CABDyN / INET Oxford SEMINAR SERIES

Oxford Martin School – Trinity 2015

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info.cabdyn@sbs.ox.ac.uk

01865 288785

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'Measuring and predicting human behaviour using online data'

Tobias Preis

Associate Professor of Behavioural Science and Finance, University of Warwick

Tuesday 2nd June, 12.30 -14.00

Seminar Room 1, Oxford Martin School

ABSTRACT:

In this talk, I will outline some recent highlights of our research, addressing two questions. Firstly, can big data resources provide insights into crises in financial markets? By analysing Google query volumes for search terms related to finance and views of Wikipedia articles, we find patterns which may be interpreted as early warning signs of stock market moves. Secondly, can we provide insight into international differences in economic wellbeing by comparing patterns of interaction with the Internet? To answer this question, we introduce a future-orientation index to quantify the degree to which Internet users seek more information about years in the future than years in the past. We analyse Google logs and find a striking correlation between the country's GDP and the predisposition of its inhabitants to look forward. Our results illustrate the potential that combining extensive behavioural data sets offers for a better understanding of large scale human economic behaviour.

Preis, T., Moat, H. S., Stanley, H. E. & Bishop, S. R. Quantifying the Advantage of Looking Forward. Sci. Rep. 2, 350 (2012).

Preis, T., Moat, H. S. & Stanley, H. E. Quantifying trading behavior in financial markets using Google Trends. Sci. Rep. 3, 1684 (2013).

Moat, H. S., Curme, C., Avakian, A., Kenett, D. Y., Stanley, H. E. & Preis, T. Quantifying Wikipedia usage patterns before stock market moves. Sci. Rep. 3, 1801 (2013).

Curme, C., Preis, T., Stanley, H. E., Moat, H. S. Quantifying the semantics of search behavior before stock market moves. PNAS 111, 11600 (2014).

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