LAMPIRAN JURNAL

Lampiran 1. Uji stasioner data harga jagung domestik dan pasar jagung dunia

1. Harga jagung domestik di tingkat pabrik pakan

a. Uji stasioner data harga jagung domestik di tingkat pabrik pakan pada tingkat *level*

|  |  |
| --- | --- |
| Null Hypothesis: PJK has a unit root |  |
| Exogenous: Constant |  |  |
| Lag Length: 1 (Automatic - based on SIC, maxlag=11) |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | t-Statistic |   Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | -3.199139 |  0.0242 |
| Test critical values: | 1% level |  | -3.527045 |  |
|  | 5% level |  | -2.903566 |  |
|  | 10% level |  | -2.589227 |  |
|  |  |  |  |  |
|  |  |  |  |  |
| \*MacKinnon (1996) one-sided p-values. |  |

b. Uji stasioner data harga jagung domestik di tingkat pabrik pakan pada tingkat *first difference*

|  |  |
| --- | --- |
| Null Hypothesis: D(PJK) has a unit root |  |
| Exogenous: Constant |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=11) |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | t-Statistic |   Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | -5.344539 |  0.0000 |
| Test critical values: | 1% level |  | -3.527045 |  |
|  | 5% level |  | -2.903566 |  |
|  | 10% level |  | -2.589227 |  |
|  |  |  |  |  |
|  |  |  |  |  |
| \*MacKinnon (1996) one-sided p-values. |  |

2. Harga jagung di tingkat petani

a. Uji stasioner data harga jagung di petani pada tingkat *level*

|  |  |
| --- | --- |
| Null Hypothesis: PJP has a unit root |  |
| Exogenous: Constant |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=11) |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | t-Statistic |   Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | -1.967666 |  0.3003 |
| Test critical values: | 1% level |  | -3.525618 |  |
|  | 5% level |  | -2.902953 |  |
|  | 10% level |  | -2.588902 |  |
|  |  |  |  |  |
|  |  |  |  |  |
| \*MacKinnon (1996) one-sided p-values. |  |

b. Uji stasioner data harga jagung di petani pada tingkat *first difference*

|  |  |
| --- | --- |
| Null Hypothesis: D(PJP) has a unit root |  |
| Exogenous: Constant |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=11) |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | t-Statistic |   Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | -7.554537 |  0.0000 |
| Test critical values: | 1% level |  | -3.527045 |  |
|  | 5% level |  | -2.903566 |  |
|  | 10% level |  | -2.589227 |  |
|  |  |  |  |  |
|  |  |  |  |  |
| \*MacKinnon (1996) one-sided p-values. |  |

3. Harga jagung di pasar dunia

a. Uji stasioner data harga jagung di pasar dunia pada tingkat *level*

|  |  |
| --- | --- |
| Null Hypothesis: PW has a unit root |  |
| Exogenous: Constant |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=11) |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | t-Statistic |   Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | -2.234234 |  0.1963 |
| Test critical values: | 1% level |  | -3.525618 |  |
|  | 5% level |  | -2.902953 |  |
|  | 10% level |  | -2.588902 |  |
|  |  |  |  |  |
|  |  |  |  |  |
| \*MacKinnon (1996) one-sided p-values. |  |
|  |  |  |  |  |

b. Uji stasioner data harga jagung di pasar dunia pada tingkat *first difference*

|  |  |
| --- | --- |
| Null Hypothesis: D(PW) has a unit root |  |
| Exogenous: Constant |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=11) |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | t-Statistic |   Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | -8.199000 |  0.0000 |
| Test critical values: | 1% level |  | -3.527045 |  |
|  | 5% level |  | -2.903566 |  |
|  | 10% level |  | -2.589227 |  |
|  |  |  |  |  |
|  |  |  |  |  |
| \*MacKinnon (1996) one-sided p-values. |  |

Lampiran 2. Uji Stabilitas VAR dan Penentuan Lag Optimal

a. Uji Stabilitas VAR

|  |
| --- |
| Roots of Characteristic Polynomial |
| Endogenous variables: PJK PJP PW  |
| Exogenous variables: C  |
| Lag specification: 1 2 |
| Date: 08/06/21 Time: 20:33 |
|  |  |
|  |  |
|      Root | Modulus |
|  |  |
|  |  |
|  0.833731 |  0.833731 |
|  0.765826 |  0.765826 |
|  0.645588 - 0.358137i |  0.738272 |
|  0.645588 + 0.358137i |  0.738272 |
| -0.200029 |  0.200029 |
|  0.194401 |  0.194401 |
|  |  |
|  |  |
|  No root lies outside the unit circle. |
|  VAR satisfies the stability condition. |
|  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| VAR Lag Order Selection Criteria |  |  |  |  |
| Endogenous variables: PJK PJP PW  |  |  |  |  |
| Exogenous variables: C  |  |  |  |  |
| Date: 08/06/21 Time: 22:59 |  |  |  |  |
| Sample: 2015M01 2020M12 |  |  |  |  |
| Included observations: 67 |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  Lag | LogL | LR | FPE | AIC | SC | HQ |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| 0 | -1412.857 | NA  |  4.55e+14 |  42.26440 |  42.36311 |  42.30346 |
| 1 | -1300.499 |  211.3002 |  2.08e+13 |  39.17908 |  39.57395 |  39.33533 |
| 2 | -1280.106 |   36.52522\* |   1.48e+13\* |   38.83898\* |   39.53001\* |   39.11242\* |
| 3 | -1274.136 |  10.15736 |  1.63e+13 |  38.92944 |  39.91662 |  39.32007 |
| 4 | -1264.563 |  15.43212 |  1.62e+13 |  38.91232 |  40.19565 |  39.42013 |
| 5 | -1257.951 |  10.06526 |  1.76e+13 |  38.98362 |  40.56310 |  39.60862 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  \* indicates lag order selected by the criterion |  |  |  |
|  LR: sequential modified LR test statistic (each test at 5% level) |  |  |
|  FPE: Final prediction error |  |  |  |  |
|  AIC: Akaike information criterion |  |  |  |  |
|  SC: Schwarz information criterion |  |  |  |  |
|  HQ: Hannan-Quinn information criterion |  |  |  |
|  |  |  |  |  |  |  |

Lampiran 3. Uji Kointegrasi Johansen Harga Jagung di Tingkat Pabrik Pakan, Petani dan Dunia

|  |  |  |  |
| --- | --- | --- | --- |
| Date: 08/06/21 Time: 20:36 |  |  |  |
| Sample: 2015M01 2020M12 |  |  |  |
| Included observations: 69 |  |  |  |
| Series: PJK PJP PW  |  |  |  |
| Lags interval: 1 to 2 |  |  |  |
|  |  |  |  |  |  |
|  Selected (0.05 level\*) Number of Cointegrating Relations by Model |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| Data Trend: | None | None | Linear | Linear | Quadratic |
| Test Type | No Intercept | Intercept | Intercept | Intercept | Intercept |
|  | No Trend | No Trend | No Trend | Trend | Trend |
| Trace | 1 | 1 | 1 | 0 | 3 |
| Max-Eig | 1 | 0 | 0 | 0 | 0 |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  \*Critical values based on MacKinnon-Haug-Michelis (1999) |  |
|  |  |  |  |  |  |
|  Information Criteria by Rank and Model |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| Data Trend: | None | None | Linear | Linear | Quadratic |
| Rank or | No Intercept | Intercept | Intercept | Intercept | Intercept |
| No. of CEs | No Trend | No Trend | No Trend | Trend | Trend |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  Log Likelihood by Rank (rows) and Model (columns) |  |  |  |  |
| 0 | -1327.357 | -1327.357 | -1327.073 | -1327.073 | -1326.347 |
| 1 | -1317.843 | -1317.261 | -1316.979 | -1316.632 | -1316.035 |
| 2 | -1312.460 | -1311.877 | -1311.653 | -1310.815 | -1310.803 |
| 3 | -1312.314 | -1309.558 | -1309.558 | -1306.004 | -1306.004 |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  Akaike Information Criteria by Rank (rows) and Model (columns) |  |  |  |  |
| 0 |  38.99587 |  38.99587 |  39.07457 |  39.07457 |  39.14050 |
| 1 |   38.89401\* |  38.90611 |  38.95590 |  38.97484 |  39.01552 |
| 2 |  38.91189 |  38.95297 |  38.97544 |  39.00914 |  39.03775 |
| 3 |  39.08156 |  39.08863 |  39.08863 |  39.07259 |  39.07259 |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  Schwarz Criteria by Rank (rows) and Model (columns) |  |  |  |  |
| 0 |  39.57868\* |  39.57868\* |  39.75452 |  39.75452 |  39.91758 |
| 1 |  39.67109 |  39.71557 |  39.83012 |  39.88144 |  39.98687 |
| 2 |  39.88324 |  39.98908 |  40.04393 |  40.14238 |  40.20338 |
| 3 |  40.24718 |  40.35138 |  40.35138 |  40.43248 |  40.43248 |

|  |  |  |
| --- | --- | --- |
| Date: 08/06/21 Time: 20:36 |  |  |
| Sample (adjusted): 2015M04 2020M12 |  |  |
| Included observations: 69 after adjustments |  |
| Trend assumption: No deterministic trend |  |
| Series: PJK PJP PW  |  |  |
| Lags interval (in first differences): 1 to 2 |  |
|  |  |  |  |  |
| Unrestricted Cointegration Rank Test (Trace) |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Hypothesized |  | Trace | 0.05 |  |
| No. of CE(s) | Eigenvalue | Statistic | Critical Value | Prob.\*\* |
|  |  |  |  |  |
|  |  |  |  |  |
| None \* |  0.241009 |  30.08714 |  24.27596 |  0.0083 |
| At most 1 |  0.144472 |  11.05929 |  12.32090 |  0.0806 |
| At most 2 |  0.004234 |  0.292801 |  4.129906 |  0.6496 |
|  |  |  |  |  |
|  |  |  |  |  |
|  Trace test indicates 1 cointegrating eqn(s) at the 0.05 level |
|  \* denotes rejection of the hypothesis at the 0.05 level |
|  \*\*MacKinnon-Haug-Michelis (1999) p-values |  |
|  |  |  |  |  |
| Unrestricted Cointegration Rank Test (Maximum Eigenvalue) |
|  |  |  |  |  |
|  |  |  |  |  |
| Hypothesized |  | Max-Eigen | 0.05 |  |
| No. of CE(s) | Eigenvalue | Statistic | Critical Value | Prob.\*\* |
|  |  |  |  |  |
|  |  |  |  |  |
| None \* |  0.241009 |  19.02785 |  17.79730 |  0.0325 |
| At most 1 |  0.144472 |  10.76648 |  11.22480 |  0.0601 |
| At most 2 |  0.004234 |  0.292801 |  4.129906 |  0.6496 |
|  |  |  |  |  |
|  |  |  |  |  |
|  Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level |
|  \* denotes rejection of the hypothesis at the 0.05 level |
|  \*\*MacKinnon-Haug-Michelis (1999) p-values |  |
|  |  |  |  |  |
|  Unrestricted Cointegrating Coefficients (normalized by b'\*S11\*b=I):  |
|  |  |  |  |  |
|  |  |  |  |  |
| PJK | PJP | PW |  |  |
| -0.004352 |  0.004139 |  0.001718 |  |  |
| -0.001163 |  0.003825 | -0.003710 |  |  |
|  0.000110 | -0.000478 |  8.21E-05 |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  Unrestricted Adjustment Coefficients (alpha):  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| D(PJK) |  91.07377 | -15.73378 | -4.318674 |  |
| D(PJP) |  7.432111 | -50.09779 | -2.727531 |  |
| D(PW) | -22.42938 |  5.794341 | -7.597119 |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| 1 Cointegrating Equation(s):  | Log likelihood | -1317.843 |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Normalized cointegrating coefficients (standard error in parentheses) |
| PJK | PJP | PW |  |  |
|  1.000000 | -0.951057 | -0.394656 |  |  |
|  |  (0.13725) |  (0.20865) |  |  |
|  |  |  |  |  |
| Adjustment coefficients (standard error in parentheses) |  |
| D(PJK) | -0.396377 |  |  |  |
|  |  (0.09925) |  |  |  |
| D(PJP) | -0.032347 |  |  |  |
|  |  (0.07679) |  |  |  |
| D(PW) |  0.097619 |  |  |  |
|  |  (0.06870) |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| 2 Cointegrating Equation(s):  | Log likelihood | -1312.460 |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Normalized cointegrating coefficients (standard error in parentheses) |
| PJK | PJP | PW |  |  |
|  1.000000 |  0.000000 | -1.853137 |  |  |
|  |  |  (0.05759) |  |  |
|  0.000000 |  1.000000 | -1.533537 |  |  |
|  |  |  (0.05117) |  |  |
|  |  |  |  |  |
| Adjustment coefficients (standard error in parentheses) |  |
| D(PJK) | -0.378083 |  0.316803 |  |  |
|  |  (0.10233) |  (0.12802) |  |  |
| D(PJP) |  0.025903 | -0.160837 |  |  |
|  |  (0.07414) |  (0.09275) |  |  |
| D(PW) |  0.090881 | -0.070680 |  |  |
|  |  (0.07103) |  (0.08886) |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Lampiran 4. Hasil estimasi Vector Error Correction Model (VECM)



Lampiran 5. *Impulse Response Function* (IRF)



Lampiran 6. *Forecast Error Variance Decomposition* (FEVD)

