

# 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 = "Estonia"
```

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

## Sanity checks and formats

## Exposure at National level

### Summary by occupancy type

	OCCUPANTS	BUILDINGS	COST_USD	BUILDINGS_%	COST_USD_%
OCCUPANCY					
Res	1,327.0K	212.1K	\$40.7B	90.30%	55.82%
Ind	530.3K	9.9K	\$20.4B	4.21%	28.06%
Com	530.3K	12.9K	\$11.7B	5.49%	16.11%

### Other metrics to consider

	AREA_SQM	COST_BUILDING_USD	AVG_BUILDING_AREA_SQM	AVG_COST_PER_AREA_USD
OCCUPANCY				
Total	41,686.6K	\$46.6B	177	\$1,748
Res	31,270.0K	\$32.5B	147	\$1,301
Ind	7,063.7K	\$8.2B	714	\$2,895
Com	3,353.0K	\$5.9B	260	\$3,502

## Exposure summary at Admin level 1

	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
NAME_1						
Harju	\$31,240.2M	92,024	1,057,659	42.87%	39.17%	44.30%
Ida-Viru	\$9,774.0M	30,417	261,221	13.41%	12.95%	10.94%
Tartu	\$7,624.4M	25,873	264,253	10.46%	11.01%	11.07%
Laane-Viru	\$3,990.2M	11,803	106,856	5.48%	5.02%	4.48%
Parnu	\$3,600.2M	14,944	149,846	4.94%	6.36%	6.28%
Voru	\$2,491.8M	7,031	60,830	3.42%	2.99%	2.55%
Viljandi	\$2,366.7M	9,576	85,854	3.25%	4.08%	3.60%
Jarva	\$1,779.4M	6,587	55,153	2.44%	2.80%	2.31%
Rapla	\$1,768.3M	6,401	61,883	2.43%	2.72%	2.59%
Valga	\$1,679.3M	5,903	54,619	2.30%	2.51%	2.29%
Laane	\$1,624.5M	4,872	44,120	2.23%	2.07%	1.85%
Polva	\$1,576.8M	5,540	50,768	2.16%	2.36%	2.13%
Jogeva	\$1,554.7M	6,321	55,992	2.13%	2.69%	2.35%
Saare	\$1,326.0M	5,790	60,470	1.82%	2.46%	2.53%
Hiiu	\$447.6M	1,730	16,948	0.61%	0.74%	0.71%
Peipsi	\$22.0M	124	1,182	0.03%	0.05%	0.05%

## Exposure by simplified taxonomy

Adding `MACRO_TAXO` column						
	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
MACRO_TAXO						
RC	\$47,433.2M	140,330	1,568.4K	65.10%	59.73%	65.69%
MUR	\$11,859.5M	58,253	431.1K	16.28%	24.80%	18.06%
S	\$9,061.1M	4,455	238.6K	12.44%	1.90%	10.00%
W	\$4,512.2M	31,899	149.5K	6.19%	13.58%	6.26%

## 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/LFINF+CDN/H:3/RES	\$23,399.1M	121,980	36.09%	56.34%
	CR/LFINF+CDM/HBET:3-5/COM	\$6,139.0M	4,741	9.47%	2.19%
	CR/LWAL+CDN/HBET:4-10/RES	\$5,585.5M	6,295	8.61%	2.91%
	CR+PC/LFM+CDN/H:1/IND	\$5,285.7M	2,475	8.15%	1.14%
S	S/LFM+CDN/H:1/IND	\$5,034.0M	2,475	7.76%	1.14%
MUR	MUR+CB/LWAL+CDN/HBET:1-2/RES	\$4,345.2M	34,025	6.70%	15.71%
S	S+SL/LFM+CDN/H:1/IND	\$4,027.2M	1,980	6.21%	0.91%
MUR	MUR+CL/LWAL+CDN/HBET:1-4/RES	\$3,936.7M	17,013	6.07%	7.86%
RC	CR/LWAL+CDN/H:2/IND	\$2,114.3M	990	3.26%	0.46%
	CR/LFM+CDN/H:1/IND	\$1,691.4M	792	2.61%	0.37%
W	W/LPB+CDL/HBET:1-3/RES	\$1,685.1M	21,946	2.60%	10.14%
RC	CR/LFINF+CDL/H:1/COM	\$1,592.7M	1,813	2.46%	0.84%

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