

A Online Appendix

A.1 Non-interacted models

Table 3: Estimation results for perceived labor market risks
Non-interacted model

	Posterior Mean	95% CI	CI excludes 0	NEFF
Education	0.07	[0.06,0.09]	✓	4,000
Local development	0.06	[0.03,0.09]	✓	4,000
Age	-0.01	[-0.01,-0.01]	✓	4,000
Female	-0.06	[-0.10,-0.03]	✓	4,000
Urban	-0.13	[-0.19,-0.07]	✓	4,000
Unemployment	0.00	[-0.04,0.04]	✗	4,000
Ethnic grievances	0.03	[-0.01,0.08]	✗	4,000
Media consumption	0.03	[0.02,0.04]	✓	4,000
Services (EA)	0.02	[0.01,0.04]	✓	4,000
Infrastructure (EA)	0.09	[0.07,0.11]	✓	4,000
Conflict (EA)	-0.14	[-0.25,-0.03]	✓	4,000
<i>Observations</i>	94,053			
<i>Max. \hat{R}</i>	1.02			

Local development based on night lights in 30km buffer zones.

Table 4: Estimation results for living conditions
Non-interacted model

	Posterior Mean	95% CI	CI excludes 0	NEFF
Education	0.08	[0.07,0.09]	✓	4,000
Local development	-0.06	[-0.09,-0.03]	✓	2,374
Age	-0.01	[-0.01,-0.01]	✓	4,000
Female	0.08	[0.05,0.11]	✓	4,000
Urban	0.05	[0.00,0.10]	✗	3,053
Unemployment	-0.09	[-0.12,-0.05]	✓	4,000
Ethnic grievances	-0.28	[-0.31,-0.25]	✓	4,000
Media consumption	0.07	[0.07,0.08]	✓	4,000
Services (EA)	-0.01	[-0.03,0.00]	✗	4,000
Infrastructure (EA)	0.04	[0.02,0.05]	✓	3,269
Conflict (EA)	-0.06	[-0.15,0.03]	✗	2,961
τ_1	-0.32	[-0.49,-0.17]		137
τ_2	1.29	[1.13,1.45]		136
τ_3	2.28	[2.12,2.44]		137
τ_4	4.72	[4.55,4.88]		143
<i>Observations</i>	94,475			
<i>Max. \hat{R}</i>	1.01			

Local development based on night lights in 30km buffer zones.

A.2 Labor market risks: Alternative operationalization

Table 5: Estimation results for perceived labor market risks
1st, 2nd, and 3rd most pressing problem

	Posterior Mean	95% CI	CI excludes 0	NEFF
Education	0.13	[0.12,0.14]	✓	3,911
Local Development	0.40	[0.36,0.45]	✓	3,456
Education *Local development	-0.07	[-0.08,-0.06]	✓	3,838
Age	-0.01	[-0.01,-0.01]	✓	4,147
Female	-0.05	[-0.09,-0.02]	✓	7,061
Urban	-0.22	[-0.28,-0.16]	✓	4,208
Unemployment	-0.03	[-0.07,0.02]	✗	5,771
Ethnic Grievances	-0.03	[-0.07,0.01]	✗	5,829
Media Consumption	0.03	[0.02,0.03]	✓	6,892
Services (EA)	0.03	[0.01,0.04]	✓	4,295
Infrastructure (EA)	0.12	[0.1,0.14]	✓	4,481
Conflict (EA)	-0.10	[-0.2,0.01]	✓	4,493
<i>Observations</i>	86,667			
<i>Max. \hat{R}</i>	1.01			

Local development based on night lights in 30km buffer zones.

A.3 Comparison to national development levels

Table 6: Estimation results for perceived labor market risks
Difference to country development levels

	Posterior Mean	95% CI	CI excludes 0	NEFF
Education	0.10	[0.09,0.11]	✓	4,000
Diff. to nat. development	0.03	[0.02,0.03]	✓	4,000
Education *Diff. to nat. development	-0.01	[-0.01,-0.01]	✓	4,000
Age	-0.01	[-0.01,-0.01]	✓	4,000
Female	-0.06	[-0.10,-0.03]	✓	4,000
Urban	-0.17	[-0.23,-0.12]	✓	4,000
Unemployment	0.00	[-0.04,0.05]	✗	4,000
Ethnic grievances	0.03	[-0.01,0.08]	✗	4,000
Media consumption	0.03	[0.02,0.04]	✓	4,000
Services (EA)	0.02	[0.00,0.04]	✗	4,000
Infrastructure (EA)	0.10	[0.07,0.12]	✓	4,000
Conflict (EA)	-0.15	[-0.26,-0.04]	✓	4,000
<i>Observations</i>	94,053			
<i>Max. \hat{R}</i>	1.02			

Difference between mean night light in 30km zones and country mean.

Table 7: Estimation results for living conditions
Difference to country development levels

	Posterior Mean	95% CI	CI excludes 0	NEFF
Education	0.07	[0.06,0.08]	✓	4,000
Diff. to nat. Development	-0.02	[-0.03,-0.01]	✓	4,000
Education *Diff. to nat. development	0.00	[0.00,0.01]	✗	4,000
Age	-0.01	[-0.01,-0.01]	✓	4,000
Female	0.08	[0.05,0.11]	✓	4,000
Urban	0.07	[0.02,0.12]	✓	4,000
Unemployment	-0.09	[-0.12,-0.06]	✓	4,000
Ethnic grievances	-0.28	[-0.31,-0.25]	✓	4,000
Media consumption	0.07	[0.07,0.08]	✓	4,000
Services (EA)	-0.01	[-0.02,0.00]	✗	4,000
Infrastructure (EA)	0.03	[0.02,0.05]	✓	4,000
Conflict (EA)	-0.06	[-0.15,0.03]	✗	4,000
τ_1	-0.32	[-0.48,-0.15]		217
τ_2	1.30	[1.14,1.47]		216
τ_3	2.29	[2.12,2.45]		216
τ_4	4.73	[4.56,4.90]		225
<i>Observations</i>	94,475			
<i>Max. \hat{R}</i>	1.01			

Difference between mean night light in 30km zones and country mean.

A.4 Changing local development

Table 8: Estimation results for perceived labor market risks
Economic growth

	Posterior Mean	95% CI	CI excludes 0	NEFF
Education	0.75	[0.49,0.99]	✓	1,451
Local growth	1.46	[0.94,1.95]	✓	1,420
Education *Local growth	-0.27	[-0.36,-0.17]	✓	1,448
Age	-0.01	[-0.01,-0.01]	✓	4,000
Female	-0.06	[-0.10,-0.02]	✓	4,000
Urban	-0.16	[-0.22,-0.09]	✓	2,635
Unemployment	0.00	[-0.05,0.04]	✗	4,000
Ethnic grievances	0.03	[-0.01,0.08]	✗	4,000
Media consumption	0.03	[0.02,0.04]	✓	4,000
Services (EA)	0.02	[0.00,0.04]	✗	4,000
Infrastructure (EA)	0.10	[0.08,0.12]	✓	2,601
Conflict (EA)	-0.15	[-0.27,-0.03]	✓	4,000
<i>Observations</i>	87,710			
<i>Max. \hat{R}</i>	1.03			

Local growth based on 3 year change in in 30km buffer zones.

Table 9: Estimation results for living conditions
Economic growth

	Posterior Mean	95% CI	CI excludes 0	NEFF
Education	-0.42	[-0.62,-0.20]	✓	4,000
Local growth	-1.00	[-1.44,-0.57]	✓	4,000
Education *Local growth	0.20	[0.11,0.28]	✓	4,000
Age	-0.01	[-0.01,-0.01]	✓	4,000
Female	0.07	[0.05,0.10]	✓	4,000
Urban	0.08	[0.03,0.13]	✓	4,000
Unemployment	-0.09	[-0.12,-0.06]	✓	4,000
Ethnic grievances	-0.29	[-0.32,-0.26]	✓	4,000
Media consumption	0.07	[0.07,0.08]	✓	4,000
Services (EA)	-0.01	[-0.02,0.00]	✗	4,000
Infrastructure (EA)	0.03	[0.02,0.05]	✓	4,000
Conflict (EA)	-0.05	[-0.14,0.04]	✗	4,000
τ_1	-2.80	[-3.89,-1.72]		4,000
τ_2	-1.19	[-2.27,-0.11]		4,000
τ_3	-0.19	[-1.28,0.88]		4,000
τ_4	2.25	[1.15,3.33]		4,000
<i>Observations</i>	88,122			
<i>Max. \hat{R}</i>	1.01			

Local growth based on 3 year change in in 30km buffer zones.

A.5 Different sources of night light

The empirical strategy of the paper relies on the assumption that night lights are well suited to capture different economic development levels and the accompanying structural transformation state of the economy. However, using night lights as a proxy for economic development implies uncertainties regarding the type of economic activity actually emitting nighttime illumination, and the danger of potential over- or underestimation of economic activity in certain regions. Overestimation of economic activity could particularly apply to light intensive extraction of natural resources. The problem of natural resource extraction, especially oil and gas extraction, is that these economic activities generally provide few and mostly low-skilled employment opportunities (?). In contrast, the production processes of these industries constantly produce substantial illumination, which I use as an indicator for thriving environments in my analysis.

To account for this problem, I exclude all respondents living in environments with active onshore oil and gas deposits.¹² The results based on this restricted sample corroborate the findings from the full sample (see *Tables 10* and *11*). Again, higher local development levels lead to more economic insecurities and exert a negative effect on perceived living conditions for people with low education. Both effects turn for highly educated individuals who feel less insecure and are more satisfied with their living conditions when living in thriving environments.

¹² Data on the location of onshore oil and gas deposits is taken from the Petroleum Dataset provided by PRIO (?).

Table 10: Estimation results for perceived labor market risks
Excluding petroleum locations

	Posterior Mean	95% CI	CI excludes 0	NEFF
Education	0.14	[0.12,0.16]	✓	4,000
Local development	0.35	[0.30,0.40]	✓	3,398
Education *Local development	-0.08	[-0.09,-0.07]	v	3,514
Age	-0.01	[-0.01,-0.01]	✓	4,000
Female	-0.06	[-0.10,-0.02]	✓	4,000
Urban	-0.14	[-0.20,-0.08]	✓	4,000
Unemployment	0.02	[-0.03,0.06]	✗	4,000
Ethnic grievances	0.04	[-0.01,0.08]	✗	4,000
Media consumption	0.03	[0.02,0.04]	✓	4,000
Services (EA)	0.02	[0.00,0.03]	✗	4,000
Infrastructure (EA)	0.09	[0.07,0.11]	✓	4,000
Conflict (EA)	-0.16	[-0.28,-0.05]	✓	4,000
<i>Observations</i>	89,912			
<i>Max. \hat{R}</i>	1.01			

Excluding respondents from enumeration areas intersecting with onshore petroleum fields.

Table 11: Estimation results for living conditions
Excluding petroleum locations

	Posterior Mean	95% CI	CI excludes 0	NEFF
Education	0.06	[0.04,0.07]	✓	4,000
Local development	-0.21	[-0.25,-0.16]	✓	2,580
Education *Local development	0.04	[0.03,0.05]	✓	4,000
Age	-0.01	[-0.01,-0.01]	✓	4,000
Female	0.08	[0.05,0.11]	✓	4,000
Urban	0.06	[0.01,0.10]	✓	2,323
Unemployment	-0.09	[-0.13,-0.06]	✓	4,000
Ethnic grievances	-0.29	[-0.32,-0.26]	✓	4,000
Media consumption	0.07	[0.07,0.08]	✓	4,000
Service (EA)	-0.01	[-0.02,0.01]	✗	4,000
Infrastructure (EA)	0.03	[0.01,0.05]	✓	2,282
Conflict (EA)	-0.05	[-0.13,0.04]	✗	3,025
τ_1	-0.39	[-0.56,-0.23]		228
τ_2	1.23	[1.07,1.39]		227
τ_3	2.20	[2.04,2.37]		227
τ_4	4.64	[4.48,4.81]		237
<i>Observations</i>	90,321			
<i>Max. \hat{R}</i>	1.02			

Excluding respondents from enumeration areas intersecting with onshore petroleum fields.

A.6 Varying sizes of local economic environments

To substantiate the heterogeneous, skill dependent effects of local economic conditions, I re-estimate all models with differently sized local environments. The results of the main analysis relying on a 30km radius are robust to a specification with a 10km (Table 13 and 15), a 50km (14 and 17) and a dynamic radius (Table 12 and 15). Dynamic buffer zones are calculated using information on the accessibility of respondents' location. ? provide global accessibility raster data with information on travel time to cities. Buffer zones were scaled from 10 to 100km based on the accessibility values of the raster of the enumeration area.

Table 12: Estimation results for perceived labor market risks
Dynamic buffers

	Posterior Mean	95% CI	CI excludes 0	NEFF
Education	0.14	[0.12,0.15]	✓	4,000
Local development	0.35	[0.30,0.41]	✓	4,000
Education *Local development	-0.07	[-0.08,-0.06]	✓	4,000
Age	-0.01	[-0.01,-0.01]	✓	4,000
Female	-0.07	[-0.10,-0.03]	✓	4,000
Urban	-0.13	[-0.19,-0.07]	✓	4,000
Unemployment	0.01	[-0.03,0.05]	✗	4,000
Ethnic grievances	0.03	[-0.01,0.08]	✗	4,000
Media consumption	0.03	[0.02,0.04]	✓	4,000
Services (EA)	0.02	[0.01,0.04]	✓	4,000
Infrastructure (EA)	0.09	[0.06,0.11]	✓	4,000
Conflict (EA)	-0.14	[-0.26,-0.04]	✓	4,000
<i>Observations</i>	94,053			
<i>Max. \hat{R}</i>	1.03			

Local development based on night lights in dynamic buffer zones.

Table 13: Estimation results for perceived labor market risks
10km buffers

	Posterior Mean	95% CI	CI excludes 0	NEFF
Education	0.14	[0.12,0.15]	✓	4,000
Local development	0.24	[0.20,0.28]	✓	3,323
Education *Local development	-0.05	[-0.06,-0.04]	✓	4,000
Age	-0.01	[-0.01,-0.01]	✓	4,000
Female	-0.07	[-0.10,-0.03]	✓	4,000
Urban	-0.10	[-0.17,-0.04]	✓	3,612
Unemployment	0.01	[-0.03,0.05]	✗	4,000
Ethnic grievances	0.03	[-0.01,0.08]	✗	4,000
Media consumption	0.03	[0.02,0.04]	✓	4,000
Services (EA)	0.02	[0.01,0.04]	✓	4,000
Infrastructure (EA)	0.09	[0.06,0.11]	✓	4,000
Conflict (EA)	-0.15	[-0.26,-0.04]	✓	4,000
<i>Observations</i>	94,053			
<i>Max. \hat{R}</i>	1.0			

Local development based on night lights in 10km buffer zones.

Table 14: Estimation results for perceived labor market risks
50km buffers

	Posterior Mean	95% CI	CI excludes 0	NEFF
Education	0.14	[0.13,0.16]	✓	4,000
Local development	0.42	[0.36,0.49]	✓	4,000
Education *Local development	-0.09	[-0.10,-0.07]	✓	4,000
Age	-0.01	[-0.01,-0.01]	✓	4,000
Female	-0.07	[-0.10,-0.03]	✓	4,000
Urban	-0.13	[-0.19,-0.07]	✓	4,000
Unemployment	0.01	[-0.03,0.05]	✗	4,000
Ethnic grievances	0.04	[-0.01,0.08]	✗	4,000
Media consumption	0.03	[0.02,0.04]	✓	4,000
Services (EA)	0.02	[0.01,0.04]	✓	4,000
Infrastructure (EA)	0.09	[0.06,0.11]	✓	4,000
Conflict (EA)	-0.14	[-0.25,-0.03]	✓	4,000
<i>Observations</i>	94,053			
<i>Max. \hat{R}</i>	1.02			

Local development based on night lights in 50km buffer zones.

Table 15: Estimation results for living conditions
Dynamic buffers

	Posterior Mean	95% CI	CI excludes 0	NEFF
Education	0.06	[0.05,0.07]	✓	4,000
Local development	-0.20	[-0.24,-0.16]	✓	2,173
Education *Local development	0.03	[0.03,0.04]	✓	2,910
Age	-0.01	[-0.01,-0.01]	✓	4,000
Female	0.08	[0.05,0.11]	✓	4,000
Urban	0.05	[0.00,0.10]	✗	2,798
Unemployment	-0.09	[-0.12,-0.06]	✓	4,000
Ethnic grievances	-0.28	[-0.31,-0.25]	✓	4,000
Media consumption	0.07	[0.07,0.08]	✓	4,000
Services (EA)	-0.01	[-0.02,0.00]	✗	3,474
Infrastructure (EA)	0.04	[0.02,0.05]	✓	3,251
Conflict (EA)	-0.06	[-0.15,0.03]	✗	3,098
τ_1	-0.41	[-0.57,-0.25]		195
τ_2	1.21	[1.05,1.37]		194
τ_3	2.20	[2.04,2.35]		195
τ_4	4.64	[4.47,4.80]		204
<i>Observations</i>	94,475			
<i>Max. \hat{R}</i>	1.03			

Local Development based on night lights in dynamic buffer zones.

Table 16: Estimation results for living conditions
10km buffers

	Posterior Mean	95% CI	CI excludes 0	NEFF
Education	0.06	[0.05,0.07]	✓	4,000
Local development	-0.11	[-0.14,-0.08]	✓	2,205
Education *Local development	0.02	[0.01,0.03]	✓	4,000
Age	-0.01	[-0.01,-0.01]	✓	3,627
Female	0.08	[0.05,0.10]	✓	4,000
Urban	0.04	[-0.01,0.09]	✗	2,944
Unemployment	-0.09	[-0.12,-0.06]	✓	4,000
Ethnic grievances	-0.28	[-0.31,-0.25]	✓	4,000
Media consumption	0.07	[0.07,0.08]	✓	4,000
Services (EA)	-0.01	[-0.02,0.00]	✗	3,167
Infrastructure (EA)	0.04	[0.02,0.06]	✓	3,034
Conflict (EA)	-0.06	[-0.14,0.03]	✗	2,916
τ_1	-0.39	[-0.56,-0.23]		111
τ_2	1.23	[1.06,1.39]		112
τ_3	2.21	[2.04,2.38]		112
τ_4	4.65	[4.48,4.82]		117
<i>Observations</i>	94,475			
<i>Max. \hat{R}</i>	1.04			

Local development based on night lights in 10km buffer zones.

Table 17: Estimation results for living conditions
50km buffers

	Posterior Mean	95% CI	CI excludes 0	NEFF
Education	0.06	[0.05,0.07]	✓	4,000
Local development	-0.23	[-0.29,-0.18]	✓	2,312
Education *Local development	0.04	[0.03,0.05]	✓	3,158
Age	-0.01	[-0.01,-0.01]	✓	4,000
Female	0.08	[0.05,0.11]	✓	4,000
Urban	0.05	[0.00,0.10]	✗	2,615
Unemployment	-0.09	[-0.12,-0.06]	✓	4,000
Ethnic grievances	-0.28	[-0.31,-0.25]	✓	4,000
Media consumption	0.07	[0.07,0.08]	✓	4,000
Services (EA)	-0.01	[-0.03,0.00]	✗	4,000
Infrastructure (EA)	0.04	[0.02,0.06]	✓	3,149
Conflict (EA)	-0.06	[-0.15,0.03]	✗	3,194
τ_1	-0.41	[-0.56,-0.24]		209
τ_2	1.21	[1.05,1.38]		206
τ_3	2.20	[2.04,2.37]		183
τ_4	4.64	[4.47,4.81]		153
Observations	94,475			
Max. \hat{R}	1.03			

Local development based on night lights in 50km buffer zones.

Different sizes for local economic environments only slightly change the estimates of the main model, based on 30km buffer zones. The effects are a bit weaker for the 10km zones and somewhat stronger for the environments with a 50km radius. Relying on dynamic buffers, which take into account how easy it is to reach the location of the respondent, produces almost identical estimates. This corroborates the main findings and the theoretical argument that *local* economic conditions in conjunction with educational attainments impact how people perceive their welfare.

The robustness checks performed here in terms of model specification, differently sized local economic environments and the exclusion of respondents living in proximity to light intensive but low-employment economic activities, all confirm the main findings: the effect of higher economic development is conditional on people's educational achievements. There is no positive trend in perceived economic welfare for everyone. The winners of economic

development are the highly educated who can profit in terms of less labor market insecurity and more favorable perceptions of their living conditions. The least and less educated are decoupled from high economic development levels in their immediate surroundings.

A.7 Non-hierarchical, frequentist models

Table 18

	<i>Dependent variable:</i>			
	Labor market insecurity		Living conditions	
	(1)	(2)	(3)	(4)
Education	0.02* (0.001)	0.02* (0.001)	0.04* (0.003)	0.04* (0.003)
Local development	0.04* (0.004)	-0.001 (0.03)	-0.08* (0.01)	0.11 (0.09)
Education * Local development	-0.01* (0.001)	-0.005* (0.001)	0.02* (0.002)	0.01* (0.002)
Age	-0.001* (0.0001)	-0.001* (0.0001)	-0.005* (0.0003)	-0.004* (0.0003)
Female	-0.01* (0.002)	-0.01* (0.002)	0.05* (0.01)	0.05* (0.01)
Urban	-0.02* (0.004)	-0.05* (0.01)	0.04* (0.01)	0.01 (0.02)
Unemployed	0.04* (0.003)	0.04* (0.003)	-0.17* (0.01)	-0.15* (0.01)
Ethnic grievance	0.001 (0.003)	-0.001 (0.003)	-0.19* (0.01)	-0.16* (0.01)
Media consumption	0.005* (0.0005)	0.004* (0.001)	0.05* (0.001)	0.05* (0.001)
Service (EA)	0.004* (0.001)		-0.003 (0.003)	
Infrastructure (EA)	0.01* (0.002)		0.02* (0.005)	
Conflict (EA)	-0.02* (0.01)		-0.02 (0.02)	
Country-Year FE	Yes	Yes	Yes	Yes
Raster FE	Yes	X	Yes	X
EA FE	X	Yes	X	Yes
Observations	117,941	125,687	118,575	126,353
R ²	0.13	0.23	0.14	0.26

Note: Standard errors clustered on survey cluster; † $p < 0.1$, * $p < 0.05$

A.8 Posterior distributions main models

Figure 6: Posterior Distributions for perceived labor market risks (means & 50% probability mass)

Figure 7: Posterior distributions for living conditions (means & 50% probability mass)