

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 = "Honduras"
```

Exposure files:
Exposure_Com_Honduras.csv
Exposure_Ind_Honduras.csv
Exposure_Res_Honduras.csv

Sanity checks and formats

Honduras
Exposure/Exposure/Exposure_Com_Honduras.csv
Exposure/Exposure/Exposure_Ind_Honduras.csv
Exposure/Exposure/Exposure_Res_Honduras.csv
Occupants / Dwellings = 4.4
Reference avg household size (2019) = 4.44
WARNING - Check population:
Exposure population = 8299.0k
UN 2021 population = 10063.0k
Population (exposure / UN_2021) = 0.82
WARNING: ADM_1 with empty values:
OCCUPANCY Com Ind Res
ID_1
11 NaN NaN Islas de la Bah a
9 NaN NaN Gracias a Dios
Exposure models OK

Exposure at National level

Summary by occupancy type

	OCCUPANTS	BUILDINGS	COST_USD	BUILDINGS_%	COST_USD_%
OCCUPANCY					
Res	8.3M	1,646.1K	\$114.1B	93.08%	76.98%
Ind	0.0M	23.1K	\$13.5B	1.30%	9.11%
Com	0.0M	99.2K	\$20.6B	5.61%	13.91%

Other metrics to consider

	AREA_SQM	COST_BUILDING_USD	AVG_BUILDING_AREA_SQM	AVG_COST_PER_AREA_USD
OCCUPANCY				
Total	241.6M	\$111.1B	137	\$614
Res	183.6M	\$90.3B	112	\$621
Ind	22.3M	\$7.4B	965	\$606
Com	35.7M	\$13.4B	360	\$577

Exposure summary at Admin level 1

	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
NAME_1						
Cort�es	\$41,449.5M	332.6K	1,562.4K	27.96%	18.81%	18.83%
Francisco Moraz�n	\$29,611.3M	326.9K	1,508.1K	19.97%	18.49%	18.17%
Atl�ntida	\$9,832.9M	91.5K	436.3K	6.63%	5.17%	5.26%
Yoro	\$9,440.5M	115.0K	570.5K	6.37%	6.50%	6.87%
Comayagua	\$7,506.3M	107.1K	493.1K	5.06%	6.06%	5.94%
Choluteca	\$6,966.7M	97.1K	437.4K	4.70%	5.49%	5.27%
Santa B�rbara	\$6,521.3M	95.6K	420.9K	4.40%	5.41%	5.07%
Olancho	\$6,454.6M	106.5K	520.4K	4.35%	6.02%	6.27%
Cop�n	\$5,529.6M	83.2K	370.5K	3.73%	4.70%	4.46%
El Para�so	\$5,469.2M	95.4K	444.2K	3.69%	5.39%	5.35%
Col�n	\$5,450.4M	61.5K	309.9K	3.68%	3.48%	3.73%
Lempira	\$3,163.0M	64.6K	321.1K	2.13%	3.66%	3.87%
Valle	\$2,592.5M	38.7K	174.3K	1.75%	2.19%	2.10%
Intibuc�	\$2,412.8M	46.4K	232.4K	1.63%	2.63%	2.80%
La Paz	\$2,324.6M	41.5K	198.7K	1.57%	2.35%	2.39%
Ocotepeque	\$2,025.0M	34.0K	146.0K	1.37%	1.92%	1.76%
Islas de la Bah�a	\$825.8M	14.8K	62.4K	0.56%	0.83%	0.75%
Gracias a Dios	\$682.7M	16.1K	90.7K	0.46%	0.91%	1.09%

Exposure by simplified taxonomy

	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
MACRO_TAXO						
MCF	\$56,807.3M	382.0K	1,752.3K	38.32%	21.60%	21.11%
ADO/E	\$21,945.7M	555.6K	2,623.1K	14.80%	31.42%	31.61%
RC	\$19,754.5M	91.2K	725.7K	13.32%	5.16%	8.74%
MUR	\$12,934.2M	297.3K	1,326.8K	8.72%	16.81%	15.99%
MR	\$12,576.4M	100.7K	519.3K	8.48%	5.70%	6.26%
S	\$12,024.5M	40.2K	0.0K	8.11%	2.27%	0.00%
W	\$11,584.2M	283.7K	1,273.7K	7.81%	16.04%	15.35%
OT	\$632.0M	17.6K	78.3K	0.43%	1.00%	0.94%

Exposure by taxonomy

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

		COST_USD	BUILDINGS	COST_USD_%	BUILDINGS_%
MACRO_TAXO	TAXONOMY				
ADO/E	MUR+ADO/LWAL+DNO/HEX:1/RES	\$15,960.6M	444,460	11.99%	26.91%
	MCF/LWAL+CDL+DUL/HEX:2/RES	\$15,298.8M	92,044	11.50%	5.57%
MCF	MCF/LWAL+CDL+DUL/HEX:1/RES	\$10,334.0M	111,913	7.77%	6.78%
	MCF/LWAL+CDM+DUM/HEX:2/RES	\$7,086.6M	42,636	5.33%	2.58%
MUR	MUR/LWAL+DNO/HEX:2/RES	\$6,563.7M	121,854	4.93%	7.38%
ADO/E	MUR+ADO/LWAL+DNO/HEX:2/RES	\$5,985.2M	111,114	4.50%	6.73%
MUR	MUR/LWAL+DNO/HEX:1/RES	\$5,951.7M	165,739	4.47%	10.03%
W	W+WS/LPB+CDL+DUL/HEX:1/RES	\$4,986.8M	138,870	3.75%	8.41%
MCF	MCF/LWAL+CDM+DUM/HEX:1/RES	\$4,717.7M	51,090	3.55%	3.09%
MR	MR/LWAL+CDL+DUL/HEX:2/RES	\$4,503.2M	27,093	3.38%	1.64%
	MCF/LWAL+CDL+DUL/HEX:3/RES	\$4,500.0M	24,245	3.38%	1.47%
MCF	MCF/LWAL+CDL+DUL/HEX:2/COM	\$3,871.3M	15,723	2.91%	0.95%
S	S+SR/LFM+CDL+DUL/HEX:1/COM	\$3,378.4M	16,375	2.54%	0.99%
W	W+WWD/LWAL+CDL+DUL/HEX:1/RES	\$3,049.0M	84,907	2.29%	5.14%
MCF	MCF/LWAL+CDM+DUM/HEX:3/RES	\$2,576.4M	13,881	1.94%	0.84%
	MR/LWAL+CDM+DUM/HEX:2/RES	\$2,311.8M	13,909	1.74%	0.84%
MR	MR/LWAL+CDL+DUL/HEX:1/RES	\$2,247.4M	32,451	1.69%	1.96%
RC	CR/LFM+CDL+DUL/HEX:1/COM	\$2,148.4M	12,069	1.61%	0.73%
MCF	MCF/LWAL+CDL+DUL/HEX:1/IND	\$1,757.0M	5,461	1.32%	0.33%
RC	CR/LFINF+CDM+DUM/HEX:2/RES	\$1,712.3M	10,302	1.29%	0.62%
MCF	MCF/LWAL+CDL+DUL/HEX:1/COM	\$1,666.1M	10,477	1.25%	0.63%
MR	MR/LWAL+CDM+DUM/HEX:1/RES	\$1,535.1M	16,624	1.15%	1.01%
	CR/LFINF+CDM+DUM/HEX:4/RES	\$1,490.4M	1,614	1.12%	0.10%
	CR/LFINF+CDM+DUM/HEX:5/RES	\$1,489.0M	1,290	1.12%	0.08%
RC	CR/LFINF+CDM+DUM/HEX:3/RES	\$1,488.0M	8,017	1.12%	0.49%
	CR/LFINF+CDM+DUM/HEX:6/RES	\$1,486.2M	1,073	1.12%	0.06%
S	S+SR/LFINF+CDL+DUL/HEX:1/IND	\$1,484.3M	1,798	1.12%	0.11%
	S+SR/LFM+CDL+DUL/HEX:1/IND	\$1,484.3M	1,798	1.12%	0.11%
RC	CR+PCPS/LFM+CDL+DUL/HEX:1/IND	\$1,439.7M	1,785	1.08%	0.11%
MCF	MCF/LWAL+CDL+DUL/HEX:3/COM	\$1,372.1M	3,493	1.03%	0.21%
RC	CR/LFM+CDL+DUL/HEX:1/IND	\$1,350.7M	1,688	1.02%	0.10%
W	W+WLI/LWAL+CDL+DUL/HEX:1/RES	\$1,335.5M	37,190	1.00%	2.25%
S	S+SL/LFM+CDL+DUL/HEX:1/IND	\$1,277.8M	3,640	0.96%	0.22%
MCF	MCF/LWAL+CDL+DUL/HEX:2/IND	\$1,171.3M	1,817	0.88%	0.11%
W	W+WLI/LWAL+CDL+DUL/HEX:1/COM	\$1,073.2M	6,620	0.81%	0.40%
S	S+SL/LFM+CDL+DUL/HEX:1/COM	\$999.2M	5,914	0.75%	0.36%
	MR/LWAL+CDL+DUL/HEX:3/RES	\$989.5M	5,331	0.74%	0.32%
MR	MR/LWAL+CDM+DUM/HEX:3/RES	\$989.5M	5,331	0.74%	0.32%

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