

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 = "Slovenia"
```

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

Sanity checks and formats

Exposure at National level

Summary by occupancy type

	OCCUPANTS	BUILDINGS	COST_USD	BUILDINGS_%	COST_USD_%
OCCUPANCY					
Res	2,088.0K	463.0K	\$56.1B	90.42%	58.56%
Ind	686.3K	21.6K	\$19.1B	4.22%	19.89%
Com	835.2K	27.5K	\$20.7B	5.36%	21.55%

Other metrics to consider

	AREA_SQM	COST_BUILDING_USD	AVG_BUILDING_AREA_SQM	AVG_COST_PER_AREA_USD
OCCUPANCY				
Total	61,881.8K	\$62.9B	121	\$1,549
Res	51,981.2K	\$44.9B	112	\$1,080
Ind	5,218.8K	\$7.6B	242	\$3,652
Com	4,681.8K	\$10.3B	170	\$4,412

Exposure summary at Admin level 1

	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
NAME_1						
Osrednjeslovenska	\$27,838.4M	101,977	885.9K	29.05%	19.91%	24.55%
Podravska	\$14,479.8M	81,324	543.4K	15.11%	15.88%	15.05%
Savinjska	\$11,665.5M	75,042	475.2K	12.17%	14.65%	13.16%
Gorenjska	\$8,687.3M	46,725	371.8K	9.06%	9.12%	10.30%
Pomurska	\$7,112.5M	52,585	324.4K	7.42%	10.27%	8.99%
Jugovzhodna Slovenija	\$6,844.1M	42,189	261.3K	7.14%	8.24%	7.24%
Goriska	\$5,249.8M	34,985	221.2K	5.48%	6.83%	6.13%
Koroska	\$3,822.0M	24,169	160.7K	3.99%	4.72%	4.45%
Obalno-kraska	\$3,712.8M	15,619	104.1K	3.87%	3.05%	2.88%
Notranjsko-kraska	\$3,115.3M	22,170	147.4K	3.25%	4.33%	4.08%
Spodnjeposavska	\$2,226.6M	11,061	78.5K	2.32%	2.16%	2.17%
Zasavska	\$1,086.0M	4,243	35.7K	1.13%	0.83%	0.99%

Exposure by simplified taxonomy

Adding `MACRO\_TAXO` column

	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
MACRO_TAXO						
RC	\$52,347.9M	126.5K	1,940.5K	54.62%	24.71%	53.76%
MCF	\$20,755.5M	169.0K	757.2K	21.66%	33.00%	20.98%
MUR	\$11,763.4M	155.6K	495.2K	12.27%	30.38%	13.72%
S	\$4,427.1M	5.5K	168.5K	4.62%	1.06%	4.67%
MIX	\$3,976.2M	39.5K	148.9K	4.15%	7.71%	4.12%
W	\$2,570.0M	16.0K	99.2K	2.68%	3.13%	2.75%

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+PC/LWAL+CDL/H:1/IND	\$6,638.8M	7,344	7.70%	1.58%
MCF	MCF/LWAL+CDN/HBET:3-5/RES	\$4,599.0M	22,217	5.34%	4.77%
	MCF/LWAL+CDL/HBET:3-5/RES	\$4,483.4M	20,375	5.20%	4.38%
MUR	MUR+CL/LWAL+CDN/H:1/RES	\$3,551.2M	62,070	4.12%	13.34%
RC	CR/LWAL+CDL/H:1/IND	\$3,319.4M	3,672	3.85%	0.79%
	CR/LWAL+CDM+LFC:5.0/HBET:6-/RES	\$2,886.7M	6,585	3.35%	1.41%
MCF	MCF/LWAL+CDN/H:2/RES	\$2,763.8M	47,209	3.21%	10.14%
	MCF/LWAL+CDL/H:2/RES	\$2,719.3M	43,113	3.16%	9.26%
RC	CR/LFINF+CDN/HBET:3-5/RES	\$2,526.2M	11,302	2.93%	2.43%
MIX	MIX/LH+CDL/HBET:3-5/RES	\$2,390.4M	11,256	2.77%	2.42%
RC	CR/LWAL+CDM+LFC:2.5/HBET:6-/RES	\$2,319.4M	5,766	2.69%	1.24%
	CR/LDUAL+CDM+LFC:5.0/HBET:3-5/COM	\$2,312.9M	1,543	2.68%	0.33%
MUR	MUR+CL/LWAL+CDN/H:2/RES	\$2,234.8M	39,480	2.59%	8.48%
RC	CR/LDUAL+CDM+LFC:5.0/HBET:3-5/RES	\$2,078.8M	8,976	2.41%	1.93%
	CR/LDUAL+CDM+LFC:2.5/HBET:3-5/COM	\$1,924.4M	1,284	2.23%	0.28%
RC	CR/LFINF+CDM+LFC:5.0/HBET:6-/RES	\$1,909.8M	4,382	2.22%	0.94%
	CR/LFINF+CDM+LFC:5.0/HBET:6-/RES	\$1,909.8M	4,382	2.22%	0.94%
W	W/LWAL+CDL/H:1/IND	\$1,766.6M	2,160	2.05%	0.46%
RC	CR/LFINF+CDM+LFC:2.5/HBET:6-/RES	\$1,670.0M	4,151	1.94%	0.89%
	CR/LDUAL+CDM+LFC:2.5/HBET:3-5/RES	\$1,614.1M	7,490	1.87%	1.61%
MIX	MIX/LH+CDL/H:2/RES	\$1,585.8M	28,236	1.84%	6.07%
RC	CR/LFINF+CDL+LFC:0.0/HBET:6-/RES	\$1,566.9M	4,986	1.82%	1.07%
MUR	MUR+CL/LWAL+CDN/HBET:3-5/RES	\$1,566.1M	9,435	1.82%	2.03%
S	S/LFBR+CDM/H:1/IND	\$1,487.7M	1,728	1.73%	0.37%
	S/LFM+CDL/H:1/IND	\$1,487.7M	1,728	1.73%	0.37%
RC	CR/LDUAL+CDM+LFC:5.0/HBET:6-/COM	\$1,294.3M	600	1.50%	0.13%
MUR	MUR+ST/LWAL+CDN/H:1/RES	\$1,187.6M	21,306	1.38%	4.58%
RC	CR/LFM+CDL/H:1/IND	\$1,171.6M	1,296	1.36%	0.28%
	CR/LDUAL+CDM+LFC:2.5/HBET:6-/COM	\$1,076.8M	499	1.25%	0.11%
MCF	MCF/LWAL+CDL/H:1/IND	\$976.3M	1,080	1.13%	0.23%
	MCF/LWAL+CDN/H:1/RES	\$942.1M	14,789	1.09%	3.18%
	MCF/LWAL+CDL/H:1/RES	\$891.9M	13,033	1.03%	2.80%
MUR	MUR/LWAL+CDN/H:1/IND	\$883.3M	1,080	1.02%	0.23%
	MUR+ST/LWAL+CDN/H:2/RES	\$840.4M	15,251	0.98%	3.28%
	CR/LFINF+CDL+LFC:0.0/HBET:3-5/RES	\$839.4M	4,986	0.97%	1.07%
RC	CR/LWAL+CDM+LFC:5.0/HBET:3-5/COM	\$785.1M	518	0.91%	0.11%
	CR/LFINF+CDL+LFC:3.75/HBET:6-/RES	\$750.9M	2,390	0.87%	0.51%
	CR+PC/LWAL+CDM+LFC:5.0/H:1/COM	\$741.5M	1,957	0.86%	0.42%
MUR	MUR+ST/LWAL+CDN/HBET:3-5/RES	\$737.1M	4,614	0.86%	0.99%
RC	CR/LDUAL+CDM+LFC:5.0/HBET:6-/RES	\$736.9M	1,642	0.85%	0.35%
MCF	MCF/LWAL+CDN/H:1/COM	\$654.2M	1,863	0.76%	0.40%
	MCF/LWAL+CDL/H:1/COM	\$654.0M	1,863	0.76%	0.40%
	CR/LWAL+CDM+LFC:2.5/HBET:3-5/COM	\$653.2M	431	0.76%	0.09%
RC	CR/LFINF+CDL+LFC:15.0/HBET:6-/RES	\$636.6M	1,681	0.74%	0.36%
	CR+PC/LWAL+CDM+LFC:2.5/H:1/COM	\$616.9M	1,628	0.72%	0.35%
MCF	MCF/LWAL+CDN/H:2/COM	\$482.4M	729	0.56%	0.16%
	MCF/LWAL+CDL/H:2/COM	\$482.2M	728	0.56%	0.16%
RC	CR/LDUAL+CDM+LFC:0.0/HBET:3-5/COM	\$453.1M	302	0.53%	0.06%
	CR/LDUAL+CDM+LFC:5.0/H:1/COM	\$447.4M	1,182	0.52%	0.25%
MCF	MCF/LWAL+CDL/HBET:6-/RES	\$406.6M	946	0.47%	0.20%
RC	CR/LFINF+CDL+LFC:3.75/HBET:3-5/RES	\$402.3M	2,390	0.47%	0.51%
	CR/LDUAL+CDM+LFC:2.5/HBET:6-/RES	\$390.6M	971	0.45%	0.21%
	CR+PC/LWAL+CDL/HBET:3-5/IND	\$390.5M	432	0.45%	0.09%
	CR/LDUAL+CDM+LFC:2.5/H:1/COM	\$372.3M	983	0.43%	0.21%
S	S/LFBR+CDM/HBET:3-5/IND	\$371.9M	432	0.43%	0.09%
	S/LFM+CDL/HBET:3-5/IND	\$371.9M	432	0.43%	0.09%
RC	CR/LFINF+CDM+LFC:5.0/HBET:3-5/COM	\$367.5M	242	0.43%	0.05%
	CR+PC/LWAL+CDM+LFC:5.0/HBET:3-5/COM	\$364.9M	245	0.42%	0.05%
	CR/LFINF+CDL+LFC:15.0/HBET:3-5/RES	\$341.0M	1,681	0.40%	0.36%
MCF	MCF/LWAL+CDN/HBET:6-/RES	\$318.9M	793	0.37%	0.17%
RC	CR/LFINF+CDM+LFC:2.5/HBET:3-5/COM	\$305.7M	201	0.35%	0.04%
	CR+PC/LWAL+CDM+LFC:2.5/HBET:3-5/COM	\$303.6M	204	0.35%	0.04%
MUR	MUR+CL/LWAL+CDN/H:1/COM	\$302.1M	1,083	0.35%	0.23%
RC	CR+PC/LWAL+CDM+LFC:5.0/H:2/COM	\$301.0M	447	0.35%	0.10%
	CR/LWAL+CDM+LFC:5.0/HBET:3-5/RES	\$277.7M	1,269	0.32%	0.27%
RC	CR/LWAL+CDM+LFC:0.0/HBET:6-/RES	\$264.2M	657	0.31%	0.14%