

# 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 = "Andorra"
```

Exposure files:  
Exposure\_Com\_Andorra.csv  
Exposure\_Ind\_Andorra.csv  
Exposure\_Res\_Andorra.csv

## Sanity checks and formats

## Exposure at National level

### Summary by occupancy type

	OCCUPANTS	BUILDINGS	COST_USD	BUILDINGS_%	COST_USD_%
OCCUPANCY					
Res	77.0K	12,616	\$3,198.6M	69.80%	33.67%
Ind	30.8K	1,206	\$1,434.4M	6.67%	15.10%
Com	30.8K	4,252	\$4,866.2M	23.53%	51.23%

### Other metrics to consider

	AREA_SQM	COST_BUILDING_USD	AVG_BUILDING_AREA_SQM	AVG_COST_PER_AREA_USD
OCCUPANCY				
Total	2,938.7K	\$5,565.8M	163	\$3,232
Res	1,720.2K	\$2,558.9M	136	\$1,859
Ind	329.8K	\$573.8M	274	\$4,349
Com	888.7K	\$2,433.1M	209	\$5,476

## Exposure summary at Admin level 1

	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
NAME_1						
Andorra la Vella	\$2,529.6M	3,758	19,480	26.63%	20.79%	14.05%
Escaldes-Engordany	\$1,861.6M	4,308	37,143	19.60%	23.83%	26.80%
Encamp	\$1,524.7M	2,486	17,737	16.05%	13.75%	12.80%
La Massana	\$1,210.1M	2,389	19,591	12.74%	13.22%	14.13%
Sant Julia de Loria	\$1,034.5M	2,585	23,363	10.89%	14.30%	16.86%
Canillo	\$923.8M	1,874	16,399	9.73%	10.37%	11.83%
Ordino	\$414.9M	675	4,888	4.37%	3.73%	3.53%

## Exposure by simplified taxonomy

Adding `MACRO\_TAXO` column

	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
MACRO_TAXO						
MR	\$4,939.8M	9,054	54,909	52.00%	50.09%	39.62%
RC	\$2,996.1M	5,711	55,219	31.54%	31.60%	39.84%
S	\$1,393.0M	2,881	25,871	14.66%	15.94%	18.67%
W	\$116.8M	379	1,369	1.23%	2.10%	0.99%
MUR	\$53.6M	48	1,232	0.56%	0.27%	0.89%

## Exposure by taxonomy

Showing only taxonomies that represent 90% of the total `COST\_USD`

		COST_USD	BUILDINGS	COST_USD_%	BUILDINGS_%
MACRO_TAXO	TAXONOMY				
MR	MR/LWAL+CDL/HBET:3-5/COM	\$2,152.0M	1,142	25.81%	7.73%
	MR/LWAL+CDL/H:2/RES	\$1,881.9M	6,305	22.57%	42.71%
RC	CR/LFM+CDL/HBET:3-5/COM	\$989.6M	545	11.87%	3.69%
MR	MR/LWAL+CDL/H:1/COM	\$624.8M	1,224	7.49%	8.29%
S	S/LFM+CDN/H:1/IND	\$564.2M	482	6.77%	3.27%
RC	CR/LFINF+CDL/HBET:3-5/RES	\$559.6M	2,081	6.71%	14.10%
	CR/LFINF+CDN/HBET:3-5/RES	\$559.6M	2,081	6.71%	14.10%
	CR+PC/LFM+CDN/H:1/IND	\$473.9M	386	5.68%	2.61%
MR	MR/LWAL+CDL/H:2/COM	\$281.1M	384	3.37%	2.60%
S	S/LFM+CDL/HBET:3-5/COM	\$251.2M	131	3.01%	0.89%
