

DANMARKS NATIONALBANK

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Uncertainty impacts economic activity

Increased uncertainty reduces investment appetite during covid-19

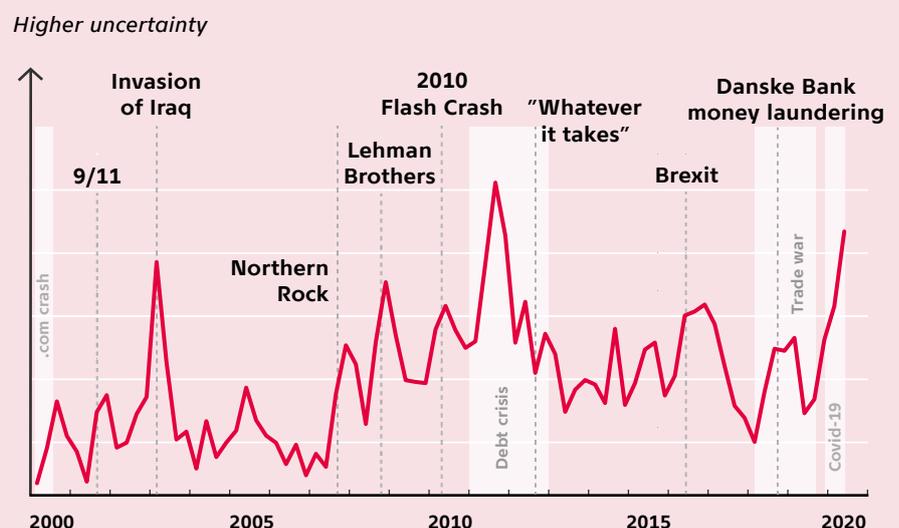
Uncertainty about the future has caused Danish corporations to hold back on investment during the covid-19 outbreak, reducing growth in business investments in the 2nd quarter.

These are among the conclusions of a new Working Paper in which economists Mikkel Bess, Erik Grenstam, Alessandro Martinello and Jesper Pedersen, Danmarks Nationalbank, have analysed whether uncertainty has an impact on economic activity in Denmark.

There could be several explanations why increased uncertainty affects corporate investment levels. If the future is more uncertain, corporations may feel compelled to adopt a more cautious approach, deferring investment projects. Increased uncertainty may also impact corporate activities through financial markets, for instance because uncertainty may affect the cost of raising capital.

The analysis provides a model for the Danish economy that is used to measure the effect of uncertainty

Uncertainty index



Source: Børsens article archive and Nationalbanken.

on business investments, among other things. The analysis also examines the significance of increased uncertainty for employment growth. The model comprises an assessment of the content of all newspaper articles from the Danish business newspaper *Dagbladet Børsen* since the year 2000. These articles have been run through computer programs and assessed for the use of a number of words and phrases related to uncertainty.

Similar studies have previously been conducted for other countries by other economists, but this is the first study based on Danish data to assess the impacts of increased uncertainty on business investments and employment.

Read the Working Paper on how uncertainty affects the Danish real economy here ([link](#))

New index measures level of economic uncertainty

Using the *Dagbladet Børsen* article archive, Danmarks Nationalbank has created an uncertainty index. This index is based on all newspaper articles published by *Dagbladet Børsen* since the year 2000 – a total of more than 1.2 million articles, which have been run through a computer program.

Danmarks Nationalbank's economists apply a set of statistical tools to assess the content of the articles. First, the relevance of the article to the assessment of the economy is evaluated. Then the article's use of selected words or phrases related to uncertainty is examined.

By calculating this over time, it is possible to create an index of the level of uncertainty in the Danish economy.

Data in new ways

Data volumes have grown exponentially. By 2025, an estimated 450 exabytes of data will be created each day.

This is equivalent to hundreds of millions of personal computers being filled with data on a daily basis. The vast volumes of data are highly diverse, but new and sophisticated methods enable analysis of this data in new and more efficient ways.

New data types and new data collection methods may be used in various contexts in Danmarks Nationalbank's ongoing work.

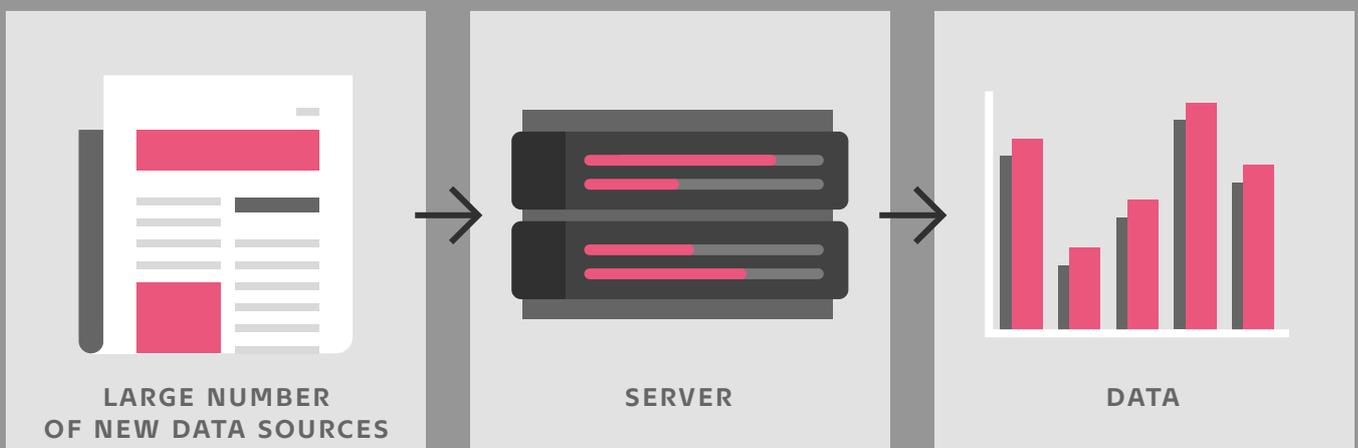
In order to acquire more knowledge and a better basis for assessing the Danish economy, Danmarks Nationalbank focuses on new data types and methods in a series of publications.

ABOUT THIS NEWS

Uncertainty index

In collaboration with the Danish newspaper Børsen, Nationalbanken has constructed an uncertainty index based on articles published by Børsen since 2000. The index is constructed through a machine-learning approach that automatically filters relevant articles from the full corpus, and scores them in terms of uncertainty given the words used by journalists. The index can be used to show the impact of uncertainty on the Danish economy.

New data creates new knowledge



PUBLICATIONS



NEWS

News offers a quick and accessible insight into an Analysis, an Economic Memo, a Working Paper or a Report from Danmarks Nationalbank. News is published continuously.



ANALYSIS

Analysis from Danmarks Nationalbank focuses on economic and financial matter. Some of the analyses are published with a regular frequency e.g. *Outlook for the Danish economy and Financial stability*. Other analyses are published continuously.



REPORT

Report comprises recurring reports and reviews of the functioning of Danmarks Nationalbank. For instance Report includes the *Annual report* and the annual publication *Danish government borrowing and debt*.



ECONOMIC MEMO

Economic Memo is a cross between Analysis and Working Paper and it often shows the ongoing study of the authors. The publication series is primarily targeted at professionals. Economic Memo is published continuously.



WORKING PAPER

Working Paper presents research projects by economists in Danmarks Nationalbank and their associates. The series is primarily targeted at professionals and people with an interest for academia. Working Paper is published continuously.

The news article consists of a Danish and an English version. In case of doubt regarding the correctness of the translation the Danish version is considered to be binding.

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