**1. HR Granger-Causes Ind Mispricing**

mdl =

**Generalized linear mixed-effects model fit by PL**

**Model information:**

Number of observations 123

Fixed effects coefficients 5

Random effects coefficients 16

Covariance parameters 2

Distribution Normal

Link Identity

FitMethod MPL

**Formula:**

Earnings ~ 1 + Granger\_0 + Granger\_5 + Granger\_10 + Granger\_15 + (1 | Session)

**Model fit statistics:**

AIC BIC LogLikelihood Deviance

2520.2 2539.9 -1253.1 2506.2

**Fixed effects coefficients (95% CIs):**

Name Estimate SE tStat DF pValue Lower Upper

{'(Intercept)'} 24381 845.56 28.834 118 2.9158e-55 22707 26055

{'Granger\_0' } 477.15 269.27 1.7721 118 0.078966 -56.065 1010.4

{'Granger\_5' } -10.289 271.12 -0.037949 118 0.96979 -547.18 526.6

{'Granger\_10' } 315.02 292.57 1.0767 118 0.2838 -264.36 894.4

{'Granger\_15' } -584.46 285.24 -2.049 118 0.042675 -1149.3 -19.616

**Random effects covariance parameters:**

Group: Session (16 Levels)

Name1 Name2 Type Estimate

{'(Intercept)'} {'(Intercept)'} {'std'} 1243

Group: Error

Name Estimate

{'sqrt(Dispersion)'} 6322.2

LRstat =

**Theoretical Likelihood Ratio Test**

Model DF AIC BIC LogLik LRStat deltaDF pValue

mdlR 3 2519.6 2528 -1256.8

mdl 7 2520.2 2539.9 -1253.1 7.3954 4 0.11641

**2. Ind Mispricing Granger-Causes HR**

mdl =

**Generalized linear mixed-effects model fit by PL**

**Model information:**

Number of observations 123

Fixed effects coefficients 8

Random effects coefficients 16

Covariance parameters 2

Distribution Normal

Link Identity

FitMethod MPL

**Formula:**

Earnings ~ 1 + Granger\_0 + Granger\_5 + Granger\_10 + Granger\_15 + Granger\_20 + Granger\_25 + Granger\_30 + (1 | Session)

**Model fit statistics:**

AIC BIC LogLikelihood Deviance

2524.5 2552.6 -1252.2 2504.5

**Fixed effects coefficients (95% CIs):**

Name Estimate SE tStat DF pValue Lower Upper

{'(Intercept)'} 23961 664.31 36.07 115 1.5575e-64 22646 25277

{'Granger\_0' } -113.69 276.04 -0.41187 115 0.6812 -660.48 433.09

{'Granger\_5' } 111.68 249.42 0.44776 115 0.65517 -382.37 605.72

{'Granger\_10' } -85.489 296.92 -0.28792 115 0.77393 -673.64 502.66

{'Granger\_15' } 616.85 335.6 1.838 115 0.068636 -47.91 1281.6

{'Granger\_20' } -376.28 328.8 -1.1444 115 0.25484 -1027.6 275.02

{'Granger\_25' } -379.39 314.68 -1.2056 115 0.23043 -1002.7 243.93

{'Granger\_30' } -511.44 290.96 -1.7577 115 0.081451 -1087.8 64.902

**Random effects covariance parameters:**

Group: Session (16 Levels)

Name1 Name2 Type Estimate

{'(Intercept)'} {'(Intercept)'} {'std'} 677.78

Group: Error

Name Estimate

{'sqrt(Dispersion)'} 6351.2

LRstat =

**Theoretical Likelihood Ratio Test**

Model DF AIC BIC LogLik LRStat deltaDF pValue

mdlR 3 2519.6 2528 -1256.8

mdl 10 2524.5 2552.6 -1252.2 9.0867 7 0.24649

**3. HR Granger-Causes Holdings**

mdl =

**Generalized linear mixed-effects model fit by PL**

**Model information:**

Number of observations 123

Fixed effects coefficients 5

Random effects coefficients 16

Covariance parameters 2

Distribution Normal

Link Identity

FitMethod MPL

**Formula:**

Earnings ~ 1 + Granger\_0 + Granger\_5 + Granger\_10 + Granger\_15 + (1 | Session)

**Model fit statistics:**

AIC BIC LogLikelihood Deviance

2523.7 2543.4 -1254.9 2509.7

**Fixed effects coefficients (95% CIs):**

Name Estimate SE tStat DF pValue Lower Upper

{'(Intercept)'} 24330 764.47 31.826 118 9.5022e-60 22816 25844

{'Granger\_0' } 58.631 276.5 0.21205 118 0.83244 -488.92 606.18

{'Granger\_5' } 462.49 286.21 1.6159 118 0.10878 -104.28 1029.3

{'Granger\_10' } -364.96 282.2 -1.2933 118 0.19845 -923.81 193.88

{'Granger\_15' } 145.07 237.85 0.60994 118 0.54308 -325.93 616.07

**Random effects covariance parameters:**

Group: Session (16 Levels)

Name1 Name2 Type Estimate

{'(Intercept)'} {'(Intercept)'} {'std'} 1290.6

Group: Error

Name Estimate

{'sqrt(Dispersion)'} 6410.2

LRstat =

**Theoretical Likelihood Ratio Test**

Model DF AIC BIC LogLik LRStat deltaDF pValue

mdlR 3 2519.6 2528 -1256.8

mdl 7 2523.7 2543.4 -1254.9 3.8158 4 0.43151

**4. Holdings Granger-Cause HR**

mdl =

**Generalized linear mixed-effects model fit by PL**

**Model information:**

Number of observations 123

Fixed effects coefficients 8

Random effects coefficients 16

Covariance parameters 2

Distribution Normal

Link Identity

FitMethod MPL

**Formula:**

Earnings ~ 1 + Granger\_0 + Granger\_5 + Granger\_10 + Granger\_15 + Granger\_20 + Granger\_25 + Granger\_30 + (1 | Session)

**Model fit statistics:**

AIC BIC LogLikelihood Deviance

2519.2 2547.3 -1249.6 2499.2

**Fixed effects coefficients (95% CIs):**

Name Estimate SE tStat DF pValue Lower Upper

{'(Intercept)'} 24329 741.31 32.818 115 3.1303e-60 22860 25797

{'Granger\_0' } -215.99 278.78 -0.77476 115 0.44007 -768.2 336.22

{'Granger\_5' } 633.49 310 2.0435 115 0.043284 19.445 1247.5

{'Granger\_10' } -932.09 366.59 -2.5426 115 0.012332 -1658.2 -205.95

{'Granger\_15' } 417.21 323.25 1.2907 115 0.19941 -223.08 1057.5

{'Granger\_20' } -507.62 342.4 -1.4825 115 0.14093 -1185.8 170.6

{'Granger\_25' } 173.79 278.83 0.62329 115 0.53433 -378.51 726.09

{'Granger\_30' } -104.22 329.31 -0.31647 115 0.75222 -756.51 548.07

**Random effects covariance parameters:**

Group: Session (16 Levels)

Name1 Name2 Type Estimate

{'(Intercept)'} {'(Intercept)'} {'std'} 1681.5

Group: Error

Name Estimate

{'sqrt(Dispersion)'} 6064.2

LRstat =

**Theoretical Likelihood Ratio Test**

Model DF AIC BIC LogLik LRStat deltaDF pValue

mdlR 3 2519.6 2528 -1256.8

mdl 10 2519.2 2547.3 -1249.6 14.382 7 0.044783

**5. HR Granger-Causes B/A Spread**

mdl =

**Generalized linear mixed-effects model fit by PL**

**Model information:**

Number of observations 123

Fixed effects coefficients 5

Random effects coefficients 16

Covariance parameters 2

Distribution Normal

Link Identity

FitMethod MPL

**Formula:**

Earnings ~ 1 + Granger\_0 + Granger\_5 + Granger\_10 + Granger\_15 + (1 | Session)

**Model fit statistics:**

AIC BIC LogLikelihood Deviance

2524.5 2544.2 -1255.3 2510.5

**Fixed effects coefficients (95% CIs):**

Name Estimate SE tStat DF pValue Lower Upper

{'(Intercept)'} 24726 776.79 31.831 118 9.3406e-60 23188 26264

{'Granger\_0' } 299.15 275.2 1.087 118 0.27925 -245.83 844.12

{'Granger\_5' } 39.605 310.28 0.12764 118 0.89865 -574.84 654.05

{'Granger\_10' } 394.78 332.44 1.1875 118 0.23741 -263.54 1053.1

{'Granger\_15' } -88.63 304.89 -0.29069 118 0.7718 -692.4 515.14

**Random effects covariance parameters:**

Group: Session (16 Levels)

Name1 Name2 Type Estimate

{'(Intercept)'} {'(Intercept)'} {'std'} 1438.4

Group: Error

Name Estimate

{'sqrt(Dispersion)'} 6406.6

LRstat =

**Theoretical Likelihood Ratio Test**

Model DF AIC BIC LogLik LRStat deltaDF pValue

mdlR 3 2519.6 2528 -1256.8

mdl 7 2524.5 2544.2 -1255.3 3.0578 4 0.54819

**6. B/A Spread Granger-Causes HR**

mdl =

**Generalized linear mixed-effects model fit by PL**

**Model information:**

Number of observations 123

Fixed effects coefficients 8

Random effects coefficients 16

Covariance parameters 2

Distribution Normal

Link Identity

FitMethod MPL

**Formula:**

Earnings ~ 1 + Granger\_0 + Granger\_5 + Granger\_10 + Granger\_15 + Granger\_20 + Granger\_25 + Granger\_30 + (1 | Session)

**Model fit statistics:**

AIC BIC LogLikelihood Deviance

2529 2557.1 -1254.5 2509

**Fixed effects coefficients (95% CIs):**

Name Estimate SE tStat DF pValue Lower Upper

{'(Intercept)'} 24523 755.62 32.454 115 9.9793e-60 23026 26020

{'Granger\_0' } -35.877 298.64 -0.12013 115 0.90459 -627.43 555.67

{'Granger\_5' } -208.5 316.43 -0.65889 115 0.51128 -835.29 418.3

{'Granger\_10' } -232.59 360.72 -0.6448 115 0.52034 -947.12 481.93

{'Granger\_15' } 85.933 406.24 0.21153 115 0.83285 -718.75 890.62

{'Granger\_20' } 309.37 268.21 1.1535 115 0.25112 -221.91 840.64

{'Granger\_25' } -47.52 312.26 -0.15218 115 0.87931 -666.06 571.02

{'Granger\_30' } 343.42 297.86 1.153 115 0.25132 -246.58 933.42

**Random effects covariance parameters:**

Group: Session (16 Levels)

Name1 Name2 Type Estimate

{'(Intercept)'} {'(Intercept)'} {'std'} 1470.6

Group: Error

Name Estimate

{'sqrt(Dispersion)'} 6359.4

LRstat =

**Theoretical Likelihood Ratio Test**

Model DF AIC BIC LogLik LRStat deltaDF pValue

mdlR 3 2519.6 2528 -1256.8

mdl 10 2529 2557.1 -1254.5 4.6072 7 0.70777