

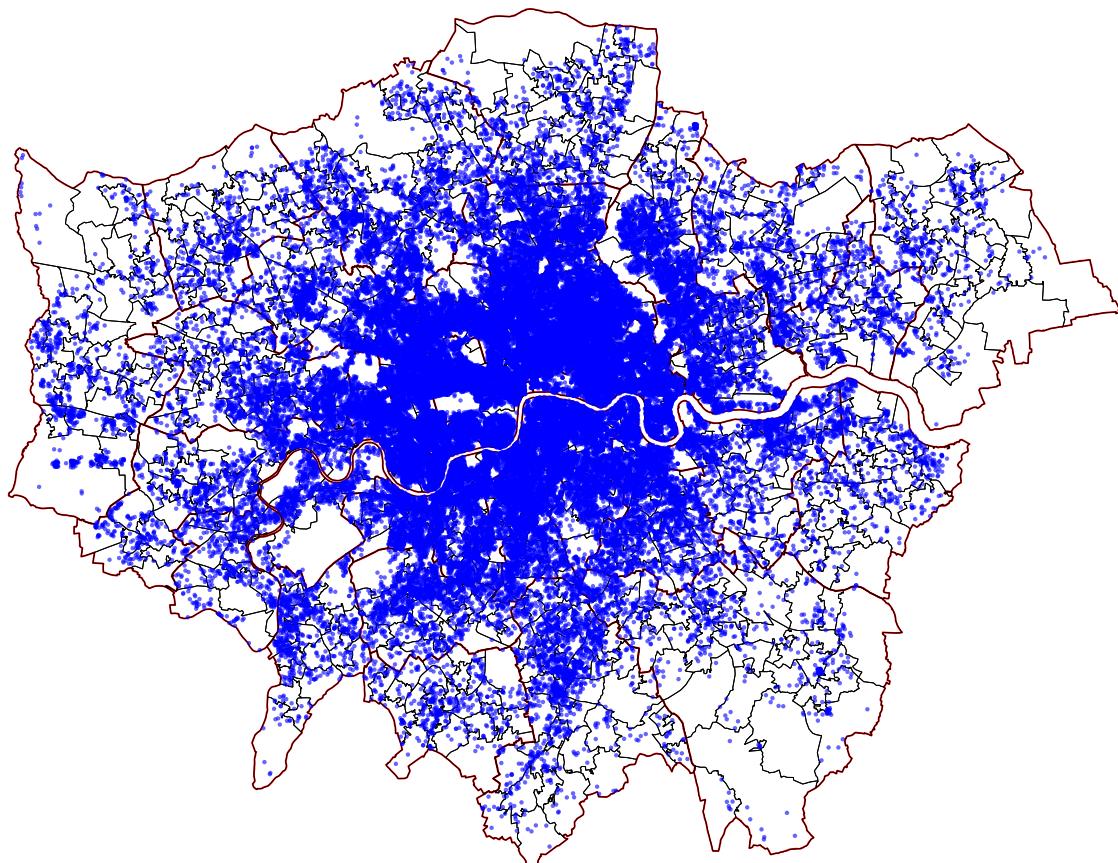
Spatial Analysis of Multi-Host Airbnb Activity in London

Christian Mulder

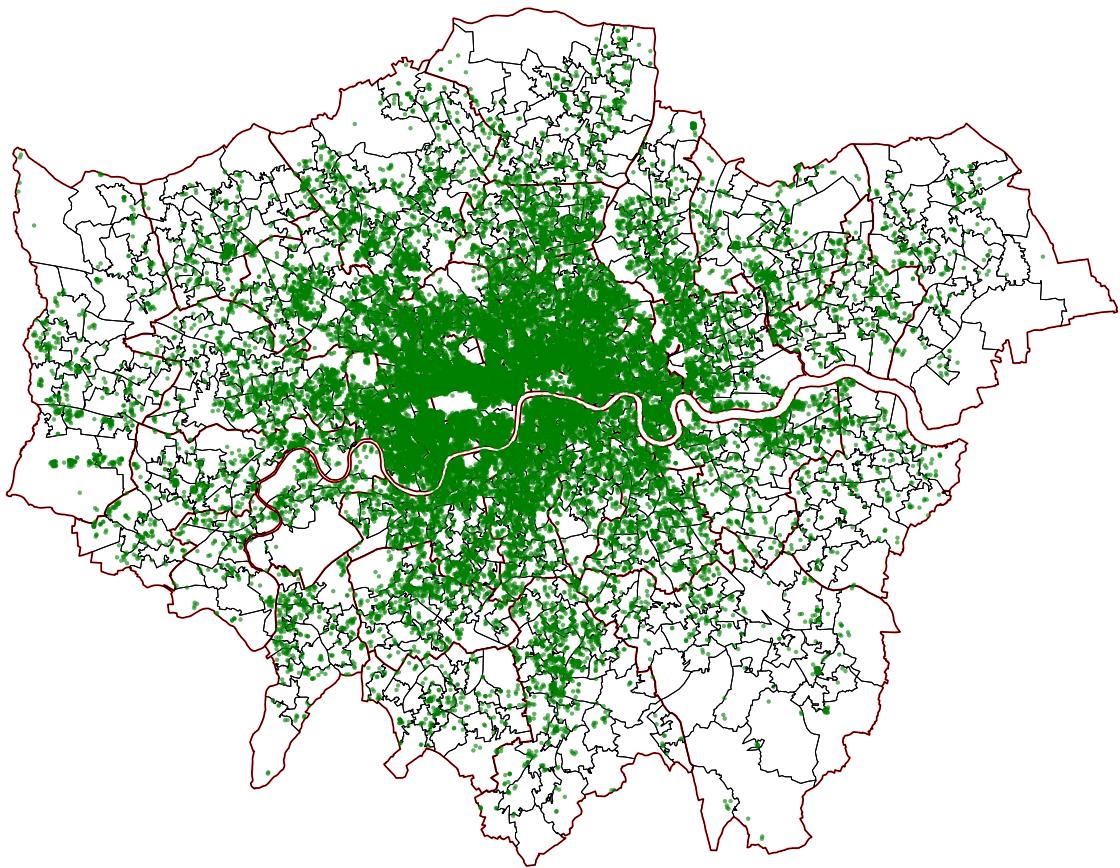
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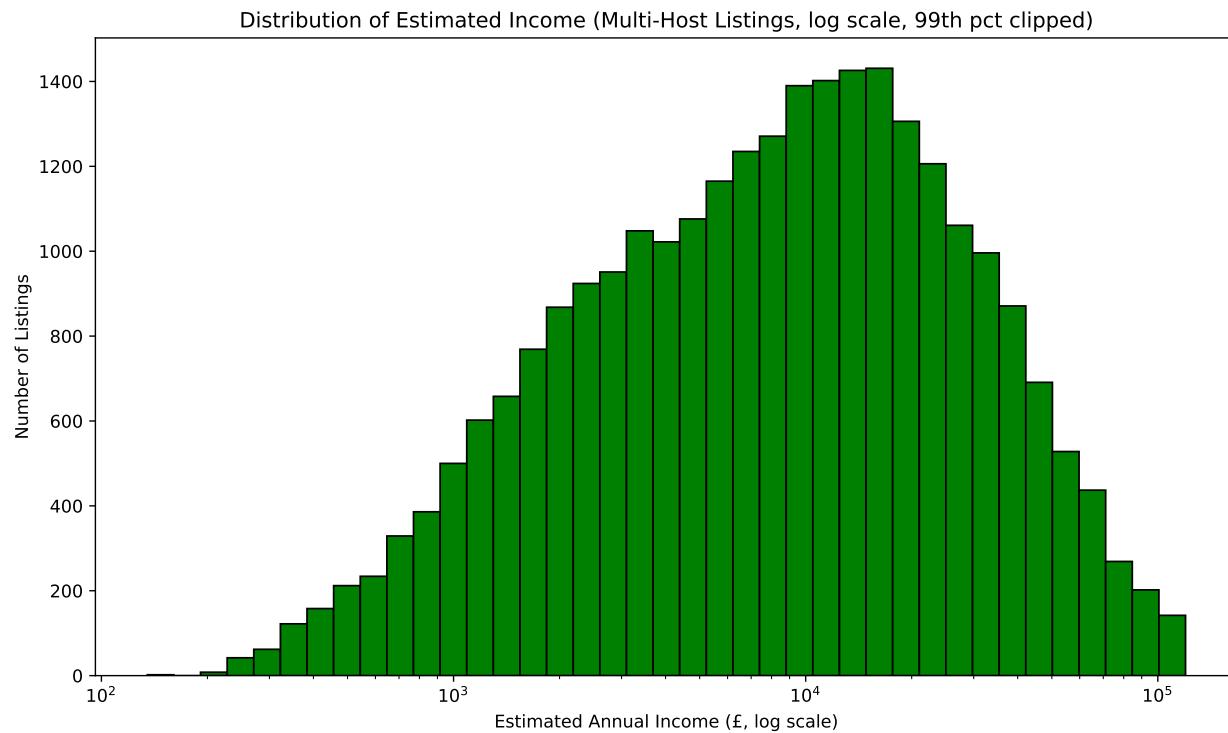
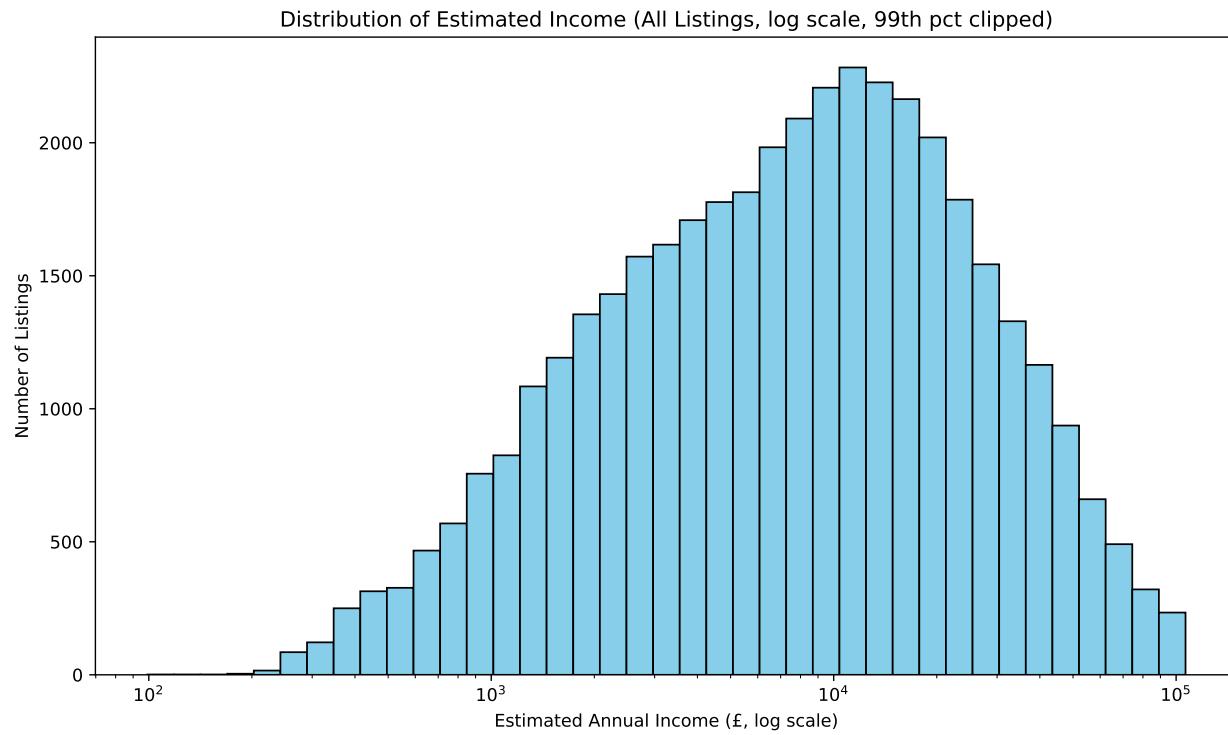
Loading in the data:

All Listings over Borough (red) and MSOA (black) Boundaries

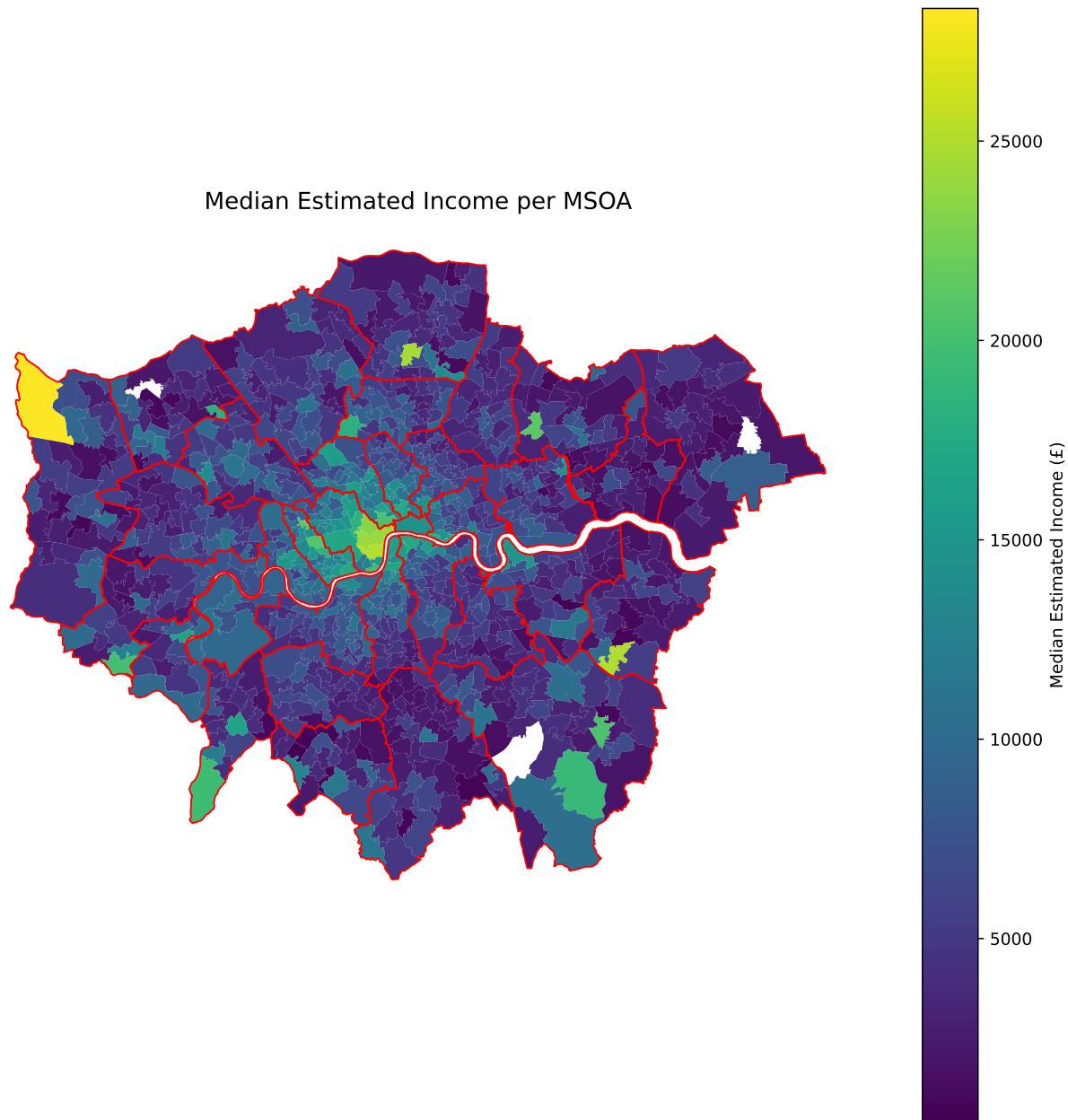


Professional Hosts (≥ 2 listings) over Borough (red) and MSOA (black) Boundaries

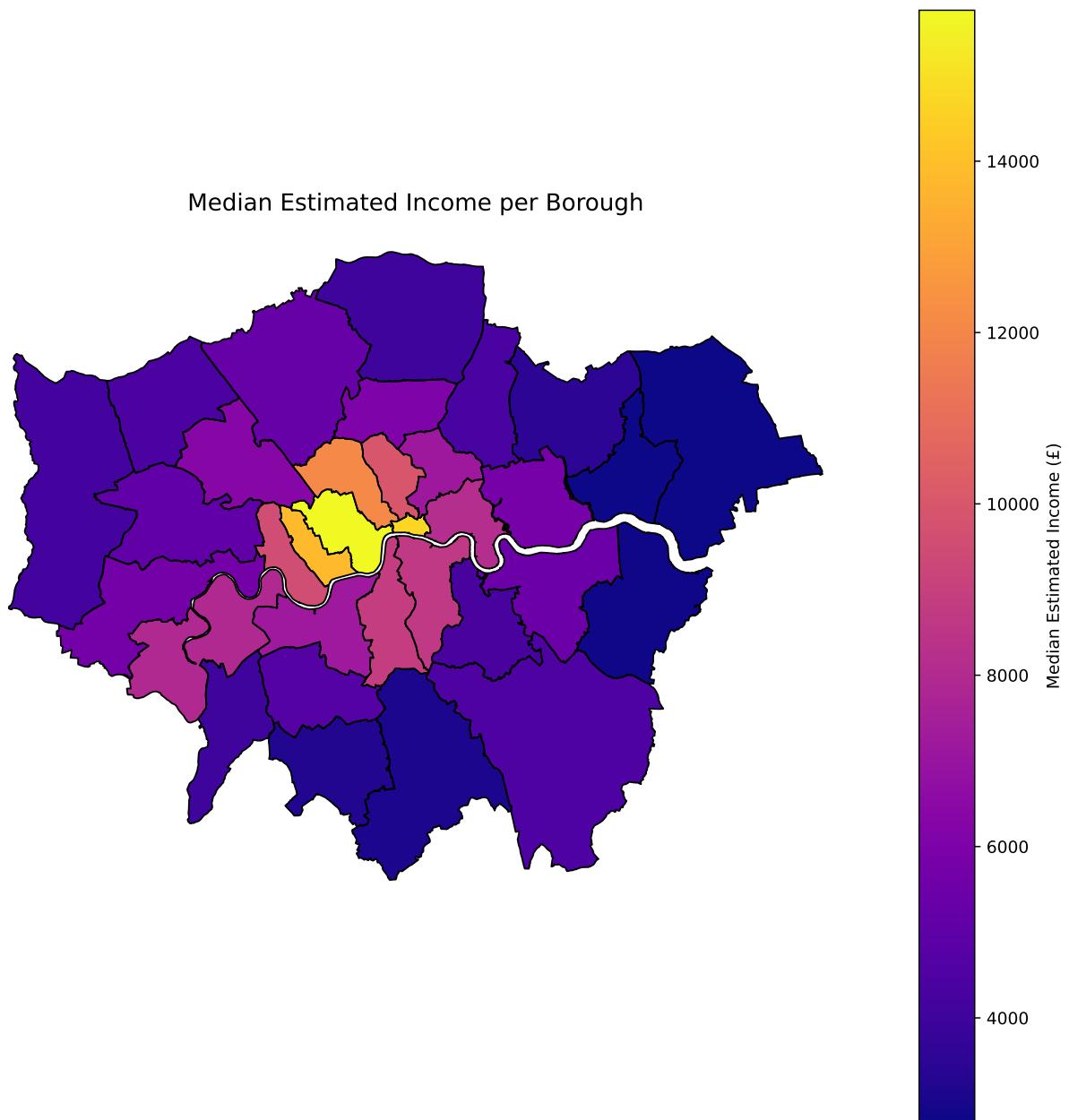


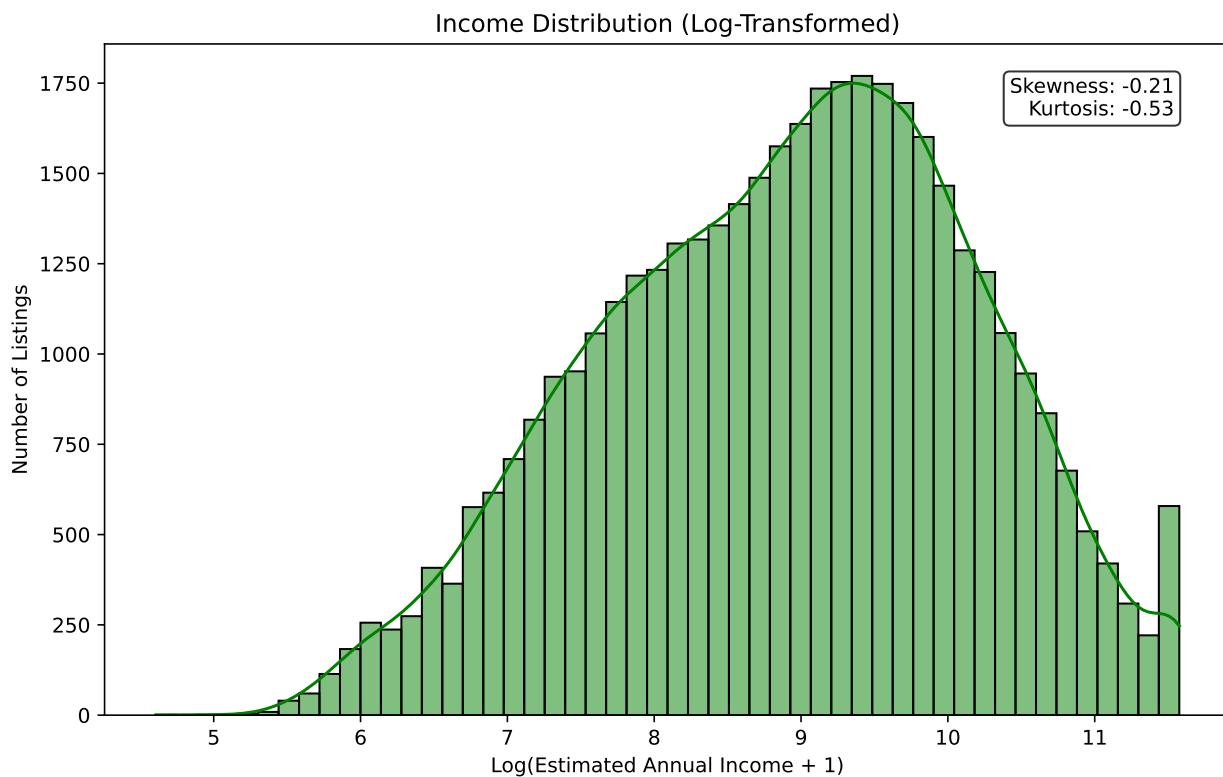
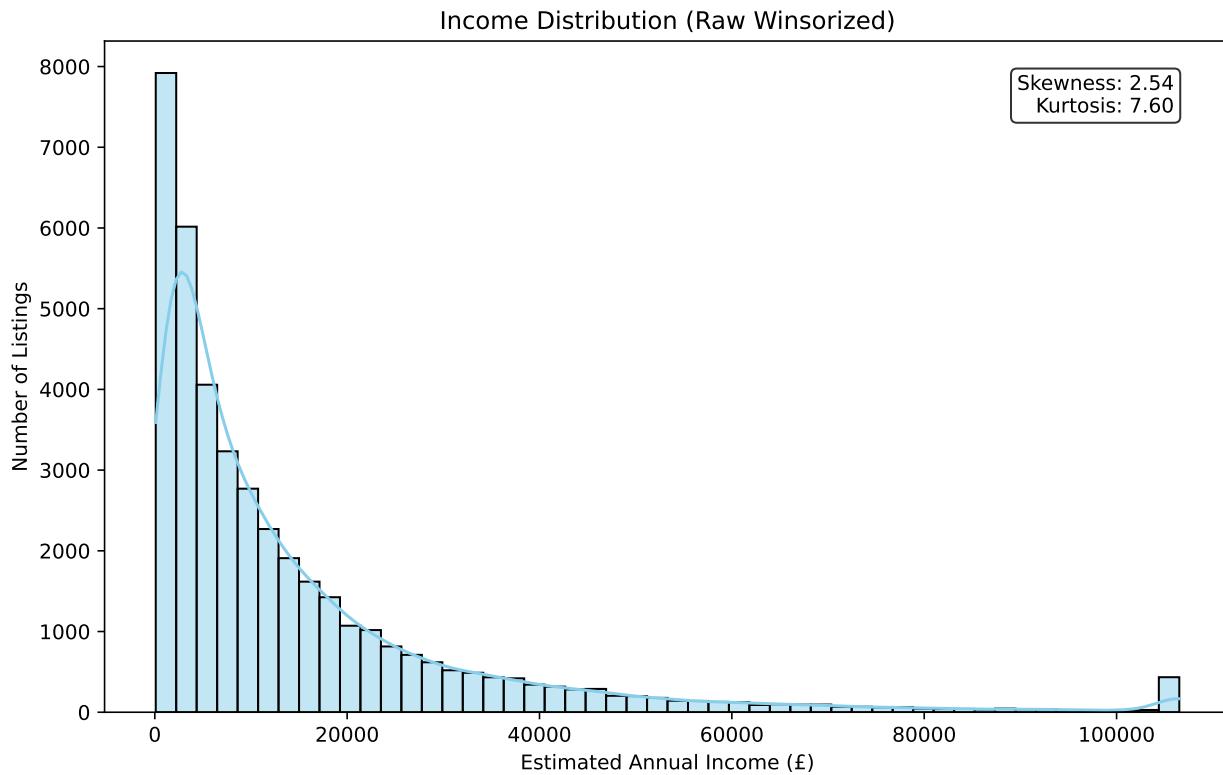


Mapping the average income now. I chose average ():



Median Estimated Income per Borough





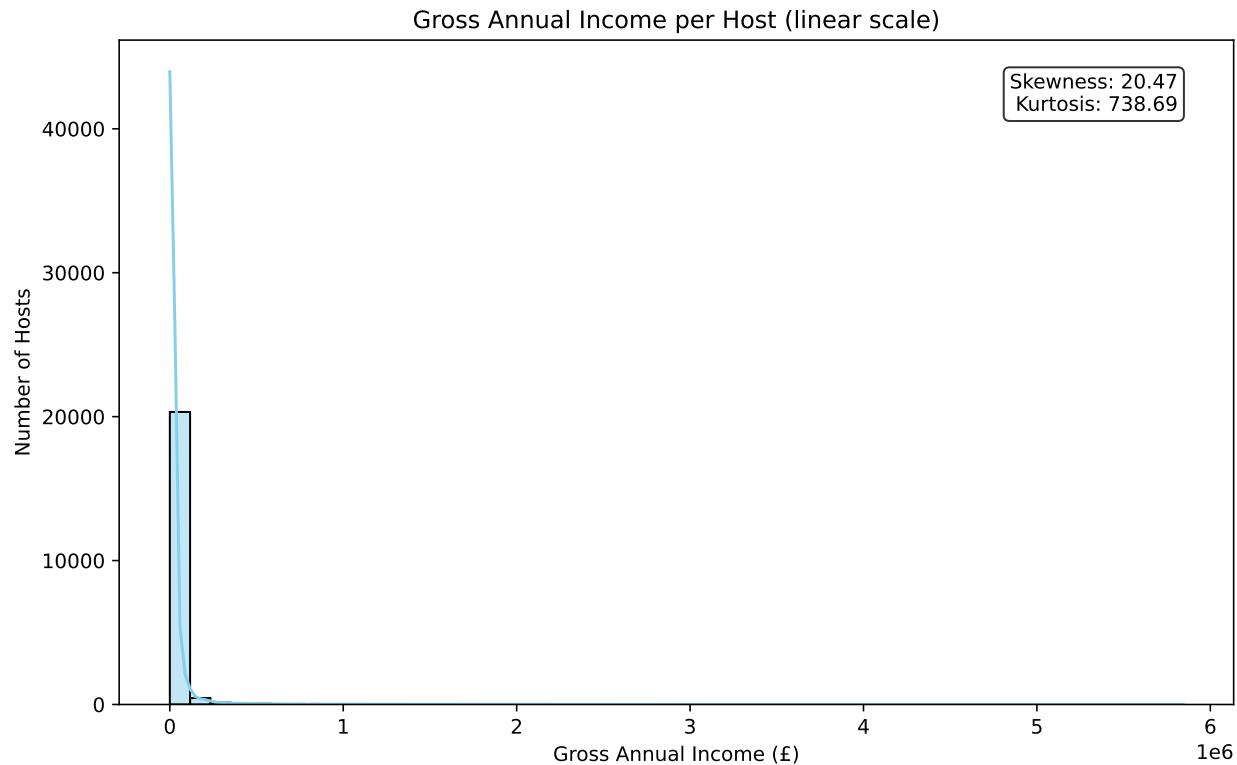
This code cleans the listings data, computes winsorized annual income, and then plots its distribution

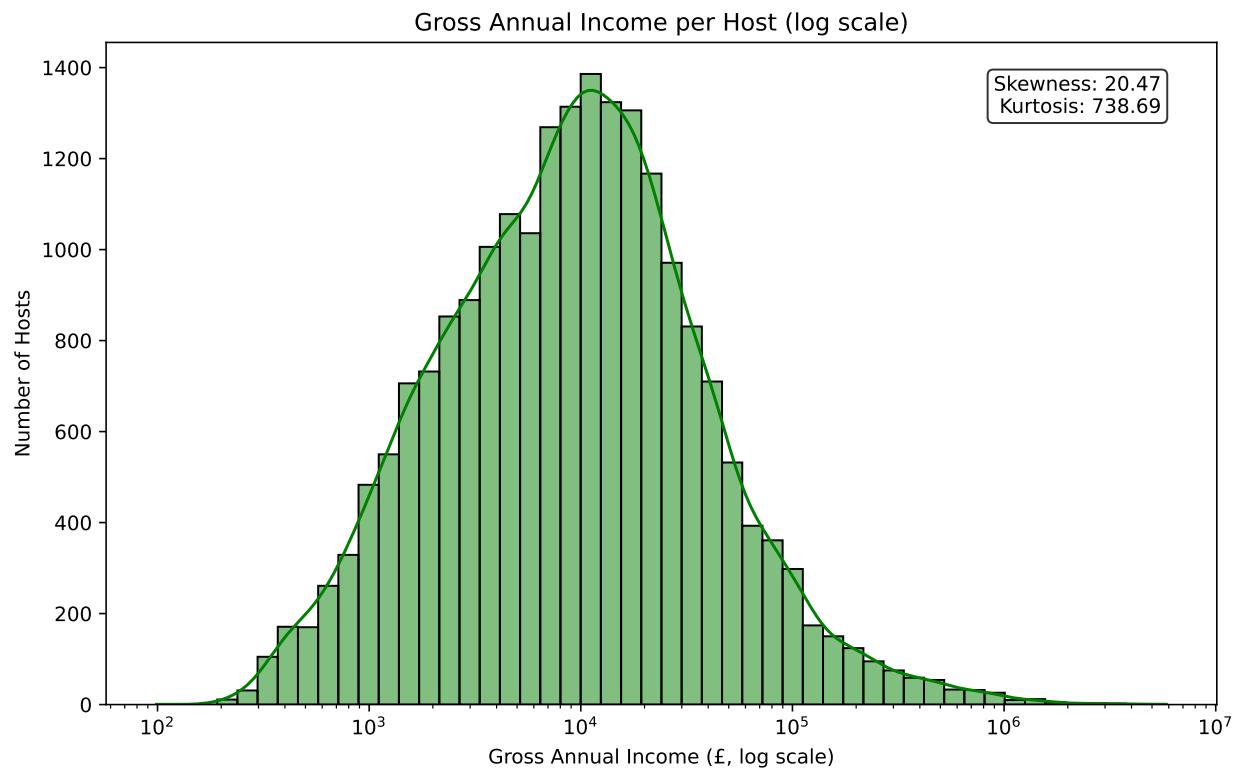
on both raw and log scales. The log-scaled view makes the skew much clearer, showing that—similar to the distribution of counts—there are a few areas of London with significantly higher estimated annual incomes, which also aligns with the spatial patterns seen in the maps.

Host-level gross income distribution

Skewness: 20.4706048271696

Kurtosis: 738.6896225721523

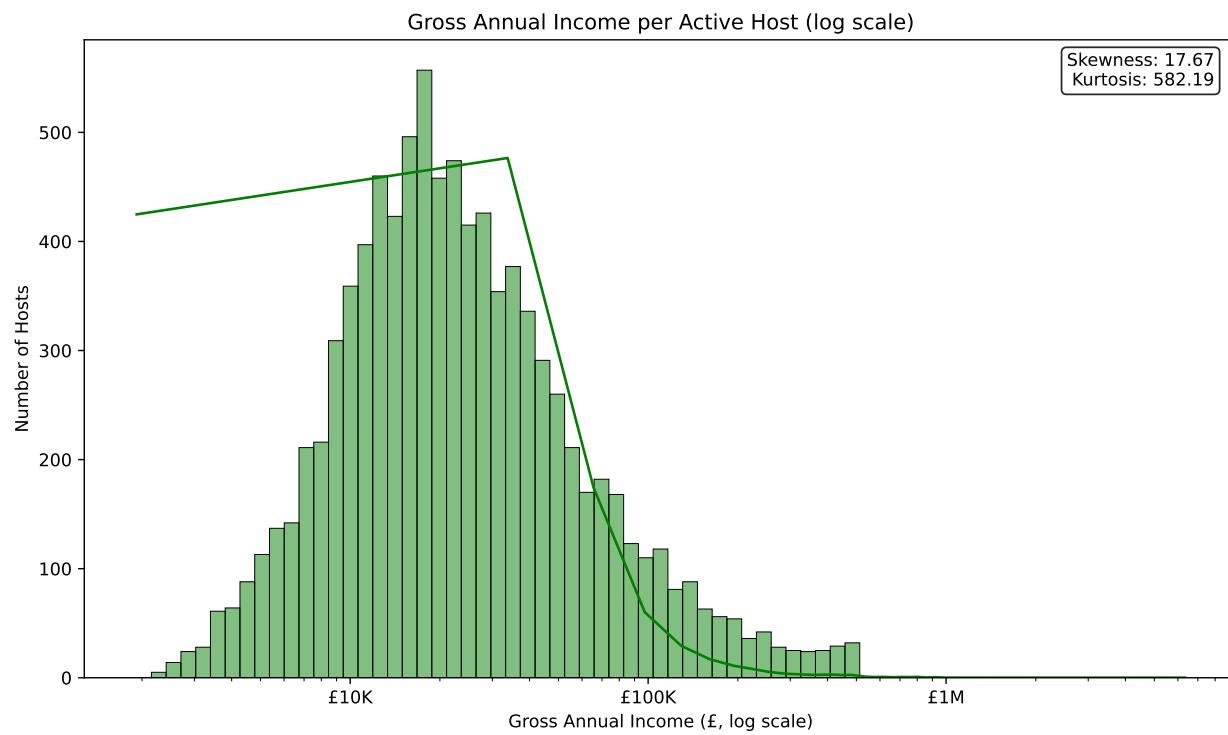
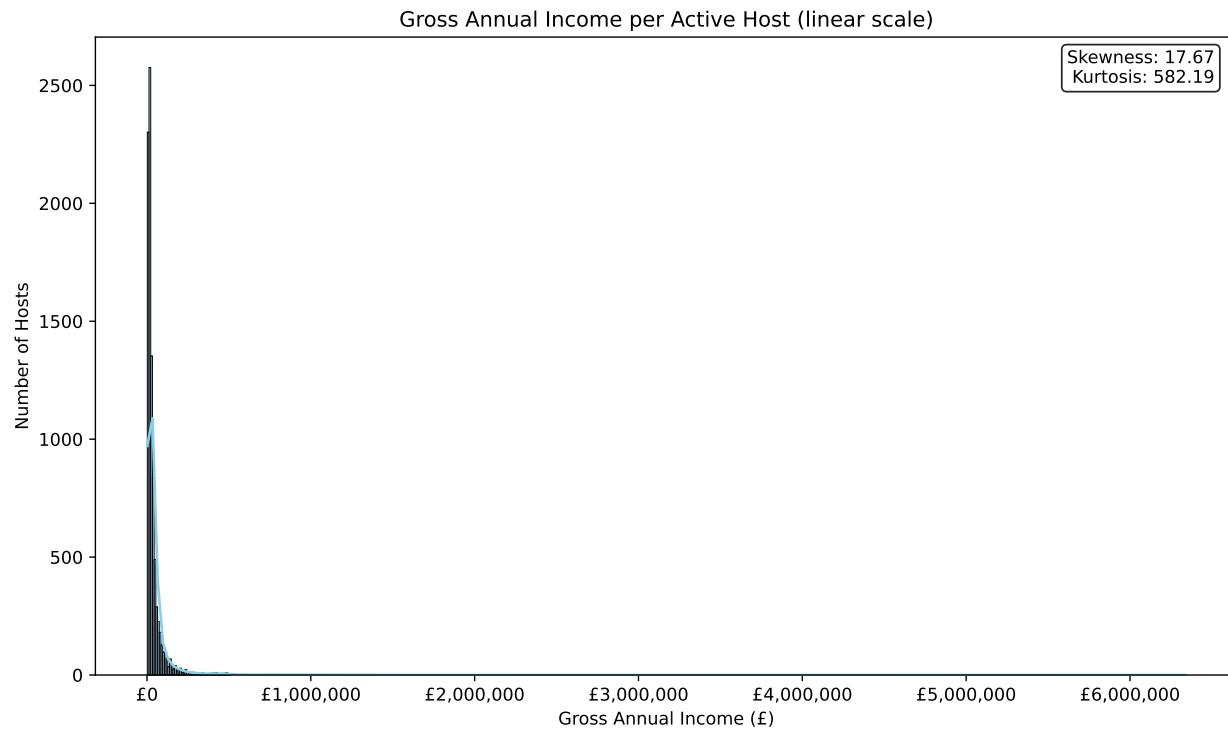




Active listings: 16,493

Active hosts: 9,254

Hosts with zero/non-positive income (should be 0): 0



Highest average income: Westminster (£25666.06)

Highest median income: Westminster (£15762.00)

Borough with most listings: Westminster (5770 listings)

Highest total income: Westminster (£148093144.90)

Highest average income per bedroom: City of London (£16864.13)

Clusters with ≥ 2 listings: 1806

Clusters with ≥ 3 listings: 705

Clusters with ≥ 5 listings: 248

These results show that duplication at the same address is widespread: 1,806 clusters have at least two listings by the same host, 705 clusters have three or more, and 248 clusters have five or more. This concentration of multiple listings at identical locations underscores how Airbnb is dominated by professional operators rather than casual hosts, reinforcing the argument that the platform is out of control.

Duplicate Airbnb Listings by Same Host at Same Address (10m tolerance)

