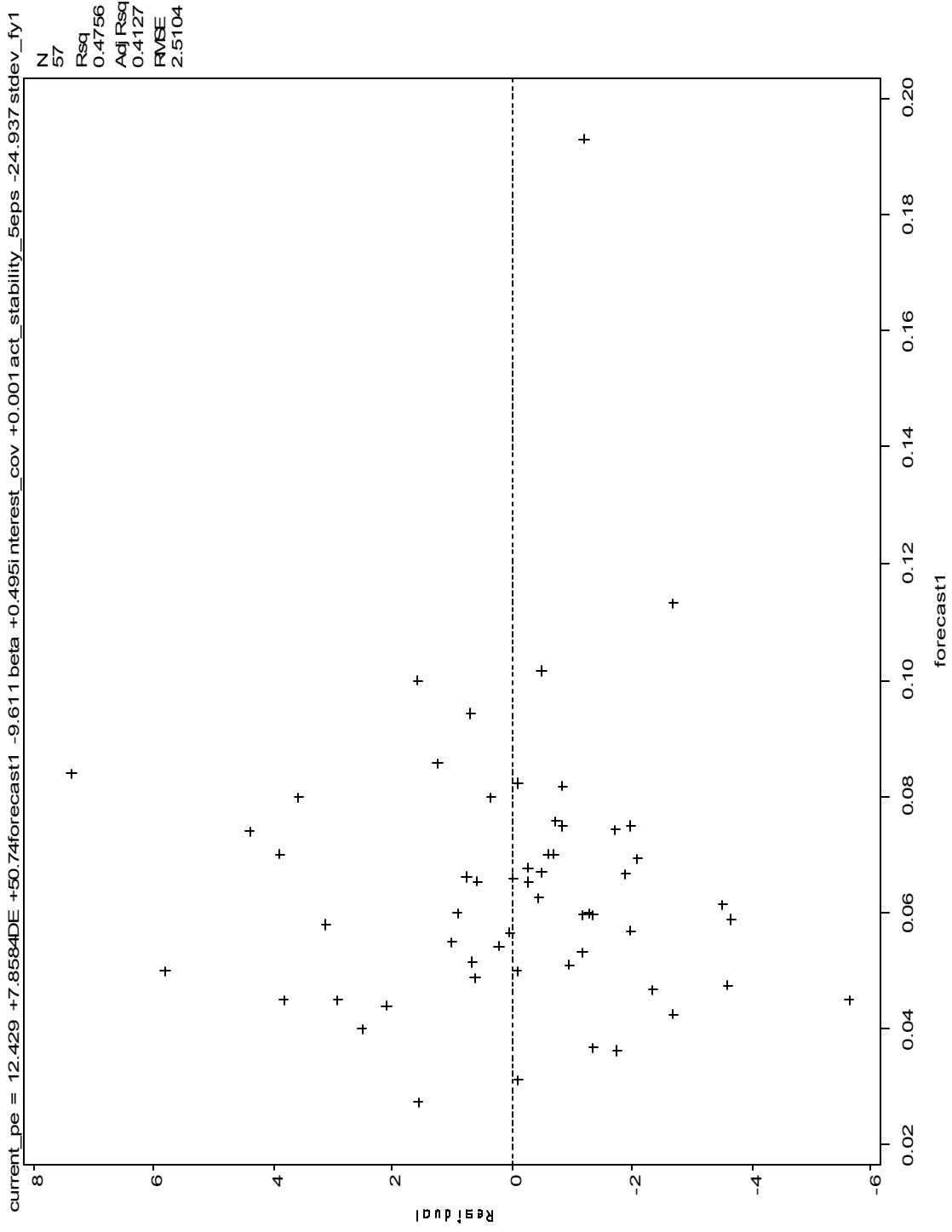


Figure 2.12 Utility Companies – Residuals vs. Analysts' Forecast 2003

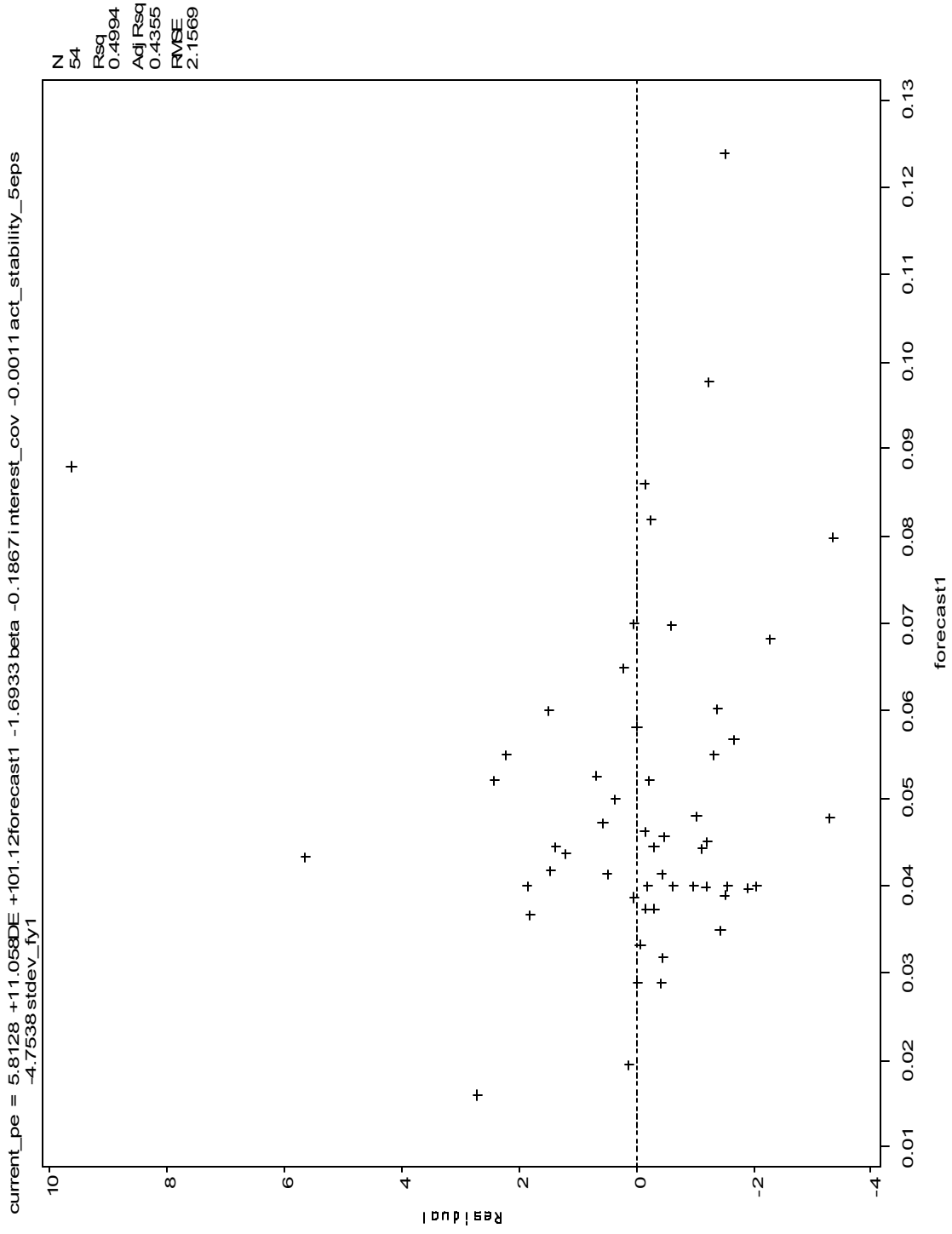


Figure 3.1 Residual Plot: Non-Utility Companies – Historical Growth 2001

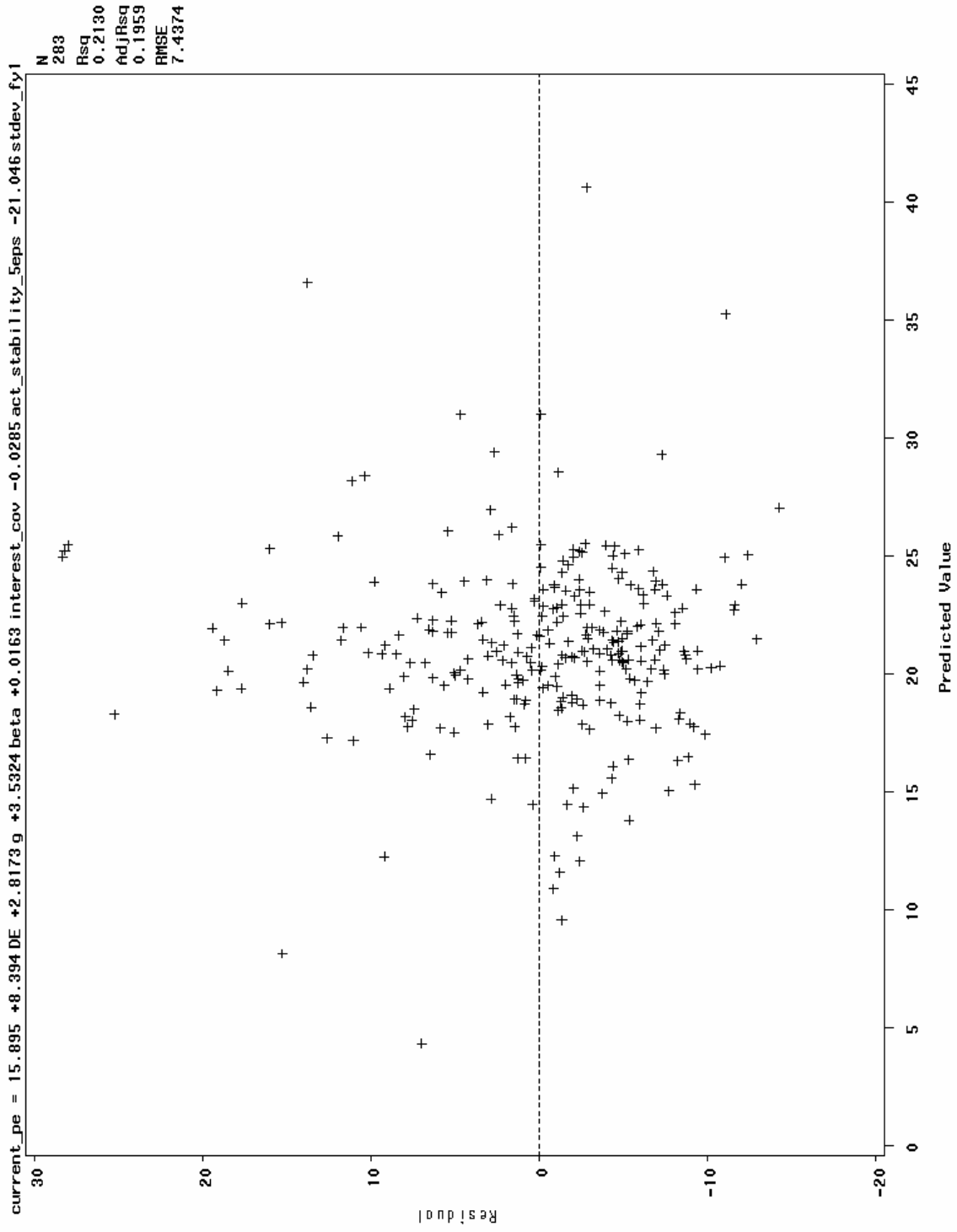


Figure 3.2 Residual Plot: Non-Utility Companies – Historical Growth 2002

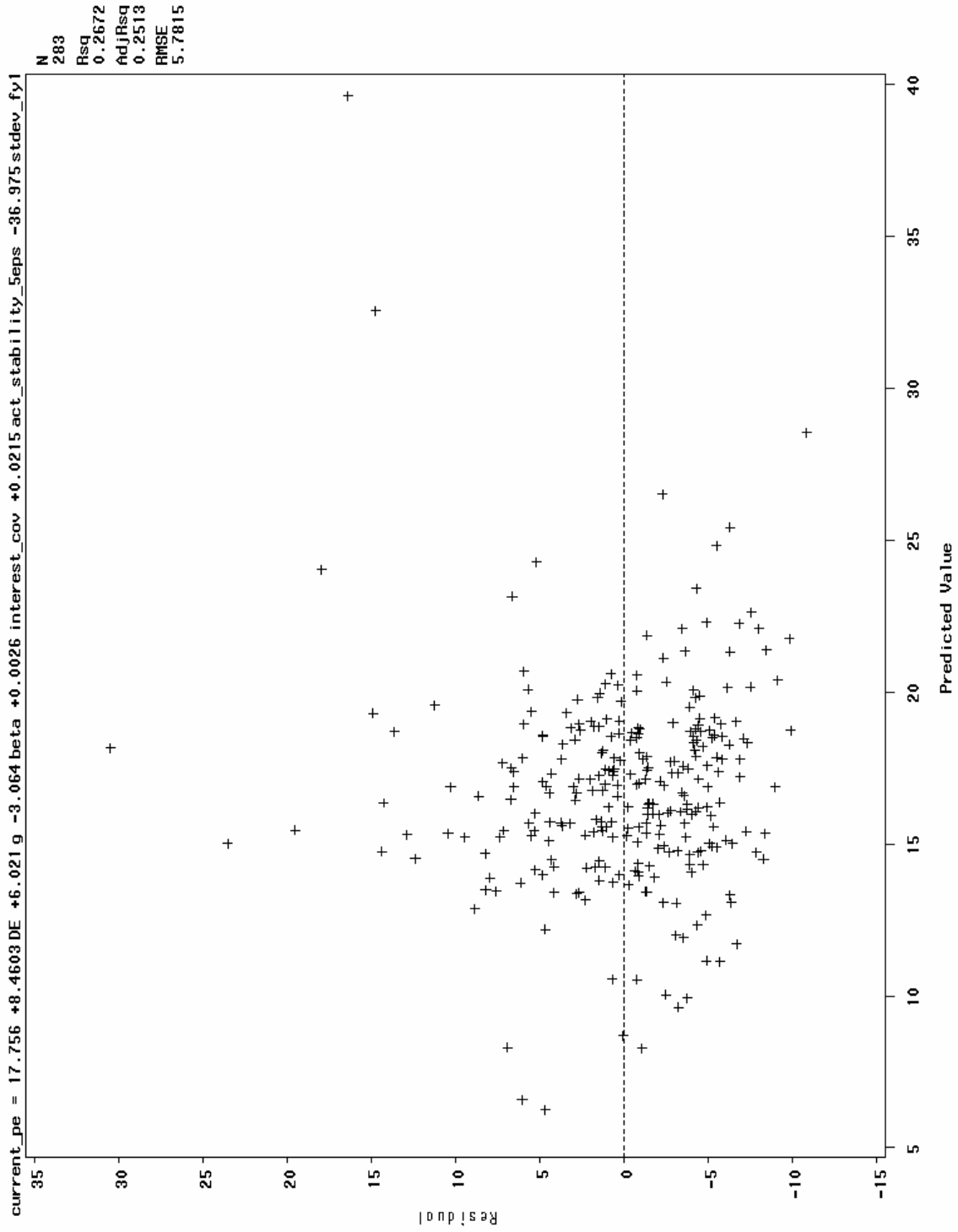


Figure 3.3 Residual Plot: Non-Utility Companies – Historical Growth 2003

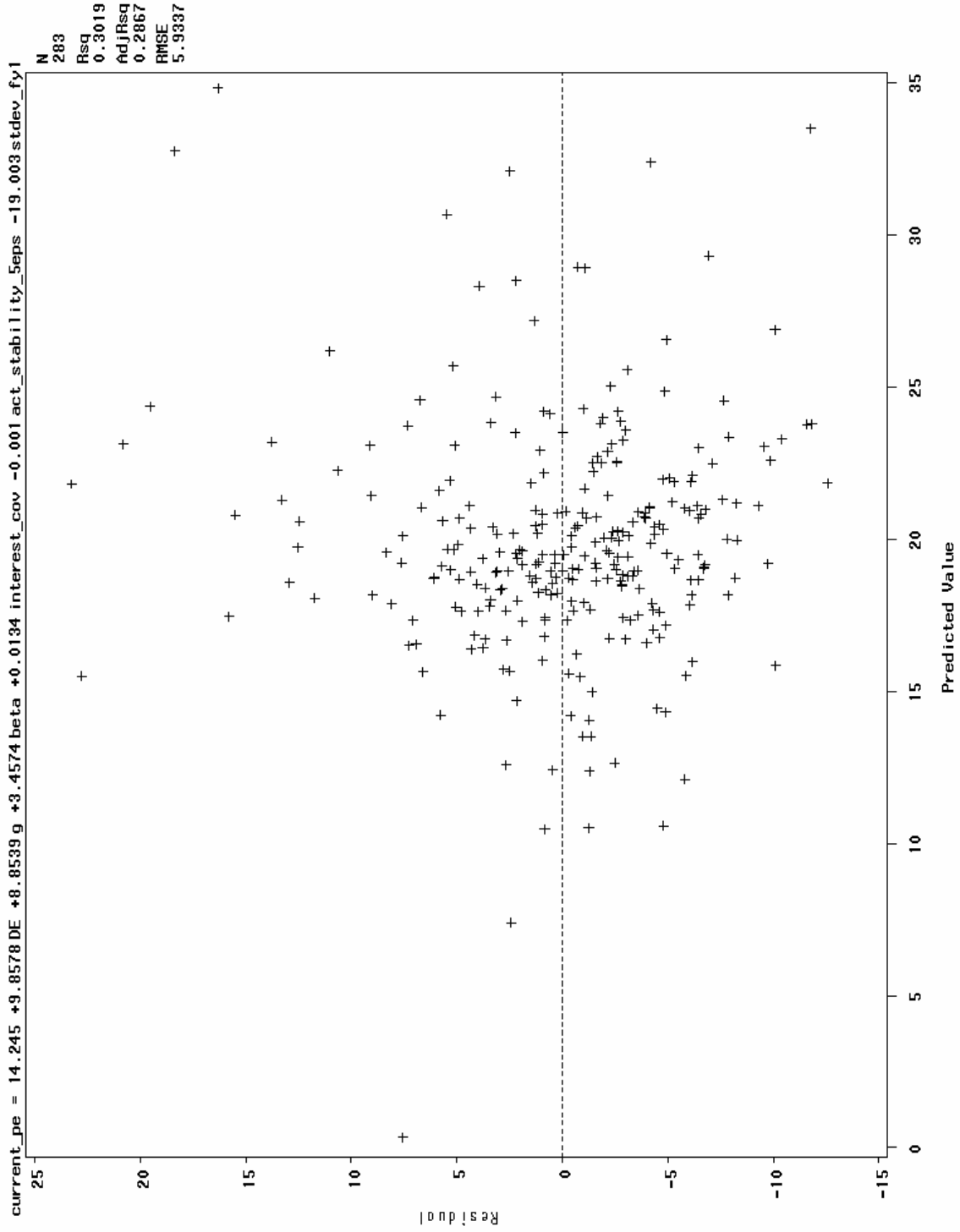


Figure 3.4 Residual Plot: Non-Utility Companies – Analysts' Forecast 2001

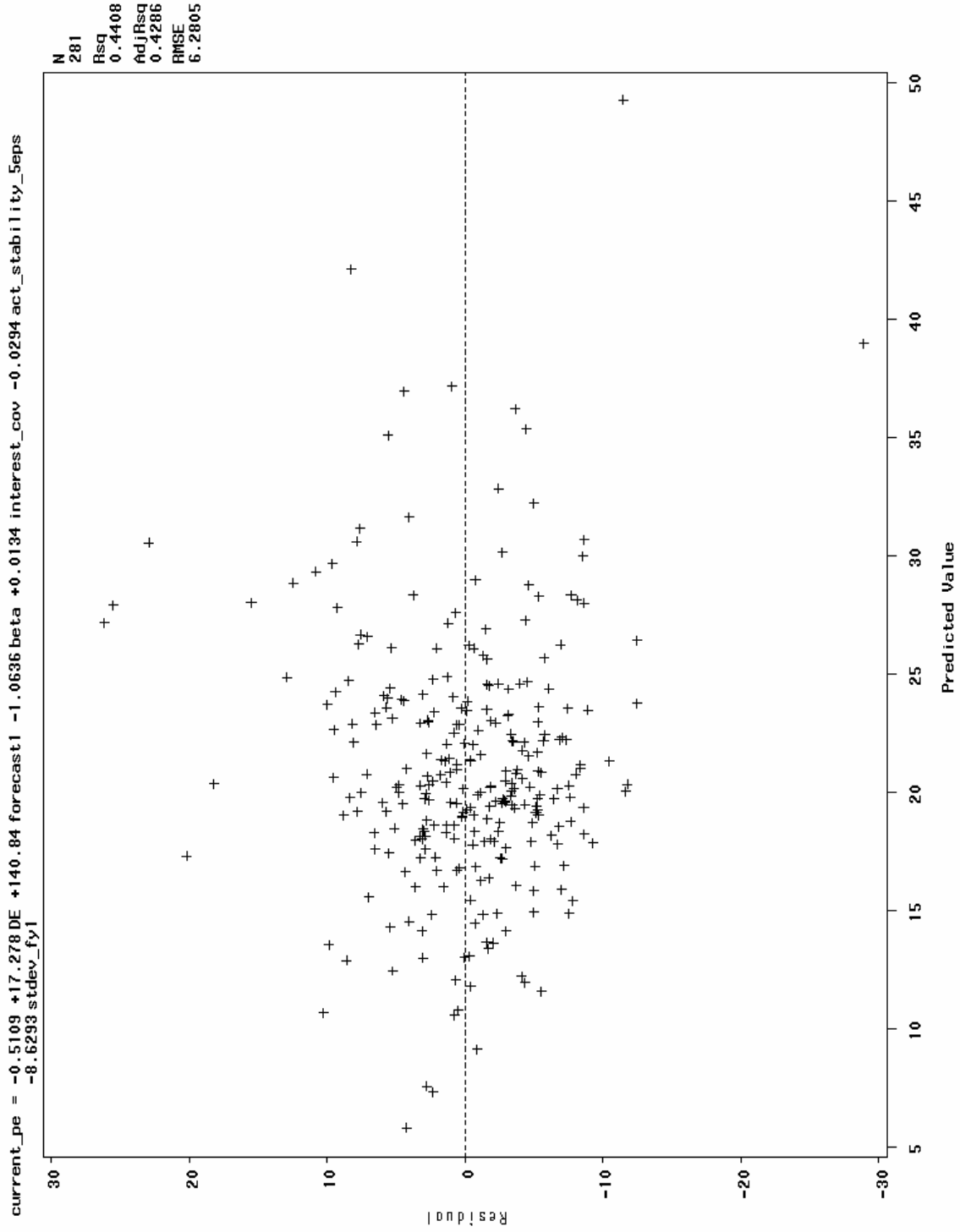


Figure 3.5 Residual Plot: Non-Utility Companies – Analysts' Forecast 2002

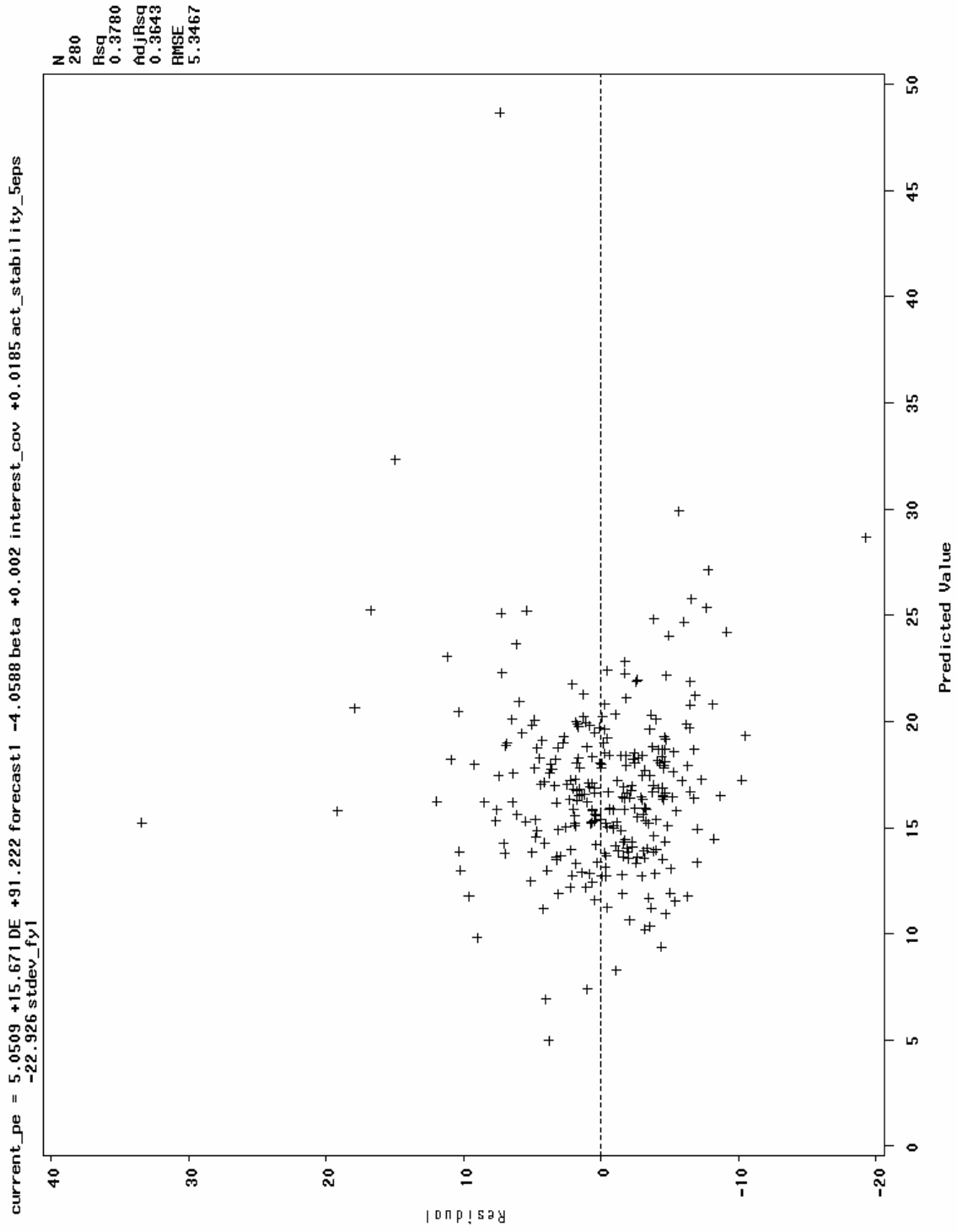


Figure 3.6 Residual Plot: Non-Utility Companies – Analysts' Forecast 2003

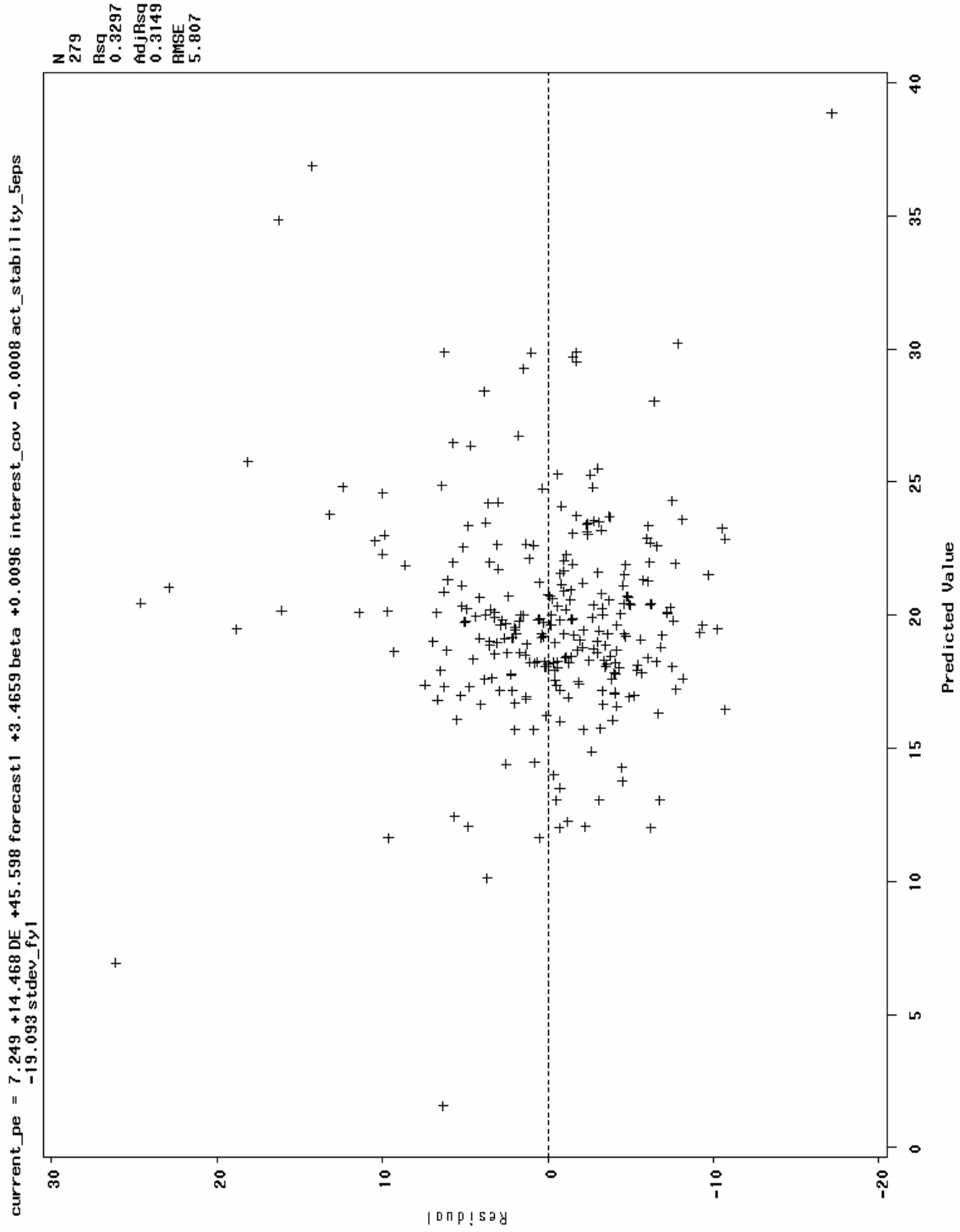


Figure 3.7 Non-Utility Companies – Residual vs. Historical Growth (1yr EPS) Plot: 2001

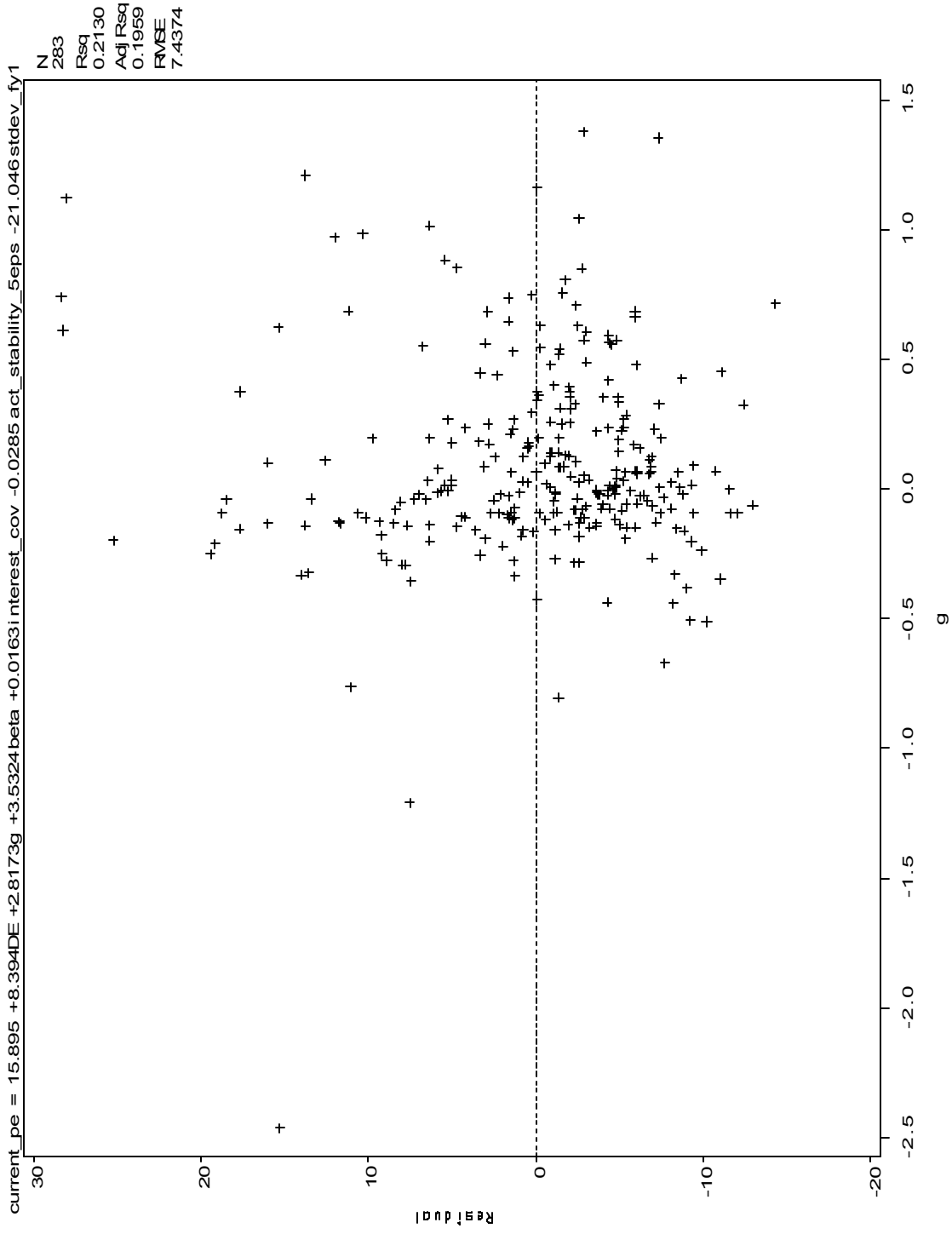


Figure 3.8 Non-Utility Companies – Residual vs. Historical Growth (2yr EPS) Plot: 2002

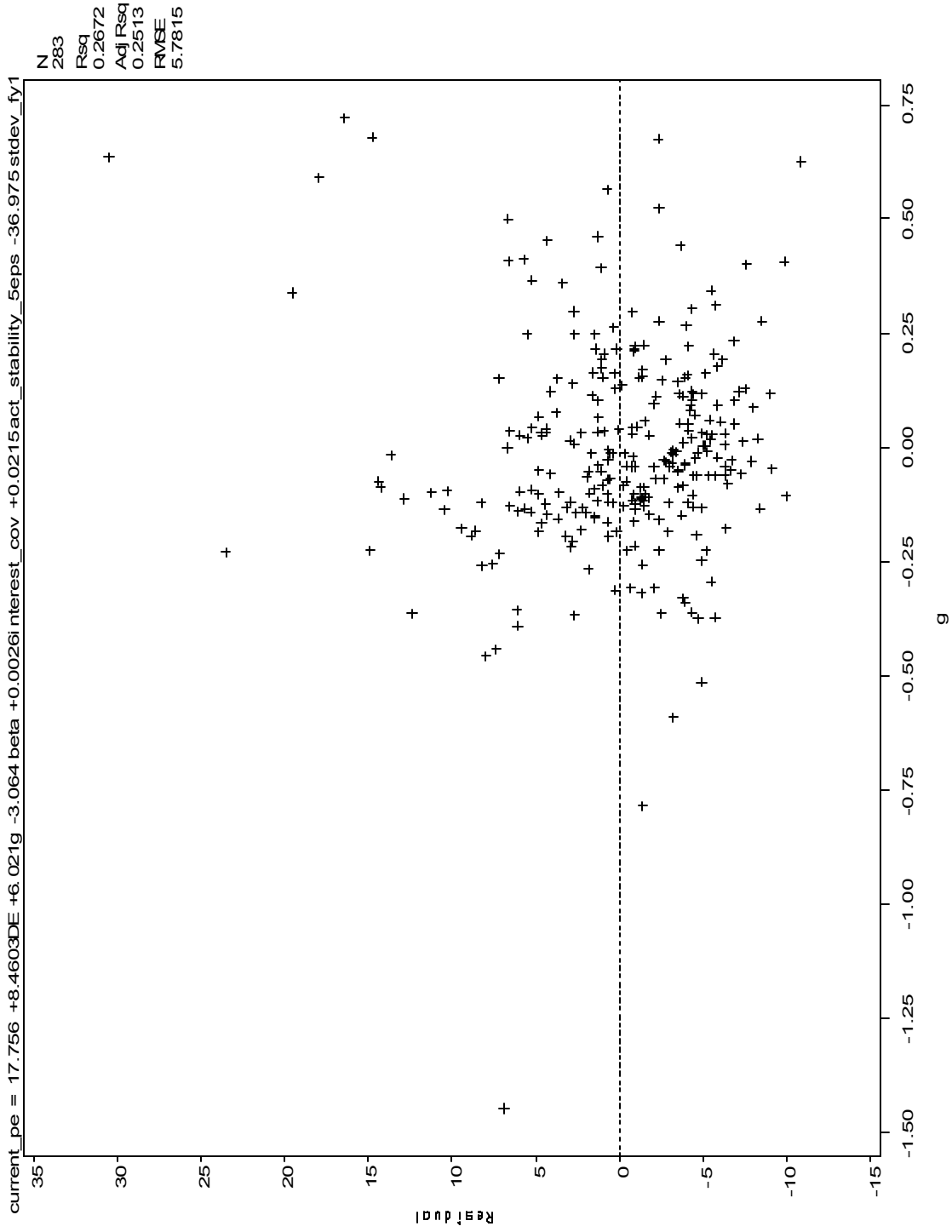


Figure 3.9 Non-Utility Companies – Residual vs. Historical Growth (5yr EPS) Plot: 2003

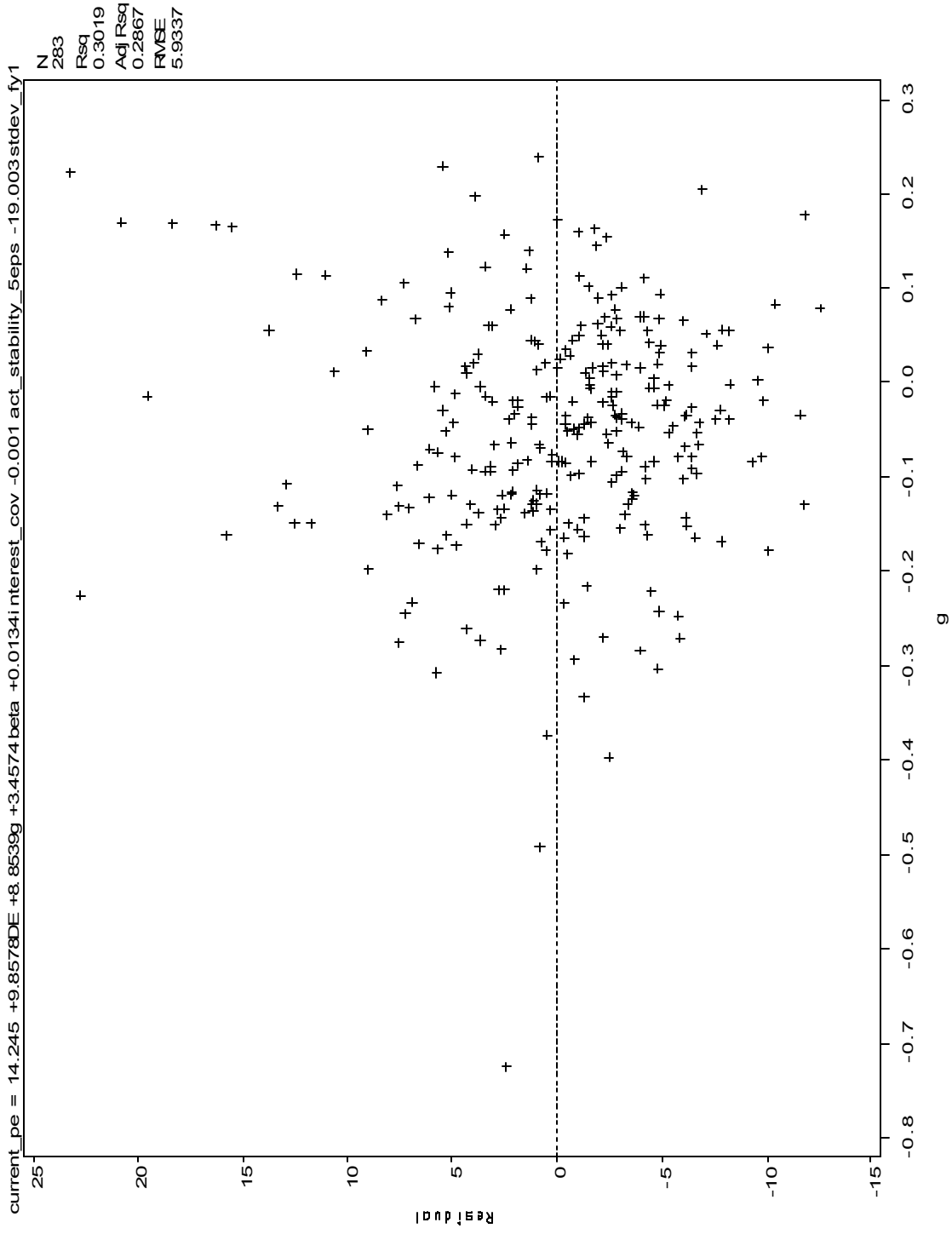


Figure 3.10 Non-Utility Companies – Residual vs. Analysts' Forecast Plot: 2001

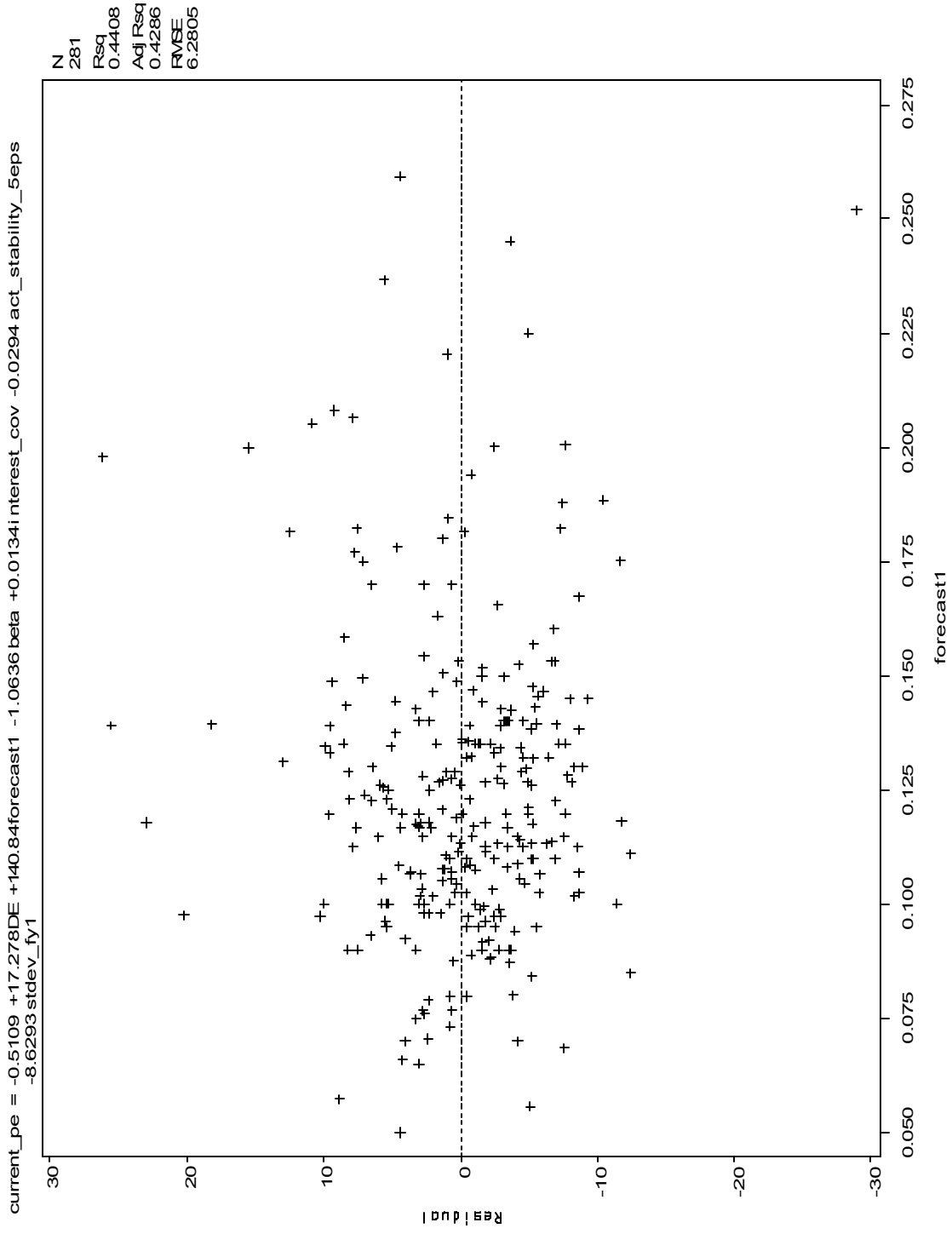


Figure 3.11 Non-Utility Companies – Residual vs. Analysts' Forecast Plot: 2002

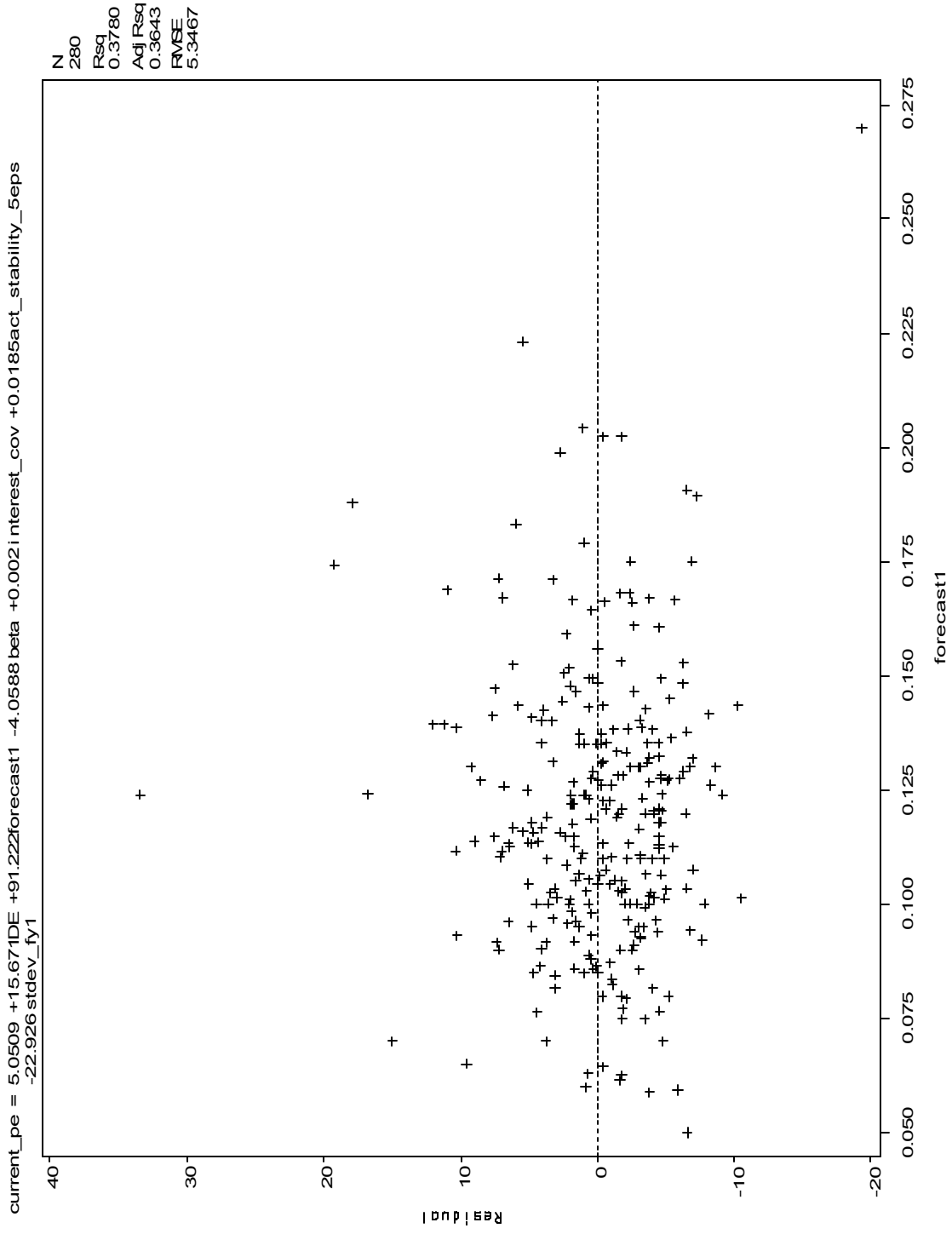


Figure 3.12 Non-Utility Companies – Residual vs. Analysts' Forecast Plot: 2003

