

# LNG Import Flows Dynamics in the European Region

## An Empirical Analysis in the Case Study of the UK

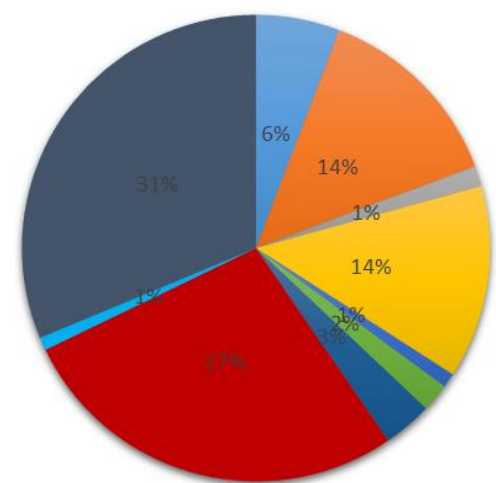
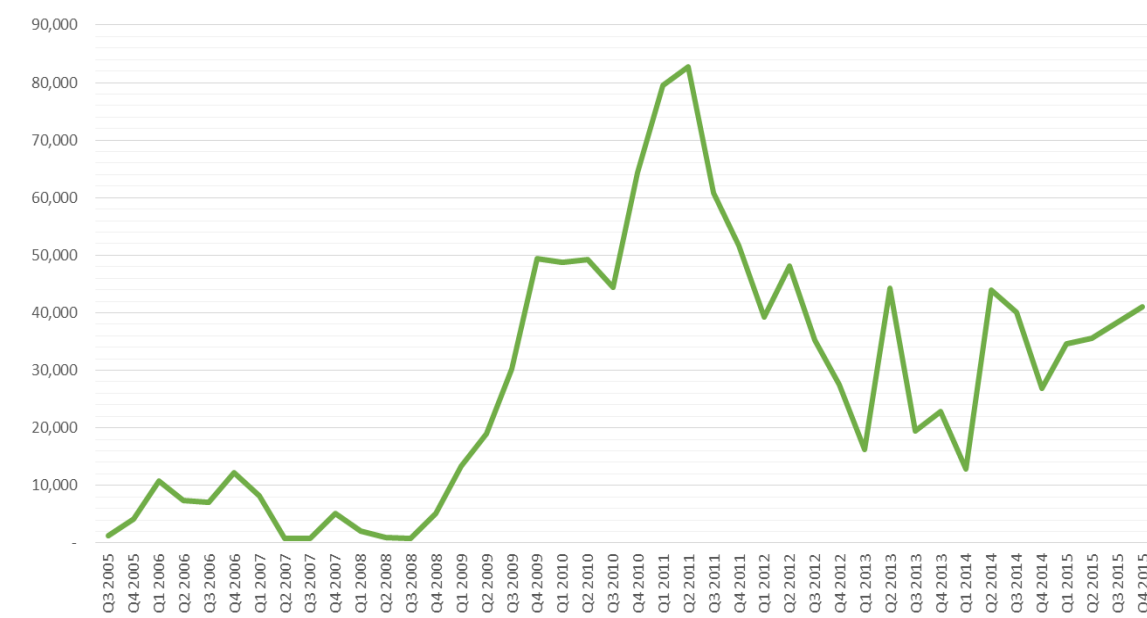
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### INTRODUCTION

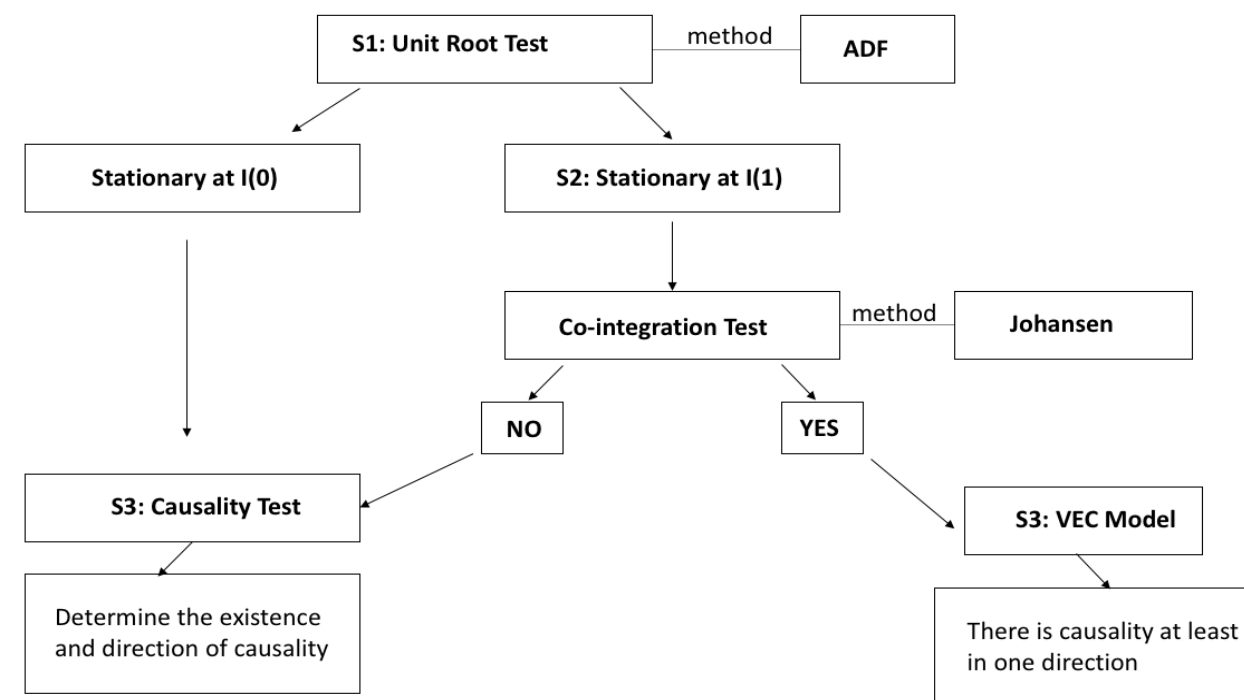
- The study analyses LNG import flows dynamics in the European region.
- The LNG constitutes the 15%-20% of the total Natural gas consumption in the European area (IGU,2015)
- The UK used as a case study for the econometric analysis due to the high amount of LNG imports.
- The study tries to answer the question: "Do the changes in demand and cost factors cause changes in the LNG import flows in the European region?".



■ Belgium ■ France ■ Greece ■ Italy ■ Lithuania ■ Netherlands ■ Portugal ■ Spain ■ Sweden ■ UK

### METHODOLOGY

- In order to examine the possible empirical relationship between the LNG import flows and its determinants, Granger-causality test is applied.



### DATA

- In order to avoid the seasonality between months, Quarterly data are used in order to construct the VAR and VEC model.

Variable's Label	Variable's Name	Units, Frequency, Source
lng	LNG Imports in the UK	GWh, Quarterly, UK National Statistics
elect	Electricity production by NG	GWh, Quarterly, UK National Statistics
tank	LNG Tanker Cost	Million £, Quarterly, Clarksons
gdp	GDP in the UK	Billion £, Quarterly, UK National Statistics
ej	Price ration of European and Japanese Natural Gas	Ratio, Quarterly, IMF Database

### RESULTS

Granger Causality Test	P-Value	Causality
GDP → LNG Imports	0.0141	YES
LNG Imports → GDP	0.4869	NO
LNG Tanker Cost → LNG Imports	0.1791	NO
LNG Imports → LNG Tanker Cost	0.0313	YES
Electricity Produced by NG → LNG Imports	0.0986	YES
LNG Imports → Electricity Produced by NG	0.0379	YES
European/Japanese Ratio → LNG Imports	0.3983	NO
LNG Imports → European/Japanese Ratio	0.0167	YES

### CONCLUSION

- This thesis used quarterly observations from 2005 to 2015 for five variables, LNG import flows in the UK, GDP in the UK, average LNG tanker cost, electricity produced by natural gas in the UK and the European/Japanese natural gas price ratio in order to analyse the possible cointegration and causality among them.
- The findings suggest that the demand factors such as GDP and power produced by natural gas can help to predict the future flows of LNG in the European region.
- On the other hand, the cost factors seem to have weak impact on the general LNG flows in the European region.