Large-Scale Land Acquisition and Household Farm Investment in Northern Ghana

Supplementary information

Table S1: Determinants and extra effects of direct exposure to LSLA by foreign entities in the presence of other factors influencing levels of investments

VARIABLES	(1) oderedLIT	(2) Direct_Foreign	(3) /oderedLIT	(4) /
1.Gender#0b.Direct_Foreign	0.7820***		0.782***	0.782***
	(0.1520)		(0.152)	(0.152)
1.Gender#1.Direct_Foreign	0.1071*		0.1071*	0.1071*
	(0.0600)		(0.060)	(0.060)
0b.Direct_Foreign#c.Age_HHH	0.00363		0.00363	0.00363
	(0.00345)		(0.00345)	(0.00345)
1.Direct_Foreign#c.Age_HHH	0.00132		0.00132	0.00132
	(0.00738)		(0.00738)	(0.00738)
0b.Direct_Foreign#c.HHsize	-0.00292		-0.00292	-0.00292
	(0.00586)		(0.00586)	(0.00586)
1.Direct_Foreign#c.HHsize	-0.00773		-0.00773	-0.00773
	(0.0139)		(0.0139)	(0.0139)
0b.Direct_Foreign#c.Education	0.1440***		0.1440***	0.1440***
	(0.0316)		(0.0316)	(0.0316)
1.Direct_Foreign#c.Education	0.00351		0.00351	0.00351
	(0.0237)		(0.0237)	(0.0237)
1.Know_anybodylossland#0b.Direct_Foreign	-0.0176		-0.0176	-0.0176
	(0.103)		(0.103)	(0.103)
1.Know_anybodylossland#1.Direct_Foreign	0.275		0.275	0.275
	(0.215)		(0.215)	(0.215)
1.Social_group#0b.Direct_Foreign	-0.197**		-0.197**	-0.197**
	(0.0986)		(0.0986)	(0.0986)
1.Social_group#1.Direct_Foreign	0.215		0.215	0.215

	(0.173)	(0.173)	(0.173)
1.Access_good_roads#0b.Direct_Foreign	-0.165*	-0.165*	-0.165*
	(0.0986)	(0.0986)	(0.0986)
1.Access_good_roads#1.Direct_Foreign	0.372*	0.372*	0.372*
	(0.202)	(0.202)	(0.202)
1.Credit_access#0b.Direct_Foreign	0.0849	0.0849	0.0849
	(0.0927)	(0.0927)	(0.0927)
1.Credit_access#1.Direct_Foreign	-0.0353	-0.0353	-0.0353
	(0.182)	(0.182)	(0.182)
1.Good_fertile#0b.Direct_Foreign	-0.2601***	-0.2601***	-0.2601***
	(0.0962)	(0.0962)	(0.0962)
1.Good_fertile#1.Direct_Foreign	-0.325*	-0.325*	-0.325*
	(0.190)	(0.190)	(0.190)
1.Moderate_fertile#0b.Direct_Foreign	-0.230*	-0.230*	-0.230*
	(0.132)	(0.132)	(0.132)
1.Moderate_fertile#1.Direct_Foreign	0.267	0.267	0.267
	(0.279)	(0.279)	(0.279)
1.Fert_subsidy#0b.Direct_Foreign	-0.0243	-0.0243	-0.0243
	(0.0980)	(0.0980)	(0.0980)
1.Fert_subsidy#1.Direct_Foreign	0.224	0.224	0.224
	(0.227)	(0.227)	(0.227)
1.Sagnarigu#0b.Direct_Foreign	-0.501**	-0.501**	-0.501**
	(0.248)	(0.248)	(0.248)
1.Sagnarigu#1.Direct_Foreign	-0.291	-0.291	-0.291
	(0.397)	(0.397)	(0.397)
1.Mion#0b.Direct_Foreign	-0.219*	-0.219*	-0.219*
	(0.120)	(0.120)	(0.120)
1.Mion#1.Direct_Foreign	-0.468***	-0.468***	-0.468***
	(0.160)	(0.160)	(0.160)
1.Centralgonja#0b.Direct_Foreign	-0.227*	-0.227*	-0.227*
	(0.130)	(0.130)	(0.130)
1.Centralgonja#1.Direct_Foreign	0.386***	0.386***	0.386***
	(0.134)	(0.134)	(0.134)

1.Savalegu#0b.Direct_Foreign	-0.305**	-0.305**	-0.305**
	(0.140)	(0.140)	(0.140)
1.Savalegu#1.Direct_Foreign	-0.192	-0.192	-0.192
	(0.342)	(0.342)	(0.342)
1.Yagbakubori#0b.Direct_Foreign	-0.288	-0.288	-0.288
	(0.248)	(0.248)	(0.248)
1.Yagbakubori#1.Direct_Foreign	-0.319*	-0.319*	-0.319*
	(0.189)	(0.189)	(0.189)
Gender	0.801***		
	(0.228)		
Age_HHH	0.00261		
	(0.00473)		
HHsize	-0.00317		
	(0.00842)		
Education	0.1770***		
	(0.0410)		
Know_anybodylossland	-0.0407		
	(0.131)		
Social_group	-0.187		
	(0.131)		
Access_good_roads	-0.176***		
	(0.030)		
Credit_access	-0.0312		
	(0.123)		
Good_fertile	0.0105		
	(0.126)		
Moderate_fertile	-0.246		
	(0.165)		
Perception_tenure_security	-0.543***		
	(0.149)		
Fert_subsidy	-0.277**		
	(0.135)		
Sagnarigu	0.706***		

		(0.136)	
Mion		0.560***	
		(0.155)	
Centralgonja		0.379	
		(0.536)	
Savalegu		0.770	
		(0.526)	
Yagbakubori		0.383	
		(0.537)	
Access_formal_landinstite		-1.304***	
		(0.211)	
Constant		-1.207*	
		(0.641)	
Observations	661	661	661	661

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table S2: Determinants and extra effects of indirect exposure to LSLA by foreign entities in the presence of other factors influencing levels of investments

VARIABLES	(1) oderedLIT	(2) Indirect_Foreign	(3) /oderedLIT	(4) /
1.Gender#0b.Indirect_Foreign	-0.8821***		-0.8821***	-0.8821***
	(0.203)		(0.203)	(0.203)
1.Gender#1.Indirect_Foreign	-0.324***		-0.324***	-0.324***
	(0.064)		(0.064)	(0.064)
0b.Indirect_Foreign#c.Age_HHH	0.12031*		0.12031*	0.12031*
	(0.07101)		(0.07101)	(0.07101)
1.Indirect_Foreign#c.Age_HHH	0.49511***		0.49511***	0.49511***
	(0.11421)		(0.11421)	(0.11421)
0b.Indirect_Foreign#c.HHsize	-0.00129		-0.00129	-0.00129
	(0.00579)		(0.00579)	(0.00579)
1.Indirect_Foreign#c.HHsize	0.00284		0.00284	0.00284
	(0.0142)		(0.0142)	(0.0142)

0b.Indirect_Foreign#c.Education	0.1311**	0.1311**	0.1311**
	(0.0611)	(0.0611)	(0.0611)
1.Indirect_Foreign#c.Education	0.0112	0.0112	0.0112
	(0.0233)	(0.0233)	(0.0233)
1.Know_anybodylossland#0b.Indirect_Foreign	0.0907	0.0907	0.0907
	(0.0990)	(0.0990)	(0.0990)
1.Know_anybodylossland#1.Indirect_Foreign	-0.322***	-0.322***	-0.322***
	(0.119)	(0.119)	(0.119)
1.Social_group#0b.Indirect_Foreign	-0.113***	-0.113***	-0.113***
	(0.0163)	(0.0163)	(0.0163)
1.Social_group#1.Indirect_Foreign	-0.204**	-0.204**	-0.204**
	(0.094)	(0.094)	(0.094)
1.Access_good_roads#0b.Indirect_Foreign	-0.0465	-0.0465	-0.0465
	(0.0969)	(0.0969)	(0.0969)
1.Access_good_roads#1.Indirect_Foreign	-0.411*	-0.411*	-0.411*
	(0.236)	(0.236)	(0.236)
1.Credit_access#0b.Indirect_Foreign	0.106	0.106	0.106
	(0.0949)	(0.0949)	(0.0949)
1.Credit_access#1.Indirect_Foreign	0.0459	0.0459	0.0459
	(0.206)	(0.206)	(0.206)
1.Good_fertile#0b.Indirect_Foreign	-0.0109	-0.0109	-0.0109
	(0.0985)	(0.0985)	(0.0985)
1.Good_fertile#1.Indirect_Foreign	0.118	0.118	0.118
	(0.215)	(0.215)	(0.215)
1.Moderate_fertile#0b.Indirect_Foreign	-0.0723	-0.0723	-0.0723
	(0.130)	(0.130)	(0.130)
1.Moderate_fertile#1.Indirect_Foreign	0.251	0.251	0.251
	(0.275)	(0.275)	(0.275)
1.Perception_tenure_security#0b.Indirect_Foreign	-0.0673	-0.0673	-0.0673
	(0.113)	(0.113)	(0.113)
1.Perception_tenure_security#1.Indirect_Foreign	-0.165	-0.165	-0.165
	(0.293)	(0.293)	(0.293)
1.Fert_subsidy#0b.Indirect_Foreign	0.0293	0.0293	0.0293

	(1)	(2)	(3)
	(0.0991)	(0.0991)	(0.0991)
1.Fert_subsidy#1.Indirect_Foreign	0.129	0.129	0.129
	(0.167)	(0.167)	(0.167)
1.Sagnarigu#0b.Indirect_Foreign	-0.829***	-0.829***	-0.829***
	(0.276)	(0.276)	(0.276)
1.Sagnarigu#1.Indirect_Foreign	-0.210	-0.210	-0.210
	(0.448)	(0.448)	(0.448)
1.Mion#0b.Indirect_Foreign	-0.640**	-0.640**	-0.640**
	(0.299)	(0.299)	(0.299)
1.Mion#1.Indirect_Foreign	0.531	0.531	0.531
	(0.537)	(0.537)	(0.537)
1.Centralgonja#0b.Indirect_Foreign	-0.429	-0.429	-0.429
	(0.286)	(0.286)	(0.286)
1.Centralgonja#1.Indirect_Foreign	0.261	0.261	0.261
	(0.399)	(0.399)	(0.399)
1.Savalegu#0b.Indirect_Foreign	-0.653**	-0.653**	-0.653**
	(0.267)	(0.267)	(0.267)
1.Savalegu#1.Indirect_Foreign	0.177	0.177	0.177
	(0.409)	(0.409)	(0.409)
1.Yagbakubori#0b.Indirect_Foreign	-0.601**	-0.601**	-0.601**
	(0.278)	(0.278)	(0.278)
1.Yagbakubori#1.Indirect_Foreign	0.203	0.203	0.203
	(0.528)	(0.528)	(0.528)
Gender		-1.057***	
		(0.170)	
Age_HHH		-0.00227	
		(0.00449)	
HHsize		-0.10525*	
		(0.0611)	
Education		0.181***	
		(0.0424)	
Know_anybodylossland		-0.0443	
		(0.135)	

Social_group		-0.376***		
		(0.132)		
Access_good_roads		-0.367***		
		(0.139)		
Credit_access		0.365***		
		(0.125)		
Good_fertile		0.370***		
		(0.132)		
Moderate_fertile		0.394**		
		(0.195)		
Perception_tenure_security		-0.00897		
		(0.165)		
Fert_subsidy		0.0297		
		(0.138)		
Sagnarigu		-0.726**		
		(0.355)		
Mion		-0.403		
		(0.370)		
Centralgonja		-0.333		
		(0.345)		
Savalegu		-0.581*		
		(0.332)		
Yagbakubori		-0.656*		
		(0.349)		
Access_formal_landinstite		-1.110***		
		(0.212)		
Constant		0.384		
		(0.495)		
Observations	661	661	661	661

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table S3: Determinants and extra effects of direct exposure to LSLA by domestic entities in the presence of other factors influencing levels of investments

VARIABLES	oderedLIT	Direct_Domestic	/oderedLIT	/
1.Gender#0b.Direct_Domestic	0.0884		0.0884	0.0884
	(0.146)		(0.146)	(0.146)
1.Gender#1.Direct_Domestic	0.118**		0.118**	0.118**
	(0.051)		(0.051)	(0.051)
0b.Direct_Domestic#c.Age_HHH	0.27611***		0.27611***	0.27611***
	(0.10034)		(0.10034)	(0.10034)
1.Direct_Domestic#c.Age_HHH	0.10481*		0.10481*	0.10481*
	(0.06141)		(0.06141)	(0.06141)
0b.Direct_Domestic#c.HHsize	-0.00727		-0.00727	-0.00727
	(0.00589)		(0.00589)	(0.00589)
1.Direct_Domestic#c.HHsize	0.00252		0.00252	0.00252
	(0.0104)		(0.0104)	(0.0104)
0b.Direct_Domestic#c.Education	0.000194		0.000194	0.000194
	(0.0113)		(0.0113)	(0.0113)
1.Direct_Domestic#c.Education	0.0184		0.0184	0.0184
	(0.0203)		(0.0203)	(0.0203)
1.Know_anybodylossland#0b.Direct_Domestic	-0.127***		-0.127***	-0.127***
	(0.0412)		(0.0412)	(0.0412)
1.Know_anybodylossland#1.Direct_Domestic	0.111***		0.111***	0.111***
	(0.0519)		(0.0519)	(0.0519)
1.Social_group#0b.Direct_Domestic	-0.655***		-0.655***	-0.655***
	(0.1910)		(0.1910)	(0.1910)
1.Social_group#1.Direct_Domestic	-0.899***		-0.899***	-0.899***
	(0.175)		(0.175)	(0.175)
1.Access_good_roads#0b.Direct_Domestic	0.0571		0.0571	0.0571
	(0.0946)		(0.0946)	(0.0946)
1.Access_good_roads#1.Direct_Domestic	0.178		0.178	0.178
	(0.159)		(0.159)	(0.159)
1.Credit_access#0b.Direct_Domestic	-0.0536		-0.0536	-0.0536

	(0.0863)	(0.0863)	(0.0863)
1.Credit_access#1.Direct_Domestic	0.308	0.308	0.308
	(0.219)	(0.219)	(0.219)
1.Good_fertile#0b.Direct_Domestic	-0.0908	-0.0908	-0.0908
	(0.0946)	(0.0946)	(0.0946)
1.Good_fertile#1.Direct_Domestic	-0.343**	-0.343**	-0.343**
	(0.169)	(0.169)	(0.169)
1.Moderate_fertile#0b.Direct_Domestic	0.0532	0.0532	0.0532
	(0.120)	(0.120)	(0.120)
1.Moderate_fertile#1.Direct_Domestic	-0.733**	-0.733**	-0.733**
	(0.324)	(0.324)	(0.324)
1.Fert_subsidy#0b.Direct_Domestic	0.150	0.150	0.150
	(0.0941)	(0.0941)	(0.0941)
1.Fert_subsidy#1.Direct_Domestic	0.0770	0.0770	0.0770
	(0.167)	(0.167)	(0.167)
1.Sagnarigu#0b.Direct_Domestic	-0.530**	-0.530**	-0.530**
	(0.242)	(0.242)	(0.242)
1.Sagnarigu#1.Direct_Domestic	-0.427	-0.427	-0.427
	(0.421)	(0.421)	(0.421)
1.Mion#0b.Direct_Domestic	-0.325	-0.325	-0.325
	(0.266)	(0.266)	(0.266)
1.Mion#1.Direct_Domestic	-0.762*	-0.762*	-0.762*
	(0.437)	(0.437)	(0.437)
1.Centralgonja#0b.Direct_Domestic	-0.246	-0.246	-0.246
	(0.237)	(0.237)	(0.237)
1.Centralgonja#1.Direct_Domestic	-0.489	-0.489	-0.489
	(0.420)	(0.420)	(0.420)
1.Savalegu#0b.Direct_Domestic	-0.311	-0.311	-0.311
	(0.229)	(0.229)	(0.229)
1.Savalegu#1.Direct_Domestic	-0.294	-0.294	-0.294
	(0.387)	(0.387)	(0.387)
1.Yagbakubori#0b.Direct_Domestic	-0.143	-0.143	-0.143
	(0.247)	(0.247)	(0.247)

1.Yagbakubori#1.Direct_Domestic	-0.336		-0.336	-0.336
	(0.378)		(0.378)	(0.378)
Gender		0.386*		
		(0.214)		
Age_HHH		-0.00199		
		(0.00454)		
HHsize		-0.00807		
		(0.00925)		
Education		-0.0189		
		(0.0148)		
Know_anybodylossland		-0.180		
		(0.122)		
Social_group		0.341***		
		(0.118)		
Access_good_roads		0.265**		
		(0.119)		
Credit_access		-0.0546		
		(0.109)		
Good_fertile		0.459***		
		(0.121)		
Moderate_fertile		0.0253		
		(0.164)		
Perception_tenure_security		0.326**		
		(0.162)		
Fert_subsidy		0.267**		
		(0.124)		
Sagnarigu		-0.299		
		(0.365)		
Mion		-0.377		
		(0.373)		
Centralgonja		-0.584*		
		(0.343)		
Savalegu		-0.289		

	(0.327)
Yagbakubori	0.00964
	(0.341)
Access_formal_landinstite	-1.015***
	(0.235)
Constant	-0.831
	(0.507)
Observations	661 661 661 661

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table S4: Determinants and extra effects of indirect exposure to LSLA by domestic entities in the presence of other factors influencing levels of investments

VARIABLES	(1) oderedLIT	(2) Indirect_Domestic	(3) /oderedLIT	(4) /
1.Gender#0b.Indirect_Domestic	0.00487		0.00487	
	(0.161)		(0.161)	
1.Gender#1.Indirect_Domestic	0.522*		0.522*	
	(0.297)		(0.297)	
0b.Indirect_Domestic#c.Age_HHH	0.00252		0.00252	
	(0.00364)		(0.00364)	
1.Indirect_Domestic#c.Age_HHH	0.00582		0.00582	
	(0.00703)		(0.00703)	
0b.Indirect_Domestic#c.HHsize	0.00199		0.00199	
	(0.00599)		(0.00599)	
1.Indirect_Domestic#c.HHsize	-0.0147		-0.0147	
	(0.0113)		(0.0113)	
0b.Indirect_Domestic#c.Education	0.00653		0.00653	
	(0.0109)		(0.0109)	
1.Indirect_Domestic#c.Education	0.00425		0.00425	
	(0.0255)		(0.0255)	

1.Know_anybodylossland#0b.Indirect_Domestic	0.0864	0.0864
	(0.0986)	(0.0986)
1.Know_anybodylossland#1.Indirect_Domestic	-0.230	-0.230
	(0.211)	(0.211)
1.Social_group#0b.Indirect_Domestic	-0.399*	-0.399*
	(0.2163)	(0.2163)
1.Social_group#1.Indirect_Domestic	-0.361*	-0.361*
	(0.213)	(0.213)
1.Access_good_roads#0b.Indirect_Domestic	0.0802	0.0802
	(0.0953)	(0.0953)
1.Access_good_roads#1.Indirect_Domestic	-0.193	-0.193
	(0.198)	(0.198)
1.Credit_access#0b.Indirect_Domestic	0.0729	0.0729
	(0.0929)	(0.0929)
1.Credit_access#1.Indirect_Domestic	-0.312*	-0.312*
	(0.188)	(0.188)
1.Good_fertile#0b.Indirect_Domestic	-0.626***	-0.626***
	(0.1940)	(0.1940)
1.Good_fertile#1.Indirect_Domestic	-0.572***	-0.572***
	(0.201)	(0.201)
1.Moderate_fertile#0b.Indirect_Domestic	-0.558***	-0.558***
	(0.124)	(0.124)
1.Moderate_fertile#1.Indirect_Domestic	-0.751***	-0.751***
	(0.230)	-0.626***
1.Fert_subsidy#0b.Indirect_Domestic	0.596***	0.596***
	(0.1968)	(0.1968)
1.Fert_subsidy#1.Indirect_Domestic	-0.327*	-0.327*
	(0.188)	(0.188)
1.Sagnarigu#0b.Indirect_Domestic	-0.266	-0.266
	(0.299)	(0.299)
1.Sagnarigu#1.Indirect_Domestic	-0.498	-0.498
	(0.431)	(0.431)
1.Mion#0b.Indirect_Domestic	0.778**	0.778**

	(0.319)	(0.319)
1.Mion#1.Indirect_Domestic	-0.660***	-0.660***
	(0.126)	(0.126)
1.Centralgonja#0b.Indirect_Domestic	0.00834	0.00834
	(0.324)	(0.324)
1.Centralgonja#1.Indirect_Domestic	-0.217	-0.217
	(0.431)	(0.431)
1.Savalegu#0b.Indirect_Domestic	-0.422*	-0.422*
	(0.217)	(0.217)
1.Savalegu#1.Indirect_Domestic	-0.434***	-0.434***
	(0.124)	(0.124)
1.Yagbakubori#0b.Indirect_Domestic	-0.0742	-0.0742
	(0.302)	(0.302)
1.Yagbakubori#1.Indirect_Domestic	-0.210	-0.210
	(0.435)	(0.435)
Gender	0.335	
	(0.224)	
Age_HHH	0.15711***	
	(0.04911)	
HHsize	0.00758	
	(0.00831)	
Education	-0.0197	
	(0.0160)	
Know_anybodylossland	0.104***	
	(0.033)	
Social_group	0.814***	
	(0.132)	
Access_good_roads	0.177	
	(0.127)	
Credit_access	-0.241**	
	(0.122)	
Good_fertile	-0.0749	
	(0.127)	

Moderate_fertile		-0.0819		
		(0.167)		
Perception_tenure_security		-0.166		
		(0.163)		
Fert_subsidy		-0.0726		
		(0.131)		
Sagnarigu		0.550***		
		(0.122)		
Mion		0.746***		
		(0.137)		
Centralgonja		1.016*		
		(0.520)		
Savalegu		0.581		
		(0.509)		
Yagbakubori		0.542		
		(0.527)		
Access_formal_landinstite		-1.410***		
		(0.240)		
corr(e.Indirect_Domestic,e.oderedLIT)				0.533***
				(0.184)
Constant		-1.668***		
		(0.604)		
Observations	661	661	661	661

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1