**Switzerland’s Housing Puzzle: Uniting Airbnb Analytics and FSO Data for Market Clarity**

To examine the effects of short-term rentals on housing availability and affordability in Swiss cities, this proposal assesses the viability of merging the Inside Airbnb dataset with the Federal Statistical Office (FSO) Housing data.

The integration of the datasets is feasible. While FSO gives macro-level housing metrics (e.g., average rent, vacancy rate, housing supply), Inside Airbnb delivers micro-level insights into rental activities (e.g., listing type, price, location). In terms of geographic coverage, timeframe (2018–2024), and format (CSV/Excel), they are complementary to one another and compatible.

**Data Quality Evaluation**

* **Inside Airbnb**: It provides excellent spatial and temporal granularity, including coordinates, room kinds, and availability, despite being crowdsourced and perhaps underrepresenting unregistered listings. It works well for spatial analysis and city-level aggregation.
* **FSO Housing**: It is a very trustworthy official government dataset that is updated every year. Although it lacks granularity below the city level and income-based affordability statistics, it does cover important metrics including rent, vacancies, and housing construction.

**Common Attributes and Compatibility**

* **Location**: City-level identifiers (such as Zurich, Geneva, and Lucerne) are provided by both datasets. Geographic coordinates are included in Airbnb ads, enabling spatial connections with FSO city boundaries.
* **Time**: Because both databases contain annual data, comparisons between years are possible.
* **Granularity and Scope**: The FSO's city-level scope can be matched by aggregating Airbnb's fine-grained data. The datasets can be normalized to harmonize their structure and overlap in terms of city coverage.

**Techniques for Integration**

* **Temporal Alignment**: Compile Airbnb data once a year to correspond with the FSO's reporting schedule.
* **Spatial Matching**: Municipalities can be assigned Airbnb properties by using spatial joining or GIS.
* **Normalization**: To assess market saturation, express Airbnb listings as a percentage of the entire dwelling stock.
* **Data Cleaning**: Ensure consistent time formats and standardize location names (e.g., "Genève" vs. "Geneva").

**Backup Plan**

Alternative sources like EU tourism databases or municipal housing surveys could be used if more thorough affordability data is required. An ideal dataset would include district-level vacancy rates and rent by income category, if these are not accessible.