

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 (3.10.1-CAPI-1.16.0). Conversions between both will be slow.
  warnings.warn(
```

```
# Parameters
country = "Trinidad_and_Tobago"
```

Exposure files:
Exposure_Com_Trinidad_and_Tobago.csv
Exposure_Ind_Trinidad_and_Tobago.csv
Exposure_Res_Trinidad_and_Tobago.csv

Sanity checks and formats

Trinidad_and_Tobago
Exposure/Exposure/Exposure_Com_Trinidad_and_Tobago.csv
Exposure/Exposure/Exposure_Ind_Trinidad_and_Tobago.csv
Exposure/Exposure/Exposure_Res_Trinidad_and_Tobago.csv
Occupants / Dwellings = 3.4
Reference avg household size (2019) = 3.3
WARNING - Check population:
Exposure population = 1115.0k
UN 2021 population = 1403.0k
Population (exposure / UN_2021) = 0.79
Exposure models OK

Exposure at National level

Summary by occupancy type

	OCCUPANTS	BUILDINGS	COST_USD	BUILDINGS_%	COST_USD_%
OCCUPANCY					
Res	1,114.8K	288.5K	\$34,939.3M	91.49%	77.18%
Ind	0.0K	20.0K	\$6,244.7M	6.35%	13.79%
Com	0.0K	6.8K	\$4,084.6M	2.16%	9.02%

Other metrics to consider

	AREA_SQM	COST_BUILDING_USD	AVG_BUILDING_AREA_SQM	AVG_COST_PER_AREA_USD
OCCUPANCY				
Total	41,546.3K	\$30,630.7M	132	\$1,090
Res	33,069.7K	\$24,897.8M	115	\$1,057
Ind	5,921.8K	\$3,244.9M	295	\$1,055
Com	2,554.8K	\$2,488.0M	375	\$1,599

Exposure summary at Admin level 1

	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
NAME_1						
Tunapuna/Piarco	\$6,739.8M	46.5K	170.8K	14.89%	14.73%	15.32%
San Juan-Laventille	\$6,175.8M	36.8K	136.8K	13.64%	11.66%	12.27%
Couva-Tabaquite-Talparo	\$5,339.4M	41.4K	152.5K	11.79%	13.14%	13.68%
Diego Martin	\$3,921.4M	24.3K	86.8K	8.66%	7.71%	7.79%
Port of Spain	\$3,470.2M	15.2K	38.0K	7.67%	4.82%	3.41%
Penal-Debe	\$2,636.1M	21.7K	77.8K	5.82%	6.89%	6.98%
Chaguanas	\$2,585.1M	17.0K	61.9K	5.71%	5.40%	5.55%
Princes Town	\$2,539.4M	22.7K	85.7K	5.61%	7.20%	7.69%
San Fernando	\$2,495.4M	14.5K	48.8K	5.51%	4.60%	4.38%
Siparia	\$2,394.7M	22.0K	77.0K	5.29%	6.98%	6.91%
Tobago	\$2,153.2M	14.5K	44.2K	4.76%	4.60%	3.96%
Sangre Grande	\$1,840.4M	16.3K	58.3K	4.07%	5.16%	5.23%
Arima	\$1,283.6M	8.2K	28.3K	2.84%	2.59%	2.54%
Mayaro/Rio Claro	\$919.8M	8.7K	30.3K	2.03%	2.74%	2.72%
Point Fortin	\$774.5M	5.5K	17.8K	1.71%	1.76%	1.59%

Exposure by simplified taxonomy

Adding `MACRO_TAXO` column

	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
MACRO_TAXO						
MCF	\$16,503.3M	51,660	175,734	36.46%	16.38%	15.76%
MR	\$10,582.0M	42,679	175,734	23.38%	13.53%	15.76%
MUR	\$4,915.5M	85,021	300,174	10.86%	26.96%	26.93%
S	\$4,663.2M	7,802	0	10.30%	2.47%	0.00%
W	\$4,614.8M	78,654	282,928	10.19%	24.94%	25.38%
RC	\$3,876.4M	47,131	171,561	8.56%	14.94%	15.39%
ADO/E	\$61.0M	1,311	4,606	0.13%	0.42%	0.41%
OT	\$52.4M	1,126	4,040	0.12%	0.36%	0.36%

Exposure by taxonomy

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

MACRO_TAXO	TAXONOMY	COST_USD	BUILDINGS	COST_USD_%	BUILDINGS_%
MCF	MCF/LWAL+CDL+DUL/HEX:2/RES	\$7,696.8M	22,047	19.23%	8.34%
MR	MR/LWAL+CDL+DUL/HEX:2/RES	\$7,696.8M	22,047	19.23%	8.34%
MCF	MCF/LWAL+CDL+DUL/HEX:1/RES	\$3,528.3M	18,192	8.82%	6.88%
MUR	MUR/LWAL+DNO/HEX:2/RES	\$2,883.0M	41,322	7.20%	15.63%
MCF	MCF/LWAL+CDL+DUL/HEX:1/IND	\$2,612.6M	4,998	6.53%	1.89%
MUR	MUR/LWAL+DNO/HEX:1/RES	\$2,032.5M	43,699	5.08%	16.53%
MR	MR/LWAL+CDL+DUL/HEX:1/RES	\$1,934.0M	18,192	4.83%	6.88%
S	S+SR/LFINF+CDM+DUM/HEX:1/IND	\$1,764.7M	507	4.41%	0.19%
W	W+WLI/LWAL+CDL+DUL/HEX:2/RES	\$1,240.1M	17,775	3.10%	6.73%
W	W+WS/LPB+CDL+DUL/HEX:1/RES	\$1,179.4M	25,357	2.95%	9.59%
W	W+WLI/LWAL+CDL+DUL/HEX:2/SOS/RES	\$1,023.3M	14,667	2.56%	5.55%
MCF	MCF/LWAL+CDL+DUL/HEX:3/COM	\$995.0M	475	2.49%	0.18%
S	S+SR/LFBR+CDH+DUH/HEX:7/COM	\$991.4M	17	2.48%	0.01%
MCF	MCF/LWAL+CDL+DUL/HEX:3/RES	\$951.2M	2,440	2.38%	0.92%
MR	MR/LWAL+CDL+DUL/HEX:3/RES	\$951.2M	2,440	2.38%	0.92%
W	W+WLI/LWAL+CDL+DUL/HEX:1/RES	\$947.5M	20,372	2.37%	7.71%
RC	CR/LFINF+CDL+DUL/HEX:2/RES	\$797.1M	9,521	1.99%	3.60%
S	S+SR/LFBR+CDH+DUH/HEX:1/IND	\$793.6M	228	1.98%	0.09%

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