Supplementary Material

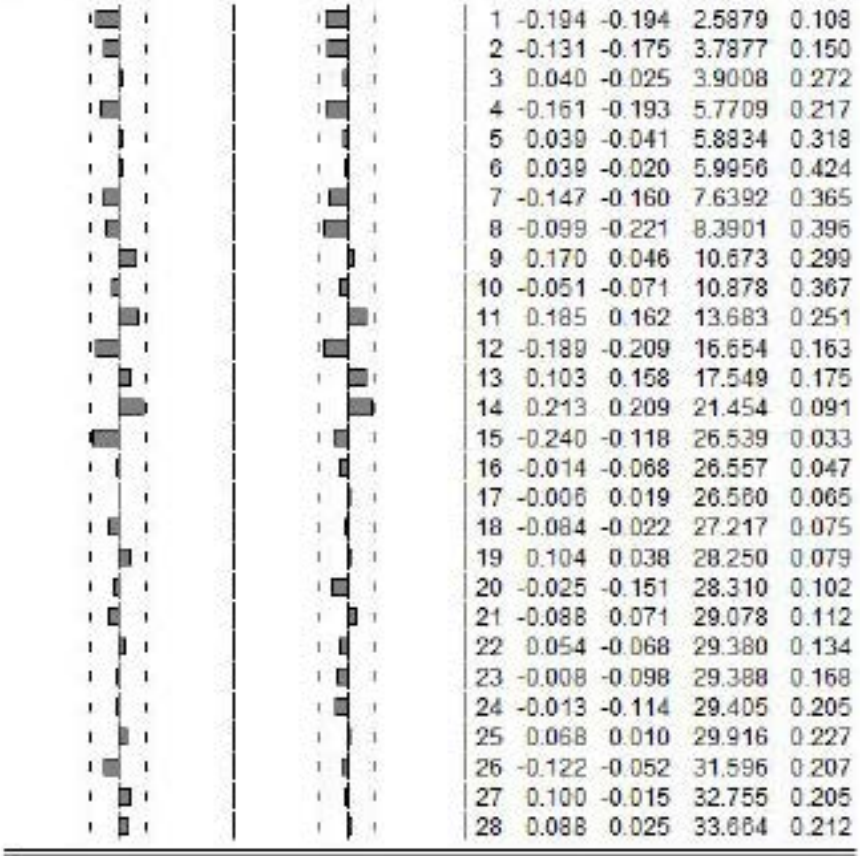
Major Crops Forecasting Area, Production and Yield Evidence from Agriculture Sector of Pakistan

Dilshad Ahmad*, Muhammad Irfan Chani and Asad Afzal Humayon

Department of Management Sciences, COMSATS Institute of information Technology Vehari Campus, Vehari, Pakistan.

Received | March 16, 2017; **Accepted** | July 26, 2017; **Published** | August 10, 2017
***Correspondence** | Dilshad Ahmad, Department of Management Sciences, COMSATS Institute of information Technology Vehari Campus, Vehari, Pakistan; **Email:** dilshad@ciitvehari.edu.pk
Citation | Ahmad, D., M.I. Chani and A.A. Humayon. 2017. Major crops forecasting area, production and yield evidence from agriculture sector of Pakistan. *Sarhad Journal of Agriculture,* 33(3): 1-15.
DOI | http://dx.doi.org/10.17582/journal.sja/2017/33.3.1.15
Keywords | Wheat, Rice, Maize, Cotton, Sugarcane, Forecasting

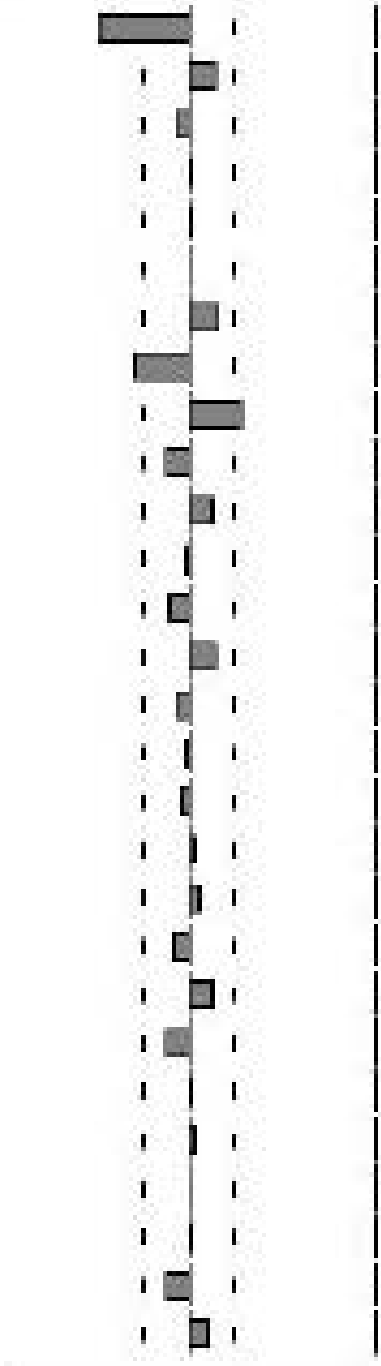
Date: 05/22/17 Time: 20:03
Sample: 1948 2014
Included observations: 66



Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	-0.194	-0.194	2.5879	0.108
		2	-0.131	-0.175	3.7877	0.150
		3	0.040	-0.025	3.9008	0.272
		4	-0.161	-0.193	5.7709	0.217
		5	0.039	-0.041	5.8834	0.318
		6	0.039	-0.020	5.9956	0.424
		7	-0.147	-0.160	7.6392	0.365
		8	-0.099	-0.221	8.3901	0.396
		9	0.170	0.046	10.673	0.299
		10	-0.051	-0.071	10.878	0.367
		11	0.185	0.162	13.683	0.251
		12	-0.189	-0.209	16.654	0.163
		13	0.103	0.158	17.549	0.175
		14	0.213	0.209	21.454	0.091
		15	-0.240	-0.118	26.539	0.033
		16	-0.014	-0.068	26.557	0.047
		17	-0.006	0.019	26.560	0.065
		18	-0.084	-0.022	27.217	0.075
		19	0.104	0.038	28.250	0.079
		20	-0.025	-0.151	28.310	0.102
		21	-0.088	0.071	29.078	0.112
		22	0.054	-0.068	29.380	0.134
		23	-0.008	-0.098	29.388	0.168
		24	-0.013	-0.114	29.405	0.205
		25	0.068	0.010	29.916	0.227
		26	-0.122	-0.052	31.596	0.207
		27	0.100	-0.015	32.755	0.205
		28	0.088	0.025	33.664	0.212

Supplementary Figure 1: *Wheat-Area correlogram of residuals.*

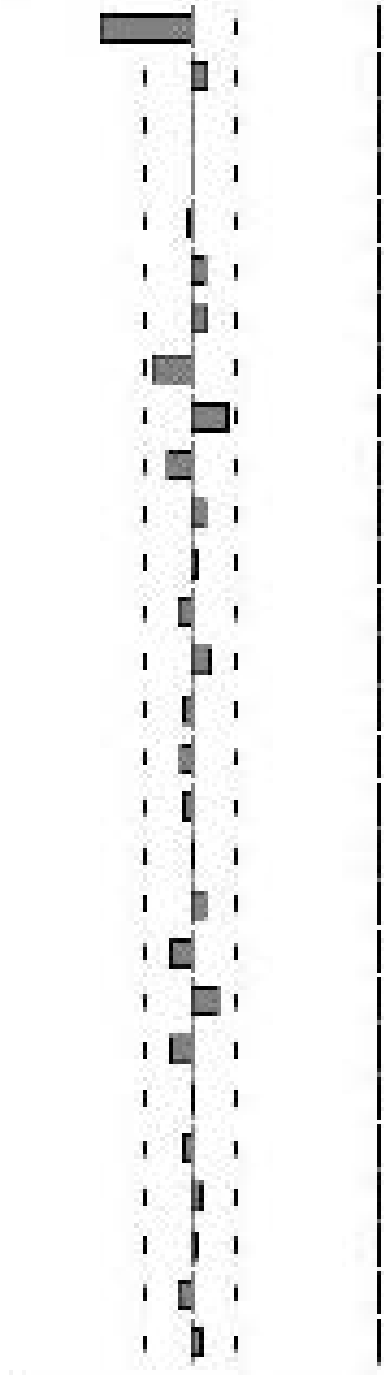
Date: 05/22/17 Time: 20:07
Sample: 1948 2014
Included observations: 66



		AC	PAC	Q-Stat	Prob
1		-0.512	-0.512	18.110	0.000
2		0.132	-0.177	19.333	0.000
3		-0.067	-0.109	19.651	0.000
4		0.019	-0.065	19.678	0.001
5		0.019	-0.000	19.704	0.001
6		-0.003	0.018	19.705	0.003
7		0.167	0.250	21.820	0.003
8		-0.298	-0.121	28.687	0.000
9		0.282	0.101	34.949	0.000
10		-0.119	0.098	36.085	0.000
11		0.116	0.152	37.191	0.000
12		-0.019	0.154	37.221	0.000
13		-0.103	-0.071	38.124	0.000
14		0.146	0.082	39.968	0.000
15		-0.071	0.102	40.408	0.000
16		-0.011	-0.151	40.419	0.001
17		-0.031	-0.107	40.509	0.001
18		0.037	-0.120	40.637	0.002
19		0.052	0.075	40.898	0.002
20		-0.085	-0.065	41.598	0.003
21		0.125	-0.036	43.147	0.003
22		-0.121	0.033	44.648	0.003
23		0.009	-0.071	44.656	0.004
24		0.040	-0.013	44.831	0.006
25		0.007	0.028	44.836	0.009
26		0.024	0.079	44.900	0.012
27		-0.116	0.026	46.448	0.011
28		0.114	-0.013	47.995	0.011

Supplementary Figure 2: *Wheat-Production correlogram of residuals.*

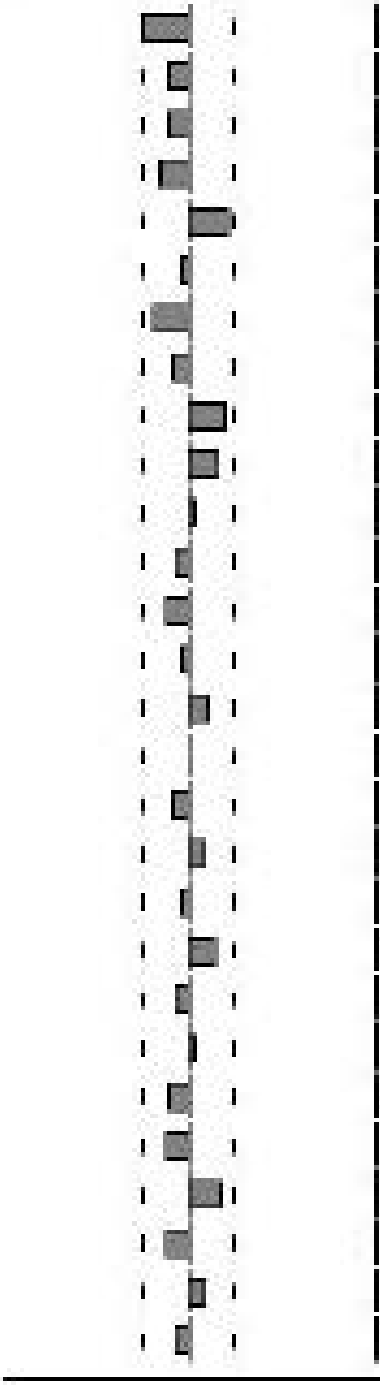
Date: 05/22/17 Time: 20:09
Sample: 1948 2014
Included observations: 66



	Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob
1			-0.513	-0.513	18.142	0.000
2			0.093	-0.230	18.749	0.000
3			-0.005	-0.093	18.751	0.000
4			-0.007	-0.045	18.754	0.001
5			-0.022	-0.058	18.791	0.002
6			0.079	0.058	19.260	0.004
7			0.093	0.246	19.923	0.006
8			-0.206	-0.026	23.211	0.003
9			0.201	0.103	26.378	0.002
10			-0.138	-0.003	27.905	0.002
11			0.068	0.012	28.283	0.003
12			0.040	0.078	28.417	0.005
13			-0.081	-0.063	28.966	0.007
14			0.098	0.063	29.803	0.008
15			-0.040	0.067	29.947	0.012
16			-0.063	-0.115	30.301	0.017
17			-0.027	-0.149	30.369	0.024
18			0.017	-0.197	30.398	0.034
19			0.068	0.012	30.837	0.042
20			-0.114	-0.095	32.105	0.042
21			0.141	0.022	34.101	0.035
22			-0.108	0.080	35.281	0.036
23			0.015	0.045	35.305	0.048
24			-0.027	-0.008	35.383	0.063
25			0.053	0.029	35.696	0.076
26			0.033	0.117	35.815	0.095
27			-0.078	0.067	36.523	0.104
28			0.065	0.017	37.023	0.118

Supplementary Figure 3: *Wheat-Yield correlogram of residuals.*

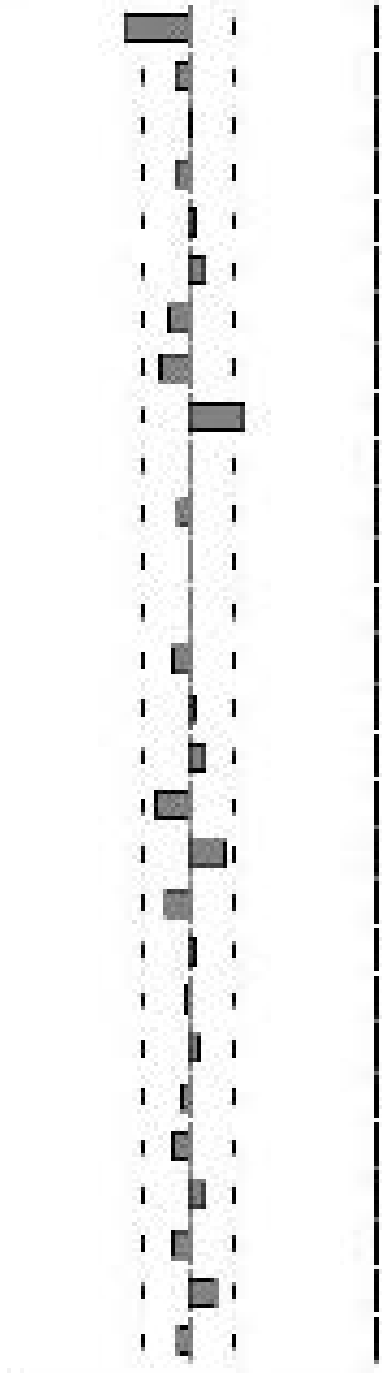
Date: 05/22/17 Time: 20:10
Sample: 1948 2014
Included observations: 66



Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	-0.247	-0.247	4.2128	0.040
		2	-0.101	-0.172	4.9257	0.085
		3	-0.108	-0.197	5.7566	0.124
		4	-0.165	-0.310	7.7211	0.102
		5	0.220	0.022	11.276	0.046
		6	-0.027	-0.062	11.332	0.079
		7	-0.196	-0.303	14.254	0.047
		8	-0.094	-0.365	14.933	0.060
		9	0.193	-0.037	17.869	0.037
		10	0.160	0.047	19.910	0.030
		11	0.029	-0.021	19.978	0.046
		12	-0.081	0.001	20.520	0.058
		13	-0.128	0.016	21.898	0.057
		14	-0.046	-0.163	22.079	0.077
		15	0.100	-0.120	22.962	0.085
		16	0.001	-0.012	22.963	0.115
		17	-0.085	-0.053	23.624	0.130
		18	0.083	0.040	24.270	0.146
		19	-0.042	-0.052	24.436	0.180
		20	0.151	0.059	26.664	0.145
		21	-0.067	-0.118	27.112	0.167
		22	0.039	0.101	27.268	0.201
		23	-0.105	0.015	28.444	0.199
		24	-0.116	-0.136	29.871	0.189
		25	0.183	0.090	33.528	0.118
		26	-0.130	-0.051	35.435	0.103
		27	0.088	-0.069	36.327	0.108
		28	-0.070	-0.176	36.899	0.121

Supplementary Figure 4: *Rice-Area correlogram of residuals.*

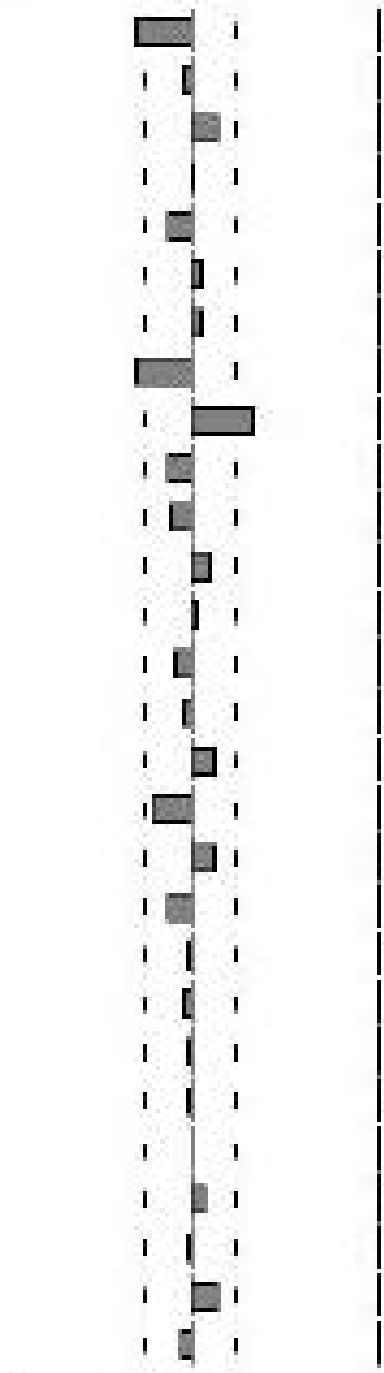
Date: 05/22/17 Time: 20:11
Sample: 1948 2014
Included observations: 66



		AC	PAC	Q-Stat	Prob
1	1	-0.361	-0.361	8.9984	0.003
2	2	-0.070	-0.230	9.3394	0.009
3	3	0.016	-0.119	9.3576	0.025
4	4	-0.069	-0.154	9.7070	0.046
5	5	0.027	-0.089	9.7608	0.082
6	6	0.085	0.042	10.307	0.112
7	7	-0.103	-0.067	11.116	0.134
8	8	-0.166	-0.279	13.255	0.103
9	9	0.311	0.130	20.851	0.013
10	10	-0.001	0.178	20.851	0.022
11	11	-0.055	0.078	21.102	0.032
12	12	-0.008	0.018	21.107	0.049
13	13	-0.003	0.092	21.108	0.071
14	14	-0.097	-0.061	21.928	0.080
15	15	0.034	-0.148	22.028	0.107
16	16	0.088	0.049	22.722	0.121
17	17	-0.179	-0.046	25.659	0.081
18	18	0.189	0.063	28.996	0.048
19	19	-0.127	-0.164	30.532	0.045
20	20	0.039	-0.041	30.681	0.060
21	21	-0.014	-0.079	30.701	0.079
22	22	0.052	-0.018	30.979	0.097
23	23	-0.047	0.023	31.208	0.118
24	24	-0.088	-0.073	32.043	0.126
25	25	0.097	-0.009	33.077	0.129
26	26	-0.092	-0.077	34.032	0.134
27	27	0.141	0.049	36.305	0.109
28	28	-0.057	0.026	36.691	0.126

Supplementary Figure 5: *Rice-Production correlogram of residuals.*

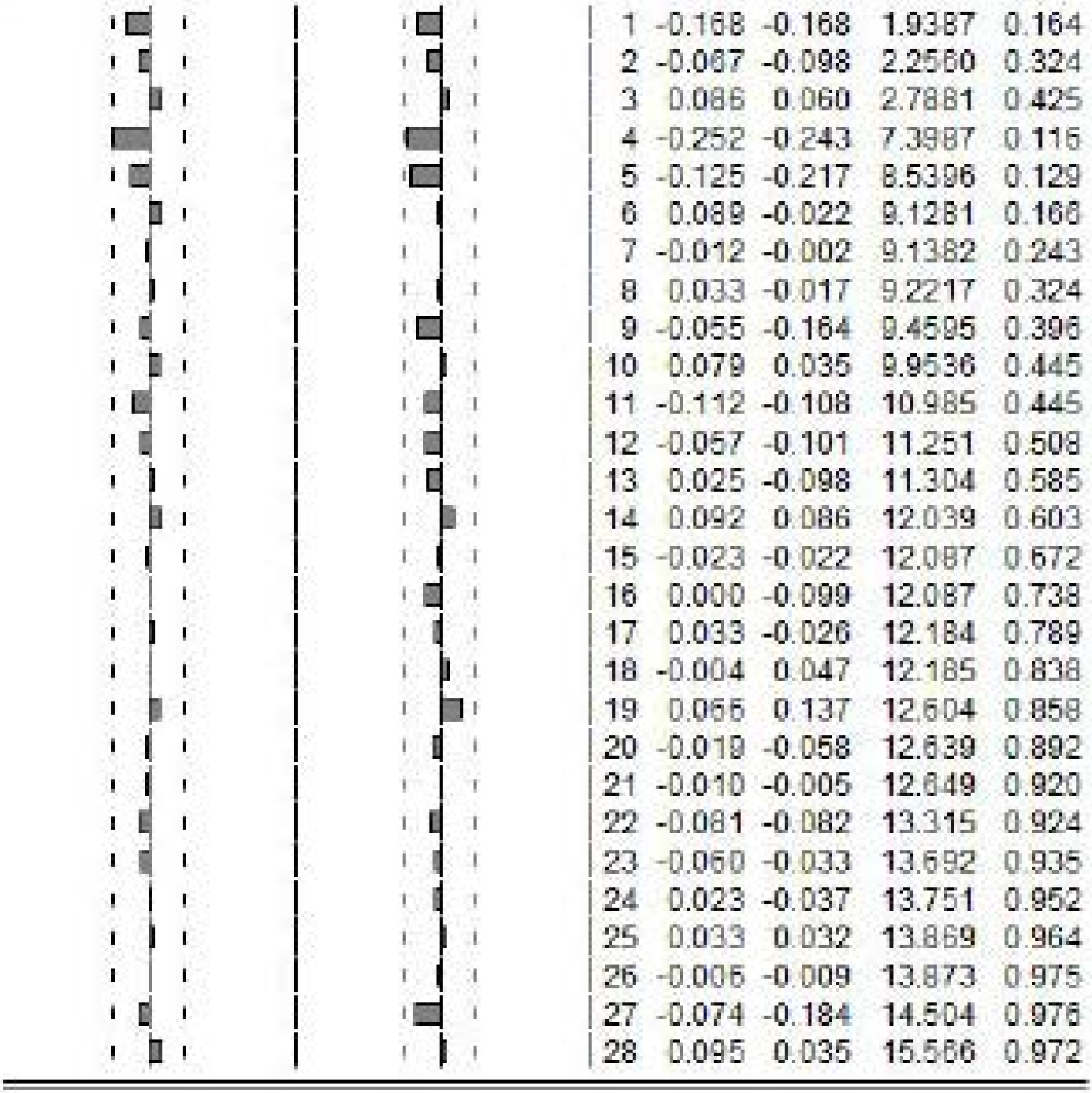
Date: 05/22/17 Time: 20:13
Sample: 1948 2014
Included observations: 66



		AC	PAC	Q-Stat	Prob
1	1	-0.312	-0.312	6.7403	0.009
2	2	-0.046	-0.159	6.8891	0.032
3	3	0.135	0.077	8.1794	0.042
4	4	0.014	0.090	8.1932	0.085
5	5	-0.127	-0.084	9.3791	0.095
6	6	0.047	-0.038	9.5421	0.145
7	7	0.049	0.031	9.7245	0.205
8	8	-0.298	-0.283	16.591	0.035
9	9	0.343	0.214	25.876	0.002
10	10	-0.134	-0.028	27.325	0.002
11	11	-0.110	-0.087	28.315	0.003
12	12	0.099	0.009	29.134	0.004
13	13	0.034	-0.013	29.230	0.006
14	14	-0.092	-0.005	29.964	0.008
15	15	-0.048	-0.094	30.164	0.011
16	16	0.128	-0.012	31.645	0.011
17	17	-0.225	-0.082	36.289	0.004
18	18	0.127	-0.036	37.787	0.004
19	19	-0.138	-0.190	39.611	0.004
20	20	-0.021	-0.046	39.654	0.006
21	21	-0.039	-0.127	39.802	0.008
22	22	-0.011	-0.128	39.814	0.011
23	23	-0.024	-0.076	39.877	0.016
24	24	-0.008	-0.018	39.884	0.022
25	25	0.069	-0.074	40.407	0.026
26	26	-0.023	0.043	40.469	0.035
27	27	0.149	0.087	43.016	0.026
28	28	-0.065	0.022	43.514	0.031

Supplementary Figure 6: *Rice-Yield correlogram of residuals.*

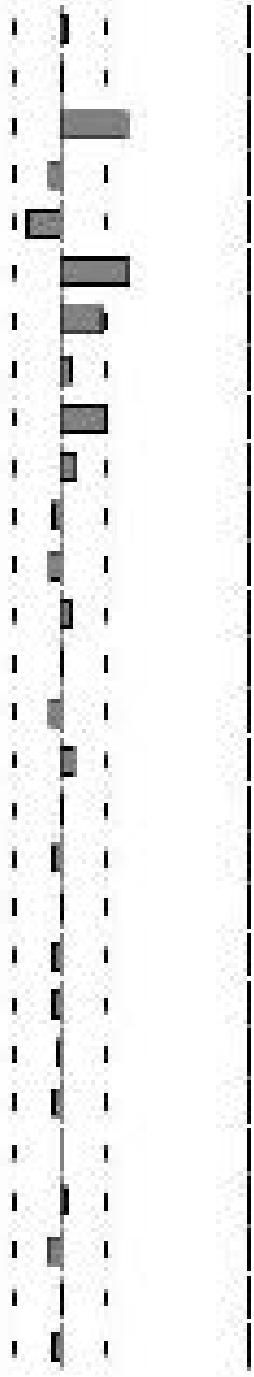
Date: 05/22/17 Time: 20:14
Sample: 1948 2014
Included observations: 66



Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	-0.168	-0.168	1.9387	0.164
		2	-0.087	-0.098	2.2560	0.324
		3	0.086	0.060	2.7881	0.425
		4	-0.252	-0.243	7.3987	0.116
		5	-0.125	-0.217	8.5396	0.129
		6	0.089	-0.022	9.1281	0.166
		7	-0.012	-0.002	9.1382	0.243
		8	0.033	-0.017	9.2217	0.324
		9	-0.055	-0.164	9.4595	0.396
		10	0.079	0.035	9.9536	0.445
		11	-0.112	-0.108	10.985	0.445
		12	-0.057	-0.101	11.251	0.508
		13	0.025	-0.098	11.304	0.585
		14	0.092	0.086	12.039	0.603
		15	-0.023	-0.022	12.087	0.672
		16	0.000	-0.099	12.087	0.738
		17	0.033	-0.026	12.184	0.789
		18	-0.004	0.047	12.185	0.838
		19	0.066	0.137	12.604	0.858
		20	-0.019	-0.058	12.639	0.892
		21	-0.010	-0.005	12.649	0.920
		22	-0.081	-0.082	13.315	0.924
		23	-0.060	-0.033	13.692	0.935
		24	0.023	-0.037	13.751	0.952
		25	0.033	0.032	13.869	0.964
		26	-0.006	-0.009	13.873	0.975
		27	-0.074	-0.184	14.504	0.976
		28	0.095	0.035	15.566	0.972

Supplementary Figure 7: *Maize-Area correlogram of residuals.*

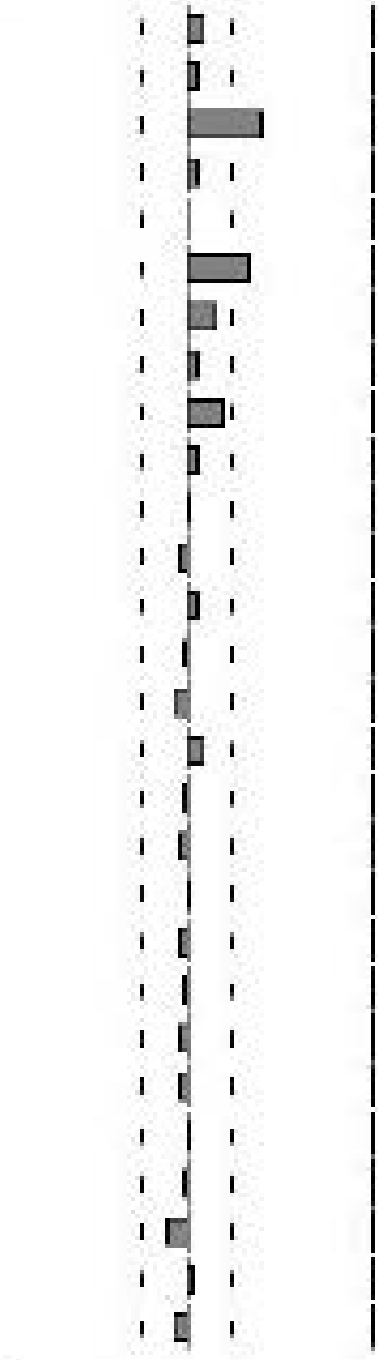
Date: 05/22/17 Time: 20:15
Sample: 1948 2014
Included observations: 66



Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	0.036	0.036	0.0880	0.767
		2	0.019	0.018	0.1145	0.944
		3	0.368	0.367	9.7493	0.021
		4	-0.063	-0.100	10.032	0.040
		5	-0.174	-0.206	12.261	0.031
		6	0.372	0.314	22.585	0.001
		7	0.239	0.362	26.930	0.000
		8	0.056	0.161	27.175	0.001
		9	0.255	-0.085	32.277	0.000
		10	0.089	-0.157	32.913	0.000
		11	-0.026	0.147	32.969	0.001
		12	-0.063	-0.090	33.294	0.001
		13	0.063	-0.113	33.630	0.001
		14	0.010	-0.150	33.639	0.002
		15	-0.049	-0.141	33.854	0.004
		16	0.070	0.002	34.288	0.005
		17	0.009	-0.086	34.295	0.008
		18	-0.029	0.074	34.376	0.011
		19	0.010	0.076	34.385	0.017
		20	-0.028	-0.043	34.459	0.023
		21	-0.033	0.071	34.568	0.031
		22	-0.021	0.059	34.613	0.043
		23	-0.043	0.100	34.808	0.054
		24	0.001	0.030	34.809	0.071
		25	0.040	0.019	34.988	0.088
		26	-0.076	-0.062	35.630	0.099
		27	0.018	-0.054	35.667	0.123
		28	-0.028	-0.086	35.763	0.149

Supplementary Figure 8: *Maize-Production correlogram of residuals.*

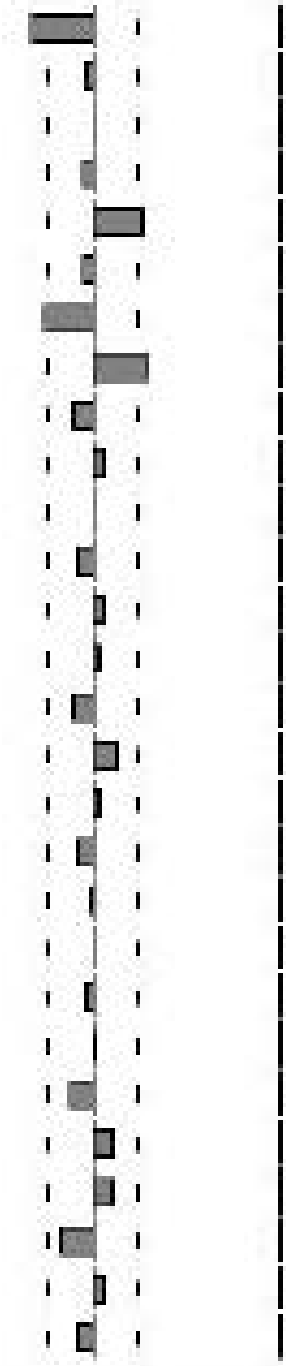
Date: 05/22/17 Time: 20:16
Sample: 1948 2014
Included observations: 66



		AC	PAC	Q-Stat	Prob
1		0.098	0.098	0.6571	0.418
2		0.052	0.043	0.8454	0.655
3		0.406	0.401	12.569	0.006
4		0.050	-0.024	12.751	0.013
5		0.002	-0.028	12.751	0.026
6		0.348	0.226	21.825	0.001
7		0.168	0.142	23.973	0.001
8		0.055	0.044	24.211	0.002
9		0.202	-0.012	27.427	0.001
10		0.059	-0.067	27.705	0.002
11		0.020	0.009	27.738	0.004
12		-0.030	-0.202	27.814	0.006
13		0.063	0.005	28.149	0.009
14		-0.019	-0.086	28.181	0.013
15		-0.073	-0.083	28.652	0.018
16		0.085	0.062	29.298	0.022
17		-0.013	-0.015	29.313	0.032
18		-0.034	0.101	29.418	0.044
19		0.021	-0.002	29.461	0.059
20		-0.043	-0.011	29.642	0.076
21		-0.024	0.095	29.699	0.098
22		-0.048	-0.096	29.931	0.120
23		-0.045	0.005	30.142	0.145
24		0.015	-0.006	30.166	0.179
25		-0.013	-0.000	30.183	0.217
26		-0.112	-0.111	31.597	0.207
27		0.032	-0.022	31.716	0.243
28		-0.072	-0.031	32.327	0.261

Supplementary Figure 9: *Maize-Yield correlogram of residuals.*

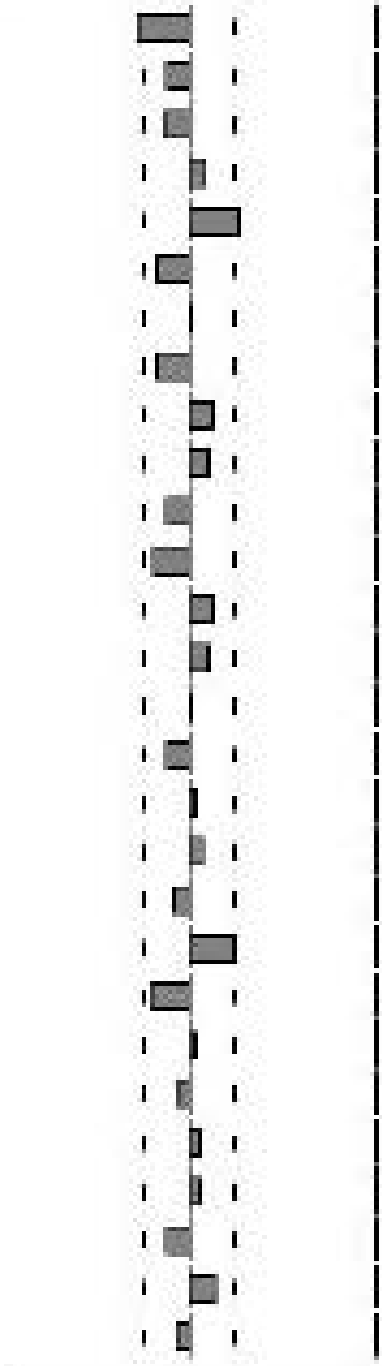
Date: 05/22/17 Time: 20:17
Sample: 1948 2014
Included observations: 66



Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	-0.346	-0.346	8.2565	0.004
		2	-0.041	-0.183	8.3754	0.015
		3	-0.005	-0.100	8.3775	0.039
		4	-0.065	-0.132	8.6808	0.070
		5	0.268	0.224	13.947	0.016
		6	-0.057	0.146	14.187	0.028
		7	-0.273	-0.239	19.837	0.006
		8	0.307	0.178	27.144	0.001
		9	-0.106	0.048	28.025	0.001
		10	0.052	-0.027	28.240	0.002
		11	0.008	0.035	28.245	0.003
		12	-0.095	0.067	28.896	0.004
		13	0.054	-0.110	29.239	0.006
		14	0.029	-0.040	29.314	0.009
		15	-0.109	-0.005	30.352	0.011
		16	0.131	0.011	31.882	0.010
		17	0.034	0.148	31.989	0.015
		18	-0.087	0.000	32.690	0.018
		19	-0.013	-0.094	32.707	0.026
		20	-0.004	-0.003	32.708	0.036
		21	-0.027	-0.085	32.781	0.049
		22	0.014	-0.159	32.799	0.065
		23	-0.134	-0.112	34.679	0.056
		24	0.101	0.065	35.761	0.058
		25	0.100	0.079	36.846	0.060
		26	-0.174	-0.114	40.233	0.037
		27	0.064	0.056	40.704	0.044
		28	-0.095	-0.071	41.781	0.045

Supplementary Figure 10: *Cotton-Area correlogram of residuals.*

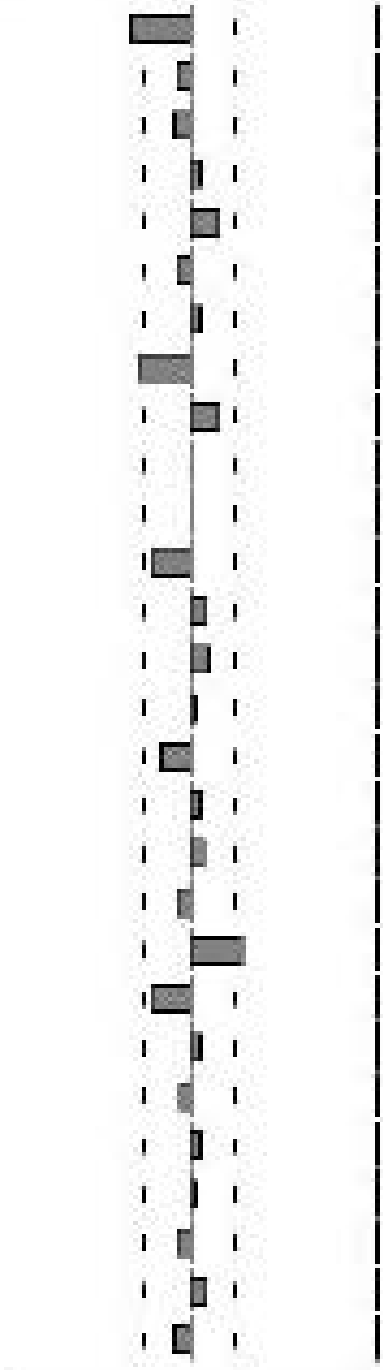
Date: 05/22/17 Time: 20:19
Sample: 1948 2014
Included observations: 66



Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	-0.286	-0.286	5.6436	0.018
		2	-0.127	-0.227	6.7661	0.034
		3	-0.146	-0.293	8.2772	0.041
		4	0.082	-0.130	8.7662	0.067
		5	0.270	0.220	14.137	0.015
		6	-0.177	-0.023	16.484	0.011
		7	0.011	0.072	16.493	0.021
		8	-0.182	-0.140	19.068	0.014
		9	0.126	-0.056	20.326	0.016
		10	0.100	0.016	21.122	0.020
		11	-0.128	-0.095	22.459	0.021
		12	-0.191	-0.302	25.491	0.013
		13	0.128	0.019	26.869	0.013
		14	0.104	-0.010	27.803	0.015
		15	0.010	0.018	27.812	0.023
		16	-0.120	-0.002	29.107	0.023
		17	0.038	0.134	29.242	0.032
		18	0.080	0.072	29.844	0.039
		19	-0.083	-0.104	30.497	0.046
		20	0.258	0.243	36.994	0.012
		21	-0.218	0.005	41.744	0.005
		22	0.035	-0.012	41.867	0.006
		23	-0.068	-0.129	42.354	0.008
		24	0.063	-0.082	42.777	0.011
		25	0.042	-0.054	42.971	0.014
		26	-0.139	-0.038	45.143	0.011
		27	0.132	0.041	47.134	0.010
		28	-0.081	0.127	47.906	0.011

Supplementary Figure 11: *Cotton-Production correlogram of residuals.*

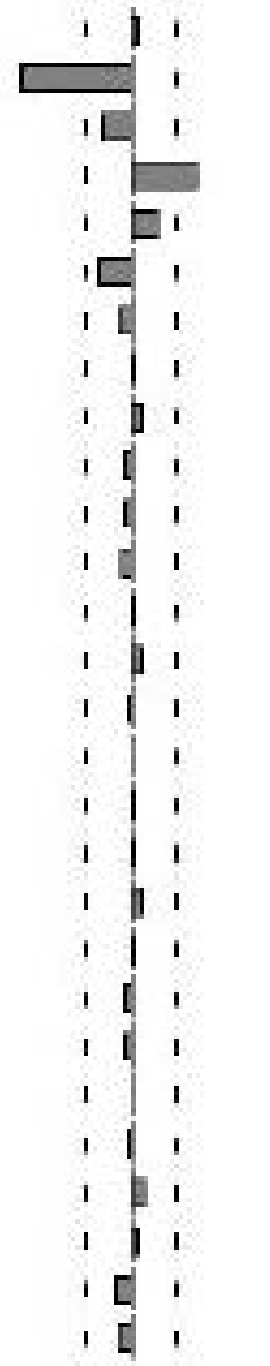
Date: 05/22/17 Time: 20:20
Sample: 1948 2014
Included observations: 66



Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	-0.328	-0.328	7.4334	0.006
		2	-0.079	-0.209	7.8702	0.020
		3	-0.094	-0.227	8.4968	0.037
		4	0.043	-0.119	8.6337	0.071
		5	0.159	0.109	10.501	0.062
		6	-0.078	0.020	10.962	0.090
		7	0.053	0.108	11.173	0.131
		8	-0.281	-0.241	17.268	0.027
		9	0.160	-0.053	19.280	0.023
		10	-0.007	-0.090	19.284	0.037
		11	0.004	-0.072	19.285	0.056
		12	-0.224	-0.322	23.447	0.024
		13	0.089	-0.089	24.123	0.030
		14	0.099	-0.030	24.972	0.035
		15	0.038	0.100	25.099	0.049
		16	-0.165	-0.213	27.545	0.036
		17	0.047	0.039	27.749	0.048
		18	0.073	-0.003	28.244	0.058
		19	-0.082	-0.136	28.883	0.068
		20	0.283	0.122	36.675	0.013
		21	-0.211	0.016	41.129	0.005
		22	0.049	0.043	41.374	0.007
		23	-0.050	-0.014	41.640	0.010
		24	0.044	-0.149	41.845	0.013
		25	0.036	0.000	41.986	0.018
		26	-0.070	0.006	42.531	0.022
		27	0.095	0.045	43.559	0.023
		28	-0.095	0.049	44.624	0.024

Supplementary Figure 12: *Cotton-Yield correlogram of residuals.*

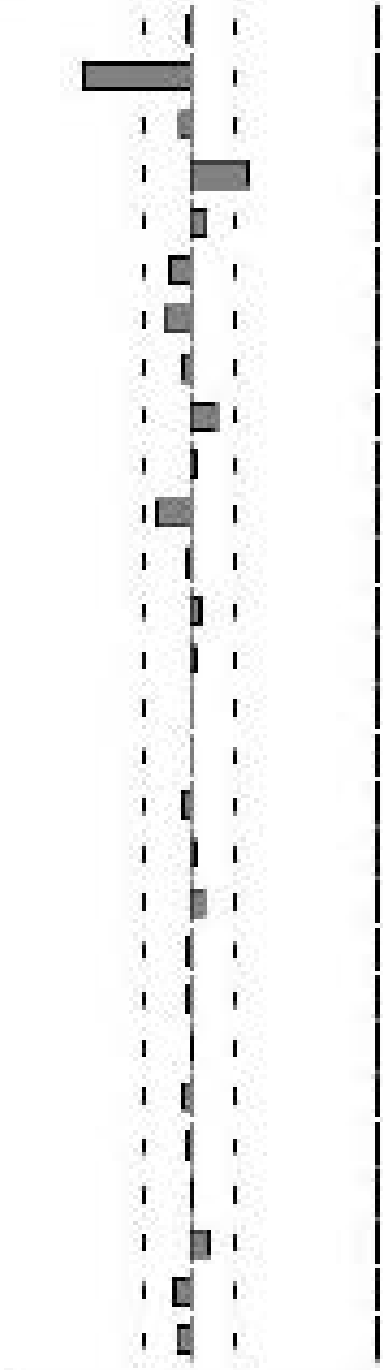
Date: 05/22/17 Time: 20:22
Sample: 1948 2014
Included observations: 66



		AC	PAC	Q-Stat	Prob
1		0.038	0.038	0.1014	0.750
2		-0.621	-0.623	27.135	0.000
3		-0.171	-0.178	29.218	0.000
4		0.360	-0.036	38.624	0.000
5		0.142	-0.096	40.108	0.000
6		-0.178	0.004	42.471	0.000
7		-0.072	0.052	42.861	0.000
8		0.022	-0.106	42.899	0.000
9		0.059	0.049	43.174	0.000
10		-0.042	-0.120	43.312	0.000
11		-0.045	-0.056	43.479	0.000
12		-0.053	-0.166	43.710	0.000
13		0.017	-0.096	43.735	0.000
14		0.056	-0.089	44.003	0.000
15		-0.017	-0.095	44.029	0.000
16		0.000	0.020	44.029	0.000
17		0.023	0.013	44.079	0.000
18		0.022	0.031	44.124	0.001
19		0.047	0.165	44.334	0.001
20		0.010	0.057	44.344	0.001
21		-0.026	0.107	44.409	0.002
22		-0.027	0.038	44.481	0.003
23		-0.006	-0.045	44.485	0.005
24		-0.011	-0.073	44.499	0.007
25		0.068	0.052	44.998	0.008
26		0.041	0.023	45.185	0.011
27		-0.098	0.008	46.297	0.012
28		-0.080	0.036	47.050	0.014

Supplementary Figure 13: *Sugarcane-Area correlogram of residuals.*

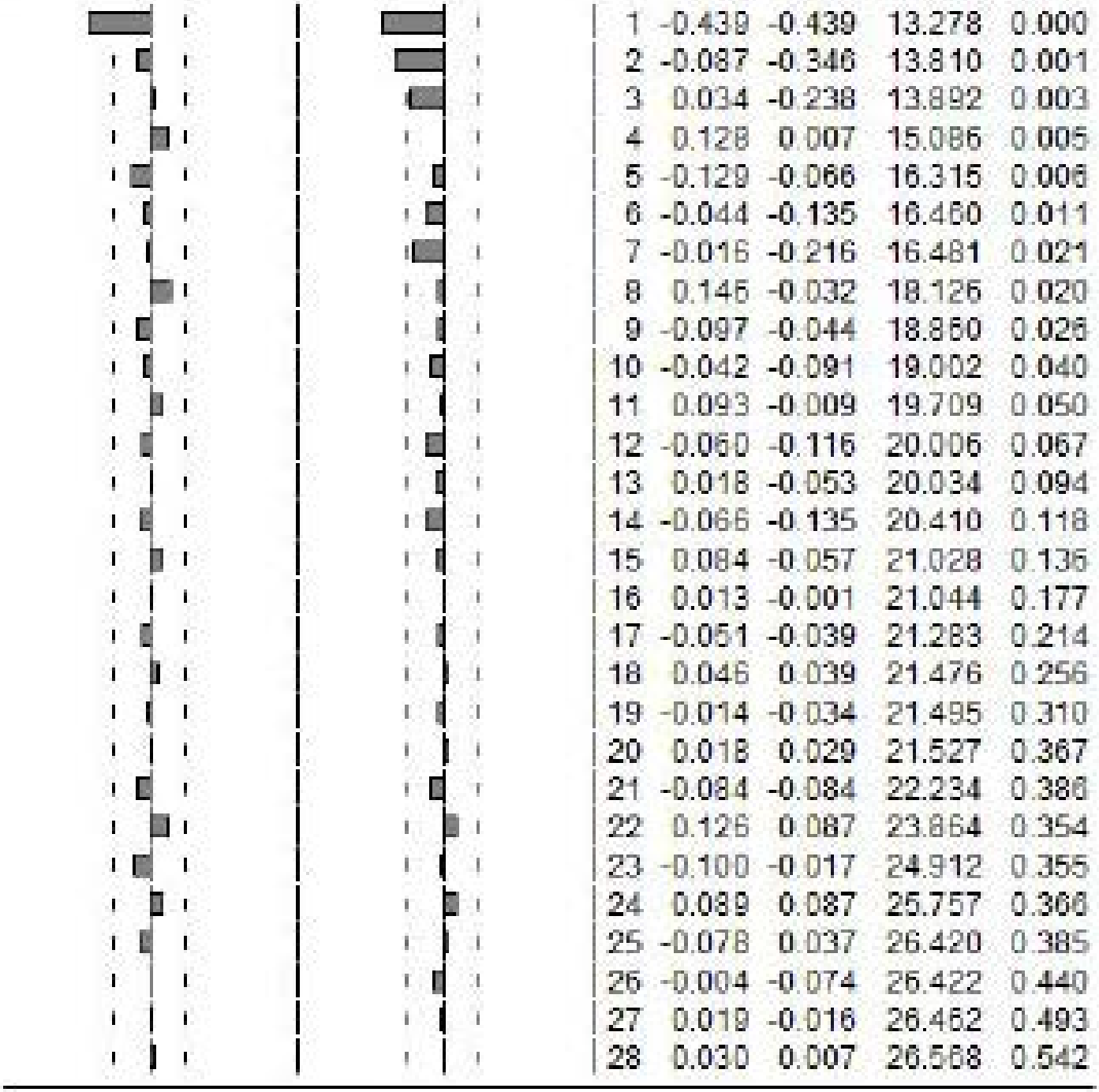
Date: 05/22/17 Time: 20:25
Sample: 1948 2014
Included observations: 66



Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	-0.018	-0.018	0.0234	0.878
		2	-0.603	-0.603	25.487	0.000
		3	-0.065	-0.148	25.790	0.000
		4	0.329	-0.076	33.623	0.000
		5	0.094	-0.002	34.278	0.000
		6	-0.114	0.093	35.245	0.000
		7	-0.143	-0.071	36.807	0.000
		8	-0.034	-0.092	36.898	0.000
		9	0.138	-0.009	38.403	0.000
		10	0.031	-0.102	38.482	0.000
		11	-0.172	-0.146	40.905	0.000
		12	-0.017	-0.030	40.928	0.000
		13	0.058	-0.172	41.214	0.000
		14	0.034	-0.021	41.315	0.000
		15	0.002	-0.030	41.315	0.000
		16	0.004	0.026	41.316	0.000
		17	-0.029	0.009	41.396	0.001
		18	0.035	0.049	41.509	0.001
		19	0.068	0.051	41.951	0.002
		20	-0.021	0.033	41.993	0.003
		21	-0.023	0.061	42.045	0.004
		22	0.022	0.032	42.094	0.006
		23	-0.040	-0.046	42.264	0.008
		24	-0.019	-0.027	42.304	0.012
		25	0.018	-0.057	42.339	0.017
		26	0.107	0.164	43.632	0.017
		27	-0.097	-0.069	44.704	0.017
		28	-0.080	0.091	45.457	0.020

Supplementary Figure 14: *Sugarcane-Production correlogram of residuals.*

Date: 05/22/17 Time: 20:24
Sample: 1948 2014
Included observations: 66



Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	-0.439	-0.439	13.278	0.000
		2	-0.087	-0.346	13.810	0.001
		3	0.034	-0.238	13.892	0.003
		4	0.128	0.007	15.086	0.005
		5	-0.129	-0.066	16.315	0.006
		6	-0.044	-0.135	16.460	0.011
		7	-0.016	-0.216	16.481	0.021
		8	0.146	-0.032	18.126	0.020
		9	-0.097	-0.044	18.860	0.026
		10	-0.042	-0.091	19.002	0.040
		11	0.093	-0.009	19.709	0.050
		12	-0.060	-0.116	20.006	0.067
		13	0.018	-0.053	20.034	0.094
		14	-0.066	-0.135	20.410	0.118
		15	0.084	-0.057	21.028	0.136
		16	0.013	-0.001	21.044	0.177
		17	-0.051	-0.039	21.283	0.214
		18	0.046	0.039	21.476	0.256
		19	-0.014	-0.034	21.495	0.310
		20	0.018	0.029	21.527	0.367
		21	-0.084	-0.084	22.234	0.386
		22	0.126	0.087	23.864	0.354
		23	-0.100	-0.017	24.912	0.355
		24	0.089	0.087	25.757	0.366
		25	-0.078	0.037	26.420	0.385
		26	-0.004	-0.074	26.422	0.440
		27	0.019	-0.016	26.462	0.493
		28	0.030	0.007	26.568	0.542

Supplementary Figure 15: *Sugarcane-Yield correlogram of residuals.*