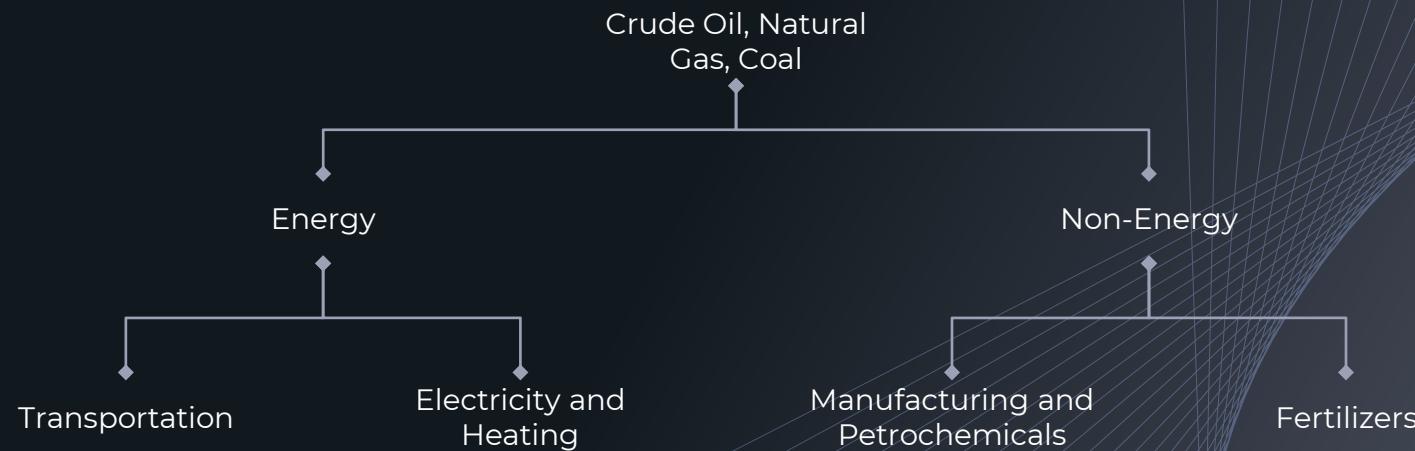
A photograph of an oil pumpjack operating in a field at sunset. The sky is filled with warm orange and yellow hues. The pumpjack is positioned in the center, with its arm extending upwards. The background shows a flat landscape with some electrical towers and wires.

Oil and Gas consumption and prices

Long-term forecasting

Ironhack-Berlin
31.07.2020

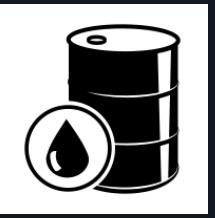
Fossil fuel products and uses



1.

Factors impacting Oil & Gas prices

.....and how?



Demand



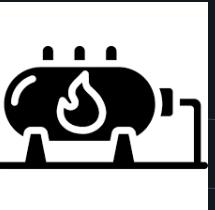
Global market changes



Supply



Governmental regulations



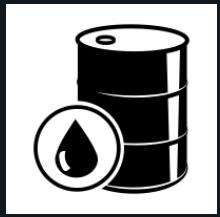
Gas storage



Financial forecasts



Weather forecast



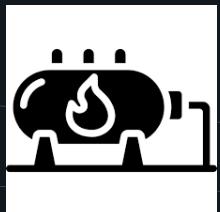
Global market changes



Supply



Governmental regulations



Gas storage



Financial forecasts



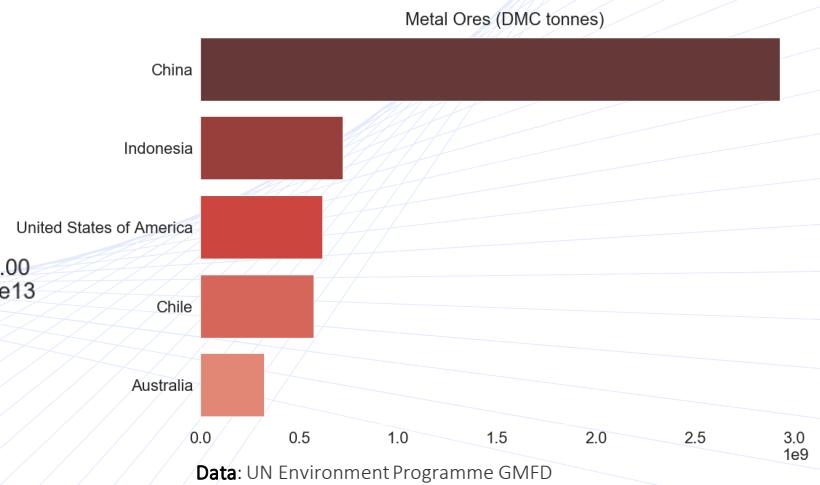
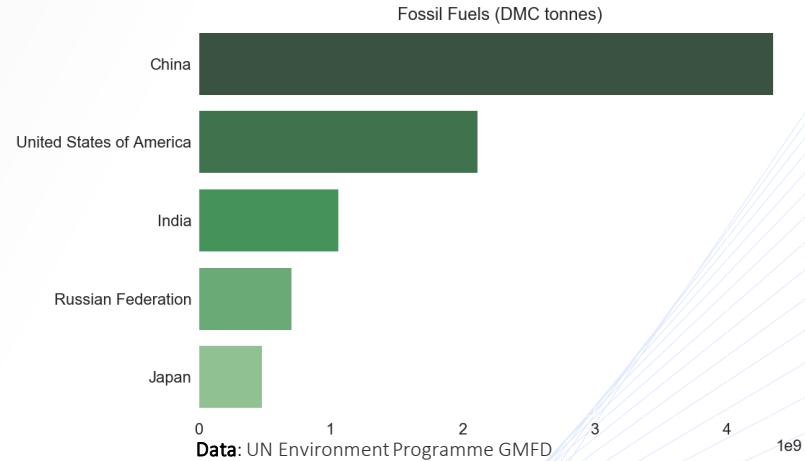
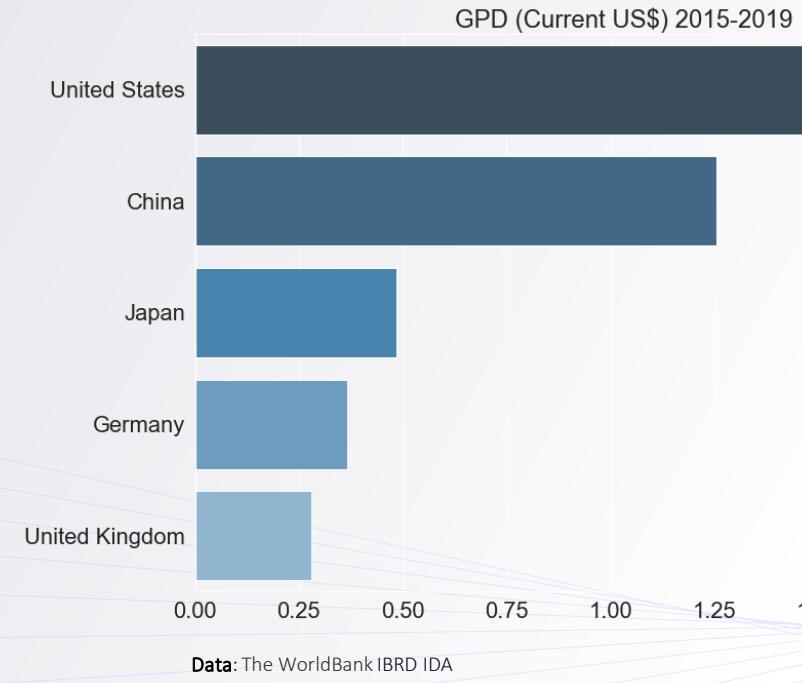
Weather forecast



2.

Who has the power?

.....and how much?

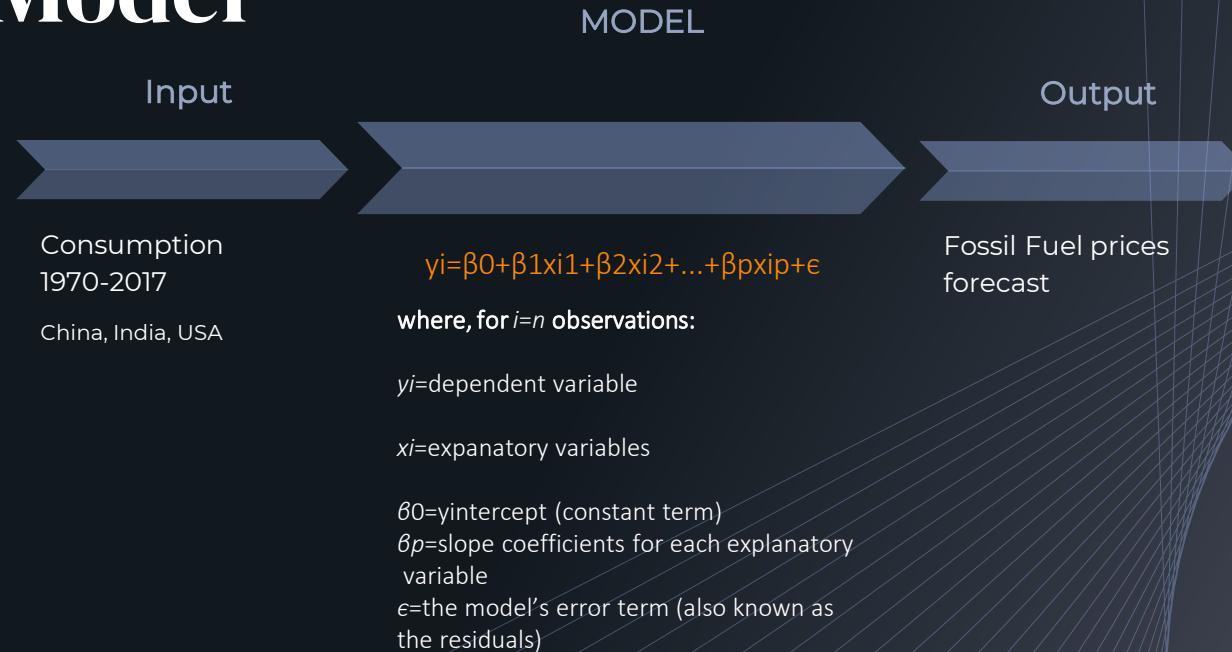


3.

Is the impact of consumption measurable?

.....and statistically significant?

Multi-linear regression (MLR) Model



R²=0.789

That explains a lot!

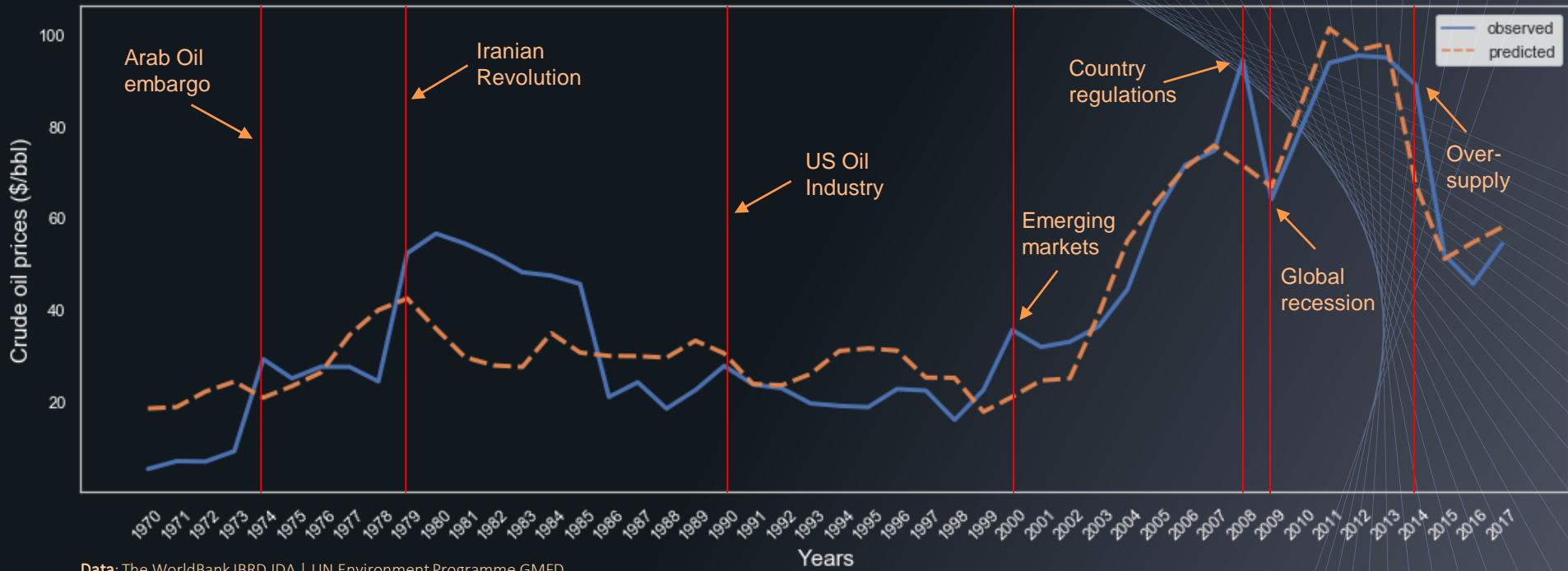
p-value <0.05

And it is statistically significant

~ 80 %

Success!

Running the MLR model



Data: The WorldBank IBRD IDA | UN Environment Programme GMFD

Why is this important?

Oil & Gas Companies

- Exploration and Production campaigns
- R&D

Renewable Energy

- Estimating the Economic feasibility of Renewable energy and their technologies

Key takeaways:

Demand

Plays a KEY role in the Fossil Fuel prices.

China, US, and India

Are responsible for ~80% of the Oil & Gas prices.

Forecasting:

Estimating production can be the key to predicting long term Oil & Gas prices.

Thanks!

For detailed EDA and the models please refer to:

<https://github.com/IbtisamBeik/Data-analysis.git>

Resources

- UN Environment Programme International Resource Panel Global Material Flows Database (<https://www.resourcepanel.org/global-material-flows-database>)
- The WorldBank IBRD IDA: <https://databank.worldbank.org/source/world-development-indicators>
- The WorldBank IBRD IDA (The Pink Sheet): <https://www.worldbank.org/en/research/commodity-markets>
- <https://www.appenergy.com/2017/01/23/10-factors-that-affect-the-cost-of-energy>

4.

Is the past a key to the future ?

.....Inversed uniformitarianism!

Running an Autoregressive model on time series

