

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 = "Denmark"
```

Exposure files:
Exposure_Com_Denmark.csv
Exposure_Ind_Denmark.csv
Exposure_Res_Denmark.csv

Sanity checks and formats

Exposure at National level

Summary by occupancy type

	OCCUPANTS	BUILDINGS	COST_USD	BUILDINGS_%	COST_USD_%
OCCUPANCY					
Res	5,819.0K	1,536.3K	\$588.9B	91.08%	58.93%
Ind	2,325.5K	68.5K	\$163.0B	4.06%	16.31%
Com	2,327.6K	82.0K	\$247.4B	4.86%	24.76%

Other metrics to consider

	AREA_SQM	COST_BUILDING_USD	AVG_BUILDING_AREA_SQM	AVG_COST_PER_AREA_USD
OCCUPANCY				
Total	291.2M	\$660.1B	173	\$3,432
Res	228.1M	\$471.2B	148	\$2,583
Ind	28.2M	\$65.2B	412	\$5,784
Com	35.0M	\$123.7B	427	\$7,075

Exposure summary at Admin level 1

	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
NAME_1						
Hovedstaden	\$327.5B	526.2K	3,301.7K	32.78%	31.20%	31.53%
Syddanmark	\$223.6B	370.5K	2,210.5K	22.38%	21.97%	21.11%
Midtjylland	\$222.8B	373.7K	2,379.9K	22.30%	22.16%	22.73%
Sjaelland	\$124.8B	237.5K	1,513.0K	12.49%	14.08%	14.45%
Nordjylland	\$100.6B	178.8K	1,066.8K	10.06%	10.60%	10.19%

Exposure by simplified taxonomy

Adding `MACRO_TAXO` column

	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
MACRO_TAXO						
RC	\$651.1B	568.4K	6,509.2K	65.16%	33.70%	62.16%
MUR	\$240.9B	981.3K	2,577.0K	24.10%	58.17%	24.61%
S	\$59.4B	25.3K	860.4K	5.95%	1.50%	8.22%
W	\$47.9B	111.8K	525.4K	4.79%	6.63%	5.02%

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/HBET:4-10/RES	\$329.8B	430.5K	37.09%	26.85%
MUR	MUR+CL/LWAL+CDN/HBET:1-4/RES	\$144.2B	725.4K	16.22%	45.24%
	CR/LFINF+CDL/HBET:3-5/COM	\$126.2B	27.0K	14.19%	1.69%
	CR+PC/LFM+CDN/H:1/IND	\$52.3B	21.2K	5.88%	1.32%
RC	CR/LWAL+CDL/HBET:3-5/COM	\$50.2B	11.0K	5.64%	0.69%
	CR/LWAL+CDN/HBET:4-10/RES	\$46.2B	60.4K	5.20%	3.77%
MUR	MUR+ST/LWAL+CDN/HBET:1-4/RES	\$38.1B	191.7K	4.28%	11.95%
S	S/LFM+CDN/H:1/IND	\$33.7B	14.4K	3.80%	0.90%
RC	CR/LFM+CDN/H:2/IND	\$25.3B	10.3K	2.85%	0.64%
W	W/LPB+CDL/HBET:1-3/RES	\$23.8B	99.6K	2.68%	6.21%
MUR	MUR+CL/LWAL+CDN/H:2/COM	\$19.3B	11.8K	2.17%	0.74%

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