**Online Appendix**

**Effects of Stockholding Policy on Maize Prices: Evidence from Zambia**

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**Table A1. Result of** **Johansen co-integration trace test on six selected markets in Zambia**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Null Hypothesis | Alternative Hypothesis | Trace Statistic | 1% Critical Value | 5% Critical Value | Hypothesized Number of Cointegrating Equation(s) |
| r = 0 | r = 1 | 132.98 | 104.2 | 90.39 | None\*\* |
| r <= 1 | r = 2 | 89.14 | 78.87 | 70.6 | At most 1\*\* |
| r <= 2 | r = 3 | 58.55 | 55.43 | 48.28 | At most 2\*\* |
| r <= 3 | r = 4 | 35.09 | 37.22 | 31.52 | At most 3\* |
| r <= 4 | r = 5 | 17.02 | 23.52 | 17.95 | At most 4 |
| r <= 5 | r = 6 | 1.95 | 11.65 | 8.18 | At most 5 |

**Table A2. Augmented Dickey-Fuller test of six selected markets in Zambia**

|  |  |  |  |
| --- | --- | --- | --- |
| Market | ADF Statistics | p-value | Order of Integration |
| Lusaka | -4.1233 | 0.01 | Stationary at level, I (0) |
| Mbala | -3.6429 | 0.03595 | Stationary at level, I (0) |
| Kaoma | -4.3723 | 0.01 | Stationary at level, I (0) |
| Solwezi | -3.3507 | 0.07059 | Stationary at level, I (0) |
| Senanga | -3.7543 | 0.0264 | Stationary at level, I (0) |
| Kawambwa | -3.9193 | 0.01831 | Stationary at level, I (0) |

**Table A3. First stage results for instrumental variables**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **(1)** | | **(2)** | |
| **FRA Purchase** | **FRA Sales** | **FRA Purchase** | **FRA Sales** |
| Predicted Purchase | 1.701\*\*\* | 0.002 | 1.700\*\*\* | 1.701\*\*\* |
|  | (0.023) | (0.002) | (0.023) | (0.023) |
| Predicted Sales | 0.380 | 0.642\*\*\* | -0.441 | 0.380 |
|  | (1.415) | (0.112) | (1.453) | (1.415) |
| Days without Rain | -0.729 | -0.456 |  |  |
|  | (4.395) | (0.347) |  |  |
| Precipitation | -397.965\*\*\* | -10.717 |  |  |
|  | (148.269) | (11.707) |  |  |
| Precipitation Squared | 0.181\*\*\* | 0.005 |  |  |
|  | (0.067) | (0.005) |  |  |
| First Day of Rain | -19.590\*\*\* | -0.462 |  |  |
|  | (7.505) | (0.593) |  |  |
| Mean Temperature | -236.697\*\*\* | -12.639\* |  |  |
|  | (83.165) | (6.567) |  |  |
| SAFEX Price | 0.084 | -0.005 | 0.048 | 0.084 |
|  | (0.083) | (0.007) | (0.087) | (0.083) |
| Price Lag |  |  | -0.109\* | -0.139\*\* |
|  |  |  | (0.058) | (0.063) |
| N | 2304 | 2304 | 2232 | 2232 |
| R2 | 0.821 | 0.214 | 0.825 | 0.218 |

**Table A4. Coefficient of variation (%) of maize prices in selected markets (historical and simulated)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Market** | **Historical Price** | **Simulated Price** | **% Difference** |
| Chingola | 29.45% | 28.70% | 0.75% |
| Chipata | 27.23% | 24.90% | 2.33% |
| Choma | 33.70% | 32.13% | 1.57% |
| Isoka | 30.01% | 26.78% | 3.22% |
| Kabwe | 29.58% | 26.97% | 2.61% |
| Kalomo | 35.46% | 31.92% | 3.53% |
| Kalulushi | 30.98% | 30.98% | 0.00% |
| Kaoma | 28.07% | 29.13% | -1.05% |
| Kasama | 29.21% | 27.97% | 1.25% |
| Kasempa | 38.69% | 37.41% | 1.28% |
| Kawambwa | 30.84% | 30.01% | 0.83% |
| Kitwe | 28.31% | 28.09% | 0.22% |
| Livingstone | 36.74% | 37.81% | -1.07% |
| Luangwa | 31.69% | 31.69% | 0.00% |
| Luanshya | 31.01% | 31.76% | -0.75% |
| Lusaka | 25.56% | 24.30% | 1.26% |
| Luwingu | 26.43% | 25.76% | 0.68% |
| Mansa | 29.67% | 29.12% | 0.55% |
| Mazabuka | 41.87% | 40.84% | 1.03% |
| Mbala | 30.21% | 25.56% | 4.65% |
| Mkushi | 38.72% | 35.45% | 3.26% |
| Monze | 45.19% | 42.91% | 2.28% |
| Mufulira | 27.54% | 28.17% | -0.63% |
| Mumbwa | 27.41% | 25.32% | 2.09% |
| Mwense | 28.95% | 28.81% | 0.14% |
| Mwinilunga | 33.12% | 32.59% | 0.53% |
| Nchelenge | 29.31% | 29.15% | 0.17% |
| Petauke | 35.06% | 31.55% | 3.51% |
| Samfya | 31.15% | 30.84% | 0.31% |
| Senanga | 34.74% | 36.88% | -2.14% |
| Serenje | 32.19% | 30.24% | 1.95% |
| Solwezi | 26.27% | 28.42% | -2.15% |

A picture containing text, map

Description generated with very high confidence

**Figure A1. Average FRA purchase by district, 2002/03–2009/10**

**A picture containing text, map

Description generated with very high confidenceFigure A2. Map of major district markets in Zambia**

**A close up of a map

Description generated with high confidence Figure A3. Average price distribution by district in lean and harvest seasons**

**A picture containing text, map

Description generated with very high confidenceFigure A4. Map of predicted FRA purchases and sales**