



ภาคผนวก

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

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ภาคผนวก ก

ตารางแสดงค่า Mackinnon Critical Value of Unit Root test ที่ level

Lag 4

| Critical Value(%) | none | with C | with C & T |
|-------------------|---------|---------|------------|
| 1% | -2.5723 | -3.4534 | -3.9914 |
| 5% | -1.9406 | -2.8711 | -3.4259 |
| 10% | -1.6162 | -2.5718 | -3.1358 |

Lag 3

| Critical Value(%) | none | with C | with C & T |
|-------------------|---------|---------|------------|
| 1% | -2.5722 | -3.4533 | -3.9913 |
| 5% | -1.9406 | -2.8710 | -3.4259 |
| 10% | -1.6162 | -2.5718 | -3.1358 |

Lag 2

| Critical Value(%) | without C&T | with C but without T | with C & T |
|-------------------|-------------|----------------------|------------|
| 1% | -2.5722 | -3.4533 | -3.9912 |
| 5% | -1.9406 | -2.8710 | -3.4259 |
| 10% | -1.6162 | -2.5718 | -3.1358 |

Lag 1

| Critical Value(%) | without C&T | with C but without T | with C & T |
|-------------------|-------------|----------------------|------------|
| 1% | -2.5722 | -3.4532 | -3.9911 |
| 5% | -1.9406 | -2.8710 | -3.4259 |
| 10% | -1.6162 | -2.5718 | -3.1358 |

Lag 0

| Critical Value(%) | without C&T | with C but without T | with C & T |
|-------------------|-------------|----------------------|------------|
| 1% | -2.5722 | -3.4531 | -3.9911 |
| 5% | -1.9406 | -2.8710 | -3.4259 |
| 10% | -1.6162 | -2.5718 | -3.1358 |

ที่มา: ผลจากการคำนวณของ โปรแกรม Eviews 3.1

ตารางแสดงค่า Mackinnon Critical Value of Unit Root test ที่ first difference

Lag 4

| Critical Value(%) | without C&T | with C but without T | with C & T |
|-------------------|-------------|----------------------|------------|
| 1% | -2.5723 | -3.4535 | -3.9915 |
| 5% | -1.9406 | -2.8711 | -3.4259 |
| 10% | -1.6162 | -2.5718 | -3.1359 |

Lag 3

| Critical Value(%) | without C&T | with C but without T | with C & T |
|-------------------|-------------|----------------------|------------|
| 1% | -2.5723 | -3.4535 | -3.9914 |
| 5% | -1.9406 | -2.8711 | -3.4259 |
| 10% | -1.6162 | -2.5718 | -3.1358 |

Lag 2

| Critical Value(%) | without C&T | with C but without T | with C & T |
|-------------------|-------------|----------------------|------------|
| 1% | -2.5723 | -3.4533 | -3.9913 |
| 5% | -1.9406 | -2.8710 | -3.4259 |
| 10% | -1.6162 | -2.5718 | -3.1358 |

Lag 1

| Critical Value(%) | without C&T | with C but without T | with C & T |
|-------------------|-------------|----------------------|------------|
| 1% | -2.5723 | -3.4533 | -3.9912 |
| 5% | -1.9406 | -2.8710 | -3.4258 |
| 10% | -1.6162 | -2.5718 | -3.1358 |

Lag 0

| Critical Value(%) | without C&T | with C but without T | with C & T |
|-------------------|-------------|----------------------|------------|
| 1% | -2.5723 | -3.4532 | -3.9911 |
| 5% | -1.9406 | -2.8710 | -3.4258 |
| 10% | -1.6162 | -2.5718 | -3.1358 |

ที่มา: ผลจากการคำนวณของ โปรแกรม Eviews 3.1

ภาคผนวก ข

ผลการทดสอบการร่วมกันไปด้วยกัน (Cointegration)

ในกรณีราคาเป็นตัวแปรตามและปริมาณเป็นตัวแปรอิสระ

หลักทรัพย์ PTT

Dependent Variable: PRICE

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|----------|
| C | 0.098889 | 0.414966 | 0.238306 | 0.8120 |
| VOLUME | 0.326056 | 0.077160 | 4.225737 | 0.0000 |
| R-squared | 0.101542 | Mean dependent var | | 1.850093 |
| Adjusted R-squared | 0.095856 | S.D. dependent var | | 0.284638 |
| S.E. of regression | 0.270652 | Akaike info criterion | | 0.236458 |
| Sum squared resid | 11.57393 | Schwarz criterion | | 0.274898 |
| Log likelihood | -16.91664 | F-statistic | | 17.85685 |
| Durbin-Watson stat | 0.089733 | Prob(F-statistic) | | 0.000040 |

หลักทรัพย์ PTTEP

Dependent Variable: PRICE

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|-----------|
| C | 1.994871 | 0.138475 | 14.40596 | 0.0000 |
| VOLUME | 0.034217 | 0.030360 | 1.127019 | 0.2606 |
| R-squared | 0.004068 | Mean dependent var | | 2.150639 |
| Adjusted R-squared | 0.000865 | S.D. dependent var | | 0.150993 |
| S.E. of regression | 0.150927 | Akaike info criterion | | -0.937669 |
| Sum squared resid | 7.084279 | Schwarz criterion | | -0.913731 |
| Log likelihood | 148.7451 | F-statistic | | 1.270171 |
| Durbin-Watson stat | 0.024691 | Prob(F-statistic) | | 0.260603 |

หลักทรัพย์ RATCH

Dependent Variable: PRICE

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|-----------|
| C | 0.886656 | 0.157385 | 5.633677 | 0.0000 |
| VOLUME | 0.094003 | 0.031974 | 2.940017 | 0.0036 |
| R-squared | 0.038649 | Mean dependent var | | 1.348132 |
| Adjusted R-squared | 0.034178 | S.D. dependent var | | 0.172506 |
| S.E. of regression | 0.169532 | Akaike info criterion | | -0.702371 |
| Sum squared resid | 6.179370 | Schwarz criterion | | -0.671220 |
| Log likelihood | 78.20723 | F-statistic | | 8.643697 |
| Durbin-Watson stat | 0.030786 | Prob(F-statistic) | | 0.003641 |

หลักทรัพย์ BANPU

Dependent Variable: PRICE

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|----------|
| C | -0.413042 | 0.198420 | -2.081655 | 0.0382 |
| VOLUME | 0.424399 | 0.042150 | 10.06880 | 0.0000 |
| R-squared | 0.245842 | Mean dependent var | | 1.579355 |
| Adjusted R-squared | 0.243418 | S.D. dependent var | | 0.297955 |
| S.E. of regression | 0.259167 | Akaike info criterion | | 0.143678 |
| Sum squared resid | 20.88905 | Schwarz criterion | | 0.167616 |
| Log likelihood | -20.48568 | F-statistic | | 101.3807 |
| Durbin-Watson stat | 0.197549 | Prob(F-statistic) | | 0.000000 |

หลักทรัพย์ BCP

Dependent Variable: PRICE

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|-----------|
| C | 0.594062 | 0.094956 | 6.256155 | 0.0000 |
| VOLUME | 0.030367 | 0.019362 | 1.568398 | 0.1178 |
| R-squared | 0.007847 | Mean dependent var | | 0.741590 |
| Adjusted R-squared | 0.004657 | S.D. dependent var | | 0.230446 |
| S.E. of regression | 0.229909 | Akaike info criterion | | -0.095895 |
| Sum squared resid | 16.43892 | Schwarz criterion | | -0.071958 |
| Log likelihood | 17.00760 | F-statistic | | 2.459872 |
| Durbin-Watson stat | 0.026758 | Prob(F-statistic) | | 0.117805 |

ในกรณีราคาเป็นตัวแปรอิสระและปริมาณเป็นตัวแปรตาม

หลักทรัพย์ PTT

Dependent Variable: VOLUME

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|--------|
| C | 4.794709 | 0.137941 | 34.75912 | 0.0000 |
| PRICE | 0.311425 | 0.073697 | 4.225737 | 0.0000 |
| R-squared | 0.101542 | Mean dependent var | 5.370875 | |
| Adjusted R-squared | 0.095856 | S.D. dependent var | 0.278179 | |
| S.E. of regression | 0.264510 | Akaike info criterion | 0.190549 | |
| Sum squared resid | 11.05459 | Schwarz criterion | 0.228988 | |
| Log likelihood | -13.24389 | F-statistic | 17.85685 | |
| Durbin-Watson stat | 0.869195 | Prob(F-statistic) | 0.000040 | |

หลักทรัพย์ PTTEP

Dependent Variable: VOLUME

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|--------|
| C | 4.296744 | 0.227402 | 18.89489 | 0.0000 |
| PRICE | 0.118876 | 0.105478 | 1.127019 | 0.2606 |
| R-squared | 0.004068 | Mean dependent var | 4.552403 | |
| Adjusted R-squared | 0.000865 | S.D. dependent var | 0.281439 | |
| S.E. of regression | 0.281317 | Akaike info criterion | 0.307701 | |
| Sum squared resid | 24.61234 | Schwarz criterion | 0.331639 | |
| Log likelihood | -46.15524 | F-statistic | 1.270171 | |
| Durbin-Watson stat | 0.841394 | Prob(F-statistic) | 0.260603 | |

หลักทรัพย์ RATCH

Dependent Variable: VOLUME

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|--------|
| C | 4.354860 | 0.190061 | 22.91296 | 0.0000 |
| PRICE | 0.411150 | 0.139846 | 2.940017 | 0.0036 |
| R-squared | 0.038649 | Mean dependent var | 4.909144 | |
| Adjusted R-squared | 0.034178 | S.D. dependent var | 0.360772 | |
| S.E. of regression | 0.354553 | Akaike info criterion | 0.773257 | |
| Sum squared resid | 27.02721 | Schwarz criterion | 0.804408 | |
| Log likelihood | -81.89837 | F-statistic | 8.643697 | |
| Durbin-Watson stat | 0.698864 | Prob(F-statistic) | 0.003641 | |

หลักทรัพย์ BANPU

Dependent Variable: VOLUME

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|----------|
| C | 3.779752 | 0.092460 | 40.87978 | 0.0000 |
| PRICE | 0.579272 | 0.057531 | 10.06880 | 0.0000 |
| R-squared | 0.245842 | Mean dependent var | | 4.694627 |
| Adjusted R-squared | 0.243418 | S.D. dependent var | | 0.348101 |
| S.E. of regression | 0.302784 | Akaike info criterion | | 0.454775 |
| Sum squared resid | 28.51191 | Schwarz criterion | | 0.478713 |
| Log likelihood | -69.17232 | F-statistic | | 101.3807 |
| Durbin-Watson stat | 0.844915 | Prob(F-statistic) | | 0.000000 |

หลักทรัพย์ BCP

Dependent Variable: VOLUME

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|----------|
| C | 4.666600 | 0.127938 | 36.47557 | 0.0000 |
| PRICE | 0.258425 | 0.164770 | 1.568398 | 0.1178 |
| R-squared | 0.007847 | Mean dependent var | | 4.858246 |
| Adjusted R-squared | 0.004657 | S.D. dependent var | | 0.672264 |
| S.E. of regression | 0.670697 | Akaike info criterion | | 2.045369 |
| Sum squared resid | 139.8983 | Schwarz criterion | | 2.069307 |
| Log likelihood | -318.1003 | F-statistic | | 2.459872 |
| Durbin-Watson stat | 0.385329 | Prob(F-statistic) | | 0.117805 |

ภาคผนวก ค

ผลการทดสอบของส่วนที่เหลือ (Residual) จากสมการถดถอยในการทดสอบการร่วมกัน
ไปด้วยกัน โดยการทดสอบยูนิทรูท (Unit Root) ด้วยวิธีการ Augmented Dicky Fuller Residual

ในกรณีราคาเป็นตัวแปรอิสระและปริมาณเป็นตัวแปรตาม

หลักทฤษฎี PTT

| | | | |
|--------------------|-----------|--------------------|---------|
| ADF Test Statistic | -7.626609 | 1% Critical Value* | -2.5785 |
| | | 5% Critical Value | -1.9418 |
| | | 10% Critical Value | -1.6167 |

*MacKinnon critical values for rejection of hypothesis of a unit root.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RESID01)

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|-----------|
| RESID01(-1) | -0.484845 | 0.063573 | -7.626609 | 0.0000 |
| R-squared | 0.268278 | Mean dependent var | | -0.008124 |
| Adjusted R-squared | 0.268278 | S.D. dependent var | | 0.246470 |
| S.E. of regression | 0.210832 | Akaike info criterion | | -0.269238 |
| Sum squared resid | 7.023139 | Schwarz criterion | | -0.249937 |
| Log likelihood | 22.40445 | Durbin-Watson stat | | 2.190011 |

หลักทฤษฎี PTTEP

| | | | |
|--------------------|-----------|--------------------|---------|
| ADF Test Statistic | -9.338343 | 1% Critical Value* | -2.5722 |
| | | 5% Critical Value | -1.9406 |
| | | 10% Critical Value | -1.6162 |

*MacKinnon critical values for rejection of hypothesis of a unit root.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RESID01)

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|-----------|
| RESID01(-1) | -0.429286 | 0.045970 | -9.338343 | 0.0000 |
| R-squared | 0.218952 | Mean dependent var | | 0.001897 |
| Adjusted R-squared | 0.218952 | S.D. dependent var | | 0.258038 |
| S.E. of regression | 0.228046 | Akaike info criterion | | -0.115336 |
| Sum squared resid | 16.17359 | Schwarz criterion | | -0.103339 |
| Log likelihood | 18.99242 | Durbin-Watson stat | | 2.197789 |

หลักทรัพย์ RATCH

| | | | |
|--------------------|-----------|--------------------|---------|
| ADF Test Statistic | -9.338343 | 1% Critical Value* | -2.5722 |
| | | 5% Critical Value | -1.9406 |
| | | 10% Critical Value | -1.6162 |

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RESID01)

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|-----------|
| RESID01(-1) | -0.429286 | 0.045970 | -9.338343 | 0.0000 |
| R-squared | 0.218952 | Mean dependent var | | 0.001897 |
| Adjusted R-squared | 0.218952 | S.D. dependent var | | 0.258038 |
| S.E. of regression | 0.228046 | Akaike info criterion | | -0.115336 |
| Sum squared resid | 16.17359 | Schwarz criterion | | -0.103339 |
| Log likelihood | 18.99242 | Durbin-Watson stat | | 2.197789 |

หลักทรัพย์ BANPU

| | | | |
|--------------------|-----------|--------------------|---------|
| ADF Test Statistic | -9.220258 | 1% Critical Value* | -2.5722 |
| | | 5% Critical Value | -1.9406 |
| | | 10% Critical Value | -1.6162 |

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RESID01)

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|----------|
| RESID01(-1) | -0.426223 | 0.046227 | -9.220258 | 0.0000 |
| R-squared | 0.214666 | Mean dependent var | | 0.000829 |
| Adjusted R-squared | 0.214666 | S.D. dependent var | | 0.278316 |
| S.E. of regression | 0.246641 | Akaike info criterion | | 0.041433 |
| Sum squared resid | 18.91866 | Schwarz criterion | | 0.053429 |
| Log likelihood | -5.463482 | Durbin-Watson stat | | 2.006583 |

หลักทรัพย์ BCP

| | | | |
|--------------------|-----------|--------------------|---------|
| ADF Test Statistic | -5.745398 | 1% Critical Value* | -2.5722 |
| | | 5% Critical Value | -1.9406 |
| | | 10% Critical Value | -1.6162 |

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RESID01)

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|-----------|
| RESID01(-1) | -0.192462 | 0.033498 | -5.745398 | 0.0000 |
| R-squared | 0.095954 | Mean dependent var | | -0.000604 |
| Adjusted R-squared | 0.095954 | S.D. dependent var | | 0.416334 |
| S.E. of regression | 0.395856 | Akaike info criterion | | 0.987666 |
| Sum squared resid | 48.73427 | Schwarz criterion | | 0.999663 |
| Log likelihood | -153.0760 | Durbin-Watson stat | | 2.225222 |

ในกรณีปริมาณเป็นตัวแปรอิสระและราคาเป็นตัวแปรตาม

หลักทรัพย์ PTT

| | | | |
|--------------------|-----------|--------------------|---------|
| ADF Test Statistic | -2.290756 | 1% Critical Value* | -2.5785 |
| | | 5% Critical Value | -1.9418 |
| | | 10% Critical Value | -1.6167 |

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RESID01)

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|-----------|
| RESID01(-1) | -0.054133 | 0.023631 | -2.290756 | 0.0233 |
| R-squared | 0.025774 | Mean dependent var | | 0.006536 |
| Adjusted R-squared | 0.025774 | S.D. dependent var | | 0.080810 |
| S.E. of regression | 0.079761 | Akaike info criterion | | -2.213285 |
| Sum squared resid | 1.005177 | Schwarz criterion | | -2.193984 |
| Log likelihood | 176.9562 | Durbin-Watson stat | | 2.652071 |

หลักทรัพย์ PTTEP

| | | | |
|--------------------|-----------|--------------------|---------|
| ADF Test Statistic | -0.620129 | 1% Critical Value* | -2.5722 |
| | | 5% Critical Value | -1.9406 |
| | | 10% Critical Value | -1.6162 |

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RESID01)

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|-----------|
| RESID01(-1) | -0.005561 | 0.008967 | -0.620129 | 0.5356 |
| R-squared | -0.000805 | Mean dependent var | | 0.001069 |
| Adjusted R-squared | -0.000805 | S.D. dependent var | | 0.023692 |
| S.E. of regression | 0.023701 | Akaike info criterion | | -4.643392 |
| Sum squared resid | 0.174702 | Schwarz criterion | | -4.631395 |
| Log likelihood | 725.3692 | Durbin-Watson stat | | 2.196829 |

หลักทรัพย์ RATCH

| | | | |
|--------------------|-----------|--------------------|---------|
| ADF Test Statistic | -1.625803 | 1% Critical Value* | -2.5751 |
| | | 5% Critical Value | -1.9411 |
| | | 10% Critical Value | -1.6164 |

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RESID01)

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|-----------|
| RESID01(-1) | -0.019431 | 0.011952 | -1.625803 | 0.1055 |
| R-squared | 0.004172 | Mean dependent var | | 0.002655 |
| Adjusted R-squared | 0.004172 | S.D. dependent var | | 0.029627 |
| S.E. of regression | 0.029565 | Akaike info criterion | | -4.199830 |
| Sum squared resid | 0.187930 | Schwarz criterion | | -4.184204 |
| Log likelihood | 454.5816 | Durbin-Watson stat | | 2.765793 |

หลักทรัพย์ BANPU

| | | | |
|--------------------|-----------|--------------------|---------|
| ADF Test Statistic | -3.743861 | 1% Critical Value* | -2.5722 |
| | | 5% Critical Value | -1.9406 |
| | | 10% Critical Value | -1.6162 |

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RESID01)

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|-----------|
| RESID01(-1) | -0.092973 | 0.024833 | -3.743861 | 0.0002 |
| R-squared | 0.042941 | Mean dependent var | | 0.001596 |
| Adjusted R-squared | 0.042941 | S.D. dependent var | | 0.115179 |
| S.E. of regression | 0.112679 | Akaike info criterion | | -1.525342 |
| Sum squared resid | 3.948652 | Schwarz criterion | | -1.513345 |
| Log likelihood | 238.9533 | Durbin-Watson stat | | 2.340104 |

หลักทรัพย์ BCP

| | | | |
|--------------------|-----------|--------------------|---------|
| ADF Test Statistic | -0.908892 | 1% Critical Value* | -2.5722 |
| | | 5% Critical Value | -1.9406 |
| | | 10% Critical Value | -1.6162 |

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RESID01)

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|-----------|
| RESID01(-1) | -0.008462 | 0.009310 | -0.908892 | 0.3641 |
| R-squared | 0.001205 | Mean dependent var | | 0.001428 |
| Adjusted R-squared | 0.001205 | S.D. dependent var | | 0.037581 |
| S.E. of regression | 0.037558 | Akaike info criterion | | -3.722656 |
| Sum squared resid | 0.438700 | Schwarz criterion | | -3.710659 |
| Log likelihood | 581.7344 | Durbin-Watson stat | | 2.288964 |

ภาคผนวก ง

ผลการทดสอบความสัมพันธ์เชิงดูดยภาพในระยะสั้น

ในกรณีราคาเป็นตัวแปรอิสระและปริมาณการซื้อขายเป็นตัวแปรตาม

หลักทรัพย์ PTT

Dependent Variable: D(VOLUME)

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|-----------|
| C | -0.016917 | 0.017353 | -0.974883 | 0.3312 |
| RESID01(-1) | -0.421118 | 0.097614 | -4.314119 | 0.0000 |
| D(PRICE) | 2.110881 | 0.904034 | 2.334958 | 0.0209 |
| D(VOLUME(-1)) | -0.187157 | 0.103344 | -1.811014 | 0.0722 |
| R-squared | 0.299702 | Mean dependent var | | -0.001610 |
| Adjusted R-squared | 0.271312 | S.D. dependent var | | 0.245314 |
| S.E. of regression | 0.209408 | Akaike info criterion | | -0.244958 |
| Sum squared resid | 6.490034 | Schwarz criterion | | -0.107513 |
| Log likelihood | 25.98423 | F-statistic | | 10.55645 |
| Durbin-Watson stat | 2.077539 | Prob(F-statistic) | | 0.000000 |

หลักทรัพย์ PTTEP

Dependent Variable: D(VOLUME)

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|-----------|
| C | 0.000777 | 0.013012 | 0.052046 | 0.9519 |
| RESID01(-1) | -0.032280 | 0.086492 | -0.373208 | 0.7093 |
| D(PRICE) | 0.892719 | 0.634198 | 1.521951 | 0.1452 |
| D(PRICE(-1)) | 0.234589 | 0.634198 | 1.521951 | 0.0021 |
| D(VOLUME(-1)) | -0.216723 | 0.058740 | -9.079202 | 0.0002 |
| R-squared | 0.223442 | Mean dependent var | | 0.000803 |
| Adjusted R-squared | 0.234325 | S.D. dependent var | | 0.256201 |
| S.E. of regression | 0.228010 | Akaike info criterion | | -0.138887 |
| Sum squared resid | 15.64860 | Schwarz criterion | | -0.011612 |
| Log likelihood | 21.84357 | F-statistic | | 14.43461 |
| Durbin-Watson stat | 2.065092 | Prob(F-statistic) | | 0.000000 |

หลักทรัพย์ RATCH

Dependent Variable: D(VOLUME)

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|-----------|
| C | -0.014971 | 0.017617 | -0.849773 | 0.3964 |
| RESID01(-1) | -0.334863 | 0.055644 | -6.017994 | 0.0000 |
| D(PRICE) | 3.315692 | 1.127086 | 2.941827 | 0.0036 |
| D(VOLUME(-1)) | -0.188380 | 0.063787 | -2.953288 | 0.0035 |
| R-squared | 0.267331 | Mean dependent var | | -0.004874 |
| Adjusted R-squared | 0.256914 | S.D. dependent var | | 0.296890 |
| S.E. of regression | 0.255926 | Akaike info criterion | | 0.130574 |
| Sum squared resid | 13.82012 | Schwarz criterion | | 0.193283 |
| Log likelihood | -10.03667 | F-statistic | | 25.66275 |
| Durbin-Watson stat | 2.126766 | Prob(F-statistic) | | 0.000000 |

หลักทรัพย์ BANPU

Dependent Variable: D(VOLUME)

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|-----------|
| C | -0.005241 | 0.013370 | -0.392012 | 0.6953 |
| RESID01(-1) | -0.430428 | 0.044747 | -9.619086 | 0.0000 |
| D(PRICE) | 3.273368 | 0.498251 | 6.569720 | 0.0000 |
| D(VOLUME(-3)) | -0.099150 | 0.047544 | -2.085428 | 0.0379 |
| R-squared | 0.309233 | Mean dependent var | | 0.001892 |
| Adjusted R-squared | 0.302439 | S.D. dependent var | | 0.280091 |
| S.E. of regression | 0.233932 | Akaike info criterion | | -0.054712 |
| Sum squared resid | 16.69088 | Schwarz criterion | | -0.006384 |
| Log likelihood | 12.45300 | F-statistic | | 45.51281 |
| Durbin-Watson stat | 2.087868 | Prob(F-statistic) | | 0.000000 |

หลักทรัพย์ BCP

Dependent Variable: D(VOLUME)

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|-----------|
| C | -0.006600 | 0.020454 | -0.322675 | 0.7472 |
| RESID01(-1) | -0.168720 | 0.032157 | -5.246747 | 0.0000 |
| D(PRICE) | 4.155448 | 0.502447 | 8.270425 | 0.0000 |
| D(VOLUME(-1)) | -0.145610 | 0.051247 | -2.841306 | 0.0048 |
| R-squared | 0.272323 | Mean dependent var | | -0.001366 |
| Adjusted R-squared | 0.265212 | S.D. dependent var | | 0.420562 |
| S.E. of regression | 0.360505 | Akaike info criterion | | 0.810155 |
| Sum squared resid | 39.89883 | Schwarz criterion | | 0.858255 |
| Log likelihood | -121.9790 | F-statistic | | 38.29675 |
| Durbin-Watson stat | 2.234255 | Prob(F-statistic) | | 0.000000 |

ในกรณีปริมาณการซื้อขายเป็นตัวแปรอิสระและราคาเป็นตัวแปรตาม

หลักทรัพย์ PTT

Dependent Variable: D(PRICE)

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|-----------|
| C | 0.003779 | 0.001584 | 2.386288 | 0.0124 |
| RESID01(-1) | -0.001135 | 0.005833 | -0.592361 | 0.0987 |
| D(VOLUME(-2)) | 0.009844 | 0.006313 | 1.353474 | 0.0872 |
| D(PRICE(-1)) | -0.146856 | 0.080210 | 0.195317 | 0.8710 |
| D(PRICE(-2)) | 0.100587 | 0.080019 | 1.951507 | 0.0696 |
| R-squared | 0.036002 | Mean dependent var | | 0.004480 |
| Adjusted R-squared | 0.045034 | S.D. dependent var | | 0.018989 |
| S.E. of regression | 0.018888 | Akaike info criterion | | -5.001025 |
| Sum squared resid | 0.054228 | Schwarz criterion | | -4.971893 |
| Log likelihood | 402.9342 | F-statistic | | 1.419179 |
| Durbin-Watson stat | 2.416644 | Prob(F-statistic) | | 0.230252 |

หลักทรัพย์ PTTEP

Dependent Variable: D(PRICE)

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|-----------|
| C | 0.001176 | 0.001220 | 0.963875 | 0.3309 |
| RESID01(-1) | -0.001616 | 0.008289 | -0.387988 | 0.4439 |
| D(VOLUME(-1)) | -0.014752 | 0.004784 | -0.522989 | 0.0035 |
| D(PRICE(-1)) | -0.045045 | 0.057770 | -0.949357 | 0.4023 |
| R-squared | 0.005866 | Mean dependent var | | 0.001099 |
| Adjusted R-squared | 0.009751 | S.D. dependent var | | 0.021167 |
| S.E. of regression | 0.021314 | Akaike info criterion | | -4.856939 |
| Sum squared resid | 0.136740 | Schwarz criterion | | -4.751664 |
| Log likelihood | 751.8116 | F-statistic | | 0.296016 |
| Durbin-Watson stat | 2.071482 | Prob(F-statistic) | | 0.938567 |

หลักทรัพย์ RATCH

Dependent Variable: D(PRICE)

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|-----------|
| C | 0.002175 | 0.001094 | 2.536164 | 0.0674 |
| RESID01(-1) | -0.003832 | 0.006357 | -0.870225 | 0.0852 |
| D(VOLUME(-1)) | 0.018747 | 0.003614 | 2.752572 | 0.0011 |
| D(PRICE(-1)) | -0.001456 | 0.068556 | -2.241310 | 0.4531 |
| D(PRICE(-2)) | 0.146813 | 0.068379 | 0.061617 | 0.0609 |
| R-squared | 0.064505 | Mean dependent var | | 0.002224 |
| Adjusted R-squared | 0.027124 | S.D. dependent var | | 0.015531 |
| S.E. of regression | 0.015240 | Akaike info criterion | | -5.401266 |
| Sum squared resid | 0.047611 | Schwarz criterion | | -5.386535 |
| Log likelihood | 589.7208 | F-statistic | | 2.355871 |
| Durbin-Watson stat | 2.041053 | Prob(F-statistic) | | 0.031935 |

หลักทรัพย์ BANPU

Dependent Variable: D(PRICE)

Method: Least Squares

Date: 04/24/05 Time: 09:49

Sample(adjusted): 6 313

Included observations: 308 after adjusting endpoints

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|-----------|
| C | 0.002346 | 0.001507 | 1.557460 | 0.1207 |
| RESID01(-1) | -0.006770 | 0.005886 | -1.489912 | 0.0697 |
| D(VOLUME(-1)) | 0.024488 | 0.005538 | 5.216662 | 0.0264 |
| D(PRICE(-1)) | 0.041885 | 0.055434 | 1.085703 | 0.4502 |
| D(PRICE(-3)) | 0.037119 | 0.055315 | 0.756014 | 0.0260 |
| R-squared | 0.088393 | Mean dependent var | | 0.002608 |
| Adjusted R-squared | 0.070121 | S.D. dependent var | | 0.026946 |
| S.E. of regression | 0.025983 | Akaike info criterion | | -4.410828 |
| Sum squared resid | 0.203209 | Schwarz criterion | | -4.355513 |
| Log likelihood | 690.8044 | F-statistic | | 4.864342 |
| Durbin-Watson stat | 2.047570 | Prob(F-statistic) | | 0.000092 |

หลักทรัพย์ BCP

Dependent Variable: D(PRICE)

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|-----------|
| C | 0.001420 | 0.002132 | 0.666181 | 0.5058 |
| RESID01(-1) | -0.006863 | 0.009374 | -0.732165 | 0.4646 |
| D(VOLUME) | 0.038823 | 0.005161 | 7.522664 | 0.0000 |
| D(PRICE(-1)) | -0.089672 | 0.052803 | -1.698228 | 0.0905 |
| R-squared | 0.168365 | Mean dependent var | | 0.001388 |
| Adjusted R-squared | 0.157458 | S.D. dependent var | | 0.040835 |
| S.E. of regression | 0.037482 | Akaike info criterion | | -3.713889 |
| Sum squared resid | 0.428506 | Schwarz criterion | | -3.653621 |
| Log likelihood | 580.6528 | F-statistic | | 15.43682 |
| Durbin-Watson stat | 2.148986 | Prob(F-statistic) | | 0.000000 |

ประวัติผู้เขียน

| | |
|-------------------|---|
| ชื่อ | นางสาววราลักษณ์ ชมภูพงษ์ |
| วัน เดือน ปี เกิด | 5 สิงหาคม พ.ศ. 2524 |
| ประวัติการศึกษา | สำเร็จการศึกษามัธยมศึกษาตอนปลายจากโรงเรียน ส่วนบุญโญปถัมภ์ ลำพูน ปีการศึกษา 2542 สำเร็จการศึกษาระดับปริญญาตรีบัณฑิต มหาวิทยาลัยเชียงใหม่ สาขา บริหารธุรกิจ ปีการศึกษา 2546 |

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