Individual Project - Open data source

Théau BRUNO

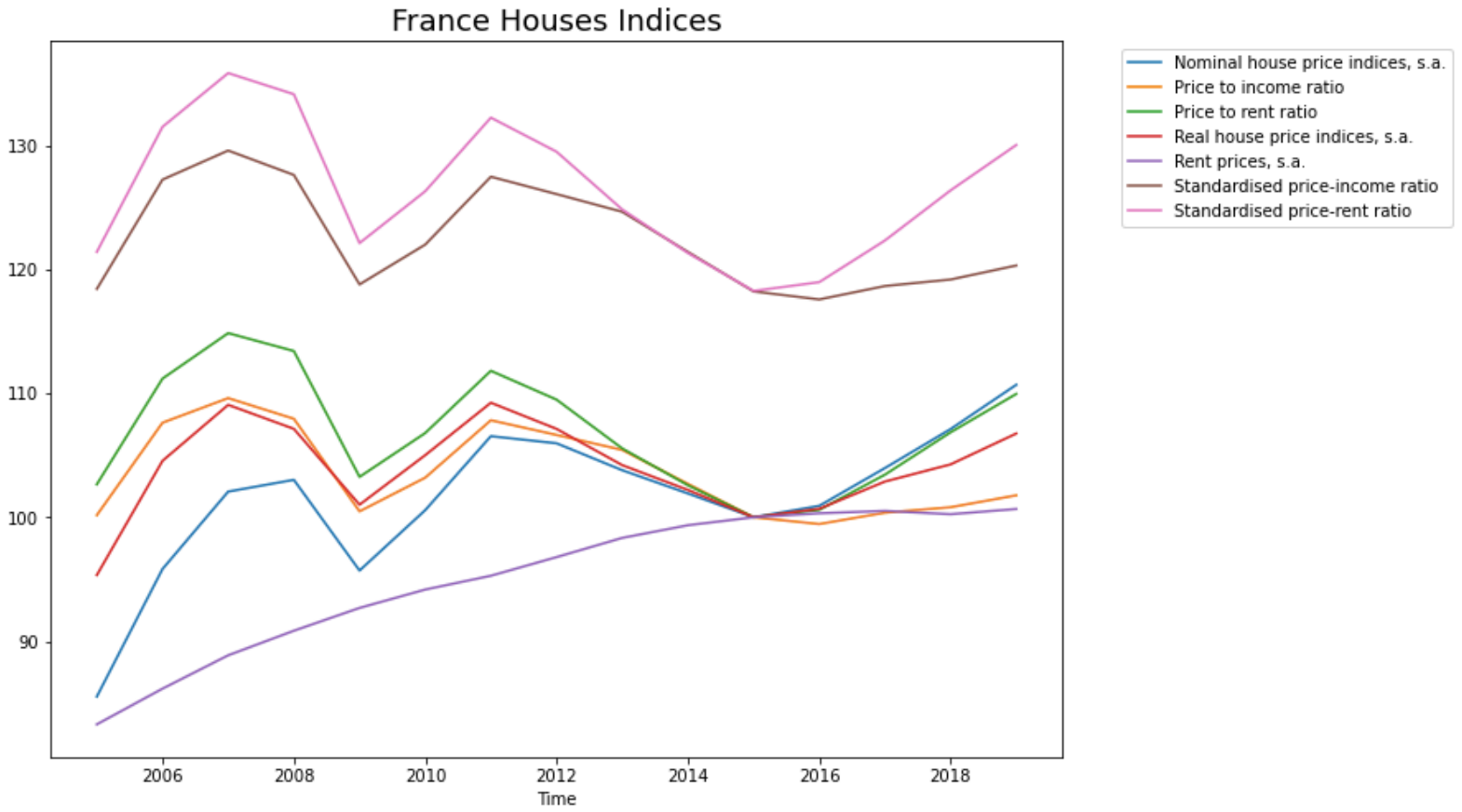
HOUSING PRICE

Region: Western Europe

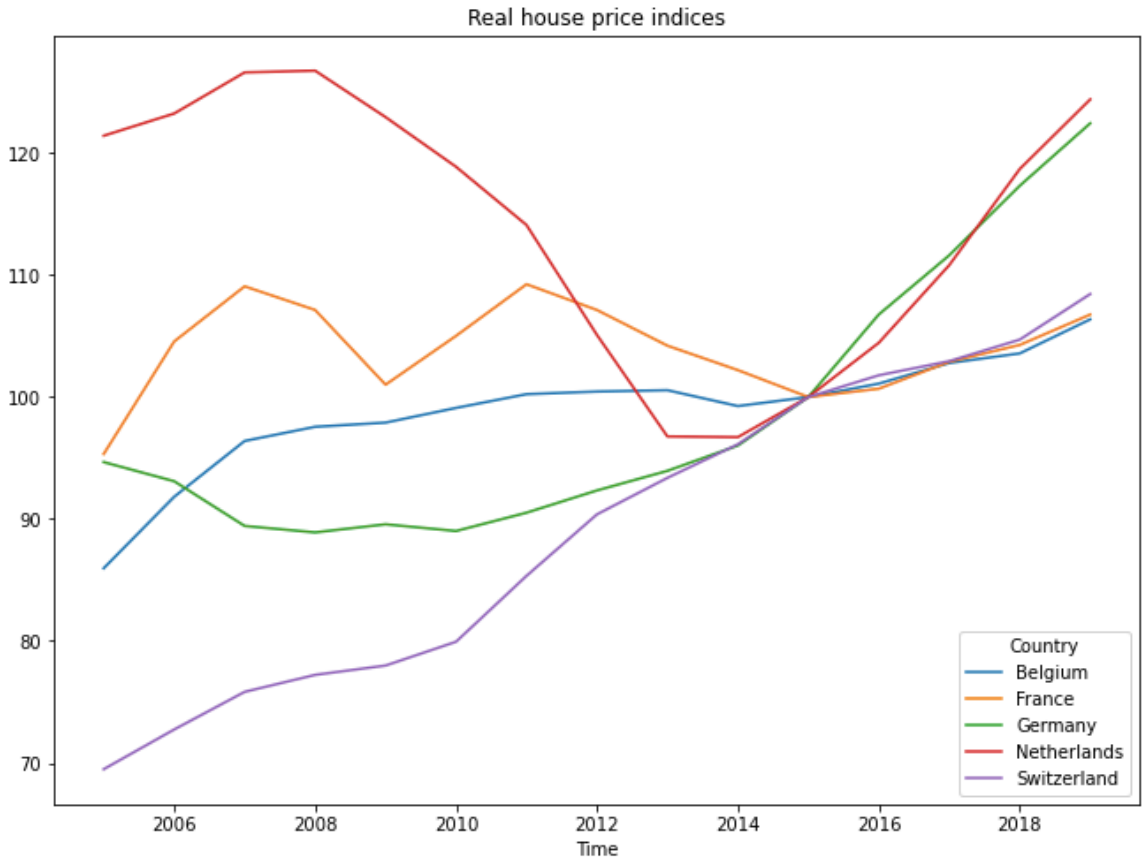
- Belgium
- France
- Germany
- Netherlands
- Switzerland

Objective: Build a linear regression model to explain the relationship between the housing price and the factors.

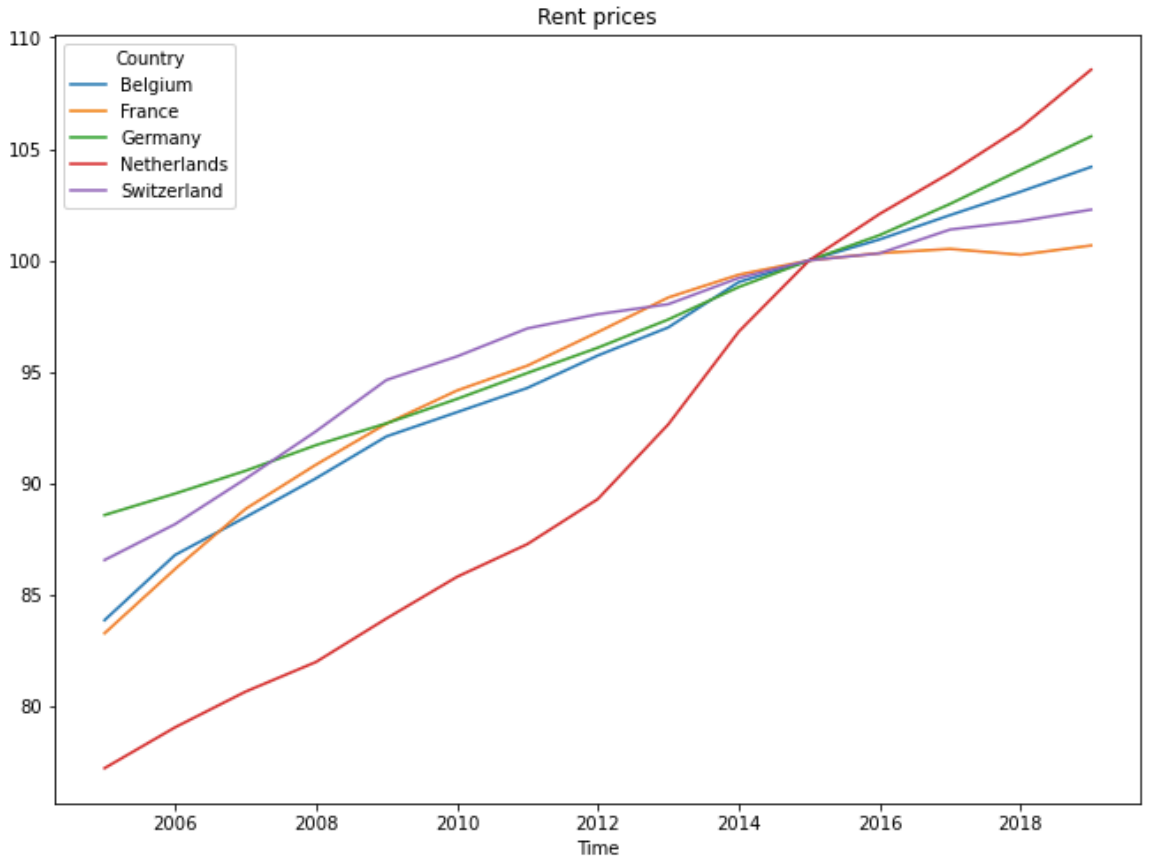
Example of House Indices for a Country



Real house price indice



Rent Price plot



Features:

- Economy
- Demography
- Finance

Target:

- House indices

Open Source website used : oecd.org

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23 FEATURES:

Country
Time
Construction, s.a.
Exchange rates,  monthly averages, National currency per US dollar
Exports in goods, s.a.
GDP Exports; constant prices, s.a.
GDP Government consumption expenditure; constant prices, s.a.
GDP Gross fixed capital formation; constant prices, s.a.
GDP Imports of goods and services; constant prices, s.a.
GDP Private final consumption expenditure; constant prices, s.a.
Gross domestic product; constant prices, s.a.
Imports in goods, s.a.
Long-term interest rate
Total employment: all persons, s.a.
Demography
Long-term interest rates, Per cent per annum
Short-term interest rates, Per cent per annum
Exports of goods and services, volume in USD (national accounts basis)
Goods and services trade, volume in USD
Gross domestic product, volume, growth
Gross domestic product, volume, market prices
Imports of goods and services, volume in USD (national accounts basis)
Unemployment rate
Real house price indices, s.a.
Rent prices, s.a.
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Real Price Predicted

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Linear Regression Score : 73.9 %
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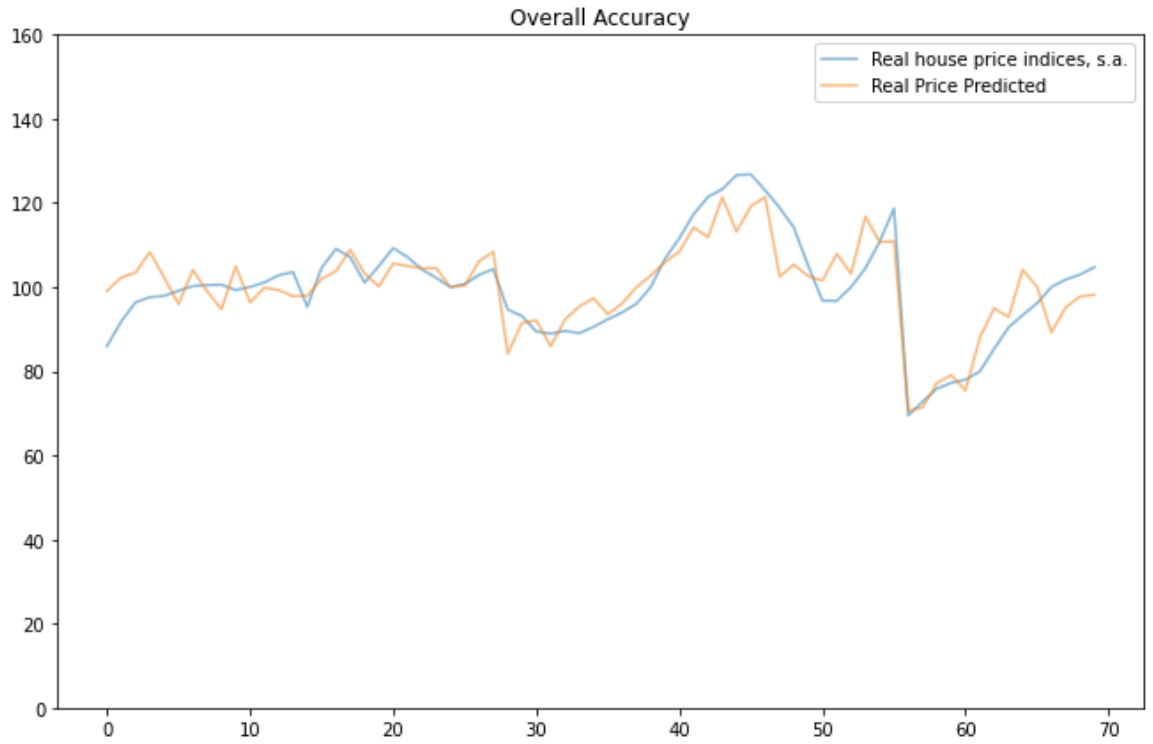

Rent Price indice

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Linear Regression Score : 88.9 %
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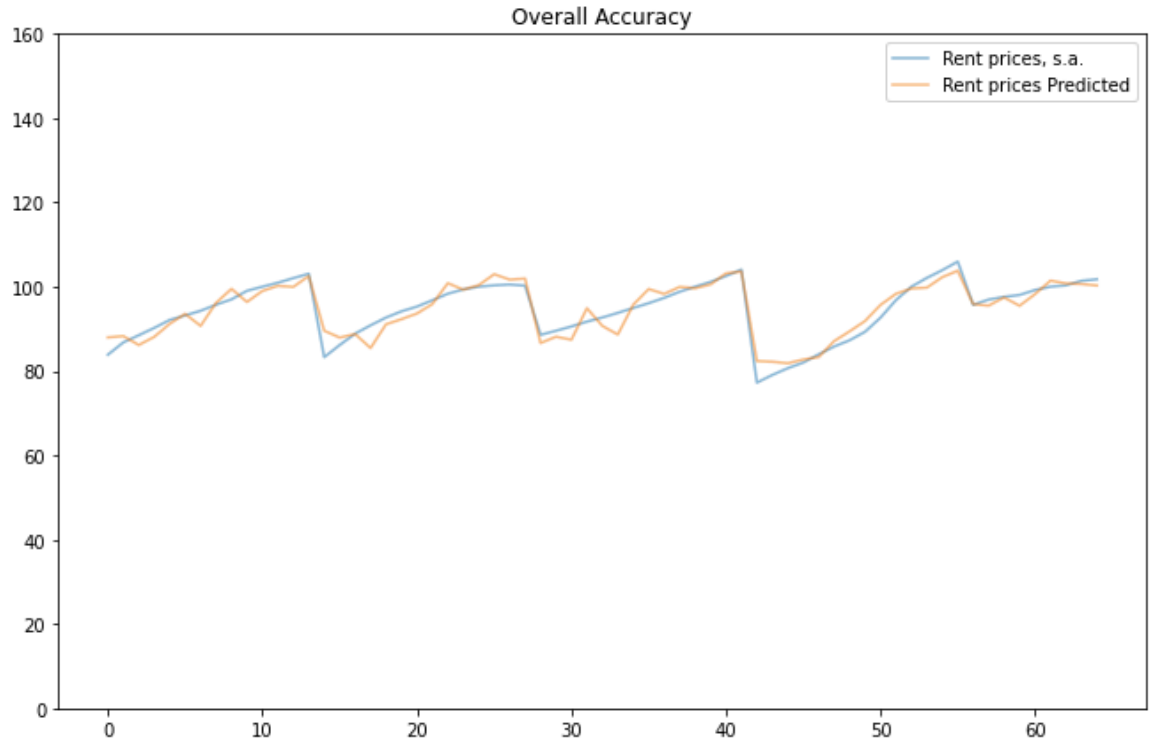
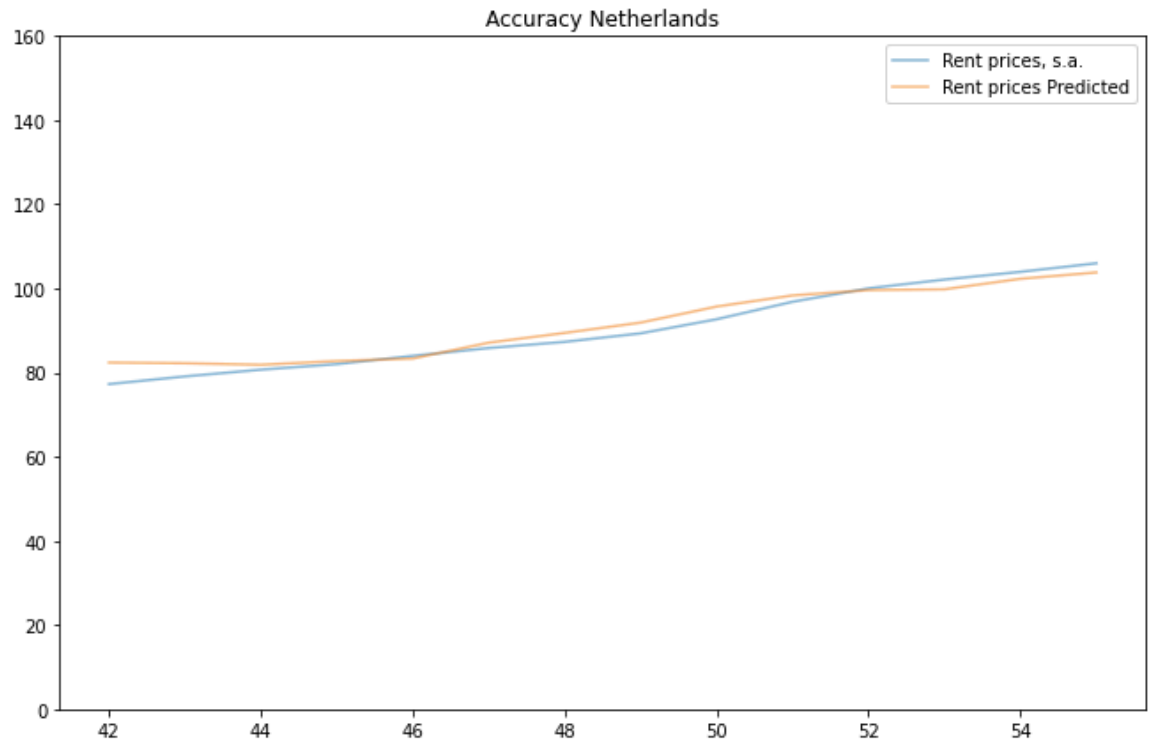


Accuracy for Netherlands



Features with significant impact:

Out[57]:

	Features	Coefficient
0	constant	48.5
1	GDP Private final consumption expenditure	2.2
2	Short-term interest rates	-1.5
3	Unemployment rate	1,5

$$\hat{Rental}Price \simeq 48.5. + 2.2 * GDP - 1.5 * INT + 1.5 * U.R$$