

Report on Bachelor Thesis

Institute of Economic Studies, Faculty of Social Sciences, Charles University in Prague

Student:	Ekaterina Tolstoguzova
Advisor:	doc. PhDr. Ladislav Kristoufek, Ph.D.
Title of the thesis:	Forecasting oil prices volatility with Google searches

OVERALL ASSESSMENT (provided in English, Czech, or Slovak):

Please provide your assessment of each of the following four categories, summary and suggested questions for the discussion. The minimum length of the report is 300 words.

Contribution

In recent years, the hypothesis that query statistics in Google may be useful for a short-term market forecast has been put forward, mainly through the potential link between Google searches and economic activity. Oil market pricing is closely related to the level of economic activity as well as geopolitical events and, as such, may serve as a good indicator of google searches forecasting ability. This thesis examines the relationship between prices of three oil benchmarks, CBOE Crude Oil Volatility Index, and Google search queries. It is based on the idea that a set of keywords and the quantity of search queries will display the how public interest is forming and may be able to reach a forecast on how demand will be shaped. The analysis is testing two Hypotheses:

1. Google searches data proves to be useful in short term forecasting of consumer behaviour;
2. The search query categories can be successfully utilized to nowcast oil prices volatility and reaches the conclusion that that Google trends are indeed related to the volatility of oil prices and can improve their forecasting models, albeit in some cases while results and models need to be adjusted and supplemented.

Such analysis and conclusion provide for a set of emerging questions that may spark interest for future, additional research on the topic.

Methods

The methodology is appropriate and well described, although somehow condensed. The author introduces unit root and stationarity tests, followed by OLS methods and related tests. Then VAR and Granger Causality method are discussed. VAR model is build in order to study Granger causality and to provide impulse response analysis. Results indicate both one side and two-side causal relationship between oil-related series and most of the search queries.

Literature

The author makes good use of the existing literature and displays the ability to appropriately connect it with the topic and the hypothesis in question.

Manuscript form

The manuscript is well written and the language used corresponds to the requirements of a Bachelor Thesis.

Summary and suggested questions for the discussion during the defense

Overall the thesis is very well written and deals with an interesting topic while reaching conclusions that may serve as a spark for future research. Points that could be addressed during the defense of the thesis are:

1. Some more details on the methods used (particularly section 4.4)
2. Discuss the potential added value to the analysis of including additional control variables (such as equity market index of the corresponding country) considering the close link with economic activity.
3. Discuss the dynamics of time variation of Google searches. Is the forecasting power strengthened in times of crisis vs 'normal' times? Is the increased use of Google searches in recent years affecting the forecasting power of Google trends?

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SUMMARY OF POINTS AWARDED (for details, see below):

CATEGORY	POINTS
Contribution (max. 30 points)	25
Methods (max. 30 points)	28
Literature (max. 20 points)	19
Manuscript Form (max. 20 points)	19
TOTAL POINTS (max. 100 points)	91
GRADE (A – B – C – D – E – F)	A

NAME OF THE REFEREE:

DATE OF EVALUATION: 2/9/19


Referee Signature