# BAB V

# PENUTUP

## 5.1 Kesimpulan

Berdasarkan analisis pada Bab IV maka dapat di tarik kesimpulan sebagai berikut:

1. Hasil pengujian pada *return* indeks JKSE untuk periode jendel -15,1,+15 dan periode jendela -5,1,+5 pengumuman hasil pemilihan presiden Amerika Serikat pada tahun 2016, hasil uji GARCH (1,1) menunjukkan bahwa nilai dari *return* indeks JKSE tidak memiliki pengaruh terhadap adanya peristiwa pemilihan presiden Amerika Serikat pada tahun 2016, yang berarti hipotesis ditolak.
2. Hasil pengujian pada *return* indeks Nikkei 225 untuk periode jendel -15,1,+15 dan periode jendela -5,1,+5 pengumuman hasil pemilihan presiden Amerika Serikat pada tahun 2016, hasil uji GARCH (1,1) menunjukkan bahwa terdapat pengaruh dari pemilihan presiden Amerika Serikat terhadap bursa efek Jepang, sedangkan untuk hasil uji OLS dengan jendela peristiwa -5,1,+5 bursa efek dijepang tidak terpengaruh oleh adanya peristiwa pengumuman hasil pemilihan presiden Amerika Serikat tahun 2016. sehingga da-15,1,+15 hari, hipotesis terdukung, sedangkan untuk periode waktu -5,1,+5 hipotesis tidak terdukung.
3. Hasil pengujian pada *return* indeks SSE unruk periode jendela -15,1,+15 dan -5,1,+5 hari saat pengumuman hasil pemilihan presiden Amerika Serikat pada tahun 2016 ,hasil uji OLS menunjukkan bahwa tidak terdapat pengaruh pada *return* di Bursa Efek Tiongkok, sehingga dapat disimpulkan

hipotesis tidak terdukung yang berarti bahwa adanya peristiwa pengumuman hasil pemilihan presiden Amerika Serikat tahun 2016 tidak mempengaruhi pergerakan *return* di bursa efek Tiongkok.

**5.2 Implikasi Manajerial**

Penelitian tentang pengaruh pemilihan presiden Amerika Serikat tahun 2016 pada *return* bursa efek dibeberapa negara Asia, diantaranya Indonesia , Jepang dan Tiongkok diharapkan dapat membantu pihak yang terkait dengan pasar modal seperti investor. Berdasarkan hasil penelitian, penulis berharap agar investor dapat menggunakan informasi dari penelitian ini untuk melakukan investasi terbaik dengan melihat trend sebuah bursa efek dalam merespon adanya sebuah peristiwa seperti pemilihan presiden Amerika Serikat dan dapat dengan bijaksana dalam mengambil keputusan investasi beli *(buy)*, tahan *(hold)* atau jual *(sell).*

**5.3 Keterbatasan Penelitian**

Ada beberapa batasan mengenai penelitian keberadaan peristiwa pemilihan presiden Amerika Serikat tahun 2016, keterbatasan tersebut adalah sebagai berikut:

1. Penelitian hanya terbatas pada 3 negara Asia yaitu Indonesia, Jepang dan Tiongkok yang di pilih sebagai sampel, dan periode waktu yang di pilih adalah pemilihan presiden Amerika Serikat tahun 2016.
2. Penelitian yang dilakukan menggunakan jenis metode OLS dan GARCH (1,1).

## 5.4 Saran

Berdasarkan keterbatasan penelitian, maka penulis memberikan saran untuk penelitian selanjutnya, antara lain:

1. Penelitian selanjutnya dapat menambahkan jumlah negara-negara yang memiliki kedekatan atau mitra dagang yang besar pula dengan Amerika serikat seperti Malaysia atau Singapura, dan masih banyak negara Asia lainnya.
2. Hasil dari penelitian ini disarankan hanya untuk investor indeks karena penelitian ini hanya meneliti dengan menggunakan data indeks dari JKSE, N225 dan SSE sehingga akan lebih bermanfaat pada investor yang melakukan investasi indeks internasional.

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# LAMPIRAN

# LAMPIRAN I

Perkembangan hubungan mitra dagang antara Amerika Serikat dengan Indonesia, Jepang, Tiongkok.

## 2016 : U.S. trade in goods with Indonesia

| Month | Exports | Imports | Balance |
|---|---|---|---|
| January 2016 | 726.08.00 | 1,559.2 | -832.4 |
| February 2016 | 421.02.00 | 1,538.2 | -1,117.0 |
| March 2016 | 550.03.00 | 1,668.7 | -1,118.4 |
| Apr-16 | 477.07.00 | 1,451.1 | -973.3 |
| May 2016 | 420.08.00 | 1,609.3 | -1,188.6 |
| June 2016 | 465.06.00 | 1,662.0 | -1,196.4 |
| July 2016 | 426.09.00 | 1,757.8 | -1,330.9 |
| August 2016 | 541.02.00 | 1,590.8 | -1,049.7 |
| Sep-16 | 467.01.00 | 1,537.7 | -1,070.6 |
| October 2016 | 446.07.00 | 1,605.7 | -1,159.0 |
| Nov-16 | 491.03.00 | 1,702.6 | -1,211.3 |
| December 2016 | 588.01.00 | 1,511.2 | -923.1 |
| **TOTAL 2016** | **6,023.7** | **19,194.4** | **-13,170.7** |

## 2015 : U.S. trade in goods with Indonesia

| Month | Exports | Imports | Balance |
|---|---|---|---|
| January 2015 | 575.08.00 | 1,661.1 | -1,085.4 |
| February 2015 | 602.06.00 | 1,324.2 | -721.6 |
| March 2015 | 737.05.00 | 1,736.2 | -998.7 |
| Apr-15 | 539.03.00 | 1,821.2 | -1,281.9 |
| May 2015 | 571.04.00 | 1,583.2 | -1,011.8 |
| June 2015 | 627.09.00 | 1,825.1 | -1,197.2 |
| July 2015 | 419.08.00 | 1,763.9 | -1,344.1 |
| August 2015 | 619.00.00 | 1,514.9 | -895.9 |
| Sep-15 | 680.05.00 | 1,700.9 | -1,020.4 |
| October 2015 | 686.06.00 | 1,708.5 | -1,022.0 |
| Nov-15 | 465.04.00 | 1,458.1 | -992.6 |
| December 2015 | 592.00.00 | 1,503.0 | -911.0 |
| **TOTAL 2015** | **7,117.7** | **19,600.2** | **-12,482.5** |

## 2014 : U.S. trade in goods with Indonesia

| Month | Exports | Imports | Balance |
|---|---|---|---|
| January 2014 | 624.03.00 | 1,669.8 | -1,045.5 |
| February 2014 | 714.01.00 | 1,412.6 | -698.5 |
| March 2014 | 678.01.00 | 1,801.6 | -1,123.6 |
| Apr-14 | 811.07.00 | 1,668.8 | -857.2 |
| May 2014 | 890.09.00 | 1,516.4 | -625.5 |
| June 2014 | 664.07.00 | 1,567.1 | -902.4 |
| July 2014 | 520.07.00 | 1,736.3 | -1,215.6 |
| August 2014 | 620.06.00 | 1,676.1 | -1,055.4 |
| Sep-14 | 838.08.00 | 1,479.4 | -640.5 |
| October 2014 | 731.08.00 | 1,860.8 | -1,129.0 |
| Nov-14 | 654.02.00 | 1,501.5 | -847.3 |
| December 2014 | 531.01.00 | 1,499.5 | -968.3 |
| **TOTAL 2014** | **8,281.0** | **19,389.8** | **-11,108.8** |

## 2016 : U.S. trade in goods with Japan

| Month | Exports | Imports | Balance |
|---|---|---|---|
| January 2016 | 4,679.3 | 9,587.7 | -4,908.3 |
| February 2016 | 4,969.5 | 10,309.3 | -5,339.8 |
| March 2016 | 5,374.4 | 12,085.6 | -6,711.3 |
| Apr-16 | 4,691.3 | 10,857.2 | -6,165.9 |
| May 2016 | 5,223.7 | 9,882.3 | -4,658.6 |
| June 2016 | 5,161.4 | 11,029.4 | -5,868.0 |
| July 2016 | 5,167.5 | 11,247.6 | -6,080.1 |
| August 2016 | 5,465.5 | 11,438.7 | -5,973.2 |
| Sep-16 | 5,627.5 | 10,392.3 | -4,764.8 |
| October 2016 | 5,785.4 | 11,692.3 | -5,906.8 |
| Nov-16 | 5,438.8 | 11,335.2 | -5,896.4 |
| December 2016 | 5,651.9 | 12,188.6 | -6,536.7 |
| **TOTAL 2016** | **63,236.3** | **132,046.3** | **-68,810.0** |

## 2015 : U.S. trade in goods with Japan

| Month | Exports | Imports | Balance |
|---|---|---|---|
| January 2015 | 5,095.3 | 10,892.7 | -5,797.4 |
| February 2015 | 5,087.1 | 9,367.7 | -4,280.6 |
| March 2015 | 5,708.3 | 12,926.1 | -7,217.8 |
| Apr-15 | 5,591.9 | 12,782.8 | -7,190.9 |
| May 2015 | 5,420.4 | 10,657.9 | -5,237.5 |
| June 2015 | 5,221.1 | 10,522.3 | -5,301.1 |
| July 2015 | 5,267.8 | 10,967.1 | -5,699.3 |
| August 2015 | 5,433.9 | 10,548.5 | -5,114.6 |
| Sep-15 | 4,664.4 | 9,891.5 | -5,227.1 |
| October 2015 | 5,207.0 | 10,819.6 | -5,612.5 |
| Nov-15 | 4,936.8 | 10,694.1 | -5,757.3 |
| December 2015 | 4,759.1 | 11,312.7 | -6,553.6 |
| **TOTAL 2015** | **62,393.1** | **131,383.0** | **-68,989.9** |

## 2014 : U.S. trade in goods with Japan

| Month | Exports | Imports | Balance |
|---|---|---|---|
| January 2014 | 5,504.8 | 10,819.7 | -5,314.9 |
| February 2014 | 5,305.2 | 10,604.2 | -5,299.0 |
| March 2014 | 6,009.2 | 12,113.0 | -6,103.8 |
| Apr-14 | 5,294.8 | 11,384.0 | -6,089.2 |
| May 2014 | 5,451.5 | 10,577.7 | -5,126.3 |
| June 2014 | 5,650.8 | 11,298.2 | -5,647.4 |
| July 20154 | 5,470.1 | 11,544.2 | -6,074.1 |
| August 2014 | 6,303.2 | 11,112.9 | -4,809.8 |
| Sep-14 | 5,424.2 | 10,839.9 | -5,415.7 |
| October 2014 | 5,621.8 | 12,024.1 | -6,402.3 |
| Nov-14 | 5,063.2 | 10,707.0 | -5,643.8 |
| December 2014 | 5,793.2 | 11,479.6 | -5,686.5 |
| **TOTAL 2014** | **66,891.8** | **134,504.5** | **-67,612.7** |

## 2016 : U.S. trade in goods with China

| Month | Exports | Imports | Balance |
|---|---|---|---|
| January 2016 | 8,218.3 | 37,159.3 | -28,940.9 |
| February 2016 | 8,055.1 | 36,088.6 | -28,033.5 |
| March 2016 | 8,913.4 | 29,838.3 | -20,924.9 |
| Apr-16 | 8,670.6 | 32,945.8 | -24,275.3 |
| May 2016 | 8,537.3 | 37,530.5 | -28,993.2 |
| June 2016 | 8,838.3 | 38,556.2 | -29,717.8 |
| July 2016 | 9,125.3 | 39,461.8 | -30,336.5 |
| August 2016 | 9,369.1 | 43,230.2 | -33,861.2 |
| Sep-16 | 9,507.1 | 42,026.9 | -32,519.8 |
| October 2016 | 12,616.0 | 43,793.5 | -31,177.5 |
| Nov-16 | 12,069.8 | 42,608.9 | -30,539.1 |
| December 2016 | 11,681.8 | 39,378.2 | -27,696.4 |
| **TOTAL 2016** | **115,602.1** | **462,618.1** | **-347,016.0** |

## 2015 : U.S. trade in goods with China

| Month | Exports | Imports | Balance |
|---|---|---|---|
| January 2015 | 9,472.5 | 38,587.2 | -29,114.8 |
| February 2015 | 8,760.7 | 31,569.0 | -22,808.3 |
| March 2015 | 9,886.4 | 41,129.7 | -31,243.3 |
| Apr-15 | 9,301.7 | 36,120.5 | -26,818.8 |
| May 2015 | 8,747.2 | 39,072.1 | -30,324.9 |
| June 2015 | 9,617.7 | 41,451.9 | -31,834.1 |
| July 2015 | 9,488.4 | 41,211.6 | -31,723.2 |
| August 2015 | 9,167.6 | 44,137.5 | -34,969.9 |
| Sep-15 | 9,417.0 | 45,711.4 | -36,294.4 |
| October 2015 | 11,395.6 | 44,311.4 | -32,915.8 |
| Nov-15 | 10,604.0 | 41,886.9 | -31,282.9 |
| December 2015 | 10,073.2 | 37,999.4 | -27,926.2 |
| **TOTAL 2015** | **115,932.0** | **483,188.7** | **-367,256.7** |

## 2014 : U.S. trade in goods with China

| Month | Exports | Imports | Balance |
|---|---|---|---|
| January 2014 | 10,264.5 | 38,377.2 | -28,112.7 |
| February 2014 | 9,750.7 | 30,700.4 | -20,949.7 |
| March 2014 | 10,934.3 | 31,420.9 | -20,486.6 |
| Apr-14 | 9,031.9 | 36,450.2 | -27,418.3 |
| May 2014 | 9,220.2 | 38,188.1 | -28,968.0 |
| June 2014 | 9,330.2 | 39,607.1 | -30,276.9 |
| July 2014 | 9,291.8 | 40,319.6 | -31,027.8 |
| August 2014 | 9,625.2 | 40,093.8 | -30,468.6 |
| Sep-14 | 9,314.0 | 45,102.8 | -35,788.8 |
| October 2014 | 12,593.3 | 45,335.4 | -32,742.0 |
| Nov-14 | 12,125.9 | 42,483.5 | -30,357.6 |
| December 2014 | 12,175.2 | 40,395.9 | -28,220.7 |
| **TOTAL 2014** | **123,657.2** | **468,474.9** | **-344,817.7** |

# LAMPIRAN V
# GARCH DAN OLS PERIODE JENDELA -15,1,+15

## JKSE GARCH (1,1)

Dependent Variable: JKSE
Method: ML - ARCH (Marquardt) - Normal distribution
Date: 01/18/18 Time: 23:08
Sample: 1 131
Included observations: 131
Convergence achieved after 275 iterations
Presample variance: backcast (parameter = 0.7)
GARCH = C(3) + C(4)*RESID(-1)^2 + C(5)*GARCH(-1)

| Variable | Coefficient | Std. Error | z-Statistic | Prob. |
|---|---|---|---|---|
| DUMMY | 0.015181 | 5.686603 | 0.002670 | 0.9979 |
| C | 0.000507 | 0.000842 | 0.602446 | 0.5469 |
| Variance Equation | | | | |
| C | 3.88E-05 | 2.29E-05 | 1.695793 | 0.0899 |
| RESID(-1)^2 | 0.289376 | 0.178123 | 1.624580 | 0.1043 |
| GARCH(-1) | 0.281458 | 0.318724 | 0.883080 | 0.3772 |

| | | | |
|---|---|---|---|
| R-squared | 0.020191 | Mean dependent var | 0.000714 |
| Adjusted R-squared | 0.012596 | S.D. dependent var | 0.009252 |
| S.E. of regression | 0.009194 | Akaike info criterion | -6.533196 |
| Sum squared resid | 0.010904 | Schwarz criterion | -6.423456 |
| Log likelihood | 432.9243 | Hannan-Quinn criter. | -6.488604 |
| Durbin-Watson stat | 1.982474 | | |

## N225 GARCH (1,1)

Dependent Variable: NIKKEI
Method: ML - ARCH (Marquardt) - Normal distribution
Date: 01/18/18 Time: 23:27
Sample: 1 131
Included observations: 131
Convergence achieved after 28 iterations
Presample variance: backcast (parameter = 0.7)
GARCH = C(3) + C(4)*RESID(-1)^2 + C(5)*GARCH(-1)

| Variable | Coefficient | Std. Error | z-Statistic | Prob. |
|---|---|---|---|---|
| DUMMY | -0.029099 | 0.006448 | -4.513095 | 0.0000 |
| C | 0.000386 | 0.001035 | 0.372744 | 0.7093 |
| Variance Equation | | | | |
| C | 2.55E-05 | 1.31E-05 | 1.947010 | 0.0515 |
| RESID(-1)^2 | 0.308723 | 0.119550 | 2.582374 | 0.0098 |
| GARCH(-1) | 0.649629 | 0.087733 | 7.404643 | 0.0000 |

| | | | |
|---|---|---|---|
| R-squared | -0.027218 | Mean dependent var | 0.000803 |
| Adjusted R-squared | -0.035181 | S.D. dependent var | 0.015290 |
| S.E. of regression | 0.015557 | Akaike info criterion | -5.568196 |
| Sum squared resid | 0.031221 | Schwarz criterion | -5.458456 |

| | | | |
|---|---|---|---|
| Log likelihood | 369.7168 | Hannan-Quinn criter. | -5.523604 |
| Durbin-Watson stat | 2.461662 | | |

## SSE OLS

Dependent Variable: SSE

Method: Least Squares

Date: 01/18/18 Time: 23:35

Sample: 1 131

Included observations: 131

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| DUMMY | 0.003543 | 0.008108 | 0.436985 | 0.6629 |
| C | 0.001102 | 0.000708 | 1.555800 | 0.1222 |

| | | | |
|---|---|---|---|
| R-squared | 0.001478 | Mean dependent var | 0.001129 |
| Adjusted R-squared | -0.006262 | S.D. dependent var | 0.008052 |
| S.E. of regression | 0.008077 | Akaike info criterion | -6.784451 |
| Sum squared resid | 0.008416 | Schwarz criterion | -6.740555 |
| Log likelihood | 446.3815 | Hannan-Quinn criter. | -6.766614 |
| F-statistic | 0.190956 | Durbin-Watson stat | 2.026625 |
| Prob(F-statistic) | 0.662852 | | |

# GARCH DAN OLS PERIODE JENDELA -5,1,+5

## JKSE GARCH (1,1)

Dependent Variable: JKSE
Method: ML - ARCH (Marquardt) - Normal distribution
Date: 01/18/18 Time: 21:19
Sample: 1 111
Included observations: 111
Convergence achieved after 25 iterations
Presample variance: backcast (parameter = 0.7)
GARCH = C(3) + C(4)*RESID(-1)^2 + C(5)*GARCH(-1)

| Variable | Coefficient | Std. Error | z-Statistic | Prob. |
|---|---|---|---|---|
| DUMMY | 0.015804 | 1.876989 | 0.008420 | 0.9933 |
| C | -0.000108 | 0.000751 | -0.143437 | 0.8859 |
| | Variance Equation | | | |
| C | 4.12E-05 | 2.02E-05 | 2.040399 | 0.0413 |
| RESID(-1)^2 | 0.564844 | 0.264684 | 2.134035 | 0.0328 |
| GARCH(-1) | 0.099385 | 0.283867 | 0.350110 | 0.7263 |

| | | | |
|---|---|---|---|
| R-squared | 0.021733 | Mean dependent var | 0.000490 |
| Adjusted R-squared | 0.012758 | S.D. dependent var | 0.009367 |
| S.E. of regression | 0.009307 | Akaike info criterion | -6.526353 |
| Sum squared resid | 0.009442 | Schwarz criterion | -6.404303 |
| Log likelihood | 367.2126 | Hannan-Quinn criter. | -6.476841 |
| Durbin-Watson stat | 1.874177 | | |

## NIKKEI 225 OLS

Dependent Variable: NIKKEI
Method: Least Squares
Date: 01/18/18 Time: 22:02
Sample: 1 111
Included observations: 111

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| DUMMY | -0.001018 | 0.016276 | -0.062526 | 0.9503 |
| C | 0.000678 | 0.001545 | 0.439052 | 0.6615 |

| | | | |
|---|---|---|---|
| R-squared | 0.000036 | Mean dependent var | 0.000669 |
| Adjusted R-squared | -0.009138 | S.D. dependent var | 0.016129 |
| S.E. of regression | 0.016203 | Akaike info criterion | -5.389408 |
| Sum squared resid | 0.028616 | Schwarz criterion | -5.340587 |
| Log likelihood | 301.1121 | Hannan-Quinn criter. | -5.369603 |
| F-statistic | 0.003909 | Durbin-Watson stat | 2.449968 |
| Prob(F-statistic) | 0.950259 | | |

## SSE OLS

Dependent Variable: SSE

Method: Least Squares

Date: 01/18/18 Time: 22:43

Sample: 1 111

Included observations: 111

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| DUMMY | 0.003793 | 0.007944 | 0.477485 | 0.6340 |
| C | 0.000852 | 0.000754 | 1.129987 | 0.2610 |

| | | | |
|---|---|---|---|
| R-squared | 0.002087 | Mean dependent var | 0.000886 |
| Adjusted R-squared | -0.007068 | S.D. dependent var | 0.007880 |
| S.E. of regression | 0.007908 | Akaike info criterion | -6.823982 |
| Sum squared resid | 0.006817 | Schwarz criterion | -6.775162 |
| Log likelihood | 380.7310 | Hannan-Quinn criter. | -6.804177 |
| F-statistic | 0.227992 | Durbin-Watson stat | 2.043224 |
| Prob(F-statistic) | 0.633973 | | |

# LAMPIRAN II

## Statistik Deskriptif

**Data untuk periode jendela -15,1,+15**

| | JKSE | NIKKEI 225 | SSE |
|---|---|---|---|
| Mean | 0.000714 | 0.000803 | 0.001129 |
| Median | 0.001407 | 0.002081 | 0.000805 |
| Maximum | 0.027911 | 0.067248 | 0.033363 |
| Minimum | -0.040059 | -0.079216 | -0.032143 |
| | | | |
| Std. Dev. | 0.009252 | 0.015290 | 0.008052 |
| Skewness | -0.408933 | -0.812399 | 0.073597 |
| Kurtosis | 5.628223 | 11.03342 | 6.741097 |
| | | | |
| Jarque-Bera | 41.35486 | 366.6678 | 76.51205 |
| Probability | 0.000000 | 0.000000 | 0.000000 |
| | | | |
| Sum | 0.093550 | 0.105141 | 0.147921 |
| Sum Sq. Dev. | 0.011128 | 0.030393 | 0.008428 |
| | | | |
| Observations | 131 | 131 | 131 |

**Data untuk periode jendela -5,1,+5**

| | JKSE | NIKKEI 225 | SSE |
|---|---|---|---|
| Mean | 0.000490 | 0.000669 | 0.000886 |
| Median | 0.001028 | 0.001751 | 0.000805 |
| Maximum | 0.027911 | 0.067248 | 0.024430 |
| Minimum | -0.040059 | -0.079216 | -0.032143 |
| | | | |
| Std. Dev. | 0.009367 | 0.016129 | 0.007880 |
| Skewness | -0.418050 | -0.768497 | -0.396470 |
| Kurtosis | 5.808435 | 10.44773 | 5.944040 |
| | | | |
| Jarque-Bera | 39.71196 | 267.4685 | 42.99458 |
| Probability | 0.000000 | 0.000000 | 0.000000 |
| | | | |
| Sum | 0.054350 | 0.074272 | 0.098368 |
| Sum Sq. Dev. | 0.009651 | 0.028617 | 0.006831 |
| | | | |
| Observations | 111 | 111 | 111 |

# LAMPIRAN III

# AUGMENTED DICKEY-FULLER UNTUK PERIODE JENDELA -15,1,+15

## ADF JKSE

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=12)

| | | t-Statistic | Prob.* |
|---|---|---|---|
| Augmented Dickey-Fuller test statistic | | -11.33002 | 0.0000 |
| Test critical values: | 1% level | -3.481217 | |
| | 5% level | -2.883753 | |
| | 10% level | -2.578694 | |

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(JKSE)

Method: Least Squares

Date: 01/18/18 Time: 23:06

Sample (adjusted): 2 131

Included observations: 130 after adjustments

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| JKSE(-1) | -1.001992 | 0.088437 | -11.33002 | 0.0000 |
| C | 0.000708 | 0.000820 | 0.863968 | 0.3892 |

| | | | |
|---|---|---|---|
| R-squared | 0.500721 | Mean dependent var | 2.07E-05 |
| Adjusted R-squared | 0.496820 | S.D. dependent var | 0.013144 |
| S.E. of regression | 0.009324 | Akaike info criterion | -6.497224 |
| Sum squared resid | 0.011127 | Schwarz criterion | -6.453108 |
| Log likelihood | 424.3196 | Hannan-Quinn criter. | -6.479299 |
| F-statistic | 128.3694 | Durbin-Watson stat | 1.996773 |
| Prob(F-statistic) | 0.000000 | | |

## ADF N225

Null Hypothesis: NIKKEI has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=12)

| | | t-Statistic | Prob.* |
|---|---|---|---|
| Augmented Dickey-Fuller test statistic | | -13.88974 | 0.0000 |
| Test critical values: | 1% level | -3.481217 | |
| | 5% level | -2.883753 | |
| | 10% level | -2.578694 | |

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(NIKKEI)

Method: Least Squares

Date: 01/18/18 Time: 23:26

Sample (adjusted): 2 131

Included observations: 130 after adjustments

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| NIKKEI(-1) | -1.201778 | 0.086523 | -13.88974 | 0.0000 |
| C | 0.001009 | 0.001325 | 0.761942 | 0.4475 |

| | | | |
|---|---|---|---|
| R-squared | 0.601153 | Mean dependent var | 3.82E-05 |
| Adjusted R-squared | 0.598037 | S.D. dependent var | 0.023792 |
| S.E. of regression | 0.015084 | Akaike info criterion | -5.535102 |
| Sum squared resid | 0.029123 | Schwarz criterion | -5.490986 |
| Log likelihood | 361.7816 | Hannan-Quinn criter. | -5.517176 |
| F-statistic | 192.9248 | Durbin-Watson stat | 1.985612 |
| Prob(F-statistic) | 0.000000 | | |

**ADF SSE**

Null Hypothesis: SSE has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=12)

| | | t-Statistic | Prob.* |
|---|---|---|---|
| Augmented Dickey-Fuller test statistic | | -11.76065 | 0.0000 |
| Test critical values: | 1% level | -3.481217 | |
| | 5% level | -2.883753 | |
| | 10% level | -2.578694 | |

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(SSE)

Method: Least Squares

Date: 01/18/18 Time: 23:33

Sample (adjusted): 2 131

Included observations: 130 after adjustments

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| SSE(-1) | -1.027157 | 0.087339 | -11.76065 | 0.0000 |
| C | 0.001266 | 0.000710 | 1.783333 | 0.0769 |

| | | | |
|---|---|---|---|
| R-squared | 0.519362 | Mean dependent var | 0.000112 |
| Adjusted R-squared | 0.515607 | S.D. dependent var | 0.011520 |
| S.E. of regression | 0.008018 | Akaike info criterion | -6.799027 |
| Sum squared resid | 0.008229 | Schwarz criterion | -6.754911 |
| Log likelihood | 443.9367 | Hannan-Quinn criter. | -6.781101 |
| F-statistic | 138.3128 | Durbin-Watson stat | 2.014005 |
| Prob(F-statistic) | 0.000000 | | |

## AUGMENTED DICKEY-FULLER UNTUK PERIODE JENDELA -5,1,+5

### ADF JKSE

Null Hypothesis: JKSE has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=12)

| | | t-Statistic | Prob.* |
|---|---|---|---|
| Augmented Dickey-Fuller test statistic | | -9.915193 | 0.0000 |
| Test critical values: | 1% level | -3.490772 | |
| | 5% level | -2.887909 | |
| | 10% level | -2.580908 | |

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(JKSE)
Method: Least Squares
Date: 01/18/18 Time: 21:16
Sample (adjusted): 2 111
Included observations: 110 after adjustments

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| JKSE(-1) | -0.955449 | 0.096362 | -9.915193 | 0.0000 |
| C | 0.000430 | 0.000901 | 0.477271 | 0.6341 |

| | | | |
|---|---|---|---|
| R-squared | 0.476519 | Mean dependent var | -0.000105 |
| Adjusted R-squared | 0.471672 | S.D. dependent var | 0.012983 |
| S.E. of regression | 0.009437 | Akaike info criterion | -6.470387 |
| Sum squared resid | 0.009618 | Schwarz criterion | -6.421288 |
| Log likelihood | 357.8713 | Hannan-Quinn criter. | -6.450472 |
| F-statistic | 98.31105 | Durbin-Watson stat | 1.995162 |
| Prob(F-statistic) | 0.000000 | | |

### ADF N225

Null Hypothesis: NIKKEI has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=12)

| | | t-Statistic | Prob.* |
|---|---|---|---|
| Augmented Dickey-Fuller test statistic | | -13.05575 | 0.0000 |
| Test critical values: | 1% level | -3.490772 | |
| | 5% level | -2.887909 | |
| | 10% level | -2.580908 | |

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(NIKKEI)
Method: Least Squares
Date: 01/18/18 Time: 22:01
Sample (adjusted): 2 111
Included observations: 110 after adjustments

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| NIKKEI(-1) | -1.223957 | 0.093748 | -13.05575 | 0.0000 |
| C | 0.000861 | 0.001513 | 0.568851 | 0.5706 |

| | | | |
|---|---|---|---|
| R-squared | 0.612142 | Mean dependent var | 3.17E-05 |
| Adjusted R-squared | 0.608551 | S.D. dependent var | 0.025347 |
| S.E. of regression | 0.015859 | Akaike info criterion | -5.432172 |
| Sum squared resid | 0.027162 | Schwarz criterion | -5.383073 |
| Log likelihood | 300.7695 | Hannan-Quinn criter. | -5.412257 |
| F-statistic | 170.4527 | Durbin-Watson stat | 1.981885 |
| Prob(F-statistic) | 0.000000 | | |

## ADF SSE

Null Hypothesis: SSE has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=12)

| | | t-Statistic | Prob.* |
|---|---|---|---|
| Augmented Dickey-Fuller test statistic | | -10.65680 | 0.0000 |
| Test critical values: | 1% level | -3.490772 | |
| | 5% level | -2.887909 | |
| | 10% level | -2.580908 | |

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(SSE)
Method: Least Squares
Date: 01/18/18 Time: 22:39
Sample (adjusted): 2 111
Included observations: 110 after adjustments

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| SSE(-1) | -1.025124 | 0.096194 | -10.65680 | 0.0000 |
| C | 0.000927 | 0.000763 | 1.214789 | 0.2271 |

| | | | |
|---|---|---|---|
| R-squared | 0.512564 | Mean dependent var | 1.02E-07 |
| Adjusted R-squared | 0.508050 | S.D. dependent var | 0.011332 |
| S.E. of regression | 0.007948 | Akaike info criterion | -6.813710 |
| Sum squared resid | 0.006823 | Schwarz criterion | -6.764610 |
| Log likelihood | 376.7540 | Hannan-Quinn criter. | -6.793795 |
| F-statistic | 113.5674 | Durbin-Watson stat | 2.004057 |
| Prob(F-statistic) | 0.000000 | | |

# LAMPIRAN IV

# HETEROSKEDASTISITAS PERIODE JENDELA -15,1,+15

## HETEROSKEDASTISITAS JKSE

Heteroskedasticity Test: ARCH

| | | | |
|---|---|---|---|
| F-statistic | 4.266019 | Prob. F(1,128) | 0.0409 |
| Obs*R-squared | 4.192932 | Prob. Chi-Square(1) | 0.0406 |

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 01/18/18 Time: 23:08
Sample (adjusted): 2 131
Included observations: 130 after adjustments

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 6.88E-05 | 1.75E-05 | 3.939221 | 0.0001 |
| RESID^2(-1) | 0.179552 | 0.086932 | 2.065434 | 0.0409 |

| | | | |
|---|---|---|---|
| R-squared | 0.032253 | Mean dependent var | 8.39E-05 |
| Adjusted R-squared | 0.024693 | S.D. dependent var | 0.000183 |
| S.E. of regression | 0.000181 | Akaike info criterion | -14.38017 |
| Sum squared resid | 4.20E-06 | Schwarz criterion | -14.33606 |
| Log likelihood | 936.7112 | Hannan-Quinn criter. | -14.36225 |
| F-statistic | 4.266019 | Durbin-Watson stat | 2.002951 |
| Prob(F-statistic) | 0.040900 | | |

## HETEROSKEDASTISITAS N225

Heteroskedasticity Test: ARCH

| | | | |
|---|---|---|---|
| F-statistic | 4.153030 | Prob. F(1,128) | 0.0436 |
| Obs*R-squared | 4.085369 | Prob. Chi-Square(1) | 0.0433 |

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 01/18/18 Time: 23:27
Sample (adjusted): 2 131
Included observations: 130 after adjustments

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 0.000192 | 6.73E-05 | 2.853864 | 0.0050 |
| RESID^2(-1) | 0.177291 | 0.086997 | 2.037899 | 0.0436 |

| | | | |
|---|---|---|---|
| R-squared | 0.031426 | Mean dependent var | 0.000234 |
| Adjusted R-squared | 0.023859 | S.D. dependent var | 0.000740 |
| S.E. of regression | 0.000732 | Akaike info criterion | -11.58753 |
| Sum squared resid | 6.85E-05 | Schwarz criterion | -11.54341 |
| Log likelihood | 755.1892 | Hannan-Quinn criter. | -11.56960 |
| F-statistic | 4.153030 | Durbin-Watson stat | 1.974326 |
| Prob(F-statistic) | 0.043621 | | |

## HETEROSKEDASTISITAS SSE

Heteroskedasticity Test: ARCH

| | | | |
|---|---|---|---|
| F-statistic | 0.279043 | Prob. F(1,128) | 0.5982 |
| Obs*R-squared | 0.282786 | Prob. Chi-Square(1) | 0.5949 |

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 01/18/18 Time: 23:34

Sample (adjusted): 2 131

Included observations: 130 after adjustments

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 6.63E-05 | 1.48E-05 | 4.485292 | 0.0000 |
| RESID^2(-1) | -0.046549 | 0.088120 | -0.528245 | 0.5982 |

| | | | |
|---|---|---|---|
| R-squared | 0.002175 | Mean dependent var | 6.33E-05 |
| Adjusted R-squared | -0.005620 | S.D. dependent var | 0.000155 |
| S.E. of regression | 0.000155 | Akaike info criterion | -14.68555 |
| Sum squared resid | 3.09E-06 | Schwarz criterion | -14.64143 |
| Log likelihood | 956.5608 | Hannan-Quinn criter. | -14.66762 |
| F-statistic | 0.279043 | Durbin-Watson stat | 1.995553 |
| Prob(F-statistic) | 0.598244 | | |

# HETEROSKEDASTISITAS PERIODE JENDELA -5,1,+5

## HETEROSKEDASTISITAS JKSE

Heteroskedasticity Test: ARCH

| | | | |
|---|---|---|---|
| F-statistic | 4.637523 | Prob. F(1,108) | 0.0335 |
| Obs*R-squared | 4.528931 | Prob. Chi-Square(1) | 0.0333 |

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 01/18/18 Time: 21:18
Sample (adjusted): 2 111
Included observations: 110 after adjustments

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 6.82E-05 | 1.97E-05 | 3.469475 | 0.0008 |
| RESID^2(-1) | 0.202804 | 0.094174 | 2.153491 | 0.0335 |

| | | | |
|---|---|---|---|
| R-squared | 0.041172 | Mean dependent var | 8.55E-05 |
| Adjusted R-squared | 0.032294 | S.D. dependent var | 0.000191 |
| S.E. of regression | 0.000188 | Akaike info criterion | -14.29868 |
| Sum squared resid | 3.83E-06 | Schwarz criterion | -14.24958 |
| Log likelihood | 788.4274 | Hannan-Quinn criter. | -14.27876 |
| F-statistic | 4.637523 | Durbin-Watson stat | 1.981071 |
| Prob(F-statistic) | 0.033504 | | |

## HETEROSKEDASTISITAS N225

Heteroskedasticity Test: ARCH

| | | | |
|---|---|---|---|
| F-statistic | 3.299049 | Prob. F(1,108) | 0.0721 |
| Obs*R-squared | 3.260543 | Prob. Chi-Square(1) | 0.0710 |

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 01/18/18 Time: 22:02
Sample (adjusted): 2 111
Included observations: 110 after adjustments

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 0.000215 | 7.94E-05 | 2.711445 | 0.0078 |
| RESID^2(-1) | 0.172178 | 0.094795 | 1.816328 | 0.0721 |

| | | | |
|---|---|---|---|
| R-squared | 0.029641 | Mean dependent var | 0.000260 |
| Adjusted R-squared | 0.020657 | S.D. dependent var | 0.000799 |
| S.E. of regression | 0.000791 | Akaike info criterion | -11.42822 |
| Sum squared resid | 6.76E-05 | Schwarz criterion | -11.37912 |
| Log likelihood | 630.5523 | Hannan-Quinn criter. | -11.40831 |
| F-statistic | 3.299049 | Durbin-Watson stat | 1.973182 |
| Prob(F-statistic) | 0.072094 | | |

## HETEROSKEDASTISITAS SSE

Heteroskedasticity Test: ARCH

| | | | |
|---|---|---|---|
| F-statistic | 0.050299 | Prob. F(1,108) | 0.8230 |
| Obs*R-squared | 0.051206 | Prob. Chi-Square(1) | 0.8210 |

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 01/18/18 Time: 22:42
Sample (adjusted): 2 111
Included observations: 110 after adjustments

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 6.33E-05 | 1.45E-05 | 4.366496 | 0.0000 |
| RESID^2(-1) | -0.021576 | 0.096203 | -0.224274 | 0.8230 |

| | | | |
|---|---|---|---|
| R-squared | 0.000466 | Mean dependent var | 6.19E-05 |
| Adjusted R-squared | -0.008789 | S.D. dependent var | 0.000138 |
| S.E. of regression | 0.000139 | Akaike info criterion | -14.91286 |
| Sum squared resid | 2.07E-06 | Schwarz criterion | -14.86376 |
| Log likelihood | 822.2070 | Hannan-Quinn criter. | -14.89294 |
| F-statistic | 0.050299 | Durbin-Watson stat | 1.999767 |
| Prob(F-statistic) | 0.822968 | | |