**Appendix**

*Table A1. Lag order selection and number of cointegrating relationships*

|  |  |  |  |
| --- | --- | --- | --- |
| **Regions** |  |  | **number of cointegrating relationships** |
| ***pie*** | 2 | 2 | 3 |
| ***val*** | 2 | 2 | 3 |
| ***lig*** | 2 | 1 | 2 |
| ***lom*** | 2 | 2 | 1 |
| ***tre*** | 2 | 2 | 4 |
| ***ven*** | 2 | 2 | 2 |
| ***fri*** | 2 | 1 | 3 |
| ***emi*** | 2 | 2 | 2 |
| ***tos*** | 2 | 2 | 3 |
| ***umb*** | 2 | 2 | 3 |
| ***mar*** | 2 | 2 | 2 |
| ***laz*** | 2 | 1 | 2 |
| ***abr*** | 2 | 2 | 3 |
| ***mol*** | 2 | 2 | 2 |
| ***cam*** | 2 | 1 | 3 |
| ***pug*** | 2 | 2 | 3 |
| ***bas*** | 2 | 2 | 2 |
| ***cal*** | 2 | 1 | 3 |
| ***sic*** | 2 | 1 | 2 |
| ***sar*** | 2 | 2 | 2 |

*Table A2. Test for weak exogeneity of external-specific and global variables*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Regions** | ***Critical value F-statistics*** | ***GDP\**** | ***INFL\**** | ***SR\**** | ***LR\**** | ***SPR*** | ***SSR*** |
| ***pie*** | 2.79 | 1.42 | 1.50 | 0.67 | 0.81 | 1.01 | 2.80 |
| ***val*** | 2.79 | 1.43 | 7.58 | 3.57 | 1.64 | 1.34 | 1.19 |
| ***lig*** | 3.18 | 0.03 | 3.01 | 0.84 | 1.09 | 2.23 | 1.38 |
| ***lom*** | 4.02 | 0.66 | 3.10 | 3.97 | 1.57 | 2.48 | 3.20 |
| ***tre*** | 2.56 | 1.19 | 1.55 | 3.63 | 8.75 | 1.64 | 1.34 |
| ***ven*** | 3.18 | 0.22 | 4.04 | 0.55 | 0.45 | 1.17 | 0.07 |
| ***fri*** | 2.79 | 0.41 | 2.02 | 2.21 | 1.25 | 1.39 | 1.65 |
| ***emi*** | 3.20 | 1.59 | 0.74 | 1.06 | 3.19 | 0.26 | 1.55 |
| ***tos*** | 2.84 | 0.49 | 0.09 | 2.15 | 0.46 | 1.42 | 1.59 |
| ***umb*** | 2.79 | 3.68 | 3.44 | 3.07 | 4.07 | 0.60 | 0.55 |
| ***mar*** | 3.18 | 0.61 | 3.02 | 16.15 | 11.10 | 1.83 | 1.88 |
| ***laz*** | 3.20 | 0.10 | 2.92 | 0.17 | 3.40 | 0.85 | 0.46 |
| ***abr*** | 2.82 | 1.85 | 1.06 | 1.43 | 0.56 | 0.48 | 2.69 |
| ***mol*** | 3.20 | 0.31 | 1.24 | 1.73 | 0.43 | 0.41 | 0.69 |
| ***cam*** | 2.79 | 1.62 | 0.83 | 1.51 | 1.40 | 1.11 | 3.22 |
| ***pug*** | 2.82 | 0.94 | 1.02 | 0.84 | 1.24 | 0.63 | 2.37 |
| ***bas*** | 3.18 | 4.27 | 0.46 | 1.39 | 4.45 | 0.34 | 0.01 |
| ***cal*** | 2.79 | 1.42 | 0.26 | 1.06 | 1.18 | 0.34 | 1.98 |
| ***sic*** | 3.18 | 0.44 | 2.63 | 2.19 | 4.57 | 0.07 | 0.33 |
| ***sar*** | 3.20 | 0.39 | 0.52 | 1.83 | 0.63 | 1.68 | 0.11 |

*Note*: The reported numbers are the F-statistics. The critical values are at the 5% level of significance.

*Figure A1: Stability test of the GVAR model*

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*Figure A2: Trade-weight matrix calculated on average of bilateral flows of goods transported by road (2000-2016)*

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*Figure A3: Cross-sectional correlation of residuals in absolute value.*

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