Monitoring Coronavirus outbreak using Big Data

Through the use of the media,
social networks and Google searches

Updated until the 26th of February 2020

Creating Opportunities

Main takeaways

- Population rising concerns about Coronavirus has been reflected in the media, social networks and Google searches

- The virus expansion outside China has increased social media attention over the last days, given concerns of a potential pandemic

- The outbreak has become a worldwide concern with impact on the public policy and management, as well as in the economy, where healthcare issues have been the focus of attention

- Economic policy uncertainty has also increased, but not yet at levels reached with trade wars tensions

- Techs and media companies, Telecom, Airlines and tourism industries are among the most affected organizations according to the media and social network data

- Media sources, together with politicians, international organizations and big corporates are taking a role in the social media dialogue

Population rising concerns about Coronavirus has been reflected in the media, social networks and Google searches

WORLD COVERAGE OF CORONAVIRUS OUTBREAK ACCORDING TO DIFFERENT DATA SOURCES
(STANDARDIZED)

Media (GDELT)   Social Networks (Twitter)

WHO declared coronavirus outbreak a global health emergency
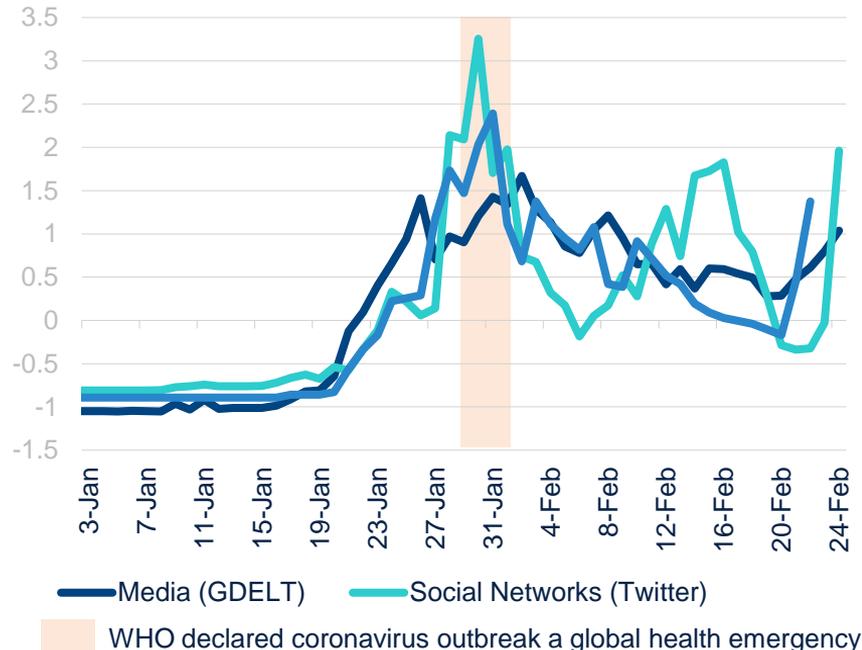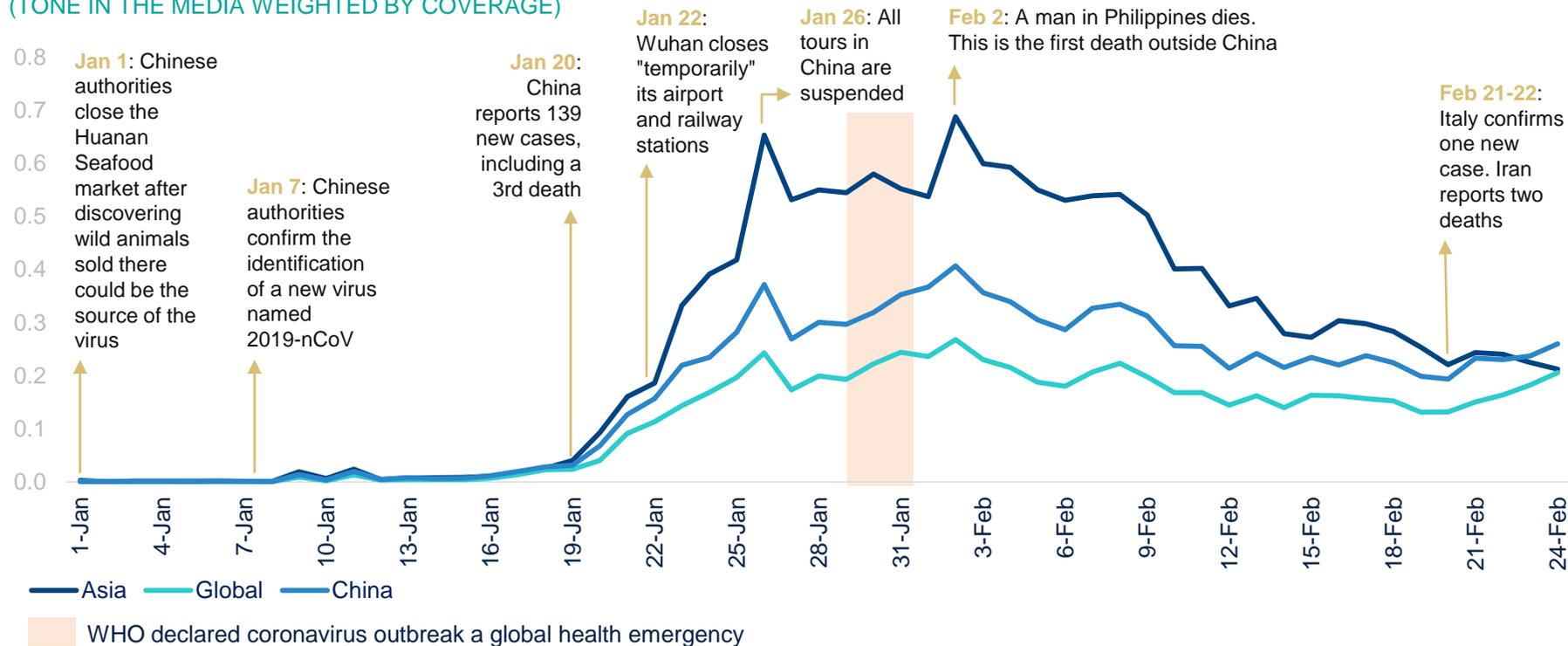
- Coverage in the media, social networks and Google searches about Coronavirus has risen significantly since the third week of January, reflecting the society concerns about the new outbreak

- Coronavirus conversation in social networks sharply increased when the outbreak was declared global health emergency by WHO, the same happened with Google searches

- Recently, since new cases were confirmed in Italy, Iran and South Korea, Twitter conversation and Google searches have risen significantly again, given concerns of a potential pandemic

Focusing on the media, the virus has got into the spotlight since the second half of January, specially in the Asian media

MEDIA STRESS INDEX OF CORONAVIRUS OUTBREAK
(TONE IN THE MEDIA WEIGHTED BY COVERAGE)

Jan 1: Chinese authorities close the Huanan Seafood market after discovering wild animals sold there could be the source of the virus

Jan 7: Chinese authorities confirm the identification of a new virus named 2019-nCoV

Jan 20: China reports 139 new cases, including a 3rd death

Jan 22: Wuhan closes "temporarily" its airport and railway stations

Jan 26: All tours in China are suspended

Feb 2: A man in Philippines dies. This is the first death outside China

Feb 21-22: Italy confirms one new case. Iran reports two deaths

Asia   Global   China

WHO declared coronavirus outbreak a global health emergency
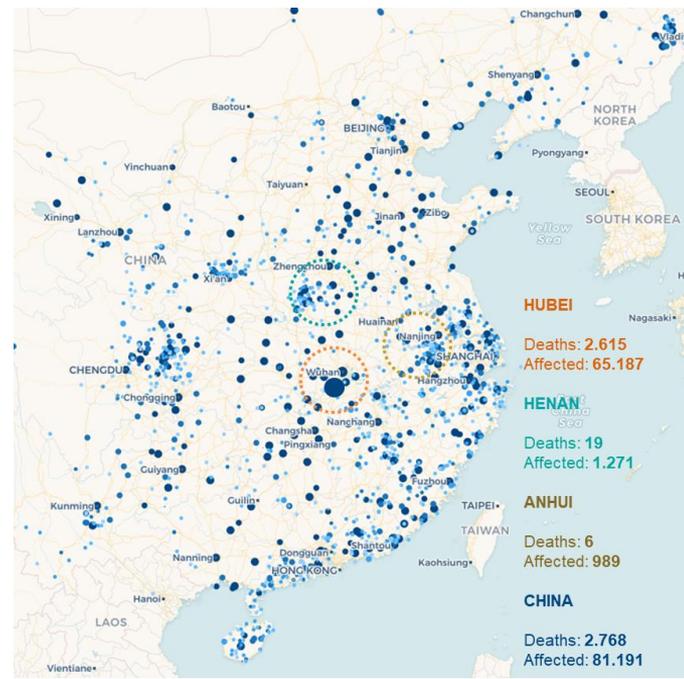
The outbreak is a worldwide concern and has become the most relevant topic in the media across all Chinese regions

WORLD MEDIA SENTIMENT TO CORONAVIRUS OUTBREAK JAN-FEB 26TH 2020
(DARKER BLUE MEANS HIGHER CONCERNS)

CHINESE REGIONAL MEDIA SENTIMENT TO CORONAVIRUS OUTBREAK
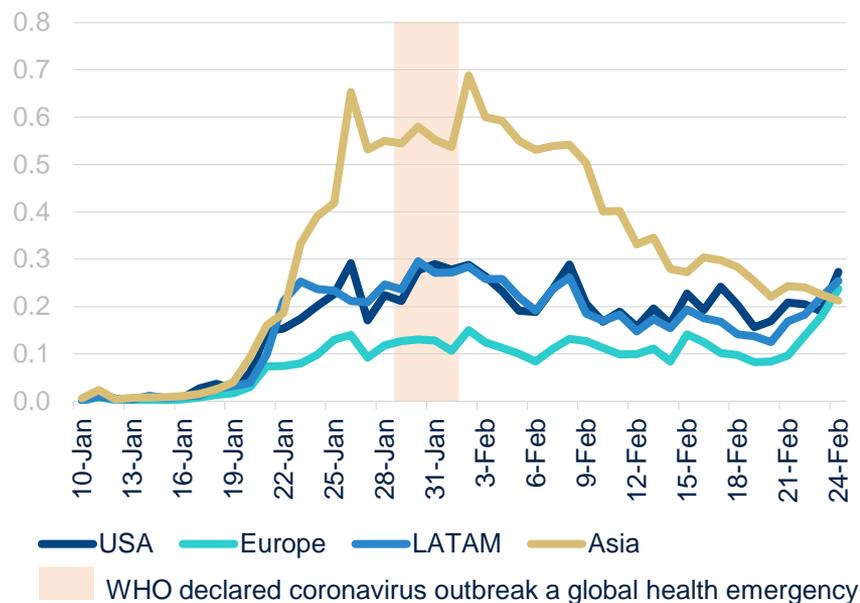(DARKER BLUE MEANS LOWER TONE, SIZE MEANS HIGHER COVERAGE)

Concerns about Coronavirus prevail in **China** over the rest of the geographies, with the most negative sentiment charged articles and covering around ¼ of world media coverage. By Chinese region, concerns prevail in **Hubei, Henan, Anhui and Heilongjiang**

HUBEI
Deaths: 2.615
Affected: 65.187

HENAN
Deaths: 19
Affected: 1.271

ANHUI
Deaths: 6
Affected: 989

CHINA
Deaths: 2.768
Affected: 81.191

In addition to worries in Asia, the virus gained ground in the regional media across the globe

MEDIA STRESS INDEX OF CORONAVIRUS OUTBREAK BY REGION
(TONE IN THE MEDIA WEIGHTED BY COVERAGE)

USA — Europe — LATAM — Asia

WHO declared coronavirus outbreak a global health emergency

Europe: includes media from France, Germany, Italy and Spain
Latam: includes media from Argentina, Brazil, Colombia and Mexico

- Outside Asia, the rest of regional stress indices pointed the greatest stress with the WHO announcement, on the 8th of February, when Coronavirus deaths exceeded Sars fatalities in 2003 and during this week when new cases were confirmed outside Asia

- Since the last day of January, the index has started to decrease in Asia. In US, Latam and specially Europe, the index has increased over the last two weeks

- Fears about the global economic impact of the virus have triggered media coverage outside China
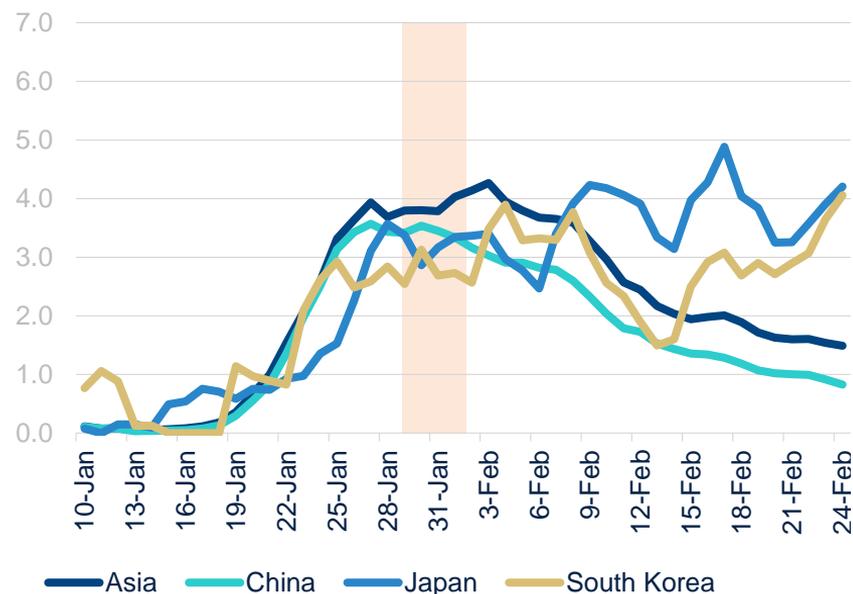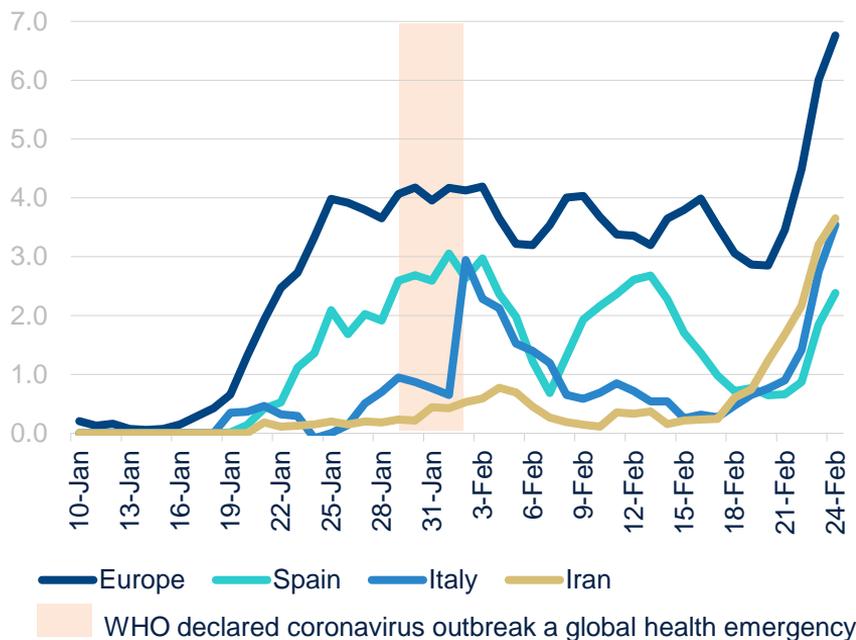
New confirmed cases in Italy and Iran rose worries in Europe.
The rapid virus outbreak in South Korea and Japan raised alert level

MEDIA STRESS INDEX OF CORONAVIRUS OUTBREAK
(TONE IN THE MEDIA WEIGHTED BY COVERAGE. STANDARIZED SERIES IN MOVING AVERAGE 3 DAYS)

Europe ── Spain ── Italy ── Iran

WHO declared coronavirus outbreak a global health emergency

Asia ── China ── Japan ── South Korea

Europe: includes media from France, Germany, Italy and Spain
Latam: includes media from Argentina, Brazil, Colombia and Mexico

Fears about adverse effects on the economy are also revealed in the media, specially in Asia and America

MEDIA TOPICS RELATED TO CORONAVIRUS
(MAIN IDENTIFIED TOPICS OTHER THAN THE HEALTH EMERGENCY ITSELF IDENTIFIED ON NEWS ARTICLES ABOUT CORONAVIRUS)
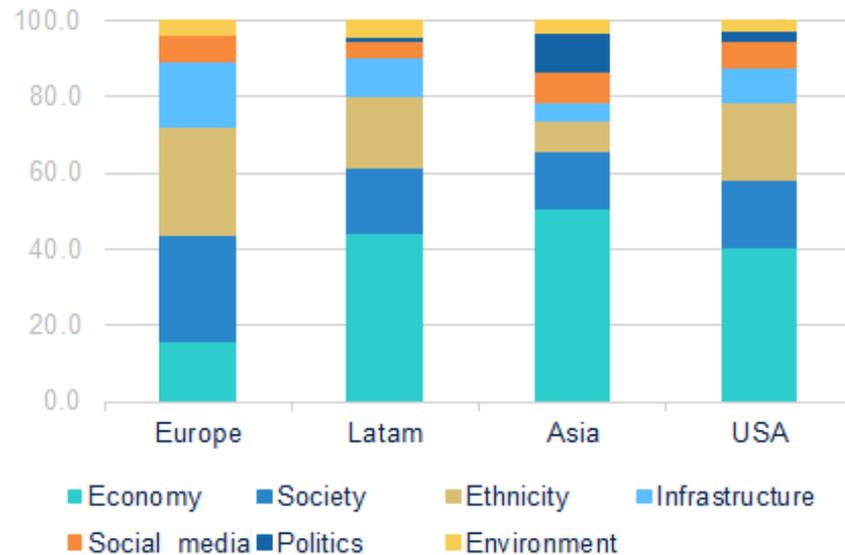
The discussed topics in the media about Coronavirus are mostly related to the medical emergency itself and the preparedness level of the geographies to face the health emergency (Government)

These topics concentrate around 70% of the conversation (50% medical topic itself, 20% medical preparation)

In addition to these issues, the media reveals concerns on economy (economic growth, foreign trade, prices, etc.) and society (vulnerable groups, tourists, students, etc.)

Media coverage highlights that Coronavirus has become an international emergency issue with impact on the global economy

WHAT IS THE MEDIA SPEAKING ABOUT IN NEWS RELATED TO CORONAVIRUS AND ECONOMY?

MOST COMMENTED TOPICS

More than ⅓ of the topics covered in media refer to the **health emergency situation and fears of a pandemic**. Government policies and management also emerge

MOST COMMENTED COUNTRIES

50% of country mentions in news articles related with Coronavirus and economy refer to **China, US, Japan, Hong Kong** and **UK**

MOST COMMENTED ORGANIZATIONS

International health organizations, together with **Big Techs**, **media companies, Telecom** and **Airlines** are the focus of attention

It was reflected on the world and economic policy uncertainty index

WORLD ECONOMIC POLICY UNCERTAINTY INDEX BASED ON THE MEDIA
(100 = 21 AUG 2017)
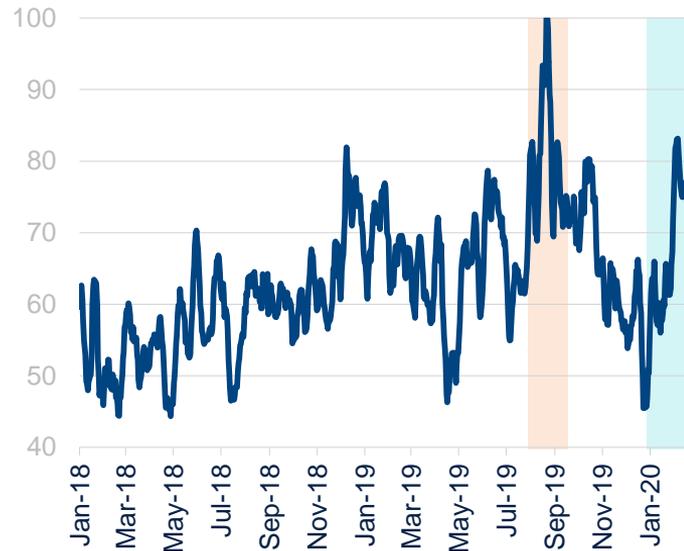
Trade wars concerns
(4Aug - 2Sep)

Coronavirus concerns
(20Jan – 17Feb)

MEDIA TOPICS ON EPU ARTICLES
(4AUG – 2SEP)

MEDIA TOPICS ON EPU ARTICLES
(20JAN – 17FEB)

EVOLUTION OF TOPICS OVER TIME PERIODS

Trade wars concerns (4Aug - 2Sep)   Coronavirus concerns (20Jan – 17Feb)
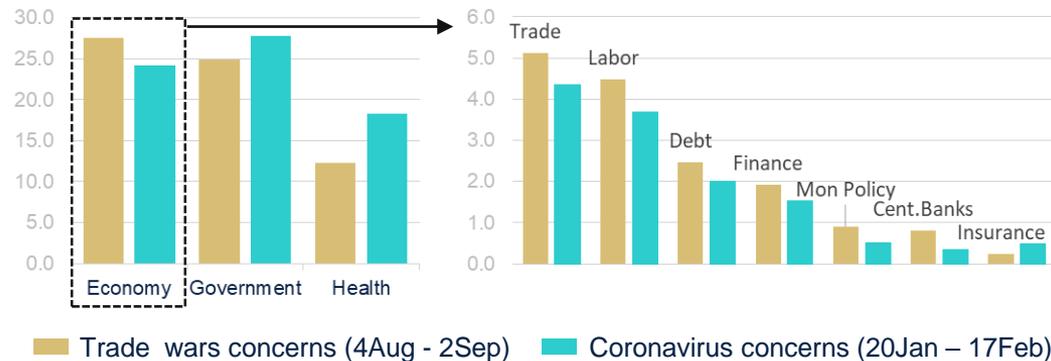
Network analysis states that airlines, cruise and Tech companies are among the most affected organizations

MOST AFFECTED FIRMS BY CORONAVIRUS ACCORDING TO THE MEDIA
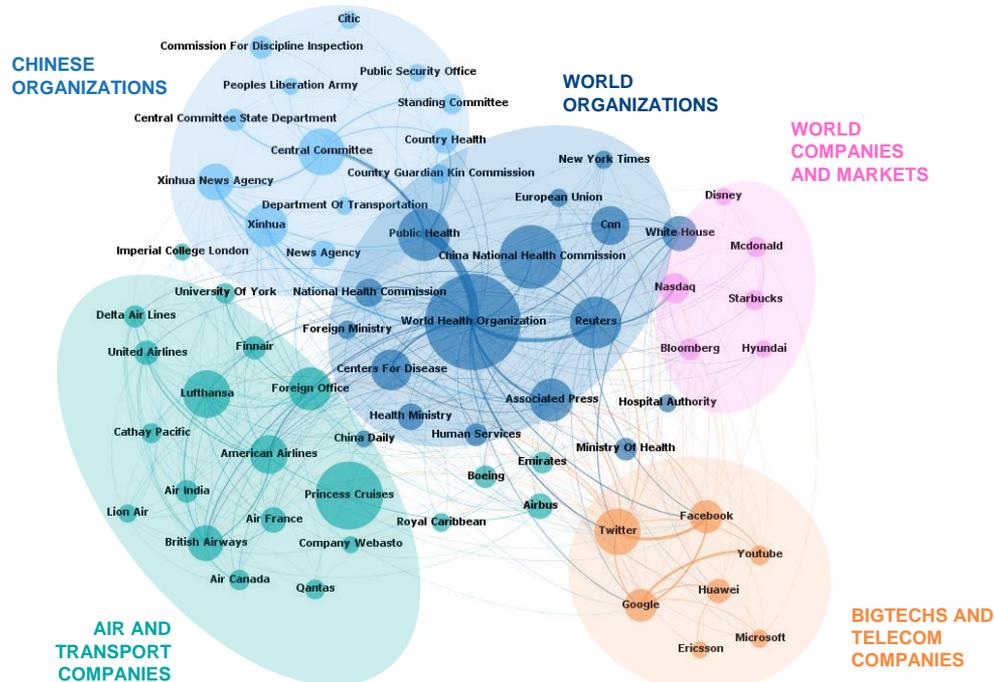
- According to news articles speaking about Coronavirus and economy, airlines and cruise companies are among the most affected ones, highlighting the Diamond Princess cruise as the ship was quarantined

- Network analysis reflects it has become an international concern, specially after the WHO declared the outbreak a public health emergency

- It has impacted on markets, particularly among Tech and telecom firms

Twitter data also shows the society worries about the outbreak, where some economic, social and Government topics emerge

WHAT IS THE SOCIETY SPEAKING ABOUT IN TWITTER RELATED TO CORONAVIRUS?

MOST COMMENTED
TOPICS

MOST COMMENTED
HASHTAGS

Social dialogue alerts about **public health fear** using terms like **outbreak, quarantine, disease or infection**. Locations such as **China, Wuhan, Hubei, Japan, Hong Kong, Thailand or Canada** are at the center of the conversation. Tweets highlight the impact of the virus on the **Mobile World Congress** (#MWC)

Focusing on economics, Twitter data shows there is much dialogue on the virus impact on markets and growth

WHAT IS TWITTER SPEAKING ABOUT IN NEWS RELATED TO CORONAVIRUS AND ECONOMY?

MOST COMMENTED TOPICS

MOST COMMENTED HASHTAGS

More than ½ of the terms refer to **activity and economic growth**. **Financial topics** and **markets** are also highlighted, followed by **uncertainty** and risk terms and politics

In the same line, most used hashtags talk about the impact on **markets**, **trading**, **investing** and **tourism**. International **and regional security** are also commented

BBVA
Research

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