

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 = "Macao"
```

Exposure files:
Exposure_Com_Macao.csv
Exposure_Ind_Macao.csv
Exposure_Res_Macao.csv

Sanity checks and formats

Exposure at National level

Summary by occupancy type

	OCCUPANTS	BUILDINGS	COST_USD	BUILDINGS_%	COST_USD_%
OCCUPANCY					
Res	526.4K	3,345	\$30,627.4M	69.21%	77.80%
Ind	0.0K	589	\$212.6M	12.19%	0.54%
Com	0.0K	899	\$8,525.4M	18.60%	21.66%

Other metrics to consider

	AREA_SQM	COST_BUILDING_USD	AVG_BUILDING_AREA_SQM	AVG_COST_PER_AREA_USD
OCCUPANCY				
Total	70,747.0K	\$23,675.7M	14,638	\$556
Res	59,292.2K	\$19,219.8M	17,726	\$517
Ind	268.4K	\$87.2M	456	\$792
Com	11,186.3K	\$4,368.7M	12,443	\$762

Exposure summary at Admin level 1

	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
NAME_1						
Macao	\$33.1B	4,371	458.9K	84.10%	90.44%	87.18%
Ilhas	\$6.3B	462	67.5K	15.90%	9.56%	12.82%

Exposure by simplified taxonomy

Adding `MACRO_TAXO` column

	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
MACRO_TAXO						
RC	\$35,833.5M	3,041	415,572	91.03%	62.92%	78.95%
MCF	\$2,493.2M	1,660	99,225	6.33%	34.35%	18.85%
S	\$1,025.6M	20	11,273	2.61%	0.41%	2.14%
MUR	\$13.0M	112	331	0.03%	2.32%	0.06%

Exposure by taxonomy

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

		COST_USD	BUILDINGS	COST_USD_%	BUILDINGS_%
MACRO_TAXO	TAXONOMY				
RC	CR/LDUAL+DUH/H:30-/RES	\$10,012.7M	196	28.34%	7.92%
	CR/LDUAL+DUL/H:16-29/RES	\$6,003.3M	261	16.99%	10.55%
	CR/LDUAL+DUL/H:8-15/RES	\$5,805.9M	673	16.43%	27.20%
	CR/LDUAL+DUH/H:30-/COM	\$2,710.3M	52	7.67%	2.10%
	CR/LWAL+DUL/H:16-29/RES	\$2,487.5M	108	7.04%	4.37%
	CR/LWAL+DUL/H:8-15/RES	\$2,423.9M	281	6.86%	11.36%
	CR/LDUAL+DUL/H:8-15/COM	\$2,333.5M	266	6.61%	10.75%
	CR/LDUAL+DUL/H:16-29/COM	\$2,016.0M	87	5.71%	3.52%
MCF	MCF/LWAL+DUL/H:4-7/RES	\$1,534.5M	550	4.34%	22.23%

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