

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 S
hapely GEOS version (3.9.1-CAPI-1.14.2) is incompatible with the GEOS version PyGEOS was compil
ed with (3.10.0-CAPI-1.16.0). Conversions between both will be slow.
warnings.warn(
```

```
# Parameters
country = "Cape_Verde"
```

Exposure files:
Exposure_Com_Cape_Verde.csv
Exposure_Ind_Cape_Verde.csv
Exposure_Res_Cape_Verde.csv

Sanity checks and formats

Cape_Verde
../Exposure/Africa/Exposure_Com_Cape_Verde.csv
../Exposure/Africa/Exposure_Ind_Cape_Verde.csv
../Exposure/Africa/Exposure_Res_Cape_Verde.csv
Occupants / Dwellings = 4.1
Reference avg household size (2019) = 4.2
Population (exposure / UN_2021) = 0.98
Exposure models OK

Exposure at National level

Summary by occupancy type

	OCCUPANTS	BUILDINGS	COST_USD	BUILDINGS_%	COST_USD_%
OCCUPANCY					
Res	552.6K	127,168	\$2,309.5M	94.42%	70.30%
Ind	0.0K	1,767	\$333.9M	1.31%	10.16%
Com	0.0K	5,753	\$641.7M	4.27%	19.53%

Other metrics to consider

	AREA_SQM	COST_BUILDING_USD	COST_PER_CAPITA	AVG_BUILDING_AREA_SQM	AVG_COST_PE
OCCUPANCY					
Total	14,477.0K	\$2,592.1M	\$5,945	107	
Res	10,225.2K	\$1,863.8M	\$4,180	80	
Ind	1,685.7K	\$236.1M	\$604	954	
Com	2,566.1K	\$492.2M	\$1,161	446	

Exposure summary at Admin level 1

	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
NAME_1						
São Lourenço dos Órgãos	\$832.2M	33,046	135.7K	25.33%	24.54%	24.56%
São Vicente	\$535.0M	21,287	87.4K	16.28%	15.80%	15.82%
Tarrafal	\$285.9M	11,448	47.0K	8.70%	8.50%	8.51%
Santa Catarina	\$263.1M	10,564	43.4K	8.01%	7.84%	7.85%
São Salvador do Mundo	\$164.1M	6,730	27.6K	4.99%	5.00%	4.99%
Ribeira Grande	\$145.7M	5,994	24.6K	4.44%	4.45%	4.46%
Sal	\$138.1M	5,694	23.4K	4.21%	4.23%	4.24%
Santa Catarina do Fogo	\$135.7M	5,602	23.0K	4.13%	4.16%	4.16%
Boa Vista	\$117.8M	4,907	20.1K	3.59%	3.64%	3.64%
Paul	\$110.4M	4,620	18.9K	3.36%	3.43%	3.43%
Praia	\$94.0M	3,976	16.3K	2.86%	2.95%	2.94%
São Domingos	\$79.8M	3,410	13.9K	2.43%	2.53%	2.52%
Ribeira Grande de Santiago	\$51.2M	2,274	9.3K	1.56%	1.69%	1.68%
Santa Cruz	\$50.0M	2,219	9.1K	1.52%	1.65%	1.65%
São Filipe	\$42.6M	1,929	7.9K	1.30%	1.43%	1.43%
Ribeira Brava	\$41.7M	1,893	7.7K	1.27%	1.41%	1.40%
Mosteiros	\$41.0M	1,864	7.6K	1.25%	1.38%	1.38%
São Miguel	\$36.8M	1,683	6.9K	1.12%	1.25%	1.25%
Maio	\$35.8M	1,631	6.7K	1.09%	1.21%	1.21%
Porto Novo	\$30.3M	1,389	5.7K	0.92%	1.03%	1.03%
Brava	\$27.7M	1,290	5.2K	0.84%	0.96%	0.95%
Tarrafal de São Nicolau	\$26.3M	1,238	5.0K	0.80%	0.92%	0.91%

Exposure by simplified taxonomy

Adding `MACRO_TAXO` column						
	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
MACRO_TAXO						
MUR	\$1,362.6M	45,415	180.2K	41.48%	33.72%	32.60%
ADO/E	\$969.4M	44,306	182.9K	29.51%	32.90%	33.10%
W	\$397.5M	31,405	132.8K	12.10%	23.32%	24.03%
RC	\$258.5M	3,187	15.9K	7.87%	2.37%	2.88%
MCF	\$163.2M	3,849	15.8K	4.97%	2.86%	2.87%
S	\$105.3M	436	0.0K	3.21%	0.32%	0.00%
OT	\$28.5M	6,090	25.0K	0.87%	4.52%	4.52%

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	\$408.9M	18,478	13.89%
MUR	MUR+CB/LWAL+CDN/H:2/RES	\$309.5M	12,285	10.51%
ADO/E	MUR+ADO/LWAL+CDN/H:1/RES	\$248.3M	18,947	8.43%
W	W+WWD/LWAL+CDN/H:1/RES	\$208.1M	20,923	7.07%
MUR	MUR+CB/LWAL+CDN/H:1/RES	\$187.9M	12,599	6.38%
ADO/E	MUR+ADO/LWAL+CDN/H:2/COM	\$157.9M	1,272	5.36%
W	W+WWD/LWAL+CDN/H:2/RES	\$146.9M	8,744	4.99%
	MUR+CL/LWAL+CDN/H:2/RES	\$138.7M	5,506	4.71%
	MUR+CB/LWAL+CDN/H:2/COM	\$115.6M	770	3.92%
MUR	MUR+CB/LWAL+CDN/H:1/IND	\$90.9M	596	3.09%
	MUR+CL/LWAL+CDN/H:1/RES	\$84.3M	5,648	2.86%
	MUR+STDRE/LWAL+CDN/H:2/RES	\$63.6M	2,528	2.16%
RC	CR/LFINF+CDL/H:3/RES	\$63.5M	1,090	2.16%
ADO/E	MUR+ADO/LWAL+CDN/HBET:3-6/RES	\$53.6M	252	1.82%
RC	CR/LFINF+CDL/H:2/RES	\$52.2M	1,363	1.77%
MUR	MUR+CL/LWAL+CDN/H:2/COM	\$49.6M	336	1.68%
S	S/LFM+CDL/H:1/IND	\$47.9M	212	1.63%
ADO/E	MUR+ADO/LWAL+CDN/HBET:3-6/COM	\$43.8M	132	1.49%
MCF	MCF+CB/LWAL+CDL/H:2/RES	\$42.7M	1,192	1.45%
	MUR+CB/LWAL+CDN/H:2/IND	\$40.0M	185	1.36%
MUR	MUR+CB/LWAL+CDN/HBET:3-6/RES	\$39.6M	166	1.34%
	MUR+STDRE/LWAL+CDN/H:1/RES	\$38.6M	2,591	1.31%
ADO/E	MUR+ADO/LWAL+CDN/H:1/COM	\$38.3M	1,268	1.30%
MUR	MUR+CL/LWAL+CDN/H:1/IND	\$36.9M	250	1.25%
RC	CR/LFINF+CDL/H:3/COM	\$32.5M	75	1.10%
MUR	MUR+CB/LWAL+CDN/HBET:3-6/COM	\$29.7M	74	1.01%
S	S+SL/LFM+CDL/H:1/IND	\$29.3M	131	0.99%
RC	CR/LFINF+CDL/HBET:4-7/RES	\$28.2M	50	0.96%
MUR	MUR+CB/LWAL+CDN/H:1/COM	\$27.9M	755	0.95%
MCF	MCF+CB/LWAL+CDL/H:1/RES	\$26.0M	1,226	0.88%
OT	ME+MEO/LWAL+CDN/H:1/RES	\$22.3M	4,758	0.76%
MUR	MUR+STDRE/LWAL+CDN/H:2/COM	\$21.4M	144	0.73%
RC	CR/LFINF+CDL/HBET:4-7/COM	\$20.1M	26	0.68%