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1 ***** SEAN O'GRADY *****
2 ***Market Integration Analysis Research Project *****
3
4 ***PLEASE NOTE: THIS CODE WAS STARTED BACK IN THE FALL OF 2019, AND SINCE THEN, I HAVE WORKED TO
CONDENSE, CHANGE AND AMMEND IT TO FIT THE NEEDS OF THE AGRICULTURAL PROJECT I HAVE WORKED ON DURING
MY TIME IN UNDERGRADUATE RESEARCH. I WAS GIVEN SOME GUIDANCE AT POINTS BY DR. RICHARD GALLENSTEIN ON
THIS CODE, BUT I WROTE IT MYSELF, AS PER INSTRUCTIONS OF THE APPLICATION.
5
6 ***ALSO NOTE: IF YOU NEED TO RUN IT WITH THE AVAILABLE DATASETS FROM ESOKO, THEN I CAN SEND THOSE TO
YOU AS WELL. THANK YOU.
7
8 ***ALSO NOTE: Michelle O'Grady is my mother's name, as the original computer I started the project
with was on her old one. So, it still shows her name in the dropbox data file. I am noting this to
avoid confusion.
9
10
11 *** Crop Key ***
12
13 * 1 - Maize white
14 * 2 - GroundnutShelled
15 * 3 - Maize Yellow
16 * 4 - Millet
17 * 5 - Paddy rice
18 * 6 - R.local Brown
19 * 7 - R.local White
20 * 8 - Yam Pona
21 * 9 - White Yam
22 * 10- Soya
23
24 ***
25
26
27 *****
28 ***** Appending All Crop Data *****
29 *****
30
31 cd "C:\Users\Michelle Ogrady\Dropbox\Market Integration and Moral Hazard - Sean - Fall 19\Datasets"
32
33 * Ground Nuts *
34
35 import excel "C:\Users\Michelle Ogrady\Dropbox\Market Integration and Moral Hazard - Sean - Fall
19\Datasets\Esoke Data_2010-19.xls", sheet("Groundnut Shelled..") firstrow clear
36
37 rename Location market
38 rename GroundnutShelled Price
39
40 tab Measure
41 gen pricekg = Price if Measure=="kg"
42 replace pricekg = Price/82 if Measure=="bag 82kg"
43 drop Price
44 rename pricekg price
45 drop Measure
46 label variable price "Price per 1 kg"
47 gen crop=2
48
49 save groundnut_clean.dta, replace
50
51 * Yellow Maize *
52 import excel "C:\Users\Michelle Ogrady\Dropbox\Market Integration and Moral Hazard - Sean - Fall
19\Datasets\Esoke Data_2010-19.xls", sheet("Maize Yellow") firstrow clear
53
54 rename Location market
55 rename Maizeyellowrain Price

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56
57 tab Measure
58 gen pricekg = Price if Measure=="kg"
59 replace pricekg = Price/100 if Measure=="bag 100kg "
60 drop Price
61 rename pricekg price
62 drop Measure
63 label variable price "Price per 1 kg"
64 gen crop=3
65
66 save maizeyellow_clean.dta, replace
67
68 * White Maize
69
70 import excel "C:\Users\Michelle Ogrady\Dropbox\Market Integration and Moral Hazard - Sean - Fall
19\Datasets\Esoke Data_2010-19.xls", sheet("Maize white") firstrow clear
71
72 rename Location market
73 rename Maizewhitegrain Price
74
75 tab Measure
76 gen pricekg = Price if Measure=="kg"
77 replace pricekg = Price/100 if Measure=="bag 100kg"
78 drop Price
79 rename pricekg price
80 drop Measure
81 label variable price "Price per 1 kg"
82 gen crop=1
83
84 save maizewhite_clean.dta, replace
85
86 import excel "C:\Users\Michelle Ogrady\Dropbox\Market Integration and Moral Hazard - Sean - Fall
19\Datasets\Esoke Data_2010-19.xls", sheet("Millet") firstrow clear
87
88 rename Location market
89 rename MilletGrain Price
90
91 tab Measure
92 gen pricekg = Price if Measure=="kg"
93 replace pricekg = Price/100 if Measure=="bag 93 kg"
94 drop Price
95 rename pricekg price
96 drop Measure
97 label variable price "Price per 1 kg"
98 gen crop=4
99
100 save Millet_clean.dta, replace
101
102 import excel "C:\Users\Michelle Ogrady\Dropbox\Market Integration and Moral Hazard - Sean - Fall
19\Datasets\Esoke Data_2010-19.xls", sheet("Paddy rice") firstrow clear
103
104 rename Location market
105 rename RicelocalPaddy Price
106
107 tab Measure
108 gen pricekg = Price if Measure=="Bag 84KG"
109 replace pricekg = Price/84 if Measure=="Bag 84KG"
110 replace pricekg = Price/100 if Measure=="Bag 100KG"
111 replace pricekg = Price/50 if Measure=="Bag 50KG"
112
113 drop Price
114 rename pricekg price
115 drop Measure

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116 label variable price "Price per 1 kg"
117 gen crop=5
118
119 save Paddyrice_clean.dta, replace
120
121
122 import excel "C:\Users\Michelle Ogrady\Dropbox\Market Integration and Moral Hazard - Sean - Fall
19\Datasets\Esoke Data_2010-19.xls", sheet("R.local Brown") firstrow clear
123
124 rename Location market
125 rename Ricelocalbrown Price
126
127 tab Measure
128 gen pricekg = Price if Measure=="kg"
129 replace pricekg = Price/100 if Measure=="bag 100kg"
130 replace pricekg = Price/109 if Measure=="bag 109kg"
131 drop Price
132 rename pricekg price
133 drop Measure
134 label variable price "Price per 1 kg"
135 gen crop=6
136
137 save R.localBrown_clean.dta, replace
138
139 import excel "C:\Users\Michelle Ogrady\Dropbox\Market Integration and Moral Hazard - Sean - Fall
19\Datasets\Esoke Data_2010-19.xls", sheet("R.local white") firstrow clear
140
141 rename Location market
142 rename Ricelocalwhite Price
143
144 tab Measure
145 gen pricekg = Price if Measure=="kg"
146 replace pricekg = Price/100 if Measure=="bag 100kg"
147 drop Price
148 rename pricekg price
149 drop Measure
150 label variable price "Price per 1 kg"
151 gen crop=7
152
153 save R.localwhite_clean.dta, replace
154
155 import excel "C:\Users\Michelle Ogrady\Dropbox\Market Integration and Moral Hazard - Sean - Fall
19\Datasets\Esoke Data_2010-19.xls", sheet("Yam Pona") firstrow clear
156
157 rename Location market
158 rename YamPona Price
159
160 tab Measure
161 gen pricekg = Price if Measure=="kg"
162 replace pricekg = Price/250 if Measure=="100 tubers 250kg"
163 drop Price
164 rename pricekg price
165 drop Measure
166 label variable price "Price per 1 kg"
167 gen crop=8
168
169 save YamPona_clean.dta, replace
170
171
172 import excel "C:\Users\Michelle Ogrady\Dropbox\Market Integration and Moral Hazard - Sean - Fall
19\Datasets\Esoke Data_2010-19.xls", sheet("White Yam") firstrow clear
173
174 rename Location market

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175  rename WhiteYam Price
176
177  tab Measure
178  gen pricekg = Price if Measure=="kg"
179  replace pricekg = Price/250 if Measure=="100 tubers 250kg"
180  drop Price
181  rename pricekg price
182  drop Measure
183  label variable price "Price per 1 kg"
184  gen crop=9
185
186  save WhiteYam_clean.dta, replace
187
188
189  import excel "C:\Users\Michelle Ogrady\Dropbox\Market Integration and Moral Hazard - Sean - Fall
19  19\Datasets\Esoke Data_2010-19.xls", sheet("Soya") firstrow clear
190
191  rename Location market
192  rename SoyaBean Price
193
194  tab Measure
195  gen pricekg = Price if Measure=="kg"
196  replace pricekg = Price/100 if Measure=="bag 100 kg"
197  drop Price
198  rename pricekg price
199  drop Measure
200  label variable price "Price per 1 kg"
201  gen crop=10
202
203  save Soya_clean.dta, replace
204
205
206
207  * Millet
208  * Yam
209  * Paddy Rice
210  * Local Rice
211  * SoyaBean
212
213  append using groundnut_clean.dta
214  append using maizeyellow_clean.dta
215  append using maizewhite_clean.dta
216  append using Millet_clean.dta
217  append using Paddyrice_clean.dta
218  append using R.localBrown_clean.dta
219  append using R.localwhite_clean.dta
220  append using YamPona_clean.dta
221  append using WhiteYam_clean.dta
222
223  tab crop
224  drop Crop
225
226  * Create a Market ID number
227
228  encode market, gen(mktID)
229  drop market
230
231  order mktID Year Week crop price
232
233  drop I - N
234  drop CPI
235
236  drop if missing(price)

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237 drop if missing(mktID)
238
239 *****
240 * Step 3: VISUALIZE *
241
242 drop MktYrCropID
243 gen MktYrCropID = 100000*mktID + 100*(Year-2000) + crop
244
245 sort MktYrCropID
246 by MktYrCropID: egen targetweek = mean(price) if Week==48 | Week==49 | Week==50 | Week==51
247
248 sort mktID crop Year Week
249
250 *****
251 tab mktID
252 twoway line Unadjusted Year if mktID==5 & Week==51 & crop==2
253 twoway line price Year if mktID==4 & Week==52 & crop==1
254
255 twoway (line price Year if mktID==10 & Week==49 & crop==1) (line price Year if mktID==11 & Week==49
& crop==1) (line price Year if mktID==12 & Week==49 & crop==1, legend(order(1 "Bawku" 2 "Fumbisi" 3
"Navrongo"))))
256
257 *****AVERAGE HARVEST SEASON PRICE*****
258
259 ***** MAIZE WHITE *****
260
261 *Upper East*
262 twoway (line targetweek Year if mktID==10 & Week==49 & crop==1) (line targetweek Year if mktID==11 &
Week==49 & crop==1) (line targetweek Year if mktID==17 & Week==49 & crop==1) (line targetweek Year
if mktID==7 & Week==49 & crop==1, legend(order(1 "Bawku" 2 "Fumbisi" 3 "Navrongo" 4 "Bolgatanga"))))
263
264 *Upper West*
265 twoway (line targetweek Year if mktID==13 & Week==49 & crop==1) (line targetweek Year if mktID==24 &
Week==49 & crop==1) (line targetweek Year if mktID==23 & Week==49 & crop==1, legend(order(1 "Jirapa"
2 "Wa" 3 "Tumu"))))
266
267 *Northern Region*
268 twoway (line targetweek Year if mktID==28 & Week==49 & crop==1) (line targetweek Year if mktID==5 &
Week==49 & crop==1) (line targetweek Year if mktID==12 & Week==49 & crop==1) (line targetweek Year if
mktID==19 & Week==49 & crop==1) (line targetweek Year if mktID==20 & Week==49 & crop==1, legend(
order(1 "Yendi" 2 "Bimbilla" 3 "Gushiegu" 4 "Salaga" 5 "Tamale"))))
269
270 *Savanah Region*
271 twoway (line targetweek Year if mktID==6 & Week==49 & crop==1) (line targetweek Year if mktID==9 &
Week==49 & crop==1, legend(order(1 "Bole" 2 "Damongo"))))
272
273 *Major Markets*
274 twoway (line targetweek Year if mktID==19 & Week==49 & crop==1) (line targetweek Year if mktID==24 &
Week==49 & crop==1) (line targetweek Year if mktID==7 & Week==49 & crop==1) (line targetweek Year if
mktID==21 & Week==49 & crop==1) (line targetweek Year if mktID==15 & Week==49 & crop==1) (line
targetweek Year if mktID==1 & Week==49 & crop==1, legend(order(1 "Tamale" 2 "Wa" 3 "Bolgatanga" 4
"Techiman21" 5 "Kumasi" 6 "Agbogbloshie"))))
275
276
277 ***** SOYA *****
278
279 *Upper East*
280 twoway (line targetweek Year if mktID==10 & Week==49 & crop==10) (line targetweek Year if mktID==11
& Week==49 & crop==10) (line targetweek Year if mktID==17 & Week==49 & crop==10) (line targetweek
Year if mktID==7 & Week==49 & crop==10, legend(order(1 "Bawku" 2 "Fumbisi" 3 "Navrongo" 4
"Bolgatanga"))))

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281
282 *Upper West*
283 twoway (line targetweek Year if mktID==13 & Week==50 & crop==10) (line targetweek Year if mktID==24
& Week==50 & crop==10) (line targetweek Year if mktID==23 & Week==50 & crop==10, legend(order(1
"Jirapa" 2 "Wa" 3 "Tumu")))
284
285 *Northern Region*
286 twoway (line targetweek Year if mktID==28 & Week==49 & crop==10) (line targetweek Year if mktID==5 &
Week==49 & crop==10) (line targetweek Year if mktID==12 & Week==49 & crop==10) (line targetweek Year
if mktID==19 & Week==49 & crop==10) (line targetweek Year if mktID==20 & Week==49 & crop==10, legend
(order(1 "Yendi" 2 "Bimbilla" 3 "Gushiegu" 4 "Salaga" 5 "Tamale")))
287
288 *Savanah Region*
289 twoway (line targetweek Year if mktID==6 & Week==49 & crop==10) (line targetweek Year if mktID==9 &
Week==49 & crop==10, legend(order(1 "Bole" 2 "Damongo")))
290
291 *Major Markets*
292 twoway (line targetweek Year if mktID==19 & Week==49 & crop==10) (line targetweek Year if mktID==24
& Week==49 & crop==10) (line targetweek Year if mktID==7 & Week==49 & crop==10) (line targetweek Year
if mktID==21 & Week==49 & crop==10) (line targetweek Year if mktID==15 & Week==49 & crop==10) (line
targetweek Year if mktID==1 & Week==49 & crop==10, legend(order(1 "Tamale" 2 "Wa" 3 "Bolgatanga" 4
"Techiman21" 5 "Kumasi" 6 "Agbogbloshie")))
293
294
295 *****
*****
296 tab crop
297
298 help twoway
299
300 graph twoway (line price Year if mktID==4 & Week==50 & crop==1) (line price Year if mktID==11 & Week
==50 & crop==1) (line price Year if mktID==17 & Week==50 & crop==1)
301
302 save GhanaPrice_20200130, replace
303

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