**TABLE 1:** Unit Root Tests

|  |  |  |
| --- | --- | --- |
| **Variables** | **P values ​​in levels** | **P values ​​in differences** |
| **ADF** | **PP** | **ADF** | **PP** |
| Log (oil) | 0.55 | 0.50 | 0.00 | 0.00 |
| Log (gdper) | 0.94 | 0.94 | 0.00 | 0.00 |

**TABLE 2:** Test Toda-Yamamoto

|  |  |
| --- | --- |
| Dependent variable: Log(GDP) |   |
| **Excluded** | **Chi-square** | **gl** | **P value** |
| Log(oil) | 14.47061 | 3 | 0.0023 |

**TABLE 3:** VAR results

|  |  |  |
| --- | --- | --- |
|  | **d(logoil)** | **d(logpibper)** |
|  |  |  |
|  |  |  |
| d(logoil(-1)) |  0.027662 |  0.055338 |
|  |  (0.22476) |  (0.01805) |
|  | [ 0.12308] | [ 3.06625] |
|  |  |  |
| d(logoil(-2)) | -0.000542 |  0.007350 |
|  |  (0.25386) |  (0.02038) |
|  | [-0.00213] | [ 0.36055] |
|  |  |  |
| d(logoil(-3)) |  0.001274 |  0.007654 |
|  |  (0.25214) |  (0.02025) |
|  | [ 0.00505] | [ 0.37802] |
|  |  |  |
| d(logpibper(-1)) | -2.233337 |  0.061853 |
|  |  (2.44717) |  (0.19650) |
|  | [-0.91262] | [ 0.31477] |
|  |  |  |
| d(logpibper(-2)) |  2.501706 |  0.037167 |
|  |  (2.43653) |  (0.19565) |
|  | [ 1.02675] | [ 0.18997] |
|  |  |  |
| d(logpibper(-3)) | -0.241371 |  0.007269 |
|  |  (2.13505) |  (0.17144) |
|  | [-0.11305] | [ 0.04240] |
|  |  |  |
| c |  0.019316 |  0.008725 |
|  |  (0.06221) |  (0.00500) |
|  | [ 0.31049] | [ 1.74662] |

**TABLE 4:** Variance Decomposition

|  |  |
| --- | --- |
| **d(logoil):** | **d(logpibper):** |
|  **Period** | **d(logoil)** | **d(logpibper)** |  **Period** | **d(logoil)** | **d(logpibper)** |
| 1 | 100 | 0 | 1 | 1.586267 | 98.41373 |  |
| 2 | 96.93219 | 3.067812 | 2 | 33.67561 | 66.32439 |  |
| 3 | 93.93017 | 6.069826 | 3 | 34.41854 | 65.58146 |  |
| 4 | 93.98375 | 6.016252 | 4 | 34.29111 | 65.70889 |  |
| 5 | 93.85844 | 6.141561 | 5 | 34.57179 | 65.42821 |  |
| 6 | 93.81918 | 6.180822 | 6 | 34.57974 | 65.42026 |  |
| 7 | 93.81986 | 6.180136 | 7 | 34.58188 | 65.41812 |  |
| 8 | 93.8189 | 6.181097 | 8 | 34.58688 | 65.41312 |  |
| 9 | 93.81828 | 6.181716 | 9 | 34.58697 | 65.41303 |  |
| 10 | 93.8183 | 6.181703 | 10 | 34.58704 | 65.41296 |  |

**TABLE 5**: Normality

|  |  |  |  |
| --- | --- | --- | --- |
| **Component** | **Jarque-Bera** | **df** | **Prob.** |
| 1 | 3.253337 | 2 | 0.1966 |
| 2 | 1.982681 | 2 | 0.3711 |
| Joint | 5.236018 | 4 | 0.2639 |

**TABLE 6**: Autocorrelation

|  |  |  |
| --- | --- | --- |
| **Lags** | **LM-Stat** | **Prob. \*** |
| 1 | 0.583504 | 0.9649 |
| 2 | 0.356194 | 0.9859 |
| 3 | 4.668666 | 0.323 |
| 4 | 3.345586 | 0.5017 |
| \* Probs from chi-square with 4 df. |

**TABLE 7:** Heteroskedasticity

|  |  |  |
| --- | --- | --- |
| **Chi-sq** | **df** | **Prob.** |
| 23.08632 | 36 | 0.9529 |



**GRAPH 1**: Response-Impulse Function. Response of d(logpibper) to d(logoil)



**GRAPH 2**: Stability Model