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 Sh
apely 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(
```

```python
# Parameters
country = "Gibraltar"
```

```
Exposure files:
  Exposure_Com_Gibraltar.csv
  Exposure_Ind_Gibraltar.csv
  Exposure_Res_Gibraltar.csv
```

Sanity checks and formats

Exposure at National level

Summary by occupancy type

OCCUPANCY	OCCUPANTS	BUILDINGS	COST_USD	BUILDINGS_%	COST_USD_%
Res	34.0K	4,045	$1,429.0M	73.49%	35.97%
Ind	13.6K	59	$108.9M	1.07%	2.74%
Com	13.6K	1,400	$2,434.7M	25.43%	61.29%

Other metrics to consider

OCCUPANCY	AREA_SQM	COST_BUILDING_USD	AVG_BUILDING_AREA_SQM	AVG_COST_PER_AREA_USD
Total	995.4K	$2,404.1M	181	$3,991
Res	622.8K	$1,143.2M	154	$2,294
Ind	20.2K	$43.5M	342	$5,390
Com	352.4K	$1,217.4M	252	$6,909

Exposure summary at Admin level 1

NAME_1	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
Gibraltar	$3,972.6M	5.5K	61.2K	100.00%	100.00%	100.00%

Exposure by simplified taxonomy

```
Adding `MACRO_TAXO` column
```

MACRO_TAXO	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
MR	$1,576.0M	3,141	20,927	39.67%	57.06%	34.19%
RC	$1,327.8M	1,335	22,126	33.42%	24.25%	36.15%
S	$976.4M	854	16,655	24.58%	15.52%	27.21%
W	$87.2M	172	813	2.20%	3.12%	1.33%
MUR	$5.1M	3	680	0.13%	0.05%	1.11%

Exposure by taxonomy

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

MACRO_TAXO	TAXONOMY	COST_USD	BUILDINGS	COST_USD_%	BUILDINGS_%
MR	MR/LWAL+CDL/H:2/RES	$695.7M	2,633	19.72%	52.76%
	MR/LWAL+CDL/HBET:3-5/COM	$694.9M	273	19.70%	5.48%
RC	CR/LFM+CDL/HBET:3-5/COM	$503.1M	215	14.26%	4.30%
S	S/LFM+CDL/HBET:3-5/COM	$450.4M	186	12.77%	3.72%
RC	CR/LFINF+CDL/HBET:3-5/RES	$305.0M	453	8.64%	9.07%
	CR/LFINF+CDN/HBET:3-5/RES	$305.0M	453	8.64%	9.07%
S	S/LWAL+CDL/HBET:3-5/COM	$222.7M	92	6.31%	1.85%
MR	MR/LWAL+CDL/H:2/COM	$94.9M	90	2.69%	1.80%
	MR/LWAL+CDL/H:1/COM	$90.6M	145	2.57%	2.90%
RC	CR/LFM+CDL/H:2/COM	$83.0M	91	2.35%	1.82%
S	S/LFM+CDL/H:1/RES	$82.9M	360	2.35%	7.22%