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 = "Liechtenstein"
```

```
Exposure files:
  Exposure_Com_Liechtenstein.csv
  Exposure_Ind_Liechtenstein.csv
  Exposure_Res_Liechtenstein.csv
```

Sanity checks and formats

Exposure at National level

Summary by occupancy type

OCCUPANCY	OCCUPANTS	BUILDINGS	COST_USD	BUILDINGS_%	COST_USD_%
Res	38.0K	10,439	$3,452.8M	73.65%	27.03%
Ind	15.2K	593	$1,027.8M	4.18%	8.04%
Com	15.2K	3,142	$8,295.5M	22.16%	64.93%

Other metrics to consider

OCCUPANCY	AREA_SQM	COST_BUILDING_USD	AVG_BUILDING_AREA_SQM	AVG_COST_PER_AREA_USD
Total	2,303.1K	$7,321.1M	162	$5,547
Res	1,156.3K	$2,762.2M	111	$2,986
Ind	156.1K	$411.1M	263	$6,584
Com	990.7K	$4,147.7M	315	$8,373

Exposure summary at Admin level 1

NAME_1	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
Vaduz	$2,832.8M	2,360	9,585	22.17%	16.65%	14.01%
Schaan	$2,184.5M	2,218	10,263	17.10%	15.65%	15.00%
Triesen	$1,701.4M	1,734	7,953	13.32%	12.24%	11.63%
Eschen	$1,239.2M	1,494	7,436	9.70%	10.54%	10.87%
Balzers	$1,175.8M	1,592	8,370	9.20%	11.23%	12.24%
Mauren	$1,164.1M	1,481	7,535	9.11%	10.45%	11.02%
Ruggell	$824.5M	793	3,548	6.45%	5.59%	5.19%
Triesenberg	$711.9M	1,142	6,364	5.57%	8.06%	9.30%
Gamprin	$519.3M	659	3,341	4.06%	4.65%	4.88%
Schellenberg	$244.9M	400	2,253	1.92%	2.82%	3.29%
Planken	$177.6M	301	1,751	1.39%	2.12%	2.56%

Exposure by simplified taxonomy

```
Adding `MACRO_TAXO` column
```

MACRO_TAXO	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
RC	$6,667.4M	6,613	33,330	52.19%	46.66%	48.73%
MR	$3,958.3M	6,187	23,101	30.98%	43.65%	33.77%
S	$2,026.9M	1,158	11,208	15.86%	8.17%	16.39%
W	$123.4M	215	760	0.97%	1.52%	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_%
RC	CR/LFM+CDL/HBET:3-5/COM	$2,292.0M	620	20.34%	4.91%
	CR/LFINF+CDN/HBET:3-5/RES	$2,055.3M	4,751	18.24%	37.61%
MR	MR/LWAL+CDL/HBET:3-5/COM	$2,011.9M	551	17.86%	4.36%
S	S/LFM+CDL/HBET:3-5/COM	$1,313.7M	378	11.66%	2.99%
MR	MR/LWAL+CDL/HBET:1-2/RES	$1,075.9M	4,888	9.55%	38.69%
RC	CR/LWAL+CDL/HBET:3-5/COM	$954.2M	261	8.47%	2.07%
MR	MR/LWAL+CDL/H:2/COM	$547.5M	370	4.86%	2.93%
S	S/LFM+CDN/H:1/IND	$350.4M	208	3.11%	1.64%
RC	CR/LFM+CDL/H:2/COM	$341.9M	228	3.03%	1.80%
MR	MR/LWAL+CDL/H:1/COM	$323.0M	378	2.87%	2.99%