

COUNTRY EXPOSURE MODEL

Review main statistic of a exposure model and create summaries for a given Country.

/home/risk/venvs/py38w/lib/python3.8/site-packages/geopandas/_compat.py:111: UserWarning: The Shapely GEOS version (3.9.1-CAPI-1.14.2) is incompatible with the GEOS version PyGEOS was compiled with (3.10.1-CAPI-1.16.0). Conversions between both will be slow.
warnings.warn(

```
# Parameters
country = "Togo"
```

Exposure files:
Exposure_Com_Togo.csv
Exposure_Ind_Togo.csv
Exposure_Res_Togo.csv

Sanity checks and formats

Togo
Exposure/Exposure/Exposure_Com_Togo.csv
Exposure/Exposure/Exposure_Ind_Togo.csv
Exposure/Exposure/Exposure_Res_Togo.csv
Occupants / Dwellings = 4.4
Reference avg household size (2019) = 4.47
Population (exposure / UN_2021) = 0.97
Exposure models OK

Exposure at National level

Summary by occupancy type

	OCCUPANTS	BUILDINGS	COST_USD	BUILDINGS_%	COST_USD_%
OCCUPANCY					
Res	8.3M	1,777.7K	\$17,214.5M	96.08%	85.15%
Ind	0.0M	20.1K	\$1,055.5M	1.09%	5.22%
Com	0.0M	52.5K	\$1,946.5M	2.84%	9.63%

Other metrics to consider

	AREA_SQM	COST_BUILDING_USD	AVG_BUILDING_AREA_SQM	AVG_COST_PER_AREA_USD
OCCUPANCY				
Total	156.9M	\$16,429.0M	85	\$129
Res	141.4M	\$14,284.5M	80	\$122
Ind	5.7M	\$695.4M	285	\$184
Com	9.8M	\$1,449.1M	187	\$199

Exposure summary at Admin level 1

	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
NAME_1						
Maritime Region	\$9,111.9M	833.9K	3,718.5K	45.07%	45.07%	45.07%
Plateaux Region	\$4,143.4M	379.2K	1,691.0K	20.49%	20.49%	20.49%
Savanes Region	\$2,797.0M	256.0K	1,141.7K	13.84%	13.84%	13.84%
Kara Region	\$2,198.1M	201.2K	897.3K	10.87%	10.87%	10.87%
Centrale Region	\$1,966.1M	180.0K	802.6K	9.73%	9.73%	9.73%

Exposure by simplified taxonomy

Adding `MACRO_TAXO` column

	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
MACRO_TAXO						
ADO/E	\$7,212.8M	682.0K	3,018.2K	35.68%	36.86%	36.58%
MUR	\$6,659.7M	484.8K	2,186.5K	32.94%	26.20%	26.50%
W	\$4,354.0M	561.6K	2,452.9K	21.54%	30.35%	29.73%
RC	\$800.6M	24.9K	155.4K	3.96%	1.35%	1.88%
MCF	\$653.7M	31.0K	155.4K	3.23%	1.67%	1.88%
S	\$351.4M	5.0K	0.0K	1.74%	0.27%	0.00%
OT	\$184.3M	60.9K	282.7K	0.91%	3.29%	3.43%

Exposure by taxonomy

Showing only taxonomies that represent 90% of the total `COST_USD`

		COST_USD	BUILDINGS	COST_USD_%	BUILDINGS_%
MACRO_TAXO	TAXONOMY				
ADO/E	MUR+ADO/LWAL+CDN/H:2/RES	\$3,503.3M	285,781	19.28%	16.07%
W	W+WWD/LWAL+CDN/H:1/RES	\$2,269.8M	375,304	12.49%	21.11%
ADO/E	MUR+ADO/LWAL+CDN/H:1/RES	\$2,127.2M	293,107	11.71%	16.49%
MUR	MUR+CB/LWAL+CDN/H:2/RES	\$1,891.2M	138,848	10.41%	7.81%
W	W+WWD/LWAL+CDN/H:2/RES	\$1,602.0M	156,824	8.82%	8.82%
	MUR+CB/LWAL+CDN/H:1/RES	\$1,148.4M	142,407	6.32%	8.01%
MUR	MUR+CL/LWAL+CDN/H:2/RES	\$802.5M	58,914	4.42%	3.31%
	MUR+CL/LWAL+CDN/H:1/RES	\$487.3M	60,425	2.68%	3.40%
	MUR+ADO/LWAL+CDN/HBET:3-6/RES	\$463.2M	3,856	2.55%	0.22%
ADO/E	MUR+ADO/LWAL+CDN/H:2/COM	\$425.3M	9,371	2.34%	0.53%
	MUR+ADO/LWAL+CDN/H:1/COM	\$414.2M	18,746	2.28%	1.05%
MUR	MUR+STDRE/LWAL+CDN/H:2/RES	\$278.4M	20,441	1.53%	1.15%
RC	CR/LFINF+CDL/H:3/RES	\$260.9M	8,825	1.44%	0.50%
	MUR+CB/LWAL+CDN/HBET:3-6/RES	\$250.0M	1,874	1.38%	0.11%
MUR	MUR+CB/LWAL+CDN/H:2/COM	\$244.7M	4,312	1.35%	0.24%
	MUR+CB/LWAL+CDN/H:1/IND	\$239.9M	6,918	1.32%	0.39%
	MUR+CB/LWAL+CDN/H:1/COM	\$238.3M	8,627	1.31%	0.49%
ADO/E	EWV/LN+CDN/H:1/RES	\$213.9M	70,739	1.18%	3.98%
RC	CR/LFINF+CDL/H:2/RES	\$212.4M	11,046	1.17%	0.62%
MCF	MCF+CB/LWAL+CDL/H:2/RES	\$197.8M	9,682	1.09%	0.54%
W	W/LWAL+CDL/H:2/RES	\$189.7M	11,608	1.04%	0.65%
MUR	MUR+CB/LWAL+CDN/H:2/IND	\$174.4M	2,308	0.96%	0.13%
	MUR+STDRE/LWAL+CDN/H:1/RES	\$169.1M	20,965	0.93%	1.18%
OT	ME+MEO/LWAL+CDN/H:1/RES	\$128.2M	42,383	0.71%	2.38%
MCF	MCF+CB/LWAL+CDL/H:1/RES	\$120.1M	9,930	0.66%	0.56%
W	W/LWAL+CDL/H:3/RES	\$116.6M	4,637	0.64%	0.26%