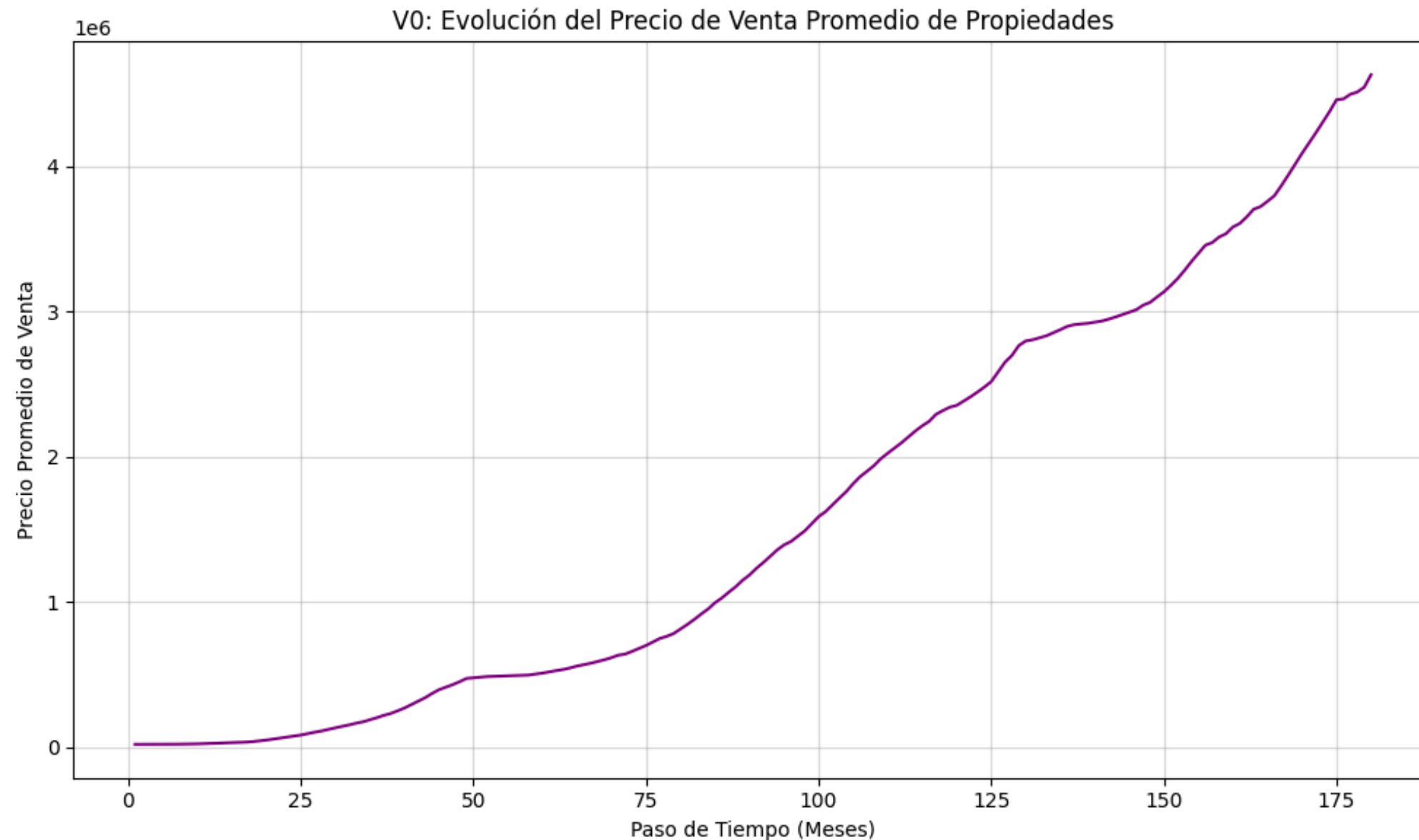


# FINAL PROJECT

## PROGRAMMING I

NÚRIA BERNADES  
ALBA RODRIGUEZ  
MELANIE PAREDES  
BOUCHRA AADADOUCH

# EVOLUTION OF THE AVERAGE SALE PRICE OF PROPERTIES (V0)



- Hosts can buy properties in any area of the city (without any special rules).

- **X axis** - number of months that have passed (180 months = 15 years)
- **X axis** - the average selling price of the properties.

*When hosts can buy everything they find, in any area, competition increases significantly...*



**PRICES INFLATE**

**Over time, the market becomes highly speculative, with prices soaring to over 4 million.**

# EVOLUTION OF THE AVERAGE SALE PRICE OF PROPERTIES (V1)

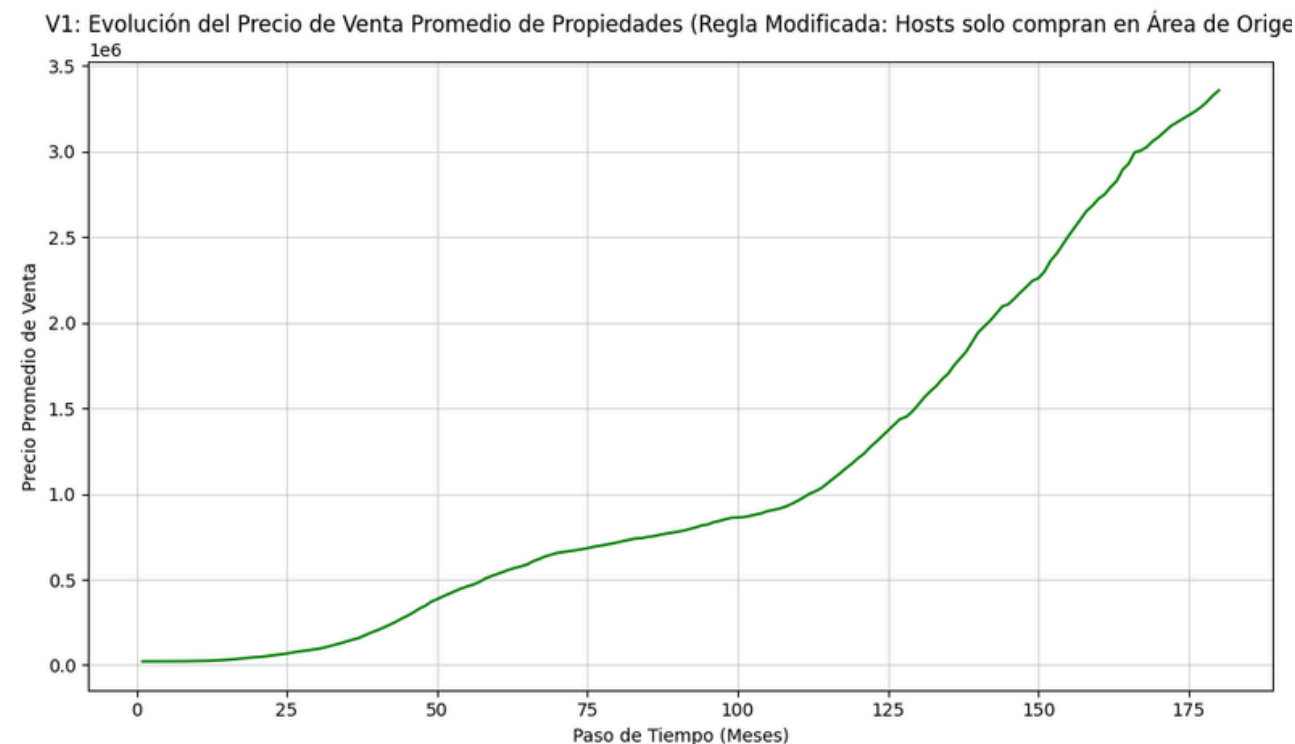
## ORIGINAL CODE (WITHOUT ANY RESTRICTION)

```
for pid in opportunities:
    place = city.places[pid]
    ask_price = place.get_ask_price()

    # Offer condition: the host can pay
    if self.profits >= ask_price:
        bid = {
            'place_id': pid,
            'seller_id': place.host_id,
            'buyer_id': self.host_id,
            'spread': self.profits - ask_price,
            'bid_price': self.profits
        }
        bids.append(bid)
```

## MODIFIED CODE (WITH RESTRICTION)

```
if city.is_v1_active and place.area != self.area_of_origin:
    continue
```



- Hosts can only purchase properties located in the same zone as their original zone.

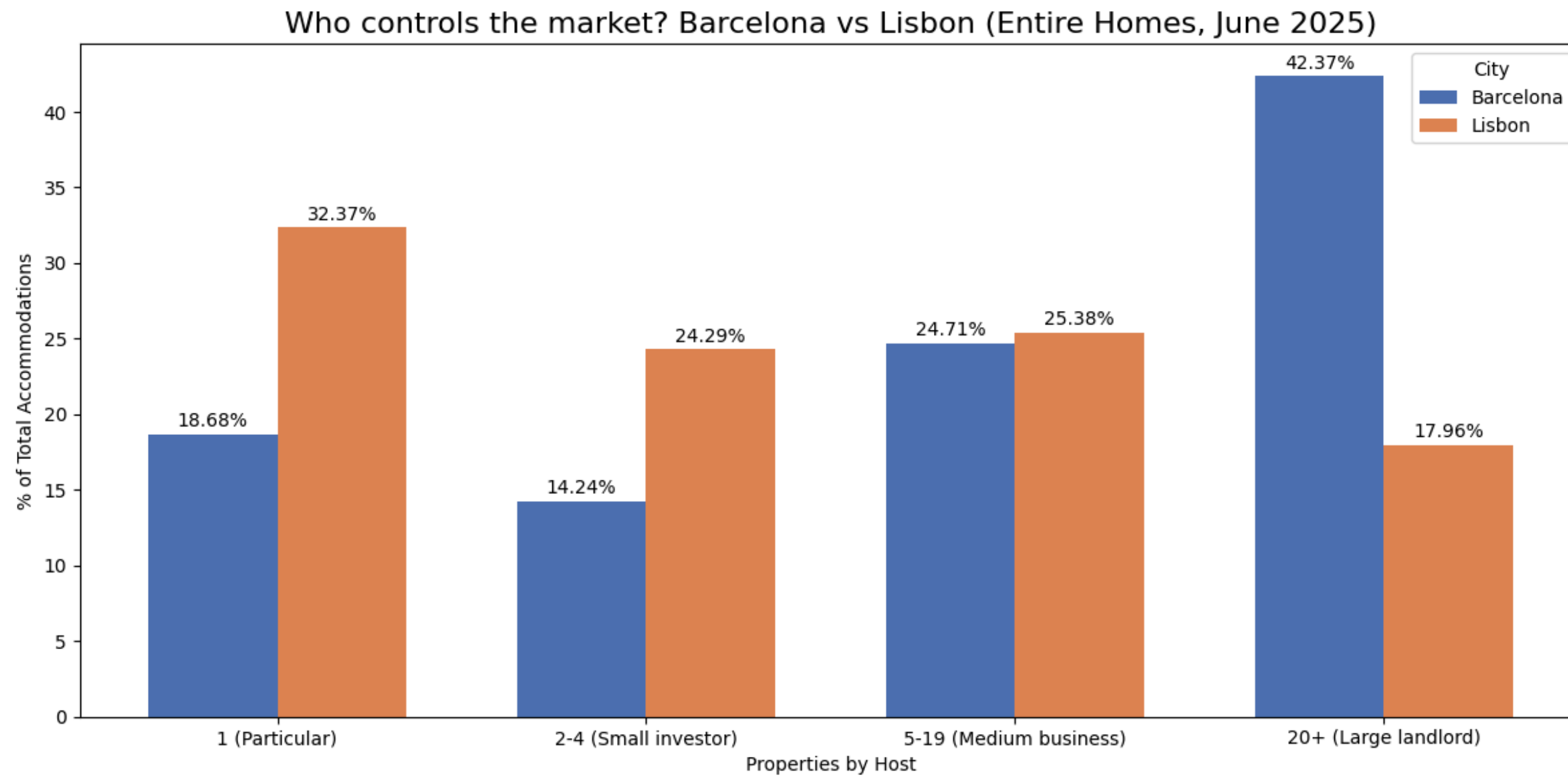
- Growth in average sale price is significantly lower in V1.
- Prices remain more stable over time because owners can no longer freely expand into wealthier zones.
- Reduces competitive bidding between zones (which means that transactions are closed at lower prices)

**This prevents inter-city expansion, faster property concentration, and a rapid increase in average sale prices.**



## PART 2: WHO CONTROLS THE MARKET? BARCELONA VS LISBON (ENTIRE HOMES – JUNE 2025)

We wanted to check if both cities are equally dominated by large multi-property hosts, or if Lisbon/Barcelona is more dependent on professionalised ownership.



### Barcelona

- Far more concentrated market.
- **Large landlords (20+) control over 40%** of all entire homes.
- Suggests stronger professionalisation and scalability.

### Lisbon

- Market is more fragmented.
- Private hosts (1-4 accommodations) represent a much larger share.
- Lower dominance of “big players”

**Barcelona’s entire-home market is significantly more concentrated, driven by large multi-property hosts, while Lisbon remains more diversified.**

**THANK YOU!**