

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 = "Kyrgyzstan"
```

Exposure files:
Exposure_Com_Kyrgyzstan.csv
Exposure_Ind_Kyrgyzstan.csv
Exposure_Res_Kyrgyzstan.csv

Sanity checks and formats

Kyrgyzstan
Exposure/Exposure/Exposure_Com_Kyrgyzstan.csv
Exposure/Exposure/Exposure_Ind_Kyrgyzstan.csv
Exposure/Exposure/Exposure_Res_Kyrgyzstan.csv
Occupants / Dwellings = 5.0
Reference avg household size (2019) = 4.11
Population (exposure / UN_2021) = 1.0
Exposure models OK

Exposure at National level

Summary by occupancy type

	OCCUPANTS	BUILDINGS	COST_USD	BUILDINGS_%	COST_USD_%
OCCUPANCY					
Res	6.6M	674.8K	\$62.4B	87.10%	82.41%
Ind	0.0M	36.0K	\$5.0B	4.64%	6.61%
Com	0.0M	64.0K	\$8.3B	8.26%	10.98%

Other metrics to consider

	AREA_SQM	COST_BUILDING_USD	AVG_BUILDING_AREA_SQM	AVG_COST_PER_AREA_USD
OCCUPANCY				
Total	131.5M	\$62,667.6M	170	\$576
Res	113.1M	\$53,552.6M	168	\$552
Ind	7.5M	\$3,092.4M	208	\$669
Com	10.9M	\$6,022.6M	171	\$761

Exposure summary at Admin level 1

	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
NAME_1						
Chuy Region	\$26,975.5M	259.9K	2,049.1K	35.63%	33.54%	30.87%
Osh Region	\$18,516.9M	194.3K	1,713.9K	24.46%	25.08%	25.82%
Jalal-Abad Region	\$12,826.4M	137.2K	1,260.6K	16.94%	17.70%	18.99%
Issyk-Kul Region	\$5,675.1M	59.7K	501.9K	7.50%	7.70%	7.56%
Batken Region	\$4,574.7M	46.7K	548.2K	6.04%	6.03%	8.26%
Talas Region	\$4,164.8M	45.3K	271.0K	5.50%	5.85%	4.08%
Naryn Region	\$2,967.5M	31.7K	292.1K	3.92%	4.09%	4.40%

Exposure by simplified taxonomy

Adding `MACRO_TAXO` column

	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
MACRO_TAXO						
RC	\$30,162.7M	58.6K	2,357.1K	39.84%	7.56%	35.52%
ADO/E	\$12,543.5M	326.0K	1,537.2K	16.57%	42.07%	23.16%
MUR	\$10,234.0M	154.1K	934.5K	13.52%	19.89%	14.08%
MCF	\$6,645.2M	33.2K	602.7K	8.78%	4.28%	9.08%
MIX	\$5,956.5M	93.8K	541.7K	7.87%	12.11%	8.16%
W	\$4,487.9M	61.3K	331.8K	5.93%	7.91%	5.00%
S	\$3,981.9M	16.5K	199.1K	5.26%	2.13%	3.00%
OT	\$1,689.1M	31.4K	132.7K	2.23%	4.05%	2.00%

Exposure by taxonomy

Showing only taxonomies that represent 90% of the total `COST_USD`

		COST_USD	BUILDINGS	COST_USD_%	BUILDINGS_%
MACRO_TAXO	TAXONOMY				
MUR	MUR+CLBRS/LWAL+CDL/HBET:1-2/RES	\$7,614.4M	126,632	11.25%	18.07%
MCF	MCF/LWAL+CDL/HBET:1-4/RES	\$6,126.0M	30,029	9.05%	4.29%
ADO/E	MUR+ADO/LWAL+CDN/H:1/RES	\$5,562.3M	153,371	8.22%	21.89%
	EU+ETR/LWAL+CDN/H:1/RES	\$5,562.3M	153,371	8.22%	21.89%
MIX	MIX(MUR+W)/LWAL+CDL/HBET:1-2/RES	\$4,860.6M	82,334	7.18%	11.75%
	CR+CIP/LFINF+CDL/HBET:1-3/RES	\$4,573.9M	23,244	6.76%	3.32%
RC	CR+PC/LPB+CDL/HBET:5-9/RES	\$4,573.9M	2,381	6.76%	0.34%
	CR+PC/LWAL+CDL/HBET:5-9/RES	\$4,573.9M	2,381	6.76%	0.34%
	W/LWAL+CDL/HBET:1-2/RES	\$3,392.0M	49,768	5.01%	7.10%
	CR+CIP/LWAL+CDL/HBET:4-7/RES	\$3,201.7M	3,704	4.73%	0.53%
RC	CR+PC/LWAL+CDL/HBET:9-12/RES	\$3,049.3M	1,155	4.51%	0.16%
	CR+PC/LPB+CDL/HBET:9-12/RES	\$3,049.3M	1,155	4.51%	0.16%
S	S/LFM+CDL/HBET:1-10/RES	\$2,822.1M	9,203	4.17%	1.31%
	CR+CIP/LWAL+CDL/HBET:3-/COM	\$2,091.0M	2,891	3.09%	0.41%
RC	CR+CIP/LFINF+CDL/HBET:1-2/COM	\$1,568.3M	9,238	2.32%	1.32%
	CR+CIP/LWAL+CDL/HBET:8-/RES	\$1,372.2M	1,228	2.03%	0.18%
MUR	MUR+CLBRS/LWAL+CDL/H:1/COM	\$1,355.3M	15,404	2.00%	2.20%
OT	MATO/RES	\$1,206.0M	26,605	1.78%	3.80%
RC	CR+CIP/LFINF+CDL/H:1/IND	\$1,117.9M	6,673	1.65%	0.95%

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