

Table C.1: Regression Results

|                         | <i>Dependent variable:</i>  |                       |                       |                       |                         |                       |                       |                       |
|-------------------------|-----------------------------|-----------------------|-----------------------|-----------------------|-------------------------|-----------------------|-----------------------|-----------------------|
|                         | pre-financialisation period |                       |                       |                       | financialisation period |                       |                       |                       |
|                         | $\rho$ S&P500-Wheat 1       | $\rho$ S&P500-Wheat 2 | $\rho$ S&P500-Wheat 3 | $\rho$ S&P500-Wheat 4 | $\rho$ S&P500-Wheat 1   | $\rho$ S&P500-Wheat 2 | $\rho$ S&P500-Wheat 3 | $\rho$ S&P500-Wheat 4 |
| $\xi_1 h$ S&P500        | 1.371**<br>(0.585)          | 1.244**<br>(0.571)    | 0.756<br>(0.573)      | 0.904<br>(0.568)      | 9.363***<br>(1.309)     | 9.047***<br>(1.331)   | 8.670***<br>(1.331)   | 8.425***<br>(1.348)   |
| $\xi_2 h$ Wheat 1       | -875.350**<br>(360.389)     | -187.819<br>(351.792) | -6.043<br>(352.456)   | -149.924<br>(349.867) | 1.944<br>(3.367)        | 0.915<br>(3.422)      | 0.500<br>(3.424)      | -0.988<br>(3.468)     |
| $\xi_3 h$ Wheat 2       | 0.152<br>(0.331)            | 0.107<br>(0.323)      | -0.009<br>(0.324)     | -0.101<br>(0.321)     | 0.186<br>(3.726)        | 0.380<br>(3.787)      | -2.404<br>(3.789)     | 1.769<br>(3.838)      |
| $\xi_4 h$ Wheat 3       | -0.991<br>(1.188)           | -2.900**<br>(1.160)   | -3.444***<br>(1.162)  | -0.912<br>(1.154)     | -3.504<br>(3.001)       | -1.664<br>(3.051)     | 8.513***<br>(3.052)   | 3.929<br>(3.092)      |
| $\xi_5 h$ Wheat 4       | 0.444<br>(0.389)            | 0.729*<br>(0.380)     | 1.027***<br>(0.380)   | 0.341<br>(0.378)      | 1.037<br>(1.761)        | 0.168<br>(1.790)      | -6.560***<br>(1.791)  | -5.026***<br>(1.814)  |
| $\xi_0$                 | -0.002<br>(0.001)           | -0.001<br>(0.001)     | -0.0004<br>(0.001)    | -0.001<br>(0.001)     | 0.0002<br>(0.003)       | 0.0003<br>(0.003)     | 0.0003<br>(0.003)     | 0.0003<br>(0.003)     |
| Observations            | 572                         | 572                   | 572                   | 572                   | 833                     | 833                   | 833                   | 833                   |
| R <sup>2</sup>          | 0.022                       | 0.021                 | 0.021                 | 0.007                 | 0.060                   | 0.054                 | 0.063                 | 0.054                 |
| Adjusted R <sup>2</sup> | 0.014                       | 0.012                 | 0.012                 | -0.002                | 0.054                   | 0.048                 | 0.057                 | 0.048                 |

*Note:* The table reports estimated results from the regression:  $\rho_{ij,t} = \xi_0 + \xi_1 h_{i,t} + \sum_{t=1}^4 \xi_2 h_{j,t} + \vartheta_{ij,t}$  that examines the relationship between conditional correlation and conditional volatility for pre-financialisation and during financialisation period.  $\vartheta_{ij,t}$  is standardised error term shown in parentheses.  $\xi_0$ ,  $\xi$ ,  $h$ ,  $\rho$  and *Wheat* represent constant term, coefficients of independent variables, conditional volatility, time varying correlation and wheat futures contract respectively. \*\*\*, \*\*, and \* denote statistical significance at 1%, 5%, and 10% level.

Table C.2: Regression Results

|                          | <i>Dependent variable:</i>  |                          |                          |                          |                          |                          |                          |                          |
|--------------------------|-----------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
|                          | pre-financialisation period |                          |                          |                          | financialisation period  |                          |                          |                          |
|                          | $\rho$ S&P500-KC Wheat 1    | $\rho$ S&P500-KC Wheat 2 | $\rho$ S&P500-KC Wheat 3 | $\rho$ S&P500-KC Wheat 4 | $\rho$ S&P500-KC Wheat 1 | $\rho$ S&P500-KC Wheat 2 | $\rho$ S&P500-KC Wheat 3 | $\rho$ S&P500-KC Wheat 4 |
| $\xi_1 h_{S\&P500}$      | 0.010<br>(0.454)            | -0.467<br>(0.455)        | -0.684<br>(0.468)        | -0.377<br>(0.474)        | 7.803***<br>(0.995)      | 7.531***<br>(0.993)      | 7.262***<br>(0.995)      | 7.195***<br>(0.998)      |
| $\xi_2 h_{KC\ Wheat\ 1}$ | -0.137<br>(0.363)           | 0.199<br>(0.364)         | 0.183<br>(0.374)         | 0.147<br>(0.379)         | 2.723<br>(4.915)         | 4.848<br>(4.901)         | 4.605<br>(4.914)         | 2.214<br>(4.928)         |
| $\xi_3 h_{KC\ Wheat\ 2}$ | 0.579<br>(0.949)            | 0.232<br>(0.952)         | 0.418<br>(0.979)         | -0.518<br>(0.992)        | -1.945<br>(4.235)        | -3.927<br>(4.223)        | -5.637<br>(4.234)        | -0.044<br>(4.246)        |
| $\xi_4 h_{KC\ Wheat\ 3}$ | -1.666<br>(1.262)           | -2.170*<br>(1.267)       | -3.125**<br>(1.303)      | -0.698<br>(1.319)        | 1.071<br>(2.440)         | 1.807<br>(2.433)         | 7.811***<br>(2.440)      | 4.865**<br>(2.446)       |
| $\xi_5 h_{KC\ Wheat\ 4}$ | 0.696<br>(0.598)            | 1.052*<br>(0.601)        | 1.620***<br>(0.618)      | 0.603<br>(0.626)         | -0.877<br>(1.284)        | -0.969<br>(1.281)        | -4.765***<br>(1.284)     | -5.091***<br>(1.288)     |
| $\xi_0$                  | -0.0003<br>(0.001)          | -0.0003<br>(0.001)       | -0.0003<br>(0.001)       | -0.0003<br>(0.001)       | 0.0002<br>(0.002)        | 0.0002<br>(0.002)        | 0.0002<br>(0.002)        | 0.0002<br>(0.002)        |
| Observations             | 572                         | 572                      | 572                      | 572                      | 833                      | 833                      | 833                      | 833                      |
| R <sup>2</sup>           | 0.004                       | 0.011                    | 0.021                    | 0.005                    | 0.070                    | 0.068                    | 0.077                    | 0.076                    |
| Adjusted R <sup>2</sup>  | -0.005                      | 0.003                    | 0.013                    | -0.004                   | 0.065                    | 0.062                    | 0.072                    | 0.071                    |

*Note:* The table reports estimated results from the regression:  $\rho_{ij,t} = \xi_0 + \xi_1 h_{i,t} + \sum_{j=1}^4 \xi_2 h_{j,t} + \vartheta_{ij,t}$  that examines the relationship between conditional correlation and conditional volatility for pre-financialisation and during financialisation period.  $\vartheta_{ij,t}$  is standardised error term shown in parentheses.  $\xi_0$ ,  $\xi$ ,  $h$ ,  $\rho$  and *KansasCitywheat* represent constant term, coefficients of independent variables, conditional volatility, time varying correlation and Kansas City wheat futures contract respectively. \*\*\*, \*\*, and \* denote statistical significance at 1%, 5%, and 10% level.

Table C.3: Regression Results

|                         | <i>Dependent variable:</i>  |                           |                           |                              |                         |                      |                      |                      |
|-------------------------|-----------------------------|---------------------------|---------------------------|------------------------------|-------------------------|----------------------|----------------------|----------------------|
|                         | pre-financialisation period |                           |                           |                              | financialisation period |                      |                      |                      |
|                         | $\rho$ S&P500-Corn 1        | $\rho$ S&P500-Corn 2      | $\rho$ S&P500-Corn 3      | $\rho$ S&P500-Corn 4         | $\rho$ S&P500-Corn 1    | $\rho$ S&P500-Corn 2 | $\rho$ S&P500-Corn 3 | $\rho$ S&P500-Corn 4 |
| $\xi_1 h_{S\&P500}$     | 0.285<br>(0.875)            | 0.068<br>(0.857)          | 0.839<br>(0.880)          | 1.366<br>(0.900)             | 7.734***<br>(1.737)     | 7.924***<br>(1.719)  | 8.165***<br>(1.742)  | 8.527***<br>(1.728)  |
| $\xi_2 h_{Corn\ 1}$     | 0.583<br>(0.672)            | 1.151*<br>(0.658)         | 0.217<br>(0.675)          | 0.266<br>(0.690)             | -5.654***<br>(1.828)    | -0.050<br>(1.810)    | 1.111<br>(1.834)     | 1.040<br>(1.819)     |
| $\xi_3 h_{Corn\ 2}$     | -0.748<br>(1.319)           | -2.028<br>(1.291)         | 0.134<br>(1.326)          | 0.035<br>(1.356)             | 2.492<br>(2.417)        | -2.966<br>(2.392)    | -2.253<br>(2.424)    | -1.725<br>(2.404)    |
| $\xi_4 h_{Corn\ 3}$     | -717.739<br>(1,253.457)     | -541.020<br>(1,227.447)   | -2,054.041<br>(1,260.413) | 699.977<br>(1,288.657)       | 0.959<br>(3.636)        | 0.930<br>(3.599)     | 1.268<br>(3.647)     | 4.538<br>(3.617)     |
| $\xi_5 h_{Corn\ 4}$     | -7,491.771<br>(4,614.683)   | -5,041.469<br>(4,518.925) | 598.317<br>(4,640.289)    | -10,456.230**<br>(4,744.274) | 3.347<br>(4.187)        | 2.149<br>(4.144)     | -1.035<br>(4.200)    | -6.561<br>(4.165)    |
| $\xi_0$                 | -0.008<br>(0.006)           | -0.006<br>(0.006)         | 0.001<br>(0.006)          | -0.012**<br>(0.006)          | -0.00001<br>(0.004)     | -0.0001<br>(0.004)   | -0.0001<br>(0.004)   | -0.0001<br>(0.004)   |
| Observations            | 572                         | 572                       | 572                       | 572                          | 833                     | 833                  | 833                  | 833                  |
| R <sup>2</sup>          | 0.022                       | 0.023                     | 0.013                     | 0.015                        | 0.036                   | 0.028                | 0.027                | 0.031                |
| Adjusted R <sup>2</sup> | 0.014                       | 0.015                     | 0.004                     | 0.006                        | 0.030                   | 0.022                | 0.021                | 0.025                |

*Note:* The table reports estimated results from the regression:  $\rho_{ij,t} = \xi_0 + \xi_1 h_{i,t} + \sum_{t=1}^4 \xi_2 h_{j,t} + \vartheta_{ij,t}$  that examines the relationship between conditional correlation and conditional volatility for pre-financialisation and during financialisation period.  $\vartheta_{ij,t}$  is standardised error term shown in parentheses.  $\xi_0$ ,  $\xi$ ,  $h$ ,  $\rho$  and *Corn* represent constant term, coefficients of independent variables, conditional volatility, time varying correlation and corn wheat futures contract respectively. \*\*\*, \*\*, and \* denote statistical significance at 1%, 5%, and 10% level.

Table C.4: Regression Results

|                         | <i>Dependent variable:</i>  |                              |                           |                           |                         |                         |                         |                         |
|-------------------------|-----------------------------|------------------------------|---------------------------|---------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
|                         | pre-financialisation period |                              |                           |                           | financialisation period |                         |                         |                         |
|                         | $\rho$ S&P500-Soybean 1     | $\rho$ S&P500-Soybean 2      | $\rho$ S&P500-Soybean 3   | $\rho$ S&P500-Soybean 4   | $\rho$ S&P500-Soybean 1 | $\rho$ S&P500-Soybean 2 | $\rho$ S&P500-Soybean 3 | $\rho$ S&P500-Soybean 4 |
| $\xi_1 h$ S&P500        | 0.276<br>(0.738)            | 0.179<br>(0.747)             | -0.326<br>(0.733)         | -0.088<br>(0.748)         | 6.497***<br>(1.190)     | 7.218***<br>(1.196)     | 7.670***<br>(1.199)     | 8.101***<br>(1.207)     |
| $\xi_2 h$ Soybean 1     | 0.137<br>(0.643)            | -0.249<br>(0.650)            | -0.660<br>(0.639)         | -0.593<br>(0.651)         | -0.596<br>(1.267)       | 2.156*<br>(1.274)       | 1.224<br>(1.276)        | -0.154<br>(1.285)       |
| $\xi_3 h$ Soybean 2     | 0.146<br>(1.222)            | 1.086<br>(1.237)             | 1.490<br>(1.214)          | 0.843<br>(1.238)          | -0.006<br>(3.207)       | -8.062**<br>(3.225)     | -3.764<br>(3.231)       | 1.822<br>(3.253)        |
| $\xi_4 h$ Soybean 3     | 1,108.028<br>(1,576.526)    | 1,722.144<br>(1,595.191)     | 564.615<br>(1,566.351)    | 836.133<br>(1,596.863)    | 2.009<br>(2.792)        | 5.646**<br>(2.808)      | 2.647<br>(2.813)        | -1.730<br>(2.832)       |
| $\xi_5 h$ Soybean 4     | -7,918.617<br>(5,326.546)   | -10,771.240**<br>(5,389.609) | -7,083.975<br>(5,292.169) | -6,648.972<br>(5,395.259) | 1.423<br>(2.438)        | 1.182<br>(2.451)        | 0.907<br>(2.456)        | 1.327<br>(2.472)        |
| $\xi_0$                 | 0.002<br>(0.002)            | 0.003<br>(0.002)             | 0.002<br>(0.002)          | 0.002<br>(0.002)          | 0.0002<br>(0.003)       | 0.0002<br>(0.003)       | 0.0002<br>(0.003)       | 0.0002<br>(0.003)       |
| Observations            | 572                         | 572                          | 572                       | 572                       | 833                     | 833                     | 833                     | 833                     |
| R <sup>2</sup>          | 0.007                       | 0.009                        | 0.008                     | 0.007                     | 0.049                   | 0.060                   | 0.055                   | 0.056                   |
| Adjusted R <sup>2</sup> | -0.002                      | 0.0003                       | -0.0004                   | -0.002                    | 0.043                   | 0.054                   | 0.050                   | 0.050                   |

*Note:* The table reports estimated results from the regression:  $\rho_{ij,t} = \xi_0 + \xi_1 h_{i,t} + \sum_{t=1}^4 \xi_2 h_{j,t} + \vartheta_{ij,t}$  that examines the relationship between conditional correlation and conditional volatility for pre-financialisation and during financialisation period.  $\vartheta_{ij,t}$  is standardised error term shown in parentheses.  $\xi_0$ ,  $\xi$ ,  $h$ ,  $\rho$  and *Soybean* represent constant term, coefficients of independent variables, conditional volatility, time varying correlation and soybean futures contract respectively. \*\*\*, \*\*, and \* denote statistical significance at 1%, 5%, and 10% level.

Table C.5: Regression Results

|                         | <i>Dependent variable:</i>  |                             |                             |                             |                             |                             |                             |                             |
|-------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
|                         | pre-financialisation period |                             |                             |                             | financialisation period     |                             |                             |                             |
|                         | $\rho$ S&P500-Soybean Oil 1 | $\rho$ S&P500-Soybean Oil 2 | $\rho$ S&P500-Soybean Oil 3 | $\rho$ S&P500-Soybean Oil 4 | $\rho$ S&P500-Soybean Oil 1 | $\rho$ S&P500-Soybean Oil 2 | $\rho$ S&P500-Soybean Oil 3 | $\rho$ S&P500-Soybean Oil 4 |
| $\xi_1 h$ S&P500        | 1.583***<br>(0.556)         | 1.384**<br>(0.557)          | 1.129**<br>(0.547)          | 1.023*<br>(0.549)           | 4.887***<br>(0.502)         | 4.939***<br>(0.503)         | 4.897***<br>(0.507)         | 4.931***<br>(0.510)         |
| $\xi_2 h$ Soybean oil 1 | -20,610.820<br>(13,723.430) | -16,238.340<br>(13,759.980) | -15,295.470<br>(13,505.950) | -14,843.300<br>(13,541.990) | -18.268***<br>(6.274)       | -16.803***<br>(6.296)       | -16.396***<br>(6.338)       | -15.332**<br>(6.379)        |
| $\xi_3 h$ Soybean oil 2 | 16,965.330<br>(10,470.600)  | 16,115.280<br>(10,498.490)  | 14,502.780<br>(10,304.670)  | 12,613.330<br>(10,332.170)  | 23.704**<br>(10.101)        | 22.184**<br>(10.136)        | 22.480**<br>(10.204)        | 20.304**<br>(10.270)        |
| $\xi_4 h$ Soybean oil 3 | 101.404<br>(721.484)        | -39.693<br>(723.406)        | -4.813<br>(710.051)         | 57.505<br>(711.946)         | -1.816<br>(11.879)          | -1.512<br>(11.919)          | -3.870<br>(11.999)          | -2.749<br>(12.077)          |
| $\xi_5 h$ Soybean oil 4 | -1.395<br>(1.080)           | -1.120<br>(1.083)           | -1.086<br>(1.063)           | -0.900<br>(1.066)           | 0.061<br>(7.750)            | -0.226<br>(7.777)           | 1.428<br>(7.829)            | 1.292<br>(7.880)            |
| $\xi_0$                 | -0.007<br>(0.009)           | -0.008<br>(0.009)           | -0.007<br>(0.009)           | -0.005<br>(0.009)           | 0.0002<br>(0.001)           | 0.0002<br>(0.001)           | 0.0002<br>(0.001)           | 0.0002<br>(0.001)           |
| Observations            | 572                         | 572                         | 572                         | 572                         | 833                         | 833                         | 833                         | 833                         |
| R <sup>2</sup>          | 0.021                       | 0.016                       | 0.012                       | 0.010                       | 0.144                       | 0.143                       | 0.140                       | 0.137                       |
| Adjusted R <sup>2</sup> | 0.013                       | 0.008                       | 0.004                       | 0.001                       | 0.138                       | 0.138                       | 0.134                       | 0.131                       |

Note:

The table reports estimated results from the regression:  $\rho_{ij,t} = \xi_0 + \xi_1 h_{i,t} + \sum_{t=1}^4 \xi_2 h_{j,t} + \vartheta_{ij,t}$  that examines the relationship between conditional correlation and conditional volatility for pre-financialisation and during financialisation period.  $\vartheta_{ij,t}$  is standardised error term shown in parentheses.  $\xi_0$ ,  $\xi$ ,  $h$ ,  $\rho$  and *Soybeanoil* represent constant term, coefficients of independent variables, conditional volatility, time varying correlation and soybean oil futures contract respectively. \*\*\*, \*\*, and \* denote statistical significance at 1%, 5%, and 10% level.

Table C.6: Regression Results

|                         | <i>Dependent variable:</i>  |                           |                           |                           |                           |                           |
|-------------------------|-----------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
|                         | pre-financialisation period |                           |                           | financialisation period   |                           |                           |
|                         | $\rho$ $SE\ P500$ -Oats 1   | $\rho$ $SE\ P500$ -Oats 2 | $\rho$ $SE\ P500$ -Oats 3 | $\rho$ $SE\ P500$ -Oats 1 | $\rho$ $SE\ P500$ -Oats 2 | $\rho$ $SE\ P500$ -Oats 3 |
| $\xi_1 h_{SE\ P500}$    | 1.762<br>(2.275)            | -2.277<br>(2.306)         | 1.636<br>(2.290)          | 4.549***<br>(0.716)       | 5.063***<br>(0.747)       | 5.326***<br>(0.787)       |
| $\xi_2 h_{Oats\ 1}$     | 3.227**<br>(1.494)          | -0.836<br>(1.514)         | -1.628<br>(1.503)         | 0.201<br>(9.149)          | -4.198<br>(9.547)         | -3.068<br>(10.055)        |
| $\xi_3 h_{Oats\ 2}$     | -5.020***<br>(1.898)        | -2.258<br>(1.924)         | -1.588<br>(1.911)         | 8.764<br>(7.426)          | 11.759<br>(7.749)         | 12.101<br>(8.161)         |
| $\xi_4 h_{Oats\ 3}$     | 1.397<br>(2.419)            | -0.192<br>(2.452)         | -0.111<br>(2.434)         | -2.547<br>(6.564)         | -3.035<br>(6.849)         | -2.899<br>(7.213)         |
| $\xi_5 h_{SE\ P500}$    | -0.0002<br>(0.004)          | -0.0003<br>(0.004)        | -0.0002<br>(0.004)        | 0.00001<br>(0.002)        | 0.0003<br>(0.002)         | 0.0002<br>(0.002)         |
| Observations            | 572                         | 572                       | 572                       | 833                       | 833                       | 833                       |
| R <sup>2</sup>          | 0.023                       | 0.022                     | 0.018                     | 0.065                     | 0.076                     | 0.078                     |
| Adjusted R <sup>2</sup> | 0.016                       | 0.015                     | 0.011                     | 0.060                     | 0.071                     | 0.073                     |

*Note:* The table reports estimated results from the regression:  $\rho_{ij,t} = \xi_0 + \xi_1 h_{i,t} + \sum_{t=1}^4 \xi_2 h_{j,t} + \vartheta_{ij,t}$  that examines the relationship between conditional correlation and conditional volatility for pre-financialisation and during financialisation period.  $\vartheta_{ij,t}$  is standardised error term shown in parentheses.  $\xi_0$ ,  $\xi$ ,  $h$ ,  $\rho$  and *Oats* represent constant term, coefficients of independent variables, conditional volatility, time varying correlation and oats futures contract respectively. \*\*, \* and \* denote statistical significance at 1%, 5%, and 10% level.

Table C.7: Regression Results

|                            | <i>Dependent variable:</i>  |                            |                            |                            |                            |                            |                            |                            |
|----------------------------|-----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
|                            | pre-financialisation period |                            |                            |                            | financialisation period    |                            |                            |                            |
|                            | $\rho$ S&P500-MPLS Wheat 1  | $\rho$ S&P500-MPLS Wheat 2 | $\rho$ S&P500-MPLS Wheat 3 | $\rho$ S&P500-MPLS Wheat 4 | $\rho$ S&P500-MPLS Wheat 1 | $\rho$ S&P500-MPLS Wheat 2 | $\rho$ S&P500-MPLS Wheat 3 | $\rho$ S&P500-MPLS Wheat 4 |
| $\xi_1 h_{SP500}$          | 0.267<br>(0.480)            | −0.447<br>(0.487)          | −0.226<br>(0.494)          | 0.026<br>(0.489)           | 10.390***<br>(1.598)       | 10.004***<br>(1.609)       | 9.585***<br>(1.608)        | 9.586***<br>(1.615)        |
| $\xi_2 h_{MPLS\ Wheat\ 1}$ | 1.866**<br>(0.730)          | 1.621**<br>(0.741)         | 1.408*<br>(0.751)          | 1.456*<br>(0.744)          | 2.430<br>(1.600)           | 1.740<br>(1.610)           | 1.704<br>(1.609)           | 2.182<br>(1.616)           |
| $\xi_3 h_{MPLS\ Wheat\ 2}$ | −6.125***<br>(1.484)        | −6.838***<br>(1.506)       | −6.108***<br>(1.527)       | −6.046***<br>(1.513)       | −2.503<br>(2.260)          | −2.034<br>(2.275)          | −3.059<br>(2.274)          | −3.614<br>(2.284)          |
| $\xi_4 h_{MPLS\ Wheat\ 3}$ | 6.099***<br>(1.628)         | 6.533***<br>(1.652)        | 5.336***<br>(1.675)        | 4.540***<br>(1.659)        | 4.205<br>(2.700)           | 6.005**<br>(2.718)         | 7.154***<br>(2.717)        | 9.495***<br>(2.729)        |
| $\xi_5 h_{MPLS\ Wheat\ 4}$ | −1.985*<br>(1.119)          | −1.161<br>(1.135)          | −0.467<br>(1.151)          | 0.271<br>(1.140)           | −2.219<br>(2.163)          | −3.664*<br>(2.178)         | −3.570<br>(2.177)          | −5.784***<br>(2.186)       |
| $\xi_0$                    | −0.001<br>(0.001)           | −0.0004<br>(0.001)         | −0.0004<br>(0.001)         | −0.0003<br>(0.001)         | 0.0001<br>(0.003)          | 0.0001<br>(0.003)          | 0.0001<br>(0.003)          | 0.0001<br>(0.003)          |
| Observations               | 463                         | 463                        | 463                        | 463                        | 749                        | 749                        | 749                        | 749                        |
| R <sup>2</sup>             | 0.041                       | 0.047                      | 0.036                      | 0.036                      | 0.067                      | 0.067                      | 0.067                      | 0.073                      |
| Adjusted R <sup>2</sup>    | 0.030                       | 0.036                      | 0.025                      | 0.026                      | 0.061                      | 0.061                      | 0.061                      | 0.067                      |

*Note:* The table reports estimated results from the regression:  $\rho_{ij,t} = \xi_0 + \xi_1 h_{i,t} + \sum_{t=1}^4 \xi_2 h_{j,t} + \vartheta_{ij,t}$  that examines the relationship between conditional correlation and conditional volatility for pre-financialisation and during financialisation period.  $\vartheta_{ij,t}$  is standardised error term shown in parentheses.  $\xi_0$ ,  $\xi$ ,  $h$ ,  $\rho$  and *MPLS*wheat represent constant term, coefficients of independent variables, conditional volatility, time varying correlation and Minneapolis wheat futures contract respectively. \*\*\*, \*\*, and \* denote statistical significance at 1%, 5%, and 10% level.

Table C.8: Regression Results

| <i>Dependent variable:</i>   |                              |                              |                              |                              |                              |                              |                              |                              |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
|                              | pre-financialisation period  |                              |                              |                              | financialisation period      |                              |                              |                              |
|                              | $\rho$ S&P500-Soybean Meal 1 | $\rho$ S&P500-Soybean Meal 2 | $\rho$ S&P500-Soybean Meal 3 | $\rho$ S&P500-Soybean Meal 4 | $\rho$ S&P500-Soybean Meal 1 | $\rho$ S&P500-Soybean Meal 2 | $\rho$ S&P500-Soybean Meal 3 | $\rho$ S&P500-Soybean Meal 4 |
| $\xi_1 h_{S\&P500}$          | -0.374<br>(0.297)            | -0.254<br>(0.297)            | -0.285<br>(0.292)            | -0.384<br>(0.292)            | 3.200***<br>(0.643)          | 3.092***<br>(0.653)          | 3.469***<br>(0.658)          | 3.930***<br>(0.649)          |
| $\xi_2 h_{Soybean\ meal\ 1}$ | -0.362<br>(0.343)            | -0.125<br>(0.342)            | -0.225<br>(0.337)            | -0.374<br>(0.337)            | -0.788<br>(0.554)            | 0.110<br>(0.563)             | 0.217<br>(0.567)             | 0.054<br>(0.559)             |
| $\xi_3 h_{Soybean\ meal\ 2}$ | 1.170<br>(1.290)             | 0.414<br>(1.286)             | 0.330<br>(1.267)             | 0.680<br>(1.265)             | -2.549<br>(3.422)            | -4.000<br>(3.478)            | -1.176<br>(3.503)            | 0.939<br>(3.453)             |
| $\xi_4 h_{Soybean\ meal\ 3}$ | -0.643<br>(1.672)            | 0.297<br>(1.667)             | 0.510<br>(1.642)             | -0.988<br>(1.640)            | 10.051<br>(8.219)            | 5.446<br>(8.354)             | -0.262<br>(8.413)            | -1.390<br>(8.292)            |
| $\xi_5 h_{Soybean\ meal\ 4}$ | -0.545<br>(0.968)            | -0.870<br>(0.965)            | -0.726<br>(0.951)            | 0.560<br>(0.949)             | -0.497<br>(5.192)            | 3.545<br>(5.277)             | 3.645<br>(5.314)             | 0.869<br>(5.238)             |
| $\xi_0$                      | -0.0001<br>(0.001)           | -0.0001<br>(0.001)           | -0.0001<br>(0.001)           | -0.0001<br>(0.001)           | 0.0002<br>(0.001)            | 0.0001<br>(0.001)            | 0.0001<br>(0.001)            | 0.00005<br>(0.001)           |
| Observations                 | 572                          | 572                          | 572                          | 572                          | 833                          | 833                          | 833                          | 833                          |
| R <sup>2</sup>               | 0.008                        | 0.005                        | 0.004                        | 0.007                        | 0.044                        | 0.036                        | 0.037                        | 0.044                        |
| Adjusted R <sup>2</sup>      | -0.0003                      | -0.004                       | -0.004                       | -0.002                       | 0.038                        | 0.030                        | 0.031                        | 0.038                        |

*Note:* The table reports estimated results from the regression:  $\rho_{ij,t} = \xi_0 + \xi_1 h_{i,t} + \sum_{t=1}^4 \xi_2 h_{j,t} + \vartheta_{ij,t}$  that examines the relationship between conditional correlation and conditional volatility for pre-financialisation and during financialisation period.  $\vartheta_{ij,t}$  is standardised error term shown in parentheses.  $\xi_0$ ,  $\xi$ ,  $h$ ,  $\rho$  and *Soybeanmeal* represent constant term, coefficients of independent variables, conditional volatility, time varying correlation and soybean meal futures contract respectively. \*\*\*, \*\*, and \* denote statistical significance at 1%, 5%, and 10% level.



Table C.9: Regression Results

|                            | <i>Dependent variable:</i>  |                            |                            |                            |                            |                            |
|----------------------------|-----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
|                            | pre-financialisation period |                            |                            | financialisation period    |                            |                            |
|                            | $\rho$ S&P500-Rough Rice 1  | $\rho$ S&P500-Rough Rice 2 | $\rho$ S&P500-Rough Rice 3 | $\rho$ S&P500-Rough Rice 1 | $\rho$ S&P500-Rough Rice 2 | $\rho$ S&P500-Rough Rice 3 |
| $\xi_1 h_{SP500}$          | -1.087<br>(2.933)           | -2.861<br>(3.053)          | -1.714<br>(2.966)          | 10.191***<br>(2.226)       | 10.465***<br>(2.323)       | 10.622***<br>(2.292)       |
| $\xi_2 h_{Rough\ rice\ 1}$ | 1.303<br>(1.056)            | 0.250<br>(1.099)           | -1.342<br>(1.067)          | 14.817***<br>(3.016)       | 2.668<br>(3.148)           | 0.582<br>(3.105)           |
| $\xi_3 h_{Rough\ rice\ 2}$ | -38.523**<br>(15.602)       | -33.905**<br>(16.241)      | -37.709**<br>(15.777)      | -11.491**<br>(4.807)       | -4.578<br>(5.017)          | -9.275*<br>(4.949)         |
| $\xi_4 h_{Rough\ rice\ 3}$ | -13.175<br>(19.633)         | -7.571<br>(20.438)         | 20.637<br>(19.854)         | -4.830<br>(4.887)          | 0.466<br>(5.101)           | 8.067<br>(5.031)           |
| $\xi_5 h_{SP500}$          | -0.0003<br>(0.008)          | -0.0004<br>(0.008)         | -0.001<br>(0.008)          | 0.0003<br>(0.005)          | 0.0004<br>(0.006)          | 0.0004<br>(0.005)          |
| Observations               | 481                         | 481                        | 481                        | 833                        | 833                        | 833                        |
| R <sup>2</sup>             | 0.024                       | 0.020                      | 0.024                      | 0.054                      | 0.025                      | 0.030                      |
| Adjusted R <sup>2</sup>    | 0.016                       | 0.012                      | 0.015                      | 0.050                      | 0.021                      | 0.025                      |

*Note:* The table reports estimated results from the regression:  $\rho_{ij,t} = \xi_0 + \xi_1 h_{i,t} + \sum_{t=1}^4 \xi_2 h_{j,t} + \vartheta_{ij,t}$  that examines the relationship between conditional correlation and conditional volatility for pre-financialisation and during financialisation period.  $\vartheta_{ij,t}$  is standardised error term shown in parentheses.  $\xi_0$ ,  $\xi$ ,  $h$ ,  $\rho$  and *Roughrice* represent constant term, coefficients of independent variables, conditional volatility, time varying correlation and rough rice futures contract respectively. \*\*, \* and \* denote statistical significance at 1%, 5%, and 10% level.

Table C.10: Regression Results

|                         | <i>Dependent variable:</i>  |                        |                        |                        |                         |                        |                        |                        |
|-------------------------|-----------------------------|------------------------|------------------------|------------------------|-------------------------|------------------------|------------------------|------------------------|
|                         | pre-financialisation period |                        |                        |                        | financialisation period |                        |                        |                        |
|                         | $\rho$ S&P500-Coffee 1      | $\rho$ S&P500-Coffee 2 | $\rho$ S&P500-Coffee 3 | $\rho$ S&P500-Coffee 4 | $\rho$ S&P500-Coffee 1  | $\rho$ S&P500-Coffee 2 | $\rho$ S&P500-Coffee 3 | $\rho$ S&P500-Coffee 4 |
| $\xi_1 h_{S\&P500}$     | 2.955**<br>(1.357)          | 2.613*<br>(1.355)      | 3.231**<br>(1.349)     | 4.092***<br>(1.335)    | 12.315***<br>(2.158)    | 12.308***<br>(2.155)   | 12.296***<br>(2.161)   | 12.331***<br>(2.163)   |
| $\xi_2 h_{Coffee\ 1}$   | -0.200<br>(0.777)           | -0.587<br>(0.775)      | -0.829<br>(0.772)      | -1.018<br>(0.764)      | -13.242<br>(25.642)     | 3.462<br>(25.604)      | 3.013<br>(25.676)      | 2.916<br>(25.698)      |
| $\xi_3 h_{Coffee\ 2}$   | -2.126**<br>(1.056)         | -1.779*<br>(1.054)     | -1.088<br>(1.050)      | -1.091<br>(1.038)      | -47.401<br>(39.629)     | -64.991<br>(39.571)    | -53.507<br>(39.683)    | -52.855<br>(39.716)    |
| $\xi_4 h_{Coffee\ 3}$   | 2.610<br>(2.163)            | -0.246<br>(2.159)      | -1.970<br>(2.149)      | -1.977<br>(2.127)      | 5.481<br>(76.208)       | 33.946<br>(76.096)     | 15.309<br>(76.311)     | -0.503<br>(76.374)     |
| $\xi_5 h_{Coffee\ 4}$   | -0.353<br>(2.283)           | 2.768<br>(2.279)       | 4.175*<br>(2.270)      | 4.357*<br>(2.245)      | 59.851<br>(59.991)      | 33.002<br>(59.903)     | 40.470<br>(60.073)     | 55.191<br>(60.122)     |
| $\xi_0$                 | 0.00003<br>(0.003)          | -0.00004<br>(0.003)    | -0.00004<br>(0.003)    | -0.00003<br>(0.003)    | -0.0002<br>(0.005)      | -0.0001<br>(0.005)     | -0.0001<br>(0.005)     | -0.0001<br>(0.005)     |
| Observations            | 572                         | 572                    | 572                    | 572                    | 833                     | 833                    | 833                    | 833                    |
| R <sup>2</sup>          | 0.028                       | 0.029                  | 0.030                  | 0.041                  | 0.057                   | 0.056                  | 0.053                  | 0.053                  |
| Adjusted R <sup>2</sup> | 0.019                       | 0.021                  | 0.022                  | 0.032                  | 0.051                   | 0.050                  | 0.047                  | 0.048                  |

*Note:* The table reports estimated results from the regression:  $\rho_{ij,t} = \xi_0 + \xi_1 h_{i,t} + \sum_{t=1}^4 \xi_2 h_{j,t} + \vartheta_{ij,t}$  that examines the relationship between conditional correlation and conditional volatility for pre-financialisation and during financialisation period.  $\vartheta_{ij,t}$  is standardised error term shown in parentheses.  $\xi_0$ ,  $\xi$ ,  $h$ ,  $\rho$  and *Coffee* represent constant term, coefficients of independent variables, conditional volatility, time varying correlation and coffee futures contract respectively. \*\*\*, \*\*, and \* denote statistical significance at 1%, 5%, and 10% level.

Table C.11: Regression Results

|                         | <i>Dependent variable:</i>  |                       |                       |                         |                       |                       |
|-------------------------|-----------------------------|-----------------------|-----------------------|-------------------------|-----------------------|-----------------------|
|                         | pre-financialisation period |                       |                       | financialisation period |                       |                       |
|                         | $\rho$ S&P500-Sugar 1       | $\rho$ S&P500-Sugar 3 | $\rho$ S&P500-Sugar 4 | $\rho$ S&P500-Sugar 1   | $\rho$ S&P500-Sugar 3 | $\rho$ S&P500-Sugar 4 |
| $\xi_1 h_{S\&P500}$     | -1.237*<br>(0.674)          | -0.709<br>(0.646)     | -1.224*<br>(0.664)    | 0.643<br>(0.909)        | 6.256***<br>(0.898)   | 6.220***<br>(0.877)   |
| $\xi_2 h_{Sugar\ 1}$    | -1.541*<br>(0.847)          | -1.547*<br>(0.812)    | -1.640**<br>(0.835)   | -2.365**<br>(1.026)     | -2.352**<br>(1.015)   | -2.004**<br>(0.990)   |
| $\xi_3 h_{Sugar\ 3}$    | 0.893<br>(1.292)            | -2.027<br>(1.239)     | -0.206<br>(1.273)     | 2.353<br>(2.180)        | 4.901**<br>(2.156)    | 0.541<br>(2.105)      |
| $\xi_4 h_{Sugar\ 4}$    | -4.452**<br>(1.935)         | 0.810<br>(1.855)      | -1.682<br>(1.906)     | 1.277<br>(2.057)        | -3.121<br>(2.034)     | 0.454<br>(1.986)      |
| $\xi_5 h_{S\&P500}$     | -0.001<br>(0.001)           | -0.001<br>(0.001)     | -0.001<br>(0.001)     | -0.0001<br>(0.002)      | -0.00000<br>(0.002)   | -0.00003<br>(0.002)   |
| Observations            | 572                         | 572                   | 572                   | 833                     | 833                   | 833                   |
| R <sup>2</sup>          | 0.042                       | 0.032                 | 0.031                 | 0.013                   | 0.069                 | 0.064                 |
| Adjusted R <sup>2</sup> | 0.036                       | 0.026                 | 0.024                 | 0.008                   | 0.065                 | 0.060                 |

*Note:* The table reports estimated results from the regression:  $\rho_{ij,t} = \xi_0 + \xi_1 h_{i,t} + \sum_{t=1}^4 \xi_2 h_{j,t} + \vartheta_{ij,t}$  that examines the relationship between conditional correlation and conditional volatility for pre-financialisation and during financialisation period.  $\vartheta_{ij,t}$  is standardised error term shown in parentheses.  $\xi_0$ ,  $\xi$ ,  $h$ ,  $\rho$  and *Sugar* represent constant term, coefficients of independent variables, conditional volatility, time varying correlation and sugar futures contract respectively. \*\*, \* and \* denote statistical significance at 1%, 5%, and 10% level.

Table C.12: Regression Results

|                         | <i>Dependent variable:</i>  |                       |                       |                       |                         |                       |                       |                       |
|-------------------------|-----------------------------|-----------------------|-----------------------|-----------------------|-------------------------|-----------------------|-----------------------|-----------------------|
|                         | pre-financialisation period |                       |                       |                       | financialisation period |                       |                       |                       |
|                         | $\rho$ S&P500-Cocoa 1       | $\rho$ S&P500-Cocoa 2 | $\rho$ S&P500-Cocoa 3 | $\rho$ S&P500-Cocoa 4 | $\rho$ S&P500-Cocoa 1   | $\rho$ S&P500-Cocoa 2 | $\rho$ S&P500-Cocoa 3 | $\rho$ S&P500-Cocoa 4 |
| $\xi_1 h_{S\&P500}$     | -0.113<br>(0.833)           | 0.381<br>(0.821)      | 0.720<br>(0.827)      | 0.375<br>(0.814)      | 0.914**<br>(0.416)      | 0.793*<br>(0.418)     | 0.670<br>(0.418)      | 0.543<br>(0.417)      |
| $\xi_2 h_{Cocoa\ 1}$    | -0.850<br>(2.773)           | 0.752<br>(2.730)      | 1.284<br>(2.750)      | 1.154<br>(2.706)      | -1.926<br>(2.061)       | 1.120<br>(2.069)      | 1.085<br>(2.070)      | 1.356<br>(2.067)      |
| $\xi_3 h_{Cocoa\ 2}$    | 7.407<br>(7.039)            | 6.265<br>(6.931)      | 7.326<br>(6.982)      | 7.416<br>(6.871)      | 1.042<br>(9.519)        | -1.505<br>(9.556)     | 1.369<br>(9.560)      | 2.357<br>(9.549)      |
| $\xi_4 h_{Cocoa\ 3}$    | 5.211<br>(12.546)           | 1.979<br>(12.354)     | -0.276<br>(12.444)    | -2.122<br>(12.246)    | 2.345<br>(10.113)       | 1.479<br>(10.153)     | -1.044<br>(10.157)    | -2.273<br>(10.145)    |
| $\xi_5 h_{Cocoa\ 4}$    | -10.568<br>(9.494)          | -7.708<br>(9.349)     | -7.076<br>(9.417)     | -5.055<br>(9.267)     | 3.714<br>(3.274)        | 3.957<br>(3.287)      | 3.741<br>(3.288)      | 3.788<br>(3.284)      |
| $\xi_0$                 | -0.0003<br>(0.002)          | -0.0003<br>(0.002)    | -0.0003<br>(0.002)    | -0.0003<br>(0.002)    | 0.00004<br>(0.001)      | 0.0001<br>(0.001)     | 0.0001<br>(0.001)     | 0.0001<br>(0.001)     |
| Observations            | 572                         | 572                   | 572                   | 572                   | 833                     | 833                   | 833                   | 833                   |
| R <sup>2</sup>          | 0.019                       | 0.019                 | 0.022                 | 0.021                 | 0.051                   | 0.044                 | 0.044                 | 0.044                 |
| Adjusted R <sup>2</sup> | 0.011                       | 0.010                 | 0.013                 | 0.013                 | 0.045                   | 0.038                 | 0.038                 | 0.039                 |

*Note:* The table reports estimated results from the regression:  $\rho_{ij,t} = \xi_0 + \xi_1 h_{i,t} + \sum_{t=1}^4 \xi_2 h_{j,t} + \vartheta_{ij,t}$  that examines the relationship between conditional correlation and conditional volatility for pre-financialisation and during financialisation period.  $\vartheta_{ij,t}$  is standardised error term shown in parentheses.  $\xi_0$ ,  $\xi$ ,  $h$ ,  $\rho$  and *Cocoa* represent constant term, coefficients of independent variables, conditional volatility, time varying correlation and cocoa futures contract respectively. \*\*\*, \*\*, and \* denote statistical significance at 1%, 5%, and 10% level.

Table C.13: Regression Results

|                         | <i>Dependent variable:</i>  |                        |                        |                        |                         |                        |                        |                        |
|-------------------------|-----------------------------|------------------------|------------------------|------------------------|-------------------------|------------------------|------------------------|------------------------|
|                         | pre-financialisation period |                        |                        |                        | financialisation period |                        |                        |                        |
|                         | $\rho$ S&P500-Cotton 1      | $\rho$ S&P500-Cotton 2 | $\rho$ S&P500-Cotton 3 | $\rho$ S&P500-Cotton 4 | $\rho$ S&P500-Cotton 1  | $\rho$ S&P500-Cotton 2 | $\rho$ S&P500-Cotton 3 | $\rho$ S&P500-Cotton 4 |
| $\xi_1 h$ S&P500        | -2.948<br>(2.034)           | -2.422<br>(2.186)      | -2.728<br>(2.182)      | -2.822<br>(2.090)      | 5.930***<br>(1.554)     | 6.837***<br>(1.532)    | 6.697***<br>(1.536)    | 5.448***<br>(1.628)    |
| $\xi_2 h$ Cotton 1      | -2.583<br>(1.649)           | -1.959<br>(1.772)      | -0.714<br>(1.770)      | -3.305*<br>(1.695)     | -0.302<br>(1.029)       | 0.384<br>(1.015)       | -0.064<br>(1.017)      | -0.137<br>(1.078)      |
| $\xi_3 h$ Cotton 2      | -4.913**<br>(2.351)         | -3.917<br>(2.527)      | 1.044<br>(2.523)       | 2.978<br>(2.416)       | -0.107<br>(2.375)       | -8.595***<br>(2.342)   | 0.972<br>(2.348)       | -0.218<br>(2.489)      |
| $\xi_4 h$ Cotton 3      | 4.797*<br>(2.830)           | 1.101<br>(3.042)       | -7.147**<br>(3.037)    | -9.453***<br>(2.908)   | 4.155<br>(3.350)        | 8.179**<br>(3.303)     | -0.276<br>(3.312)      | 3.255<br>(3.510)       |
| $\xi_5 h$ Cotton 4      | 0.696<br>(2.709)            | 2.757<br>(2.911)       | 6.583**<br>(2.907)     | 9.535***<br>(2.784)    | 2.073<br>(2.325)        | 4.782**<br>(2.293)     | 3.857*<br>(2.299)      | 2.454<br>(2.437)       |
| $\xi_0$                 | -0.0003<br>(0.004)          | -0.001<br>(0.005)      | -0.0004<br>(0.005)     | -0.0004<br>(0.004)     | 0.0003<br>(0.003)       | 0.0003<br>(0.003)      | 0.0003<br>(0.003)      | 0.0003<br>(0.004)      |
| Observations            | 572                         | 572                    | 572                    | 572                    | 833                     | 833                    | 833                    | 833                    |
| R <sup>2</sup>          | 0.026                       | 0.014                  | 0.015                  | 0.033                  | 0.056                   | 0.085                  | 0.055                  | 0.045                  |
| Adjusted R <sup>2</sup> | 0.018                       | 0.006                  | 0.006                  | 0.025                  | 0.050                   | 0.080                  | 0.049                  | 0.039                  |

*Note:* The table reports estimated results from the regression:  $\rho_{ij,t} = \xi_0 + \xi_1 h_{i,t} + \sum_{j=1}^4 \xi_2 h_{j,t} + \vartheta_{ij,t}$  that examines the relationship between conditional correlation and conditional volatility for pre-financialisation and during financialisation period.  $\vartheta_{ij,t}$  is standardised error term shown in parentheses.  $\xi_0$ ,  $\xi$ ,  $h$ ,  $\rho$  and *Cotton* represent constant term, coefficients of independent variables, conditional volatility, time varying correlation and cotton futures contract respectively. \*\*\*, \*\*, and \* denote statistical significance at 1%, 5%, and 10% level.

Table C.14: Regression Results

|                              | <i>Dependent variable:</i>   |                              |                              |                              |                              |                              |                              |                              |
|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
|                              | pre-financialisation period  |                              |                              |                              | financialisation period      |                              |                              |                              |
|                              | $\rho$ S&P500-Orange Juice 2 | $\rho$ S&P500-Orange Juice 3 | $\rho$ S&P500-Orange Juice 4 | $\rho$ S&P500-Orange Juice 5 | $\rho$ S&P500-Orange Juice 2 | $\rho$ S&P500-Orange Juice 3 | $\rho$ S&P500-Orange Juice 4 | $\rho$ S&P500-Orange Juice 5 |
| $\xi_1 h_{S\&P500}$          | -2.617**<br>(1.050)          | -3.067***<br>(1.067)         | -2.873***<br>(1.014)         | -3.635***<br>(1.015)         | 5.840***<br>(1.074)          | 6.245***<br>(1.080)          | 6.422***<br>(1.059)          | 6.536***<br>(1.038)          |
| $\xi_2 h_{Orange\ juice\ 2}$ | 31.533***<br>(11.008)        | 37.532***<br>(11.190)        | 23.127**<br>(10.637)         | 16.902<br>(10.646)           | 3.703<br>(4.093)             | 5.654<br>(4.117)             | 4.844<br>(4.038)             | 4.546<br>(3.958)             |
| $\xi_3 h_{Orange\ juice\ 3}$ | -27.169**<br>(11.839)        | -42.761***<br>(12.034)       | -23.335**<br>(11.439)        | -11.971<br>(11.449)          | 6.841<br>(4.381)             | 0.640<br>(4.407)             | 7.267*<br>(4.323)            | 7.837*<br>(4.237)            |
| $\xi_4 h_{Orange\ juice\ 4}$ | -11.746<br>(10.317)          | -8.203<br>(10.487)           | -5.069<br>(9.968)            | -8.778<br>(9.977)            | -20.027*<br>(11.832)         | -14.062<br>(11.901)          | -21.775*<br>(11.673)         | -20.173*<br>(11.443)         |
| $\xi_5 h_{Orange\ juice\ 5}$ | 2.700<br>(8.010)             | 9.694<br>(8.142)             | 1.024<br>(7.740)             | -0.030<br>(7.746)            | 11.419<br>(8.764)            | 10.568<br>(8.815)            | 10.912<br>(8.647)            | 8.574<br>(8.476)             |
| $\xi_0$                      | -0.001<br>(0.002)            | -0.001<br>(0.002)            | -0.001<br>(0.002)            | -0.001<br>(0.002)            | -0.0003<br>(0.002)           | -0.0002<br>(0.002)           | -0.0002<br>(0.002)           | -0.0002<br>(0.002)           |
| Observations                 | 572                          | 572                          | 572                          | 572                          | 833                          | 833                          | 833                          | 833                          |
| R <sup>2</sup>               | 0.042                        | 0.055                        | 0.037                        | 0.036                        | 0.048                        | 0.052                        | 0.056                        | 0.059                        |
| Adjusted R <sup>2</sup>      | 0.033                        | 0.047                        | 0.028                        | 0.027                        | 0.042                        | 0.046                        | 0.051                        | 0.053                        |

*Note:* The table reports estimated results from the regression:  $\rho_{ij,t} = \xi_0 + \xi_1 h_{i,t} + \sum_{t=1}^4 \xi_2 h_{j,t} + \vartheta_{ij,t}$  that examines the relationship between conditional correlation and conditional volatility for pre-financialisation and during financialisation period.  $\vartheta_{ij,t}$  is standardised error term shown in parentheses.  $\xi_0$ ,  $\xi$ ,  $h$ ,  $\rho$  and *Orangejuice* represent constant term, coefficients of independent variables, conditional volatility, time varying correlation and orange juice futures contract respectively. \*\*\*, \*\*, and \* denote statistical significance at 1%, 5%, and 10% level.

Table C.15: Regression Results

|                         | <i>Dependent variable:</i>  |                        |                        |                        |
|-------------------------|-----------------------------|------------------------|------------------------|------------------------|
|                         | pre-financialisation period |                        |                        |                        |
|                         | $\rho$ S&P500-Lumber 1      | $\rho$ S&P500-Lumber 2 | $\rho$ S&P500-Lumber 1 | $\rho$ S&P500-Lumber 2 |
| $\xi_1 h_{S\&P500}$     | 6.181***<br>(2.060)         | 6.423***<br>(2.091)    | -0.266<br>(1.726)      | 4.088**<br>(1.766)     |
| $\xi_2 h_{Lumber\ 1}$   | -9.146***<br>(3.156)        | -8.109**<br>(3.205)    | -3.851<br>(2.835)      | -8.430***<br>(2.900)   |
| $\xi_3 h_{Lumber\ 2}$   | 9.156**<br>(4.270)          | 10.141**<br>(4.336)    | 12.739***<br>(3.669)   | 18.324***<br>(3.753)   |
| $\xi_4 h_{S\&P500}$     | 0.0002<br>(0.004)           | 0.0002<br>(0.004)      | -0.00003<br>(0.003)    | 0.00004<br>(0.003)     |
| Observations            | 572                         | 572                    | 833                    | 833                    |
| R <sup>2</sup>          | 0.030                       | 0.029                  | 0.022                  | 0.044                  |
| Adjusted R <sup>2</sup> | 0.025                       | 0.024                  | 0.018                  | 0.040                  |

*Note:* The table reports estimated results from the regression:  $\rho_{ij,t} = \xi_0 + \xi_1 h_{i,t} + \sum_{j=1}^4 \xi_j h_{j,t} + \vartheta_{ij,t}$  that examines the relationship between conditional correlation and conditional volatility for pre-financialisation and during financialisation period.  $\vartheta_{ij,t}$  is standardised error term shown in parentheses.  $\xi_0$ ,  $\xi$ ,  $h$ ,  $\rho$  and *Lumber* represent constant term, coefficients of independent variables, conditional volatility, time varying correlation and lumber futures contract respectively. \*\*, \* and \* denote statistical significance at 1%, 5%, and 10% level.

Table C.16: Regression Results

|                             | <i>Dependent variable:</i>  |                             |                             |                             |                             |                             |                             |                             |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
|                             | pre-financialisation period |                             |                             |                             | financialisation period     |                             |                             |                             |
|                             | $\rho$ S&P500-Live Cattle 1 | $\rho$ S&P500-Live Cattle 2 | $\rho$ S&P500-Live Cattle 3 | $\rho$ S&P500-Live Cattle 4 | $\rho$ S&P500-Live Cattle 1 | $\rho$ S&P500-Live Cattle 2 | $\rho$ S&P500-Live Cattle 3 | $\rho$ S&P500-Live Cattle 4 |
| $\xi_1 h_{S\&P500}$         | 0.000<br>(0.000)            | -0.000<br>(0.000)           | 0.000<br>(0.000)            | 0.000<br>(0.000)            | 2.644***<br>(0.349)         | 3.424***<br>(0.356)         | 4.105***<br>(0.360)         | 3.917***<br>(0.376)         |
| $\xi_2 h_{Live\ cattle\ 1}$ | -0.000<br>(0.00000)         | 0.000<br>(0.00000)          | 0.000<br>(0.00000)          | 0.00000<br>(0.00000)        | 0.478<br>(1.026)            | 1.320<br>(1.048)            | 1.166<br>(1.060)            | 0.848<br>(1.107)            |
| $\xi_3 h_{Live\ cattle\ 2}$ | 0.000<br>(0.00000)          | 0.000<br>(0.00000)          | 0.00000<br>(0.00000)        | -0.00000<br>(0.00000)       | 1.246<br>(1.068)            | -1.931*<br>(1.090)          | -0.946<br>(1.102)           | 0.023<br>(1.152)            |
| $\xi_4 h_{Live\ cattle\ 3}$ | 0.00000**<br>(0.00000)      | -0.00000<br>(0.00000)       | -0.00000***<br>(0.00000)    | 0.00000**<br>(0.00000)      | -2.055<br>(1.654)           | 0.552<br>(1.688)            | 1.299<br>(1.707)            | 3.918**<br>(1.784)          |
| $\xi_5 h_{Live\ cattle\ 4}$ | -0.00000<br>(0.00000)       | 0.00000**<br>(0.00000)      | 0.00000<br>(0.00000)        | -0.00000***<br>(0.00000)    | -0.064<br>(2.161)           | 0.283<br>(2.205)            | -5.018**<br>(2.230)         | -12.060***<br>(2.330)       |
| $\xi_0$                     | -0.000<br>(0.000)           | -0.000<br>(0.000)           | 0.000<br>(0.000)            | 0.000<br>(0.000)            | 0.00000<br>(0.001)          | 0.00001<br>(0.001)          | 0.00002<br>(0.001)          | 0.00001<br>(0.001)          |
| Observations                | 572                         | 572                         | 572                         | 572                         | 833                         | 833                         | 833                         | 833                         |
| R <sup>2</sup>              | 0.017                       | 0.015                       | 0.021                       | 0.044                       | 0.068                       | 0.105                       | 0.139                       | 0.135                       |
| Adjusted R <sup>2</sup>     | 0.009                       | 0.006                       | 0.012                       | 0.035                       | 0.062                       | 0.099                       | 0.134                       | 0.130                       |

*Note:* The table reports estimated results from the regression:  $\rho_{ij,t} = \xi_0 + \xi_1 h_{i,t} + \sum_{t=1}^4 \xi_2 h_{j,t} + \vartheta_{ij,t}$  that examines the relationship between conditional correlation and conditional volatility for pre-financialisation and during financialisation period.  $\vartheta_{ij,t}$  is standardised error term shown in parentheses.  $\xi_0$ ,  $\xi$ ,  $h$ ,  $\rho$  and *Livecattle* represent constant term, coefficients of independent variables, conditional volatility, time varying correlation and live cattle futures contract respectively. \*\*\*, \*\*, and \* denote statistical significance at 1%, 5%, and 10% level.



Table C.17: Regression Results

| Dependent variable:       |                               |                               |                               |                               |                               |                               |                               |                               |
|---------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
|                           | pre-financialisation period   |                               |                               |                               | financialisation period       |                               |                               |                               |
|                           | $\rho$ S&P500-Feeder Cattle 1 | $\rho$ S&P500-Feeder Cattle 2 | $\rho$ S&P500-Feeder Cattle 3 | $\rho$ S&P500-Feeder Cattle 4 | $\rho$ S&P500-Feeder Cattle 1 | $\rho$ S&P500-Feeder Cattle 2 | $\rho$ S&P500-Feeder Cattle 3 | $\rho$ S&P500-Feeder Cattle 4 |
| $\xi_1 h$ S&P500          | 0.0000***<br>(0.00000)        | 0.0000***<br>(0.00000)        | 0.0000*<br>(0.00000)          | 0.0000**<br>(0.00000)         | 4.705***<br>(1.120)           | 6.903***<br>(1.132)           | 7.075***<br>(1.139)           | 7.247***<br>(1.135)           |
| $\xi_2 h$ Feeder cattle 1 | -0.0000***<br>(0.00000)       | -0.00000<br>(0.00000)         | -0.000<br>(0.00000)           | 0.00000<br>(0.00000)          | -6.862***<br>(2.339)          | -2.845<br>(2.365)             | -2.195<br>(2.379)             | -2.298<br>(2.371)             |
| $\xi_3 h$ Feeder cattle 2 | -0.00000<br>(0.00000)         | -0.00000<br>(0.00000)         | -0.00000<br>(0.00000)         | 0.00000<br>(0.00000)          | 1.053<br>(3.483)              | -0.037<br>(3.521)             | -2.660<br>(3.542)             | -3.857<br>(3.530)             |
| $\xi_4 h$ Feeder cattle 3 | -0.00000<br>(0.00000)         | -0.00000**<br>(0.00000)       | -0.00000**<br>(0.00000)       | -0.00000<br>(0.00000)         | 7.257<br>(4.730)              | 3.711<br>(4.781)              | 2.604<br>(4.810)              | 6.058<br>(4.794)              |
| $\xi_5 h$ Feeder cattle 4 | 0.0000***<br>(0.00000)        | 0.0000***<br>(0.00000)        | 0.0000***<br>(0.00000)        | 0.0000**<br>(0.00000)         | -2.545<br>(4.267)             | -0.940<br>(4.313)             | 2.094<br>(4.339)              | 0.014<br>(4.325)              |
| $\xi_0$                   | 0.000<br>(0.000)              | 0.000<br>(0.000)              | 0.000<br>(0.000)              | 0.000<br>(0.000)              | 0.0001<br>(0.002)             | 0.00005<br>(0.003)            | 0.00004<br>(0.003)            | 0.00002<br>(0.003)            |
| Observations              | 572                           | 572                           | 572                           | 572                           | 833                           | 833                           | 833                           | 833                           |
| R <sup>2</sup>            | 0.053                         | 0.041                         | 0.030                         | 0.024                         | 0.036                         | 0.048                         | 0.050                         | 0.055                         |
| Adjusted R <sup>2</sup>   | 0.045                         | 0.033                         | 0.021                         | 0.015                         | 0.030                         | 0.043                         | 0.045                         | 0.049                         |

Note: The table reports estimated results from the regression:  $\rho_{ij,t} = \xi_0 + \xi_1 h_{i,t} + \sum_{t=1}^4 \xi_2 h_{j,t} + \vartheta_{ij,t}$  that examines the relationship between conditional correlation and conditional volatility for pre-financialisation and during financialisation period.  $\vartheta_{ij,t}$  is standardised error term shown in parentheses.  $\xi_0$ ,  $\xi$ ,  $h$ ,  $\rho$  and *Feeder cattle* represent constant term, coefficients of independent variables, conditional volatility, time varying correlation and feeder cattle futures contract respectively. \*\*\*, \*\*, and \* denote statistical significance at 1%, 5%, and 10% level.

Table C.18: Regression Results

| <i>Dependent variable:</i>  |                             |                             |                             |                             |                             |                             |                             |                             |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
|                             | pre-financialisation period |                             |                             |                             | financialisation period     |                             |                             |                             |
|                             | $\rho$ S&P500-Heating Oil 1 | $\rho$ S&P500-Heating Oil 2 | $\rho$ S&P500-Heating Oil 3 | $\rho$ S&P500-Heating Oil 4 | $\rho$ S&P500-Heating Oil 1 | $\rho$ S&P500-Heating Oil 2 | $\rho$ S&P500-Heating Oil 3 | $\rho$ S&P500-Heating Oil 4 |
| $\xi_1 h_{S\&P500}$         | -1.688<br>(2.455)           | -1.879<br>(2.459)           | -1.675<br>(2.468)           | -1.535<br>(2.459)           | 16.267***<br>(1.765)        | 16.607***<br>(1.734)        | 16.054***<br>(1.746)        | 15.718***<br>(1.744)        |
| $\xi_2 h_{Heating\ oil\ 1}$ | -0.430<br>(2.108)           | 1.279<br>(2.112)            | 1.631<br>(2.119)            | 1.416<br>(2.112)            | -26.717**<br>(10.674)       | -21.489**<br>(10.488)       | -30.786***<br>(10.560)      | -31.045***<br>(10.543)      |
| $\xi_3 h_{Heating\ oil\ 2}$ | 15.931<br>(41.203)          | 36.368<br>(41.270)          | 39.151<br>(41.418)          | 34.753<br>(41.270)          | 39.861*<br>(20.762)         | 20.535<br>(20.400)          | 42.096**<br>(20.541)        | 41.757**<br>(20.508)        |
| $\xi_4 h_{Heating\ oil\ 3}$ | 55.946<br>(80.256)          | -1.713<br>(80.388)          | 2.456<br>(80.676)           | 31.755<br>(80.388)          | -12.831<br>(27.673)         | 9.255<br>(27.190)           | -7.470<br>(27.378)          | -5.400<br>(27.334)          |
| $\xi_5 h_{Heating\ oil\ 4}$ | -69.240<br>(47.081)         | -45.801<br>(47.158)         | -55.143<br>(47.327)         | -75.809<br>(47.159)         | -0.136<br>(16.484)          | -8.536<br>(16.197)          | -3.523<br>(16.309)          | -4.982<br>(16.283)          |
| $\xi_0$                     | -0.001<br>(0.005)           | -0.0004<br>(0.005)          | -0.0003<br>(0.005)          | -0.0005<br>(0.005)          | 0.0004<br>(0.004)           | 0.0004<br>(0.004)           | 0.0004<br>(0.004)           | 0.0004<br>(0.004)           |
| Observations                | 572                         | 572                         | 572                         | 572                         | 833                         | 833                         | 833                         | 833                         |
| R <sup>2</sup>              | 0.013                       | 0.021                       | 0.027                       | 0.032                       | 0.105                       | 0.109                       | 0.107                       | 0.104                       |
| Adjusted R <sup>2</sup>     | 0.004                       | 0.012                       | 0.018                       | 0.023                       | 0.099                       | 0.103                       | 0.101                       | 0.098                       |

*Note:* The table reports estimated results from the regression:  $\rho_{ij,t} = \xi_0 + \xi_1 h_{i,t} + \sum_{j=1}^4 \xi_2 h_{j,t} + \vartheta_{ij,t}$  that examines the relationship between conditional correlation and conditional volatility for pre-financialisation and during financialisation period.  $\vartheta_{ij,t}$  is standardised error term shown in parentheses.  $\xi_0$ ,  $\xi$ ,  $h$ ,  $\rho$  and *Heatingoil* represent constant term, coefficients of independent variables, conditional volatility, time varying correlation and heating oil futures contract respectively. \*\*\*, \*\*, and \* denote statistical significance at 1%, 5%, and 10% level.

Table C.19: Regression Results

|                         | <i>Dependent variable:</i>  |                             |                             |                             |                             |                             |                             |                             |
|-------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
|                         | pre-financialisation period |                             |                             |                             | financialisation period     |                             |                             |                             |
|                         | $\rho$ S&P500-Natural Gas 1 | $\rho$ S&P500-Natural Gas 2 | $\rho$ S&P500-Natural Gas 3 | $\rho$ S&P500-Natural Gas 4 | $\rho$ S&P500-Natural Gas 1 | $\rho$ S&P500-Natural Gas 2 | $\rho$ S&P500-Natural Gas 3 | $\rho$ S&P500-Natural Gas 4 |
| $\xi_1 h$ S&P500        | -1.017<br>(1.016)           | -2.338**<br>(1.048)         | -2.500**<br>(1.065)         | -0.583<br>(1.079)           | 5.168***<br>(1.512)         | 5.706***<br>(1.556)         | 5.624***<br>(1.556)         | 5.479***<br>(1.571)         |
| $\xi_2 h$ Natural gas 1 | -0.194<br>(0.478)           | 0.096<br>(0.493)            | 0.187<br>(0.500)            | 0.291<br>(0.507)            | 2.167**<br>(1.052)          | 1.892*<br>(1.083)           | 1.626<br>(1.083)            | 1.250<br>(1.093)            |
| $\xi_3 h$ Natural gas 2 | -0.770<br>(2.116)           | -1.088<br>(2.183)           | -2.600<br>(2.217)           | -1.227<br>(2.246)           | -2.346<br>(1.955)           | -1.860<br>(2.012)           | 0.579<br>(2.012)            | 0.831<br>(2.031)            |
| $\xi_4 h$ Natural gas 3 | 3.629<br>(2.351)            | 4.660*<br>(2.425)           | 8.396***<br>(2.463)         | 4.100<br>(2.495)            | 0.705<br>(1.570)            | 0.713<br>(1.617)            | -1.711<br>(1.616)           | -2.719*<br>(1.632)          |
| $\xi_5 h$ Natural gas 4 | 0.044<br>(1.883)            | -0.824<br>(1.942)           | -4.050**<br>(1.973)         | -2.204<br>(1.998)           | -0.541<br>(1.193)           | -0.833<br>(1.228)           | -0.689<br>(1.227)           | 0.679<br>(1.239)            |
| $\xi_0$                 | -0.0002<br>(0.002)          | -0.0002<br>(0.002)          | -0.0003<br>(0.002)          | -0.0002<br>(0.002)          | 0.00001<br>(0.003)          | 0.0001<br>(0.003)           | 0.0001<br>(0.003)           | 0.0002<br>(0.003)           |
| Observations            | 572                         | 572                         | 572                         | 572                         | 833                         | 833                         | 833                         | 833                         |
| R <sup>2</sup>          | 0.016                       | 0.027                       | 0.036                       | 0.008                       | 0.021                       | 0.021                       | 0.024                       | 0.021                       |
| Adjusted R <sup>2</sup> | 0.007                       | 0.018                       | 0.027                       | -0.0004                     | 0.015                       | 0.015                       | 0.018                       | 0.015                       |

Note:

The table reports estimated results from the regression:  $\rho_{ij,t} = \xi_0 + \xi_1 h_{i,t} + \sum_{t=1}^4 \xi_2 h_{j,t} + \vartheta_{ij,t}$  that examines the relationship between conditional correlation and conditional volatility for pre-financialisation and during financialisation period.  $\vartheta_{ij,t}$  is standardised error term shown in parentheses.  $\xi_0$ ,  $\xi$ ,  $h$ ,  $\rho$  and *Naturalgas* represent constant term, coefficients of independent variables, conditional volatility, time varying correlation and natural gas futures contract respectively. \*\*\*, \*\*, and \* denote statistical significance at 1%, 5%, and 10% level.

Table C.20: Regression Results

|                         | <i>Dependent variable:</i>  |                       |                       |                       |                         |                      |                      |                      |
|-------------------------|-----------------------------|-----------------------|-----------------------|-----------------------|-------------------------|----------------------|----------------------|----------------------|
|                         | pre-financialisation period |                       |                       |                       | financialisation period |                      |                      |                      |
|                         | $\rho$ S&P500-Gold 1        | $\rho$ S&P500-Gold 2  | $\rho$ S&P500-Gold 3  | $\rho$ S&P500-Gold 4  | $\rho$ S&P500-Gold 1    | $\rho$ S&P500-Gold 2 | $\rho$ S&P500-Gold 3 | $\rho$ S&P500-Gold 4 |
| $\xi_1 h_{S\&P500}$     | 2.006<br>(1.481)            | 1.894<br>(1.477)      | 2.203<br>(1.477)      | 2.622*<br>(1.497)     | 0.548<br>(2.130)        | 0.234<br>(2.158)     | -0.029<br>(2.175)    | 0.781<br>(2.128)     |
| $\xi_2 h_{Gold\ 1}$     | -19.146<br>(45.280)         | -32.623<br>(45.146)   | -32.806<br>(45.150)   | -28.881<br>(45.777)   | 0.992<br>(14.204)       | -2.249<br>(14.390)   | -3.306<br>(14.499)   | 18.975<br>(14.184)   |
| $\xi_3 h_{Gold\ 2}$     | -19.046<br>(52.128)         | -4.924<br>(51.975)    | -3.668<br>(51.979)    | -8.897<br>(52.701)    | 25.161<br>(21.887)      | 43.104*<br>(22.175)  | 23.469<br>(22.342)   | 22.924<br>(21.857)   |
| $\xi_4 h_{Gold\ 3}$     | 46.786***<br>(17.536)       | 47.755***<br>(17.484) | 48.036***<br>(17.485) | 49.475***<br>(17.728) | -18.428<br>(22.610)     | -37.488<br>(22.907)  | -17.957<br>(23.080)  | -10.820<br>(22.578)  |
| $\xi_5 h_{Gold\ 4}$     | -10.647<br>(11.783)         | -12.670<br>(11.748)   | -13.696<br>(11.749)   | -13.692<br>(11.912)   | -1.706<br>(12.841)      | 3.389<br>(13.010)    | 3.689<br>(13.108)    | -24.056*<br>(12.824) |
| $\xi_0$                 | -0.0002<br>(0.003)          | -0.0002<br>(0.003)    | -0.0002<br>(0.003)    | -0.0001<br>(0.003)    | -0.001<br>(0.005)       | -0.001<br>(0.005)    | -0.001<br>(0.005)    | -0.001<br>(0.005)    |
| Observations            | 572                         | 572                   | 572                   | 572                   | 833                     | 833                  | 833                  | 833                  |
| R <sup>2</sup>          | 0.025                       | 0.026                 | 0.027                 | 0.029                 | 0.005                   | 0.008                | 0.005                | 0.010                |
| Adjusted R <sup>2</sup> | 0.016                       | 0.017                 | 0.018                 | 0.021                 | -0.001                  | 0.002                | -0.001               | 0.004                |

*Note:* The table reports estimated results from the regression:  $\rho_{ij,t} = \xi_0 + \xi_1 h_{i,t} + \sum_{t=1}^4 \xi_2 h_{j,t} + \vartheta_{ij,t}$  that examines the relationship between conditional correlation and conditional volatility for pre-financialisation and during financialisation period.  $\vartheta_{ij,t}$  is standardised error term shown in parentheses.  $\xi_0$ ,  $\xi$ ,  $h$ ,  $\rho$  and *Gold* represent constant term, coefficients of independent variables, conditional volatility, time varying correlation and gold futures contract respectively. \*\*\*, \*\*, and \* denote statistical significance at 1%, 5%, and 10% level.

Table C.21: Regression Results

|                         | <i>Dependent variable:</i>  |                        |                        |                        |                         |                        |                        |                        |
|-------------------------|-----------------------------|------------------------|------------------------|------------------------|-------------------------|------------------------|------------------------|------------------------|
|                         | pre-financialisation period |                        |                        |                        | financialisation period |                        |                        |                        |
|                         | $\rho$ S&P500-Copper 1      | $\rho$ S&P500-Copper 2 | $\rho$ S&P500-Copper 3 | $\rho$ S&P500-Copper 4 | $\rho$ S&P500-Copper 1  | $\rho$ S&P500-Copper 2 | $\rho$ S&P500-Copper 3 | $\rho$ S&P500-Copper 4 |
| $\xi_1 h$ S&P500        | 4.553***<br>(1.077)         | 4.503***<br>(1.067)    | 4.846***<br>(1.062)    | 5.033***<br>(1.059)    | 3.218**<br>(1.436)      | 2.833**<br>(1.435)     | 2.927**<br>(1.432)     | 3.634**<br>(1.427)     |
| $\xi_2 h$ Copper 1      | 12.906<br>(16.285)          | 5.908<br>(16.136)      | 2.175<br>(16.051)      | 2.542<br>(16.015)      | 12.509<br>(9.975)       | 10.125<br>(9.970)      | 8.947<br>(9.949)       | 8.040<br>(9.916)       |
| $\xi_3 h$ Copper 2      | 10.728<br>(14.803)          | 15.702<br>(14.668)     | 2.100<br>(14.591)      | 2.975<br>(14.557)      | -26.685<br>(18.761)     | -24.016<br>(18.751)    | -18.006<br>(18.714)    | -18.967<br>(18.650)    |
| $\xi_4 h$ Copper 3      | -9.094<br>(26.192)          | -18.454<br>(25.952)    | 0.891<br>(25.816)      | -5.984<br>(25.757)     | 28.309<br>(20.062)      | 18.510<br>(20.052)     | 12.349<br>(20.012)     | 20.409<br>(19.944)     |
| $\xi_5 h$ Copper 4      | 1.353<br>(19.448)           | 8.601<br>(19.269)      | 5.192<br>(19.168)      | 10.946<br>(19.125)     | -7.800<br>(12.178)      | 3.491<br>(12.171)      | 5.096<br>(12.147)      | -1.893<br>(12.106)     |
| $\xi_0$                 | 0.0003<br>(0.002)           | 0.0002<br>(0.002)      | 0.0003<br>(0.002)      | 0.0003<br>(0.002)      | 0.0004<br>(0.003)       | 0.0005<br>(0.003)      | 0.0005<br>(0.003)      | 0.0005<br>(0.003)      |
| Observations            | 572                         | 572                    | 572                    | 572                    | 833                     | 833                    | 833                    | 833                    |
| R <sup>2</sup>          | 0.047                       | 0.048                  | 0.051                  | 0.056                  | 0.029                   | 0.033                  | 0.034                  | 0.035                  |
| Adjusted R <sup>2</sup> | 0.038                       | 0.040                  | 0.043                  | 0.048                  | 0.023                   | 0.027                  | 0.029                  | 0.029                  |

*Note:* The table reports estimated results from the regression:  $\rho_{ij,t} = \xi_0 + \xi_1 h_{i,t} + \sum_{j=1}^4 \xi_2 h_{j,t} + \vartheta_{ij,t}$  that examines the relationship between conditional correlation and conditional volatility for pre-financialisation and during financialisation period.  $\vartheta_{ij,t}$  is standardised error term shown in parentheses.  $\xi_0$ ,  $\xi$ ,  $h$ ,  $\rho$  and *Copper* represent constant term, coefficients of independent variables, conditional volatility, time varying correlation and copper futures contract respectively. \*\*\*, \*\*, and \* denote statistical significance at 1%, 5%, and 10% level.