**FORECASTING MACROECONOMIC VARIABLES AND THEIR EFFECT ON POVERTY IN MALUKU PROVINCE DURING THE COVID-19 PANDEMIC**

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Key words:

Forecasting, Macroeconomic Variables, Bayesian VAR, ARIMA, ECM.

**Analysis Results**

ADF

EG Level

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: EG has a unit root | | | |  |
| Exogenous: Constant | | |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=3) | | | | |
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|  |  |  |  |  |
|  |  |  | t-Statistic | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | | | -2.450332 | 0.1448 |
| Test critical values: | 1% level |  | -3.920350 |  |
|  | 5% level |  | -3.065585 |  |
|  | 10% level |  | -2.673459 |  |
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First

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| --- | --- | --- | --- | --- |
| Null Hypothesis: D(EG) has a unit root | | | |  |
| Exogenous: Constant | | |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=3) | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | t-Statistic | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | | | -5.774964 | 0.0004 |
| Test critical values: | 1% level |  | -3.959148 |  |
|  | 5% level |  | -3.081002 |  |
|  | 10% level |  | -2.681330 |  |
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UNEMP Level

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: UNEMP has a unit root | | | |  |
| Exogenous: Constant | | |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=3) | | | | |
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|  |  |  |  |  |
|  |  |  | t-Statistic | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | | | -2.218647 | 0.2076 |
| Test critical values: | 1% level |  | -3.920350 |  |
|  | 5% level |  | -3.065585 |  |
|  | 10% level |  | -2.673459 |  |
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First

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| --- | --- | --- | --- | --- |
| Null Hypothesis: D(UNEMP) has a unit root | | | |  |
| Exogenous: Constant | | |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=3) | | | | |
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|  |  |  |  |  |
|  |  |  | t-Statistic | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | | | -4.213219 | 0.0062 |
| Test critical values: | 1% level |  | -3.959148 |  |
|  | 5% level |  | -3.081002 |  |
|  | 10% level |  | -2.681330 |  |
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INF Level

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: INF has a unit root | | | |  |
| Exogenous: Constant | | |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=3) | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | t-Statistic | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | | | -5.181376 | 0.0009 |
| Test critical values: | 1% level |  | -3.920350 |  |
|  | 5% level |  | -3.065585 |  |
|  | 10% level |  | -2.673459 |  |
|  |  |  |  |  |
|  |  |  |  |  |

First

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| --- | --- | --- | --- | --- |
| Null Hypothesis: D(INF) has a unit root | | | |  |
| Exogenous: Constant | | |  |  |
| Lag Length: 3 (Automatic - based on SIC, maxlag=3) | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | t-Statistic | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | | | -4.138271 | 0.0097 |
| Test critical values: | 1% level |  | -4.121990 |  |
|  | 5% level |  | -3.144920 |  |
|  | 10% level |  | -2.713751 |  |
|  |  |  |  |  |
|  |  |  |  |  |

POV Level

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: POV has a unit root | | | |  |
| Exogenous: Constant | | |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=3) | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | t-Statistic | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | | | -1.960033 | 0.2994 |
| Test critical values: | 1% level |  | -3.920350 |  |
|  | 5% level |  | -3.065585 |  |
|  | 10% level |  | -2.673459 |  |
|  |  |  |  |  |
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First

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: D(POV) has a unit root | | | |  |
| Exogenous: Constant | | |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=3) | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | t-Statistic | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | | | -2.184183 | 0.2188 |
| Test critical values: | 1% level |  | -3.959148 |  |
|  | 5% level |  | -3.081002 |  |
|  | 10% level |  | -2.681330 |  |
|  |  |  |  |  |
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PP

EG Level

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: EG has a unit root | | | |  |
| Exogenous: Constant | | |  |  |
| Bandwidth: 0 (Newey-West automatic) using Bartlett kernel | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | Adj. t-Stat | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Phillips-Perron test statistic | | | -2.450332 | 0.1448 |
| Test critical values: | 1% level |  | -3.920350 |  |
|  | 5% level |  | -3.065585 |  |
|  | 10% level |  | -2.673459 |  |
|  |  |  |  |  |
|  |  |  |  |  |

First

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: D(EG) has a unit root | | | |  |
| Exogenous: Constant | | |  |  |
| Bandwidth: 1 (Newey-West automatic) using Bartlett kernel | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | Adj. t-Stat | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Phillips-Perron test statistic | | | -5.798921 | 0.0004 |
| Test critical values: | 1% level |  | -3.959148 |  |
|  | 5% level |  | -3.081002 |  |
|  | 10% level |  | -2.681330 |  |
|  |  |  |  |  |
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UNEMP Level

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: UNEMP has a unit root | | | |  |
| Exogenous: Constant | | |  |  |
| Bandwidth: 12 (Newey-West automatic) using Bartlett kernel | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | Adj. t-Stat | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Phillips-Perron test statistic | | | -2.849264 | 0.0737 |
| Test critical values: | 1% level |  | -3.920350 |  |
|  | 5% level |  | -3.065585 |  |
|  | 10% level |  | -2.673459 |  |
|  |  |  |  |  |
|  |  |  |  |  |

First

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: D(UNEMP) has a unit root | | | |  |
| Exogenous: Constant | | |  |  |
| Bandwidth: 4 (Newey-West automatic) using Bartlett kernel | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | Adj. t-Stat | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Phillips-Perron test statistic | | | -4.364489 | 0.0047 |
| Test critical values: | 1% level |  | -3.959148 |  |
|  | 5% level |  | -3.081002 |  |
|  | 10% level |  | -2.681330 |  |
|  |  |  |  |  |
|  |  |  |  |  |

INF Level

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: INF has a unit root | | | |  |
| Exogenous: Constant | | |  |  |
| Bandwidth: 2 (Newey-West automatic) using Bartlett kernel | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | Adj. t-Stat | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Phillips-Perron test statistic | | | -4.954912 | 0.0014 |
| Test critical values: | 1% level |  | -3.920350 |  |
|  | 5% level |  | -3.065585 |  |
|  | 10% level |  | -2.673459 |  |
|  |  |  |  |  |
|  |  |  |  |  |

First

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: D(INF) has a unit root | | | |  |
| Exogenous: Constant | | |  |  |
| Bandwidth: 14 (Newey-West automatic) using Bartlett kernel | | | | |
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|  |  |  |  |  |
|  |  |  | Adj. t-Stat | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Phillips-Perron test statistic | | | -24.25660 | 0.0001 |
| Test critical values: | 1% level |  | -3.959148 |  |
|  | 5% level |  | -3.081002 |  |
|  | 10% level |  | -2.681330 |  |
|  |  |  |  |  |
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POV Level

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: POV has a unit root | | | |  |
| Exogenous: Constant | | |  |  |
| Bandwidth: 1 (Newey-West automatic) using Bartlett kernel | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | Adj. t-Stat | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Phillips-Perron test statistic | | | -1.824752 | 0.3561 |
| Test critical values: | 1% level |  | -3.920350 |  |
|  | 5% level |  | -3.065585 |  |
|  | 10% level |  | -2.673459 |  |
|  |  |  |  |  |
|  |  |  |  |  |

First

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: D(POV) has a unit root | | | |  |
| Exogenous: Constant | | |  |  |
| Bandwidth: 1 (Newey-West automatic) using Bartlett kernel | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | Adj. t-Stat | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Phillips-Perron test statistic | | | -2.291164 | 0.1866 |
| Test critical values: | 1% level |  | -3.959148 |  |
|  | 5% level |  | -3.081002 |  |
|  | 10% level |  | -2.681330 |  |
|  |  |  |  |  |
|  |  |  |  |  |

ADF

ECT Level

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: ECT has a unit root | | | |  |
| Exogenous: Constant | | |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=3) | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | t-Statistic | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | | | -1.916080 | 0.3172 |
| Test critical values: | 1% level |  | -3.920350 |  |
|  | 5% level |  | -3.065585 |  |
|  | 10% level |  | -2.673459 |  |
|  |  |  |  |  |
|  |  |  |  |  |

First

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: D(ECT) has a unit root | | | |  |
| Exogenous: Constant | | |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=3) | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | t-Statistic | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | | | -3.685136 | 0.0166 |
| Test critical values: | 1% level |  | -3.959148 |  |
|  | 5% level |  | -3.081002 |  |
|  | 10% level |  | -2.681330 |  |
|  |  |  |  |  |
|  |  |  |  |  |

PP

Level

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: ECT has a unit root | | | |  |
| Exogenous: Constant | | |  |  |
| Bandwidth: 2 (Newey-West automatic) using Bartlett kernel | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | Adj. t-Stat | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Phillips-Perron test statistic | | | -1.930797 | 0.3112 |
| Test critical values: | 1% level |  | -3.920350 |  |
|  | 5% level |  | -3.065585 |  |
|  | 10% level |  | -2.673459 |  |
|  |  |  |  |  |
|  |  |  |  |  |

First

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: D(ECT) has a unit root | | | |  |
| Exogenous: Constant | | |  |  |
| Bandwidth: 8 (Newey-West automatic) using Bartlett kernel | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | Adj. t-Stat | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Phillips-Perron test statistic | | | -4.063260 | 0.0082 |
| Test critical values: | 1% level |  | -3.959148 |  |
|  | 5% level |  | -3.081002 |  |
|  | 10% level |  | -2.681330 |  |
|  |  |  |  |  |
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Forecast

EG

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dependent Variable: D(EG) | | |  |  |
| Method: ARMA Maximum Likelihood (OPG - BHHH) | | | |  |
| Date: 10/06/22 Time: 08:50 | | |  |  |
| Sample: 2006 2021 | | |  |  |
| Included observations: 16 | | |  |  |
| Convergence achieved after 13 iterations | | | |  |
| Coefficient covariance computed using outer product of gradients | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| C | -0.236220 | 0.619351 | -0.381399 | 0.7091 |
| AR(1) | -0.553131 | 0.506682 | -1.091673 | 0.2948 |
| SIGMASQ | 3.090831 | 1.141332 | 2.708090 | 0.0179 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.261895 | Mean dependent var | | -0.126875 |
| Adjusted R-squared | 0.148340 | S.D. dependent var | | 2.113454 |
| S.E. of regression | 1.950410 | Akaike info criterion | | 4.364143 |
| Sum squared resid | 49.45330 | Schwarz criterion | | 4.509004 |
| Log likelihood | -31.91315 | Hannan-Quinn criter. | | 4.371561 |
| F-statistic | 2.306334 | Durbin-Watson stat | | 2.092097 |
| Prob(F-statistic) | 0.138921 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Inverted AR Roots | -.55 | |  |  |
|  |  |  |  |  |
|  |  |  |  |  |







EGF

2022 1.515432245936518

2023 1.279182246838573

2024 1.042979490405942

UNEMP

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dependent Variable: D(UNEMP) | | |  |  |
| Method: ARMA Maximum Likelihood (OPG - BHHH) | | | |  |
| Date: 10/06/22 Time: 09:22 | | |  |  |
| Sample: 2006 2021 | | |  |  |
| Included observations: 16 | | |  |  |
| Convergence achieved after 10 iterations | | | |  |
| Coefficient covariance computed using outer product of gradients | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| C | -0.490524 | 0.309609 | -1.584333 | 0.1371 |
| MA(2) | -0.171701 | 0.276084 | -0.621916 | 0.5448 |
| SIGMASQ | 2.092589 | 0.943874 | 2.217022 | 0.0451 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.036267 | Mean dependent var | | -0.505000 |
| Adjusted R-squared | -0.111999 | S.D. dependent var | | 1.521872 |
| S.E. of regression | 1.604835 | Akaike info criterion | | 3.955020 |
| Sum squared resid | 33.48142 | Schwarz criterion | | 4.099880 |
| Log likelihood | -28.64016 | Hannan-Quinn criter. | | 3.962438 |
| F-statistic | 0.244609 | Durbin-Watson stat | | 2.403653 |
| Prob(F-statistic) | 0.786535 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Inverted MA Roots | .41 | -.41 | |  |
|  |  |  |  |  |
|  |  |  |  |  |







UNEMPF

2022 6.671098130413966

2023 6.180574491026552

2024 5.690050851639139

INF

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dependent Variable: D(INF) | | |  |  |
| Method: ARMA Maximum Likelihood (OPG - BHHH) | | | |  |
| Date: 10/06/22 Time: 09:37 | | |  |  |
| Sample: 2006 2021 | | |  |  |
| Included observations: 16 | | |  |  |
| Convergence achieved after 30 iterations | | | |  |
| Coefficient covariance computed using outer product of gradients | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| C | -0.622007 | 0.662580 | -0.938765 | 0.3650 |
| AR(1) | -0.665624 | 0.150207 | -4.431373 | 0.0007 |
| SIGMASQ | 14.84007 | 6.097617 | 2.433749 | 0.0301 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.323048 | Mean dependent var | | -0.788750 |
| Adjusted R-squared | 0.218902 | S.D. dependent var | | 4.835636 |
| S.E. of regression | 4.273723 | Akaike info criterion | | 5.946789 |
| Sum squared resid | 237.4412 | Schwarz criterion | | 6.091649 |
| Log likelihood | -44.57431 | Hannan-Quinn criter. | | 5.954207 |
| F-statistic | 3.101868 | Durbin-Watson stat | | 1.635858 |
| Prob(F-statistic) | 0.079182 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Inverted AR Roots | -.67 | |  |  |
|  |  |  |  |  |
|  |  |  |  |  |







INFF

2022 0.378097545795872

2023 1.786175199334553

2024 -0.1871056026252343

POV

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dependent Variable: D(POV) | | |  |  |
| Method: ARMA Maximum Likelihood (OPG - BHHH) | | | |  |
| Date: 10/06/22 Time: 09:48 | | |  |  |
| Sample: 2006 2021 | | |  |  |
| Included observations: 16 | | |  |  |
| Convergence achieved after 14 iterations | | | |  |
| Coefficient covariance computed using outer product of gradients | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| C | -0.694104 | 0.477826 | -1.452628 | 0.1700 |
| AR(1) | 0.562676 | 0.239787 | 2.346563 | 0.0355 |
| SIGMASQ | 0.848417 | 0.319969 | 2.651564 | 0.0200 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.277170 | Mean dependent var | | -0.900625 |
| Adjusted R-squared | 0.165965 | S.D. dependent var | | 1.118925 |
| S.E. of regression | 1.021864 | Akaike info criterion | | 3.072287 |
| Sum squared resid | 13.57468 | Schwarz criterion | | 3.217147 |
| Log likelihood | -21.57830 | Hannan-Quinn criter. | | 3.079705 |
| F-statistic | 2.492427 | Durbin-Watson stat | | 1.919229 |
| Prob(F-statistic) | 0.121265 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Inverted AR Roots | .56 | |  |  |
|  |  |  |  |  |
|  |  |  |  |  |







2022 17.80840196235935

2023 17.47019370253794

2024 16.97634361920132

ECM

Jangka Pendek

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dependent Variable: D(POV) | | |  |  |
| Method: Least Squares | | |  |  |
| Date: 10/06/22 Time: 11:11 | | |  |  |
| Sample (adjusted): 2006 2021 | | |  |  |
| Included observations: 16 after adjustments | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| C | -0.086230 | 1.233085 | -0.069931 | 0.9460 |
| D(EG) | -0.042009 | 0.160448 | -0.261826 | 0.8001 |
| D(UNEMP) | 0.386248 | 0.249417 | 1.548601 | 0.1601 |
| D(INF) | -0.085311 | 0.139356 | -0.612179 | 0.5574 |
| EG(-1) | -0.246874 | 0.176778 | -1.396523 | 0.2001 |
| UNEMP(-1) | 0.095568 | 0.163570 | 0.584267 | 0.5751 |
| INF(-1) | -0.051084 | 0.200991 | -0.254163 | 0.8058 |
| ECT(-1) | -0.268290 | 0.069925 | -3.836810 | 0.0050 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.773065 | Mean dependent var | | -0.900625 |
| Adjusted R-squared | 0.574497 | S.D. dependent var | | 1.118925 |
| S.E. of regression | 0.729881 | Akaike info criterion | | 2.514984 |
| Sum squared resid | 4.261815 | Schwarz criterion | | 2.901278 |
| Log likelihood | -12.11987 | Hannan-Quinn criter. | | 2.534765 |
| F-statistic | 3.893198 | Durbin-Watson stat | | 2.501751 |
| Prob(F-statistic) | 0.037854 |  |  |  |
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Jangka Panjang

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| Dependent Variable: POV | | |  |  |
| Method: Least Squares | | |  |  |
| Date: 10/06/22 Time: 11:02 | | |  |  |
| Sample: 2005 2021 | | |  |  |
| Included observations: 17 | | |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| C | 2.945484 | 4.121352 | 0.714689 | 0.4874 |
| EG | 0.229002 | 0.481686 | 0.475418 | 0.6424 |
| UNEMP | 2.071220 | 0.439704 | 4.710492 | 0.0004 |
| INF | -0.197707 | 0.300867 | -0.657123 | 0.5226 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.724207 | Mean dependent var | | 22.79294 |
| Adjusted R-squared | 0.660563 | S.D. dependent var | | 5.655289 |
| S.E. of regression | 3.294842 | Akaike info criterion | | 5.424918 |
| Sum squared resid | 141.1278 | Schwarz criterion | | 5.620968 |
| Log likelihood | -42.11180 | Hannan-Quinn criter. | | 5.444405 |
| F-statistic | 11.37895 | Durbin-Watson stat | | 0.832902 |
| Prob(F-statistic) | 0.000613 |  |  |  |
|  |  |  |  |  |
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BVAR

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| --- | --- | --- | --- | --- |
| Bayesian VAR Estimates | | |  |  |
| Date: 10/06/22 Time: 12:28 | | |  |  |
| Sample (adjusted): 2008 2021 | | |  |  |
| Included observations: 14 after adjustments | | | |  |
| Prior type: Litterman/Minnesota | | |  |  |
| Initial residual covariance: Diagonal VAR | | | |  |
| Hyper-parameters: Mu: 0, L1: 0.1, L2: 0.99, L3: 1 | | | |  |
| Standard errors in ( ) & t-statistics in [ ] | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  | EG | UNEMP | INF | POV |
|  |  |  |  |  |
|  |  |  |  |  |
| EG(-1) | 0.006614 | 0.002963 | 0.001505 | -0.002939 |
|  | (0.09846) | (0.00911) | (0.08640) | (0.00010) |
|  | [ 0.06717] | [ 0.32531] | [ 0.01742] | [-28.8275] |
|  |  |  |  |  |
| EG(-2) | 0.000344 | 0.000366 | 0.000677 | -0.000123 |
|  | (0.04998) | (0.00462) | (0.04384) | (5.2E-05) |
|  | [ 0.00688] | [ 0.07920] | [ 0.01545] | [-2.38499] |
|  |  |  |  |  |
| EG(-3) | -6.77E-05 | 0.000720 | 0.001150 | 0.000169 |
|  | (0.03333) | (0.00308) | (0.02924) | (3.5E-05) |
|  | [-0.00203] | [ 0.23369] | [ 0.03934] | [ 4.89953] |
|  |  |  |  |  |
| UNEMP(-1) | 0.255339 | 0.238045 | -0.059428 | 0.167737 |
|  | (0.68689) | (0.06443) | (0.60880) | (0.00072) |
|  | [ 0.37173] | [ 3.69444] | [-0.09761] | [ 233.526] |
|  |  |  |  |  |
| UNEMP(-2) | 0.156385 | 1.52E-05 | 0.123622 | 0.023959 |
|  | (0.47246) | (0.04448) | (0.41868) | (0.00049) |
|  | [ 0.33100] | [ 0.00034] | [ 0.29527] | [ 48.4954] |
|  |  |  |  |  |
| UNEMP(-3) | -0.021673 | 0.006499 | -0.001056 | -0.003781 |
|  | (0.33669) | (0.03174) | (0.29836) | (0.00035) |
|  | [-0.06437] | [ 0.20477] | [-0.00354] | [-10.7388] |
|  |  |  |  |  |
| INF(-1) | 0.009756 | 0.007702 | -0.007918 | -0.003799 |
|  | (0.10857) | (0.01014) | (0.09712) | (0.00011) |
|  | [ 0.08987] | [ 0.75944] | [-0.08153] | [-33.4600] |
|  |  |  |  |  |
| INF(-2) | 0.007566 | -0.000230 | 0.004269 | 0.000234 |
|  | (0.05541) | (0.00518) | (0.04959) | (5.8E-05) |
|  | [ 0.13653] | [-0.04444] | [ 0.08608] | [ 4.03825] |
|  |  |  |  |  |
| INF(-3) | -0.001816 | -0.000307 | -0.000833 | -0.000365 |
|  | (0.03702) | (0.00346) | (0.03313) | (3.9E-05) |
|  | [-0.04905] | [-0.08884] | [-0.02514] | [-9.43014] |
|  |  |  |  |  |
| POV(-1) | -0.712421 | -0.378413 | -0.878452 | 0.922445 |
|  | (1.91110) | (0.17873) | (1.69351) | (0.00200) |
|  | [-0.37278] | [-2.11723] | [-0.51872] | [ 461.583] |
|  |  |  |  |  |
| POV(-2) | 0.250518 | 0.493735 | 1.332437 | 0.014313 |
|  | (2.31592) | (0.21638) | (2.05230) | (0.00242) |
|  | [ 0.10817] | [ 2.28179] | [ 0.64924] | [ 5.91001] |
|  |  |  |  |  |
| POV(-3) | 0.355496 | -0.061758 | -0.299506 | -0.145385 |
|  | (1.08809) | (0.10167) | (0.96431) | (0.00114) |
|  | [ 0.32672] | [-0.60745] | [-0.31059] | [-127.774] |
|  |  |  |  |  |
| C | 2.701751 | 4.813070 | 0.708632 | 2.213229 |
|  | (5.90465) | (0.55158) | (5.23212) | (0.00617) |
|  | [ 0.45756] | [ 8.72593] | [ 0.13544] | [ 358.486] |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.278219 | 0.390512 | 0.308231 | 0.982043 |
| Adj. R-squared | -8.383153 | -6.923343 | -7.993002 | 0.766558 |
| Sum sq. resids | 37.89216 | 18.39623 | 82.72558 | 3.429027 |
| S.E. equation | 6.155661 | 4.289082 | 9.095360 | 1.851763 |
| F-statistic | 0.032122 | 0.053393 | 0.037131 | 4.557357 |
| Mean dependent | 5.144286 | 8.677143 | 5.529286 | 20.78786 |
| S.D. dependent | 2.009557 | 1.523737 | 3.032966 | 3.832619 |
|  |  |  |  |  |
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| Forecast Evaluation | | |  |  |  |
| Date: 10/06/22 Time: 12:16 | | |  |  |  |
| Sample: 2005 2024 | | |  |  |  |
| Included observations: 20 | | |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| Variable | Inc. obs. | RMSE | MAE | MAPE | Theil |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| EG | 17 | 1.683517 | 1.225409 | 26.57105 | 0.158243 |
| UNEMP | 17 | 3.437954 | 3.174238 | 63.92891 | 0.237123 |
| INF | 17 | 15.58314 | 15.25882 | 73.87690 | 0.570189 |
| POV | 17 | 12.48374 | 12.14246 | 138.8775 | 0.418930 |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| RMSE: Root Mean Square Error | | | |  |  |
| MAE: Mean Absolute Error | | |  |  |  |
| MAPE: Mean Absolute Percentage Error | | | |  |  |
| Theil: Theil inequality coefficient | | | |  |  |
|  |  |  |  |  |  |





EG\_F

2022 3.482173296367493

2023 3.665365257665282

2024 4.005588735641165

UNEMP\_F

2022 7.307597500074359

2023 7.698557157861359

2024 7.705722989051356

INF\_F

3.442431005570091

4.186352357490762

3.890160734518465

POV\_F

17.66763901351213

17.57114996358453

17.48943964431061

