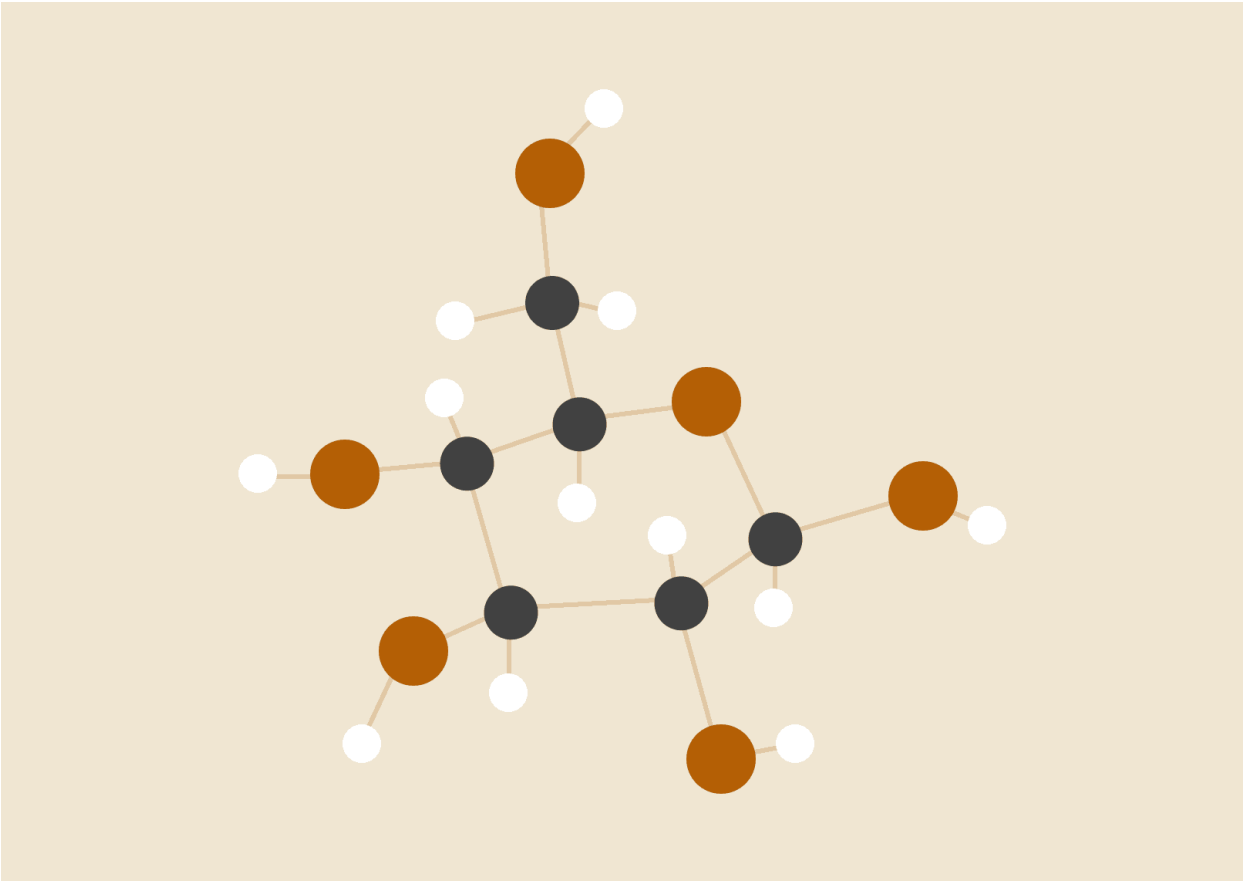
BELGIAN HOUSING MARKET

Analysis focused on Investment Opportunities



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INTRODUCTION

This report aims to display and discuss possible opportunities in the Belgian housing market for investors.

METHODOLOGY

The data from the housing market was extracted from the website Immoweb via web scrapped techniques written in Python.

We focused on houses that were for sale, excluding listings that were biddings, life-annuities and properties whose subtype is outside of the scope of this report (castles, mansions etc.). After that, we cleaned the data for any listing that had core information missing (price, size, location), had wrongly inputted values (for example, garages being misclassified as houses) and outliers via Tukey method.

We were able to have 30.000 advertisements with the following variables:

Subtype	City	Postal Code	District	Province	Price
Year of Construction	State of Construction	EPC			
Living Area	Total Area	Garden Area	Terrace Area	Living room Area	Kitchen Area
Number of Bathrooms	Number of Rooms	Number of Bedrooms	Number of Façades		
Has or Not Swimmingpool	Has or Not Fireplace	Has or Not Equipped kitchen	Has or Not Terrace	Has or Not Attic	Has or Not Basement

Some categorical variables were aggregate into smaller subgroups to help with with the distinction between their tiers:

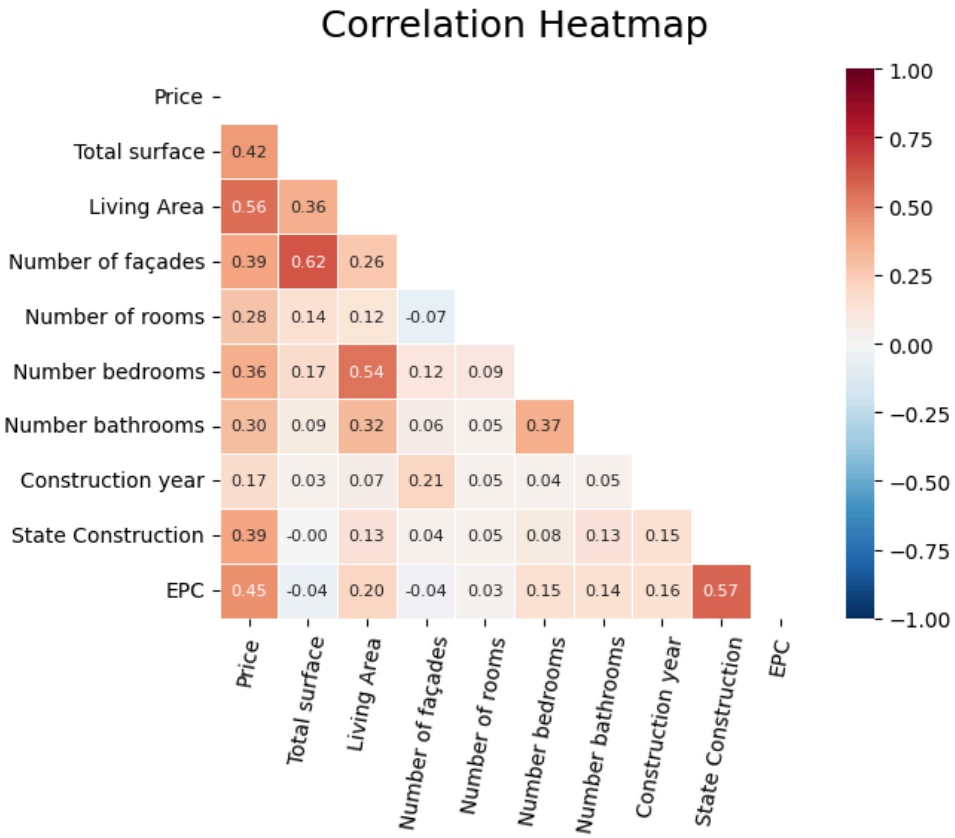
- **EPCs** which vary from *A++, A+, A, B, C, D, E , F, G* were regrouped and reclassified as *As, B, C, D, E, F, G*. Reasoning being there were little A++ and A+ properties

available to make their analysis meaningful.

- **The State of Construction** was regrouped and reclassified into: *Excellent* (previously “As new”), *Good* and *To Restore* (aggregation of To Renovate, To be done up, to renovate). Reason being the distinction between some of those classifications are not clear in Immoweb.

From those set of variables, besides location, we made a correlation heatmap where the conclusion was that the top five variables that made the most impact in the pricing of a house are:

- Location
- Size of the living area (m²)
- EPC score (From A to G)
- Total Area of the Property (m²)
- State of Construction (Excellent, Good, To restore)

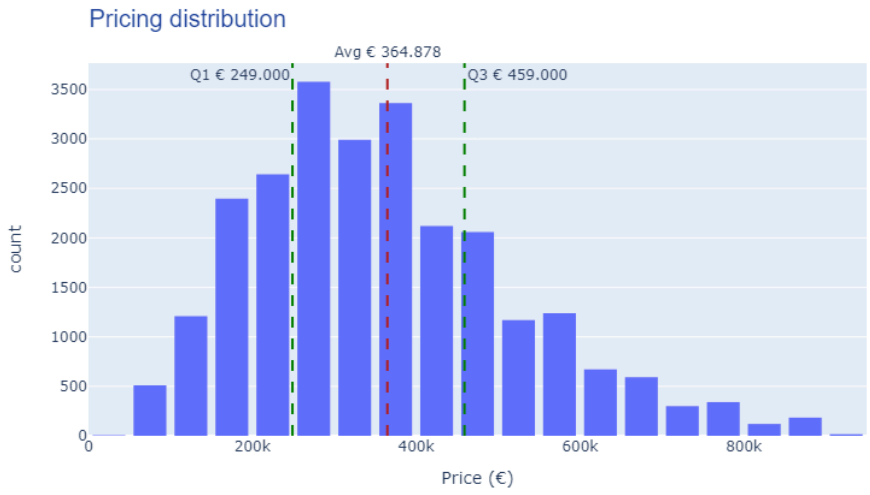


As one can see, the number of façades has the same correlation with pricing as State of Construction, but since State of Construction encapsulates more information we made a choice on focusing on this variable instead.

Other “yes or no” variables such as “has attic”, “has fireplace”, “has swimming pool” were very weakly correlated to the price (under 0.1) and therefore were decided as not meaningful for the scope of this analysis.

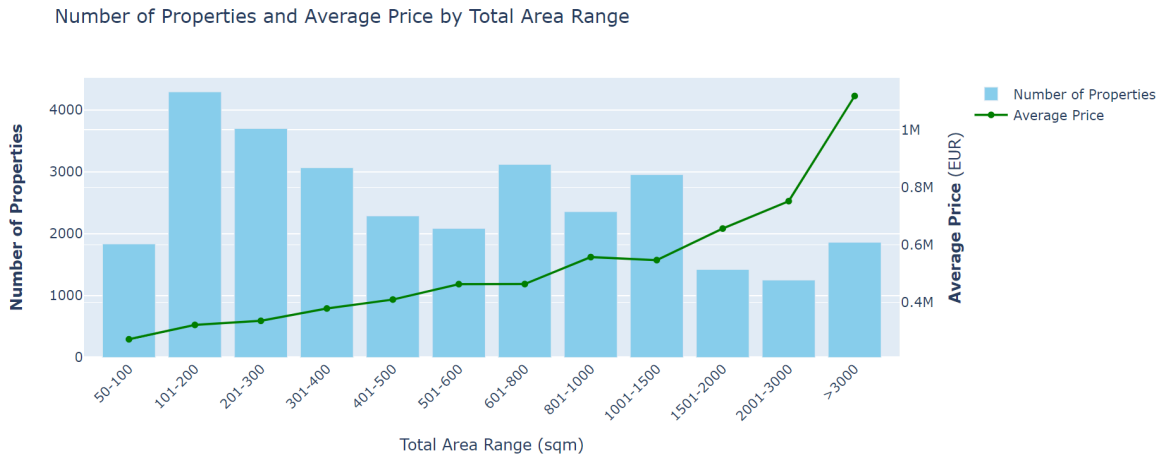
GENERAL OVERVIEW OF THE MARKET

The median price of a house in Belgian is € 364.878 with the following distribution in terms of quantity of properties per price:



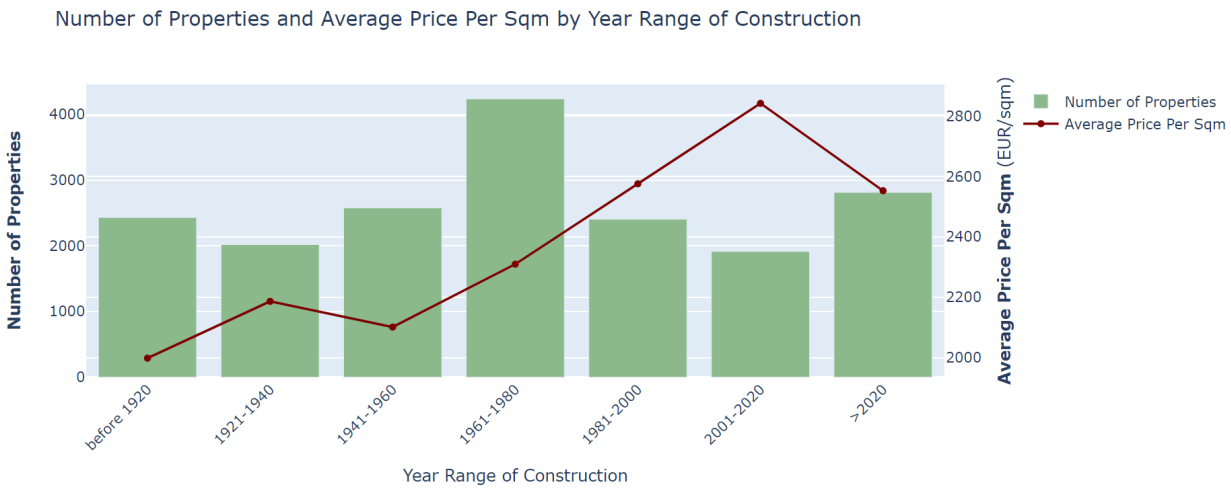
As an investment, it’s expected that most of the properties (Q1 to Q3) will range in price around €250.000 to €450.000.

For this range, they are expected to have a Total Area (m²) to be around 100 to 500 m².

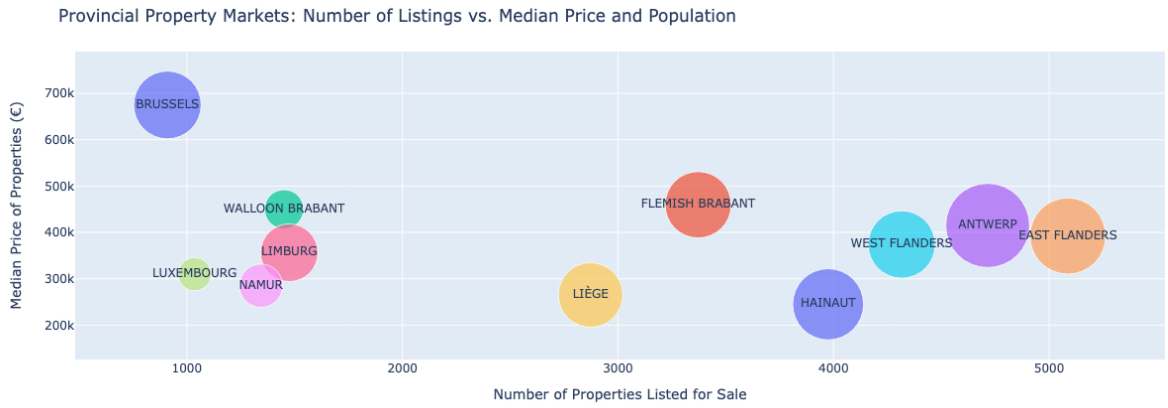


In this graph you can see that most of the houses were built from 1960 to 1980 and also how the price per sqm varies from the year of construction. An interesting observation from this graph is that the cost of sqm for houses built after 2020 is lower than for houses built from 2000 to 2020. Our hypothesis is that this is due to the crisis and market needs.

We can also conclude that such real estate is more interesting for investment since its lower price has a greater probability of valuing for in the future.



Location wise, we can see that houses will be mostly located in the districts of Liège, Flemish Brabant, Hainaut, West Flanders, Antwerp and East Flanders since those contain the biggest supply of housing.



Knowing now the overview of the market, we can now explore how some of the

variables of interest (Location, Size of the living area, EPC, Total Area of the Property and State of Construction) can give us insight into investment opportunities in the Belgian housing market.

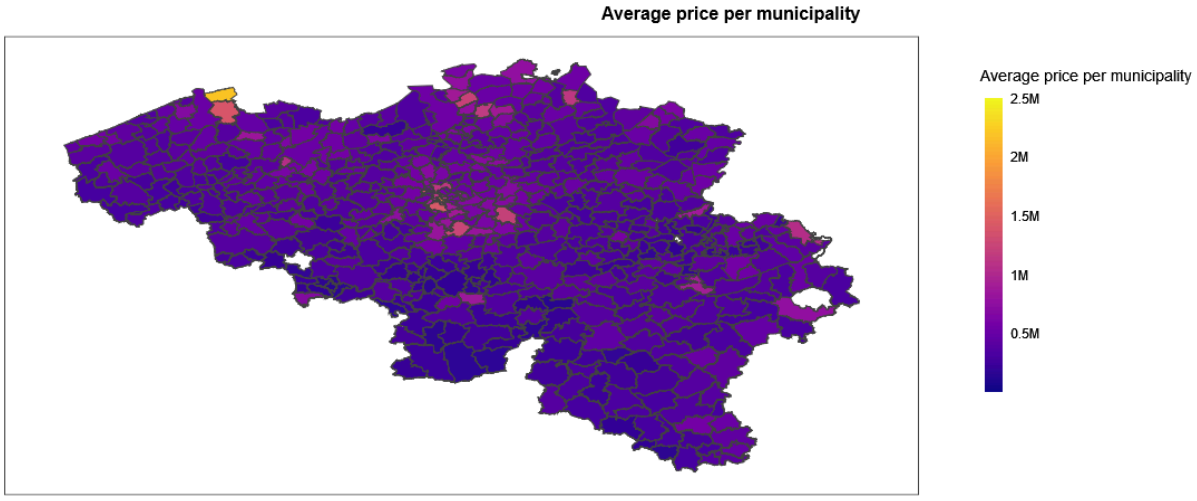
LOCATION

In the previous graph, the circles are to the size of the population of the district.

Therefore we can see that Brussels has a sizable population with a low volume of supply which explains the high median price for housing. If one would look at this difference in demand and supply as an investment opportunity, looking at regions around Brussels can be an interesting take.

Flemish Brabant is located around Brussels and has a sizable population with a median pricing around 450k and a median number of properties. Seeing how Brussels' population will have to move further to find housing, bringing with them their higher purchasing power, investing in housing in the Flemish Brabant district presents itself as an opportunity.

We can see a more detailed display of average price per location in the following map:

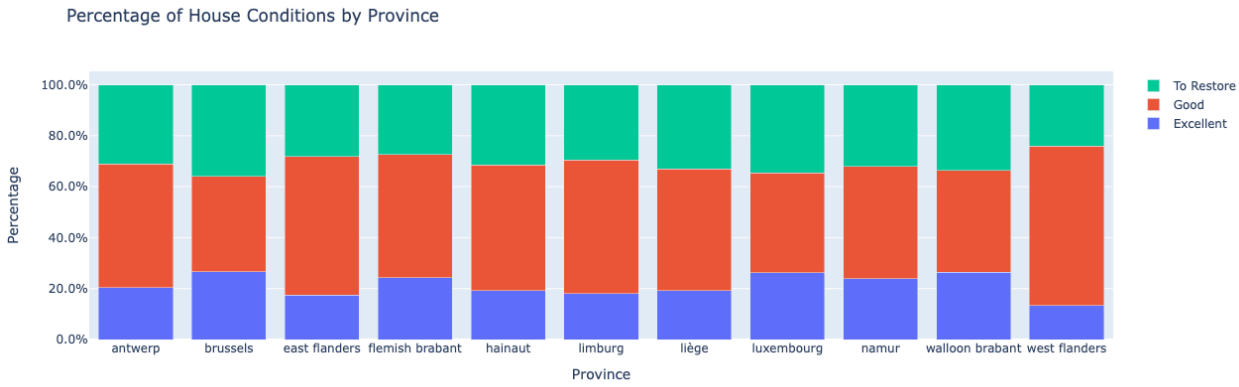


STATE OF CONSTRUCTION

Even though most houses in Belgium are in a Good condition, more than 20% of the houses are in need of some kind of restoration or work.

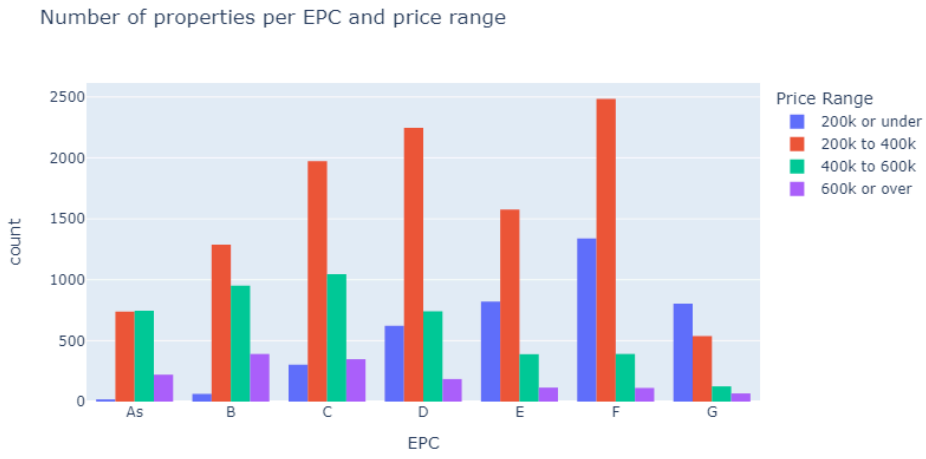
West-Flanders has the biggest ratio of houses with Excellent and Good Conditions, being therefore a safe investment for those who want to rent. Its median price is around 420k and it has a sizable supply of houses, as population size per the previous graphs.

In terms of buying for reselling, since most of the districts have a good proportion of houses that need to be restored, one could focus on those that are well populated and have an average supply of houses as Liège.

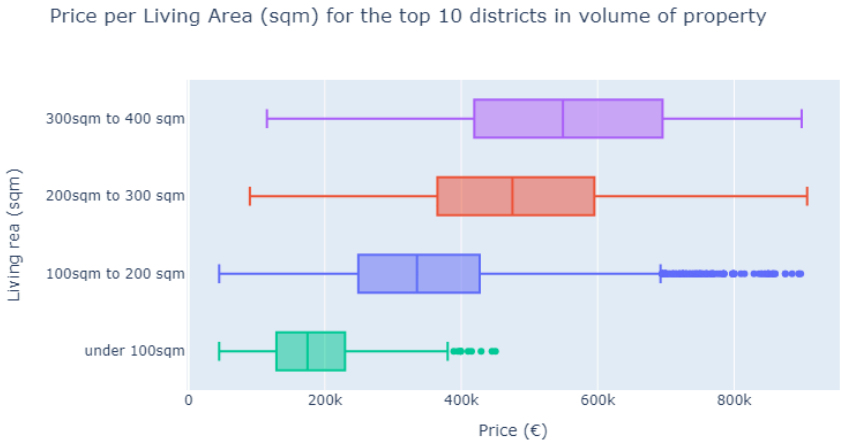


EPC

Most houses in Belgium are between EPCs C to F and in the price range of 200k to 400k euros.



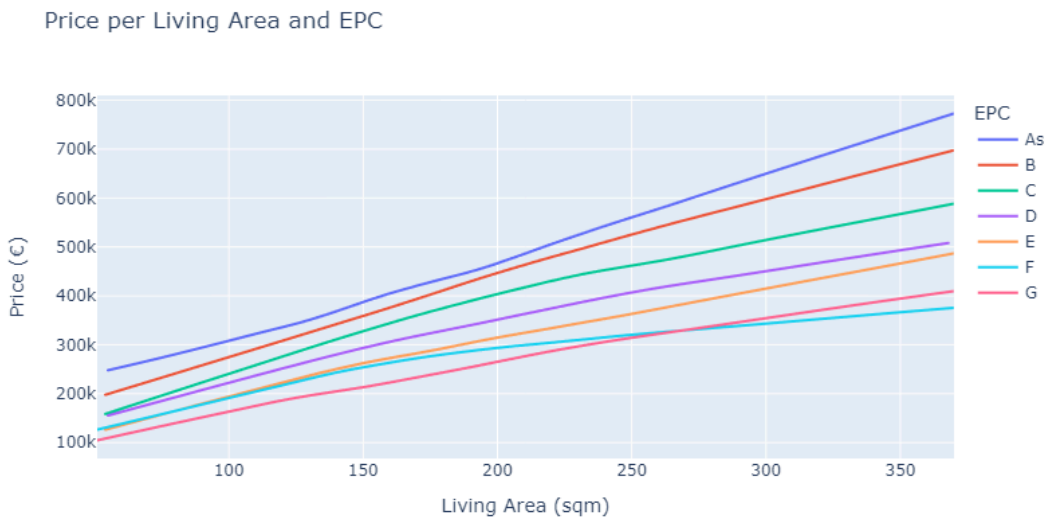
By the graph below, it's expected then that their living area will be between 100 to 200 square meters.



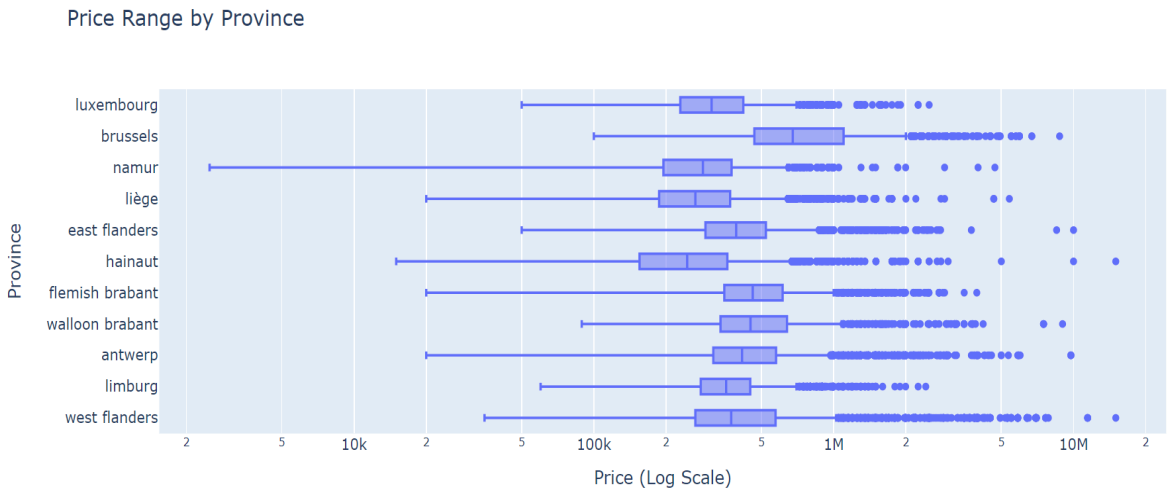
If we look again at the EPC, now in relation to pricing, one of the fastest ways of flipping a house could be to change their windows to better ones or changing the heating system since those factors affect the EPC score of a house.

We can see per graph below how for the same living area of a house, there is a price increase if the EPC improved.

If we think about a house costing between 200k and 400k, with 100 to 200 square meters, and analyze the trend lines below for the expected selling price, we can infer that buying a house of 200 sqm for around 350k euros in an EPC score of D and flipping it to an EPC score of C, can yield a profit of 55k euros.



This price range can be found in Liège and Hainaut as we can see below.



From this graph it can be seen that quite a large amount of real estate is beyond the cost of 1,000,000 euros, and for Brussels it is more than 2,000,000. More than 5% of the supply consists of such houses. And this is a good opportunity for investors who want to invest in such properties for commercial purposes such as hotels, restaurants, etc.

CONCLUSION

1. Flemish Brabant is a good investment for buying and reselling without major reforms due to the high demand and low supply coming from Brussels.

2. Houses built in 2020 look devalued due to external factors and have a chance of increasing with time.

3. West-Flanders has opportunities for buying and renting without major reforms: high demand, high volume of houses and prices in the median range of the country.
4. Liège and Hainaut are good opportunities for buying houses and improving their EPC score to ressell with a profit.
5. For high level investments, there are quite a lot of expensive real estate that can be used for commercial purposes to generate more income.