BBVA | RESEARCH

Big Data at BBVA Research

Big Data Workshop
University of Navarra

Tomasa Rodrigo
BBVA Research

MARCH 2017

INDEX

Outline

Big Data analysis at BBVA Research

Digital revolution and the new business environment

Big data and education: challenges and opportunities

Index

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OUR STREAM OF ANALYSIS & BIG DATA

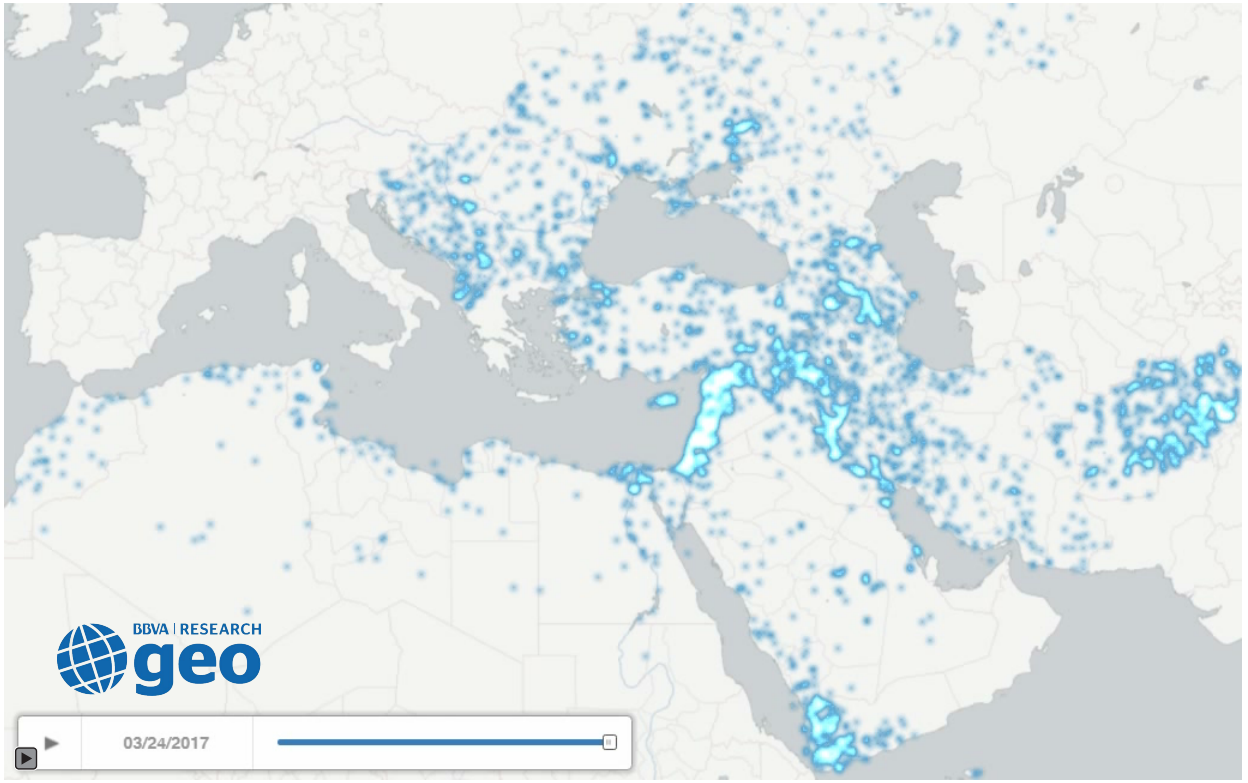
Geopolitics Analysis

Economic Analysis

Geopolitics Analysis

Tracking Geopolitics on real time is useful to center conflict zones & potential spillovers…

BBVA World Conflict Index Heatmap in 2017
(Number of conflict / Total events)



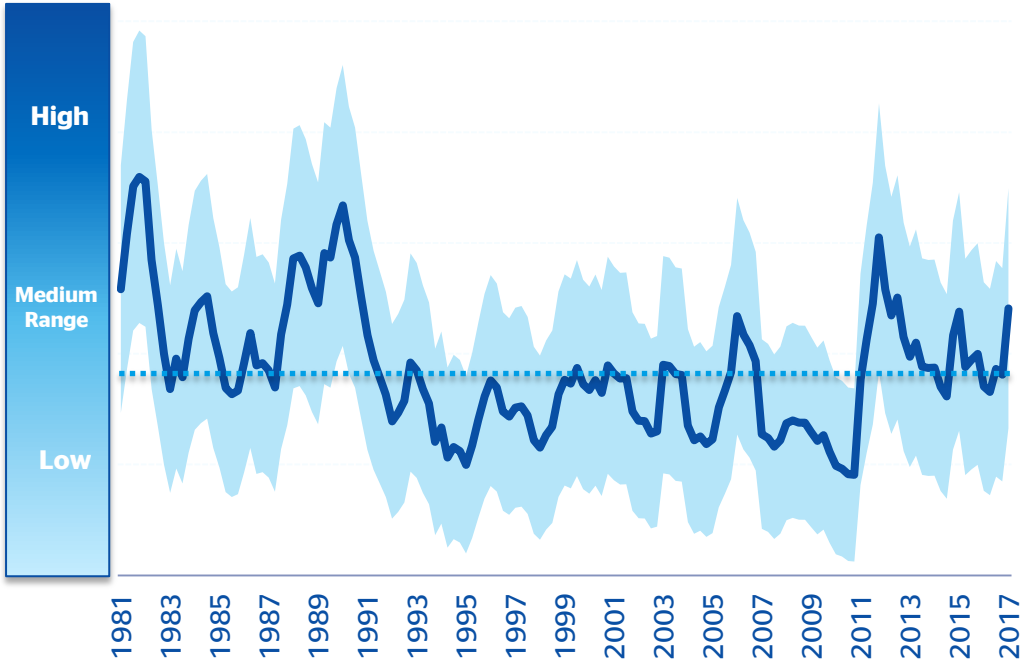
Source: www.gdelt.org & BBVA Research

Geopolitics Analysis

We also monitor Conflict & Social unrest from an historical perspective...

BBVA Research World Protest Intensity Index 1980-2017

(Number of protests in the world / Total events in the world)



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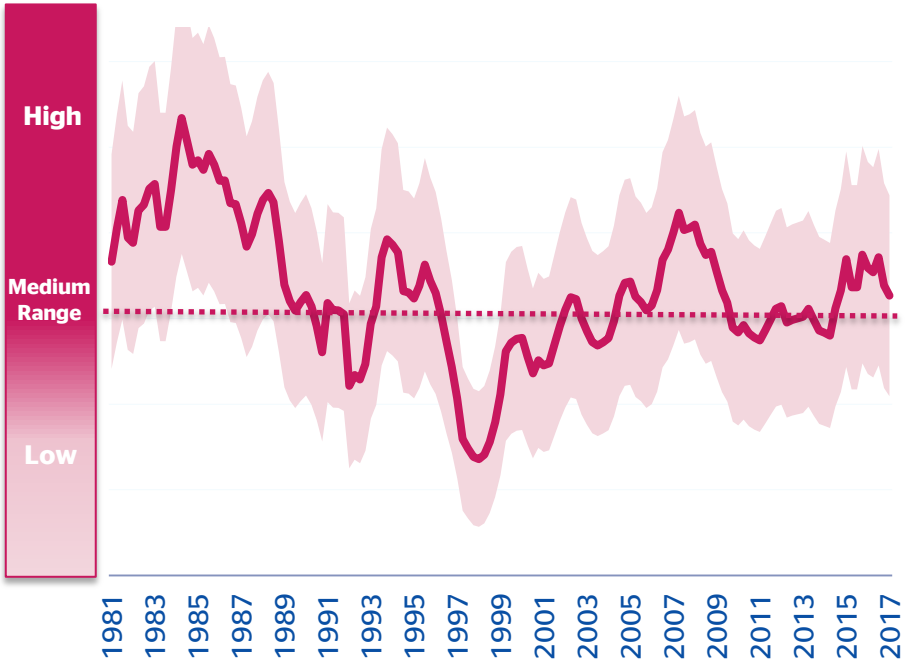


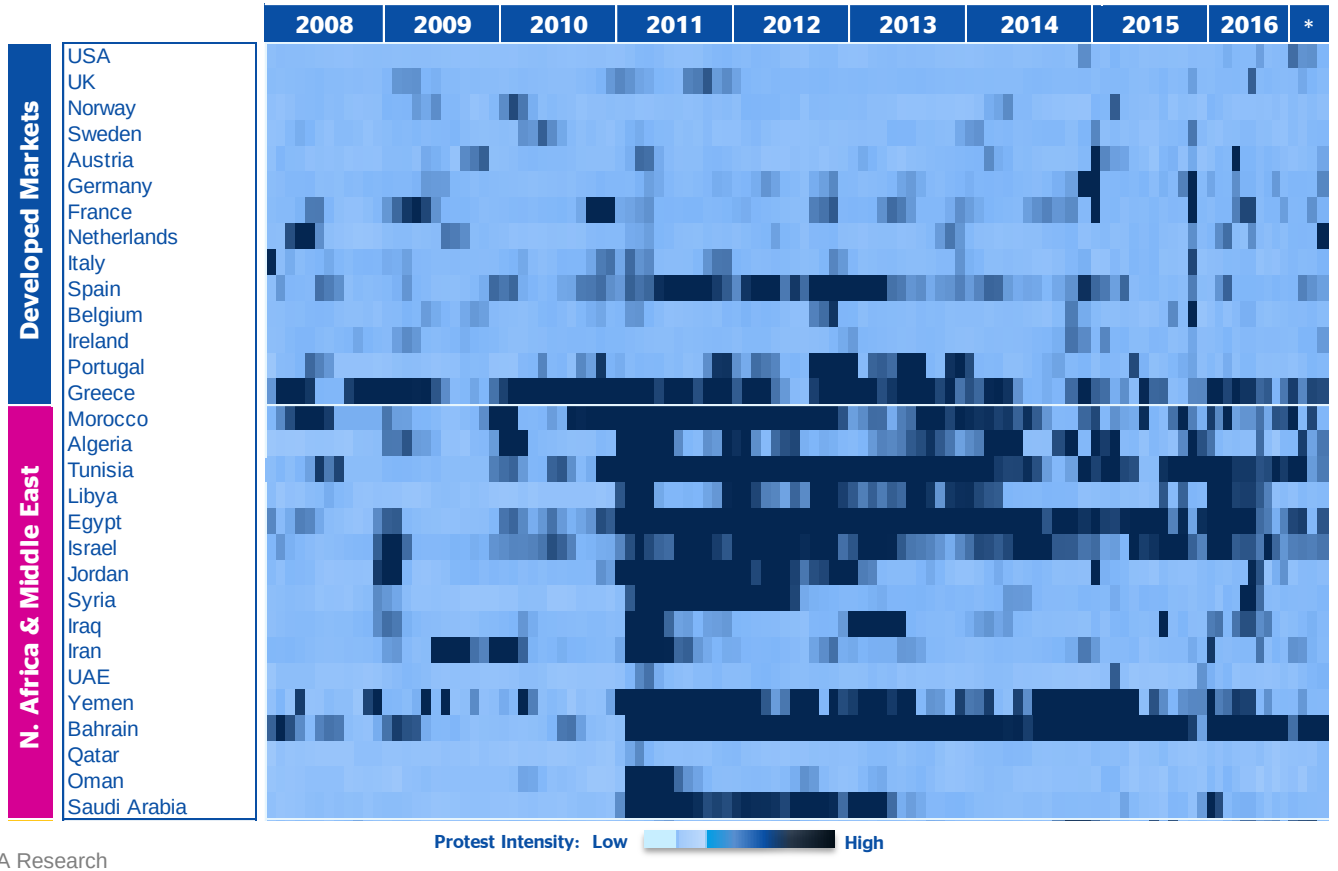
Source: www.gdelt.org & BBVA Research

Social and Geopolitical Analysis

… as well as the evolution over time in each country, identifying hot spots and contagion effects

BBVA Research World Protest Intensity Map Jan 2008– Mar 2017

(Number of protests/ Total events)



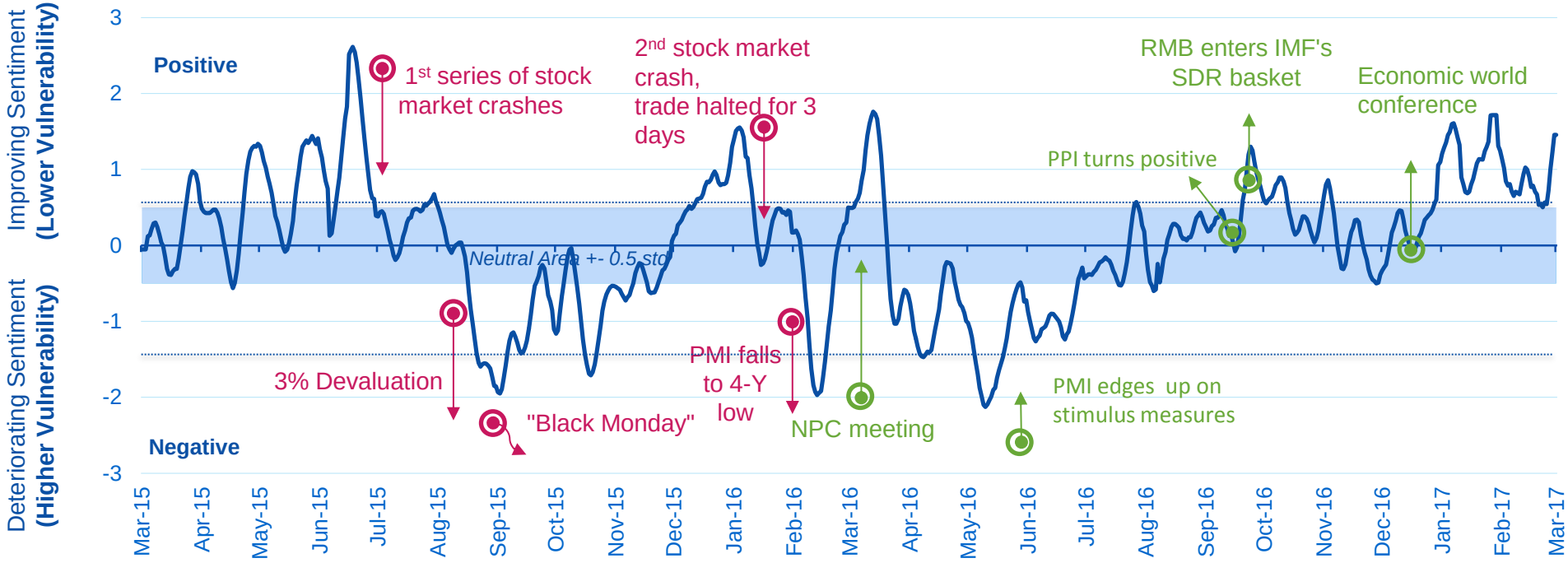
Source: www.gdelt.org & BBVA Research

Economic Analysis

Big Data allows us to track Macroeconomic Sentiment…

China Macroeconomic Sentiment Index

(Additive principal component based Indicator using thematic subsets of information terms, 42 items)

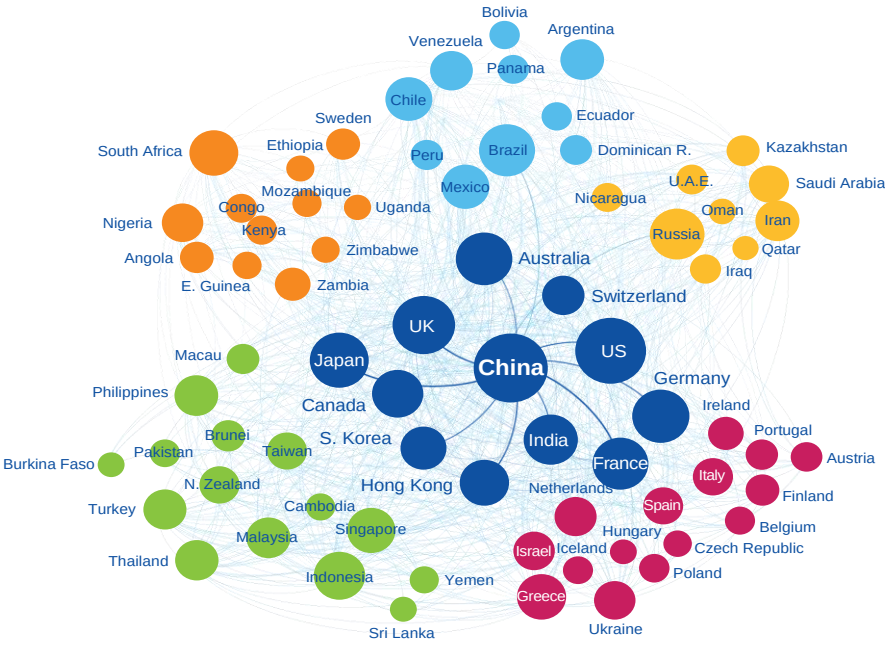


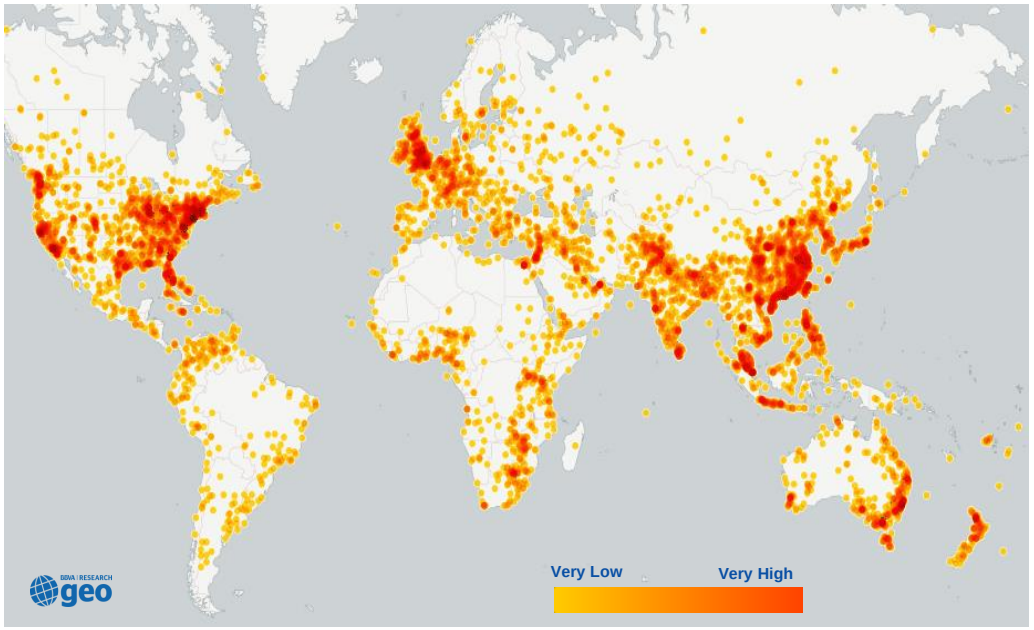
Source: www.gdelt.org & BBVA Research

Economic Analysis

…as well as economic events with important world economic and geostrategic effects…

China slowdown: concerns and contagion globally may be monitored in 2H 2015





- **Financial & Trade lines impaired (Main trade partners)**
- Impact on commodity Exporters from Latam
- Conversation on Oil demand
- Activity Impact in Europe
- Activity Impact in EM Asia
- Impact on commodity Exporters from Africa

Source: www.gdelt.org & BBVA Research

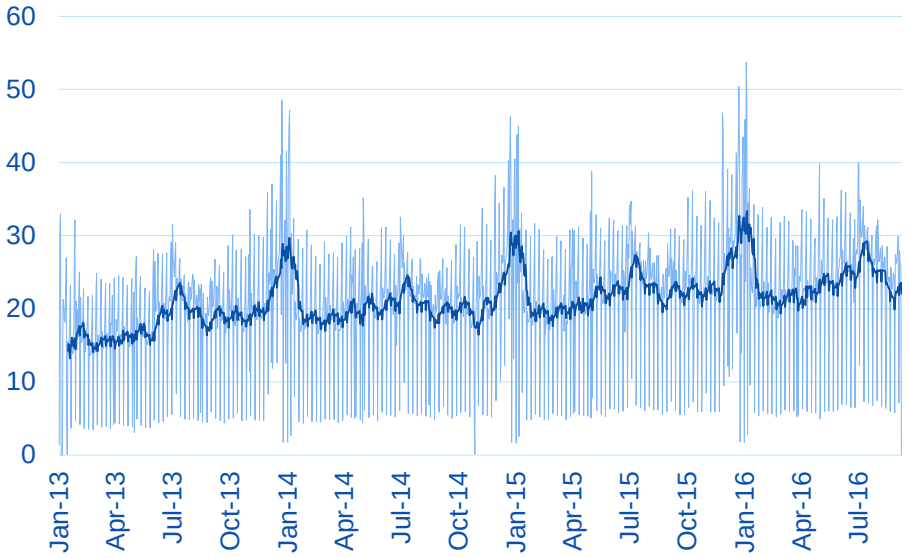
Economic Analysis

We also replicate national figures, gaining frequency…

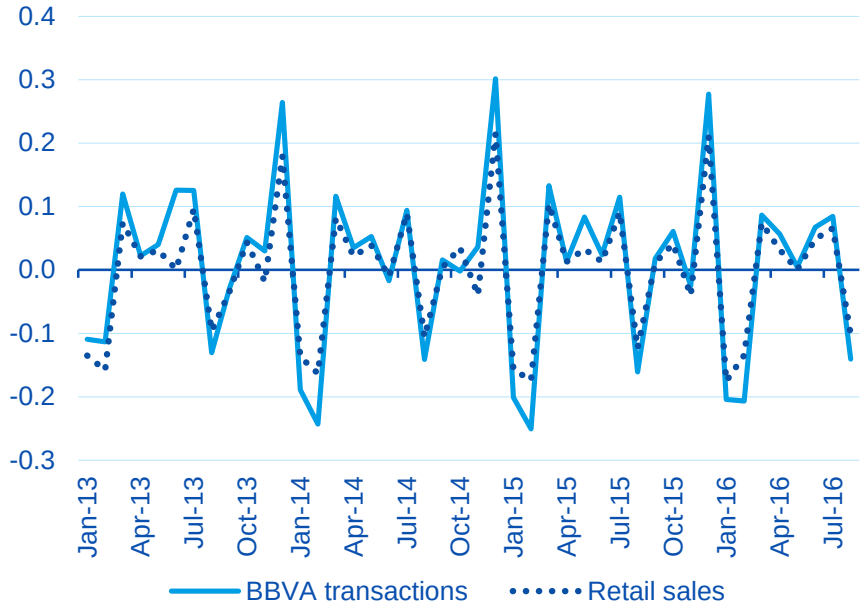
A "High Definition" Activity Indicator for Spain (and Mexico)

(BBVA consumption indicator for the optimal allocation of BBVA's resources and products)

ICM–BBVA Index, in millions of euros and daily basis



Comparison Retail Sales-INE and BBVA on monthly basis



What "HIGH DEFINITION(*)" means here:

High granularity:
Dynamics down to subnational level

Ultra High Frequency:
Dynamics up to sub-monthly frequency

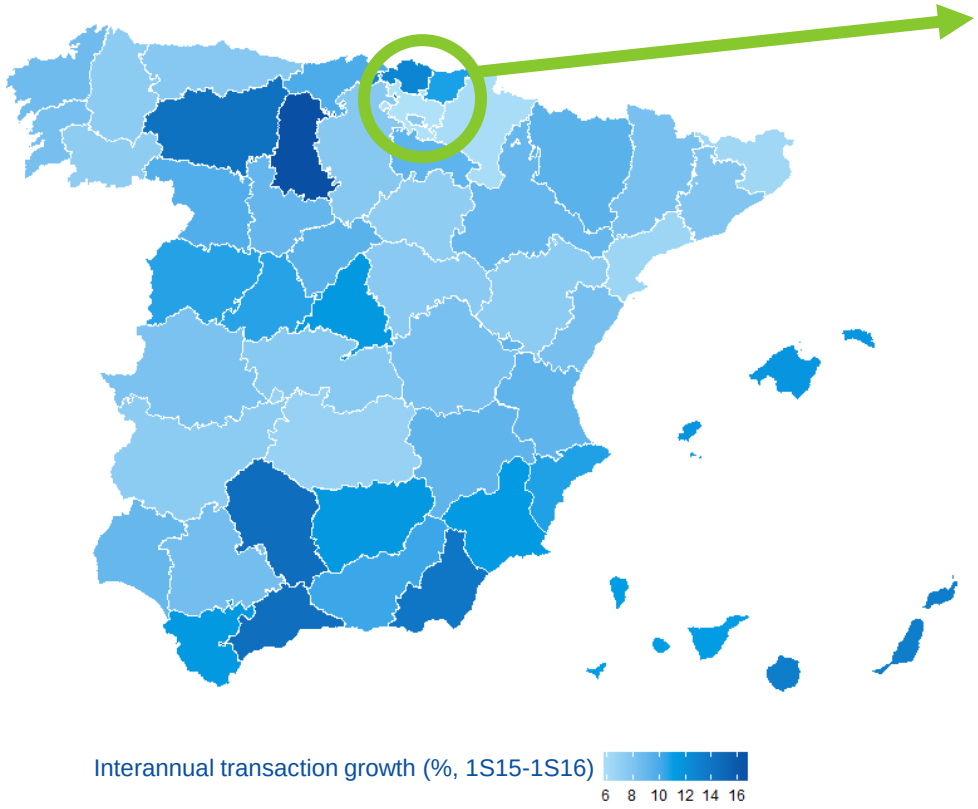
Multi Dimensional:
More detailed socioeconomic features

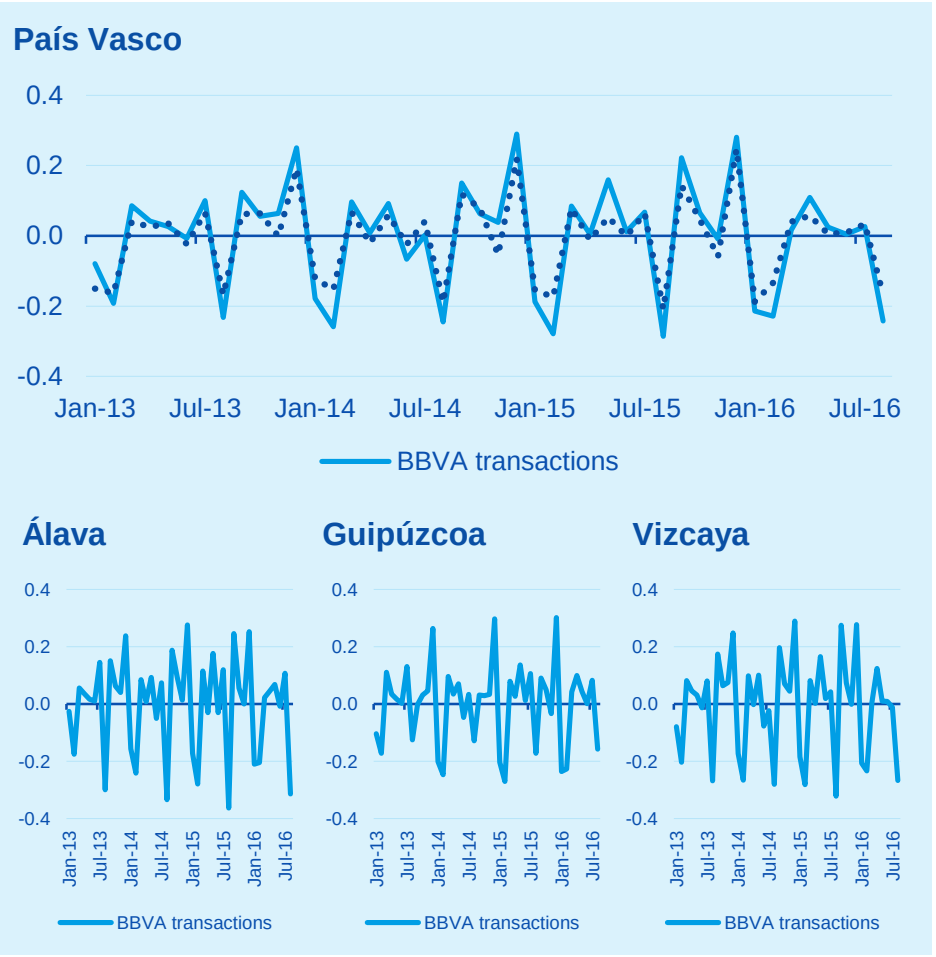
Source: BBVA Research and BBVA Data & Analytics

Economic Analysis

… and granularity, going to regional level

BBVA transactions 1S15 vs 1S16
(% yoy)



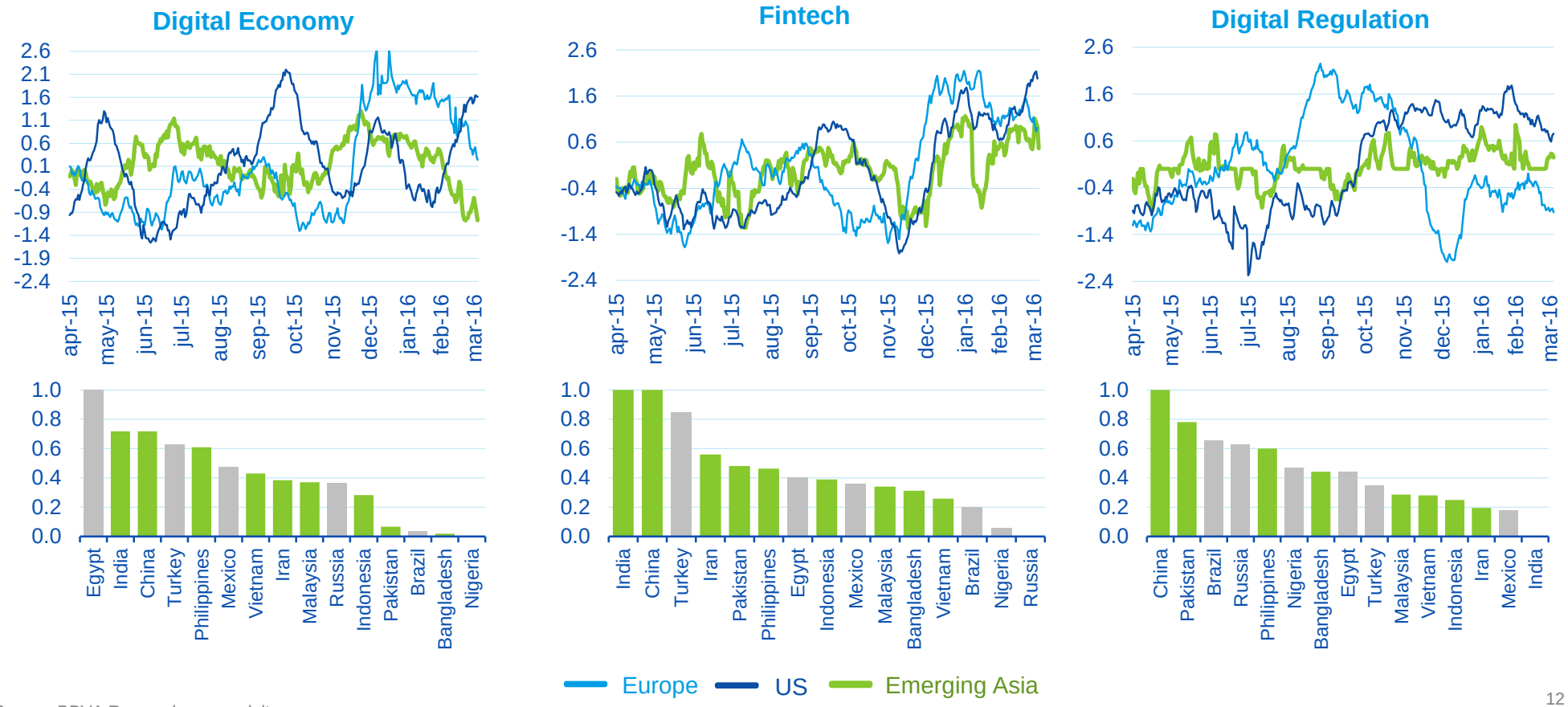


Source: BBVA Research and BBVA Data & Analytics

Economic Analysis

Using information from media, we get insights about the sentiment on several digital issues

Media sentiment digital index and ranking for Emerging Asia countries, US and Europe 2015-16 by components



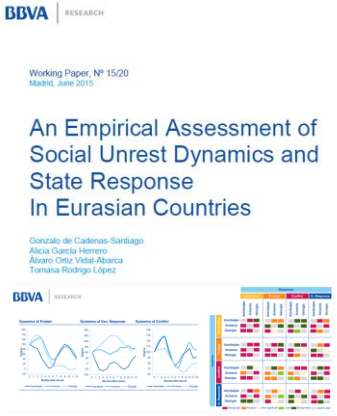
Source: BBVA Research, www.gdelt.org

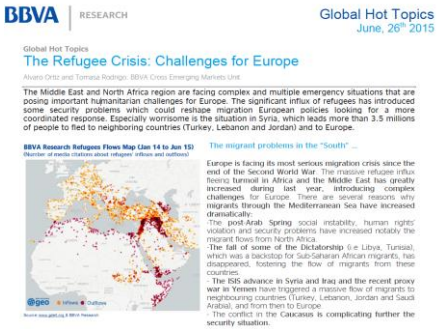
BBVA Research geostrategic tools and products

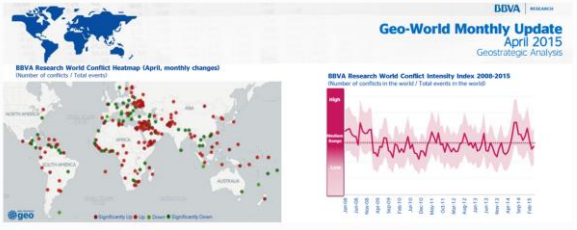
You can find us at:

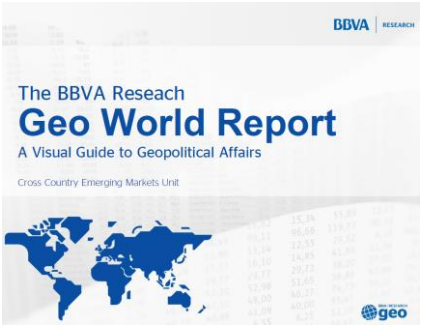
BBVA Research webpage

in the following link









Index

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Big data and education: challenges and opportunities

Big Data: a new paradigm that will transform the business landscape…

The growth generated by **innovation and digital transformation** has five sources:

New **players and markets**

The introduction of new **goods and services**

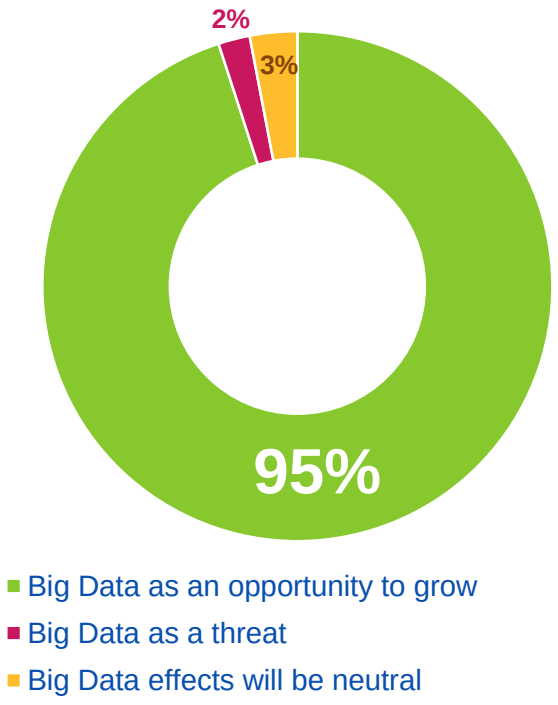
New **production and distribution** methods

Changes in the **production factors**

Changes in the **organization and management** of firms

… with high potential to grow

How do corporate leaders see the new technologies?



Big Data leads to important changes in the current production structures

The new available information allows:

- ✓ Improve and enrich our decisions
- ✓ Answer new questions
- ✓ Increase efficiency

There are still some concerns:

- × Data confidentiality
- × Cyber security
- × New framework to be regulated

Source: BBVA Research and Grant Thornton's International Business Report

Opportunities and challenges in the financial sector

It's an opportunity to …

become more efficient

improve risk management

generate greater value for customers

Commerce360

… but with important challenges

Access to the infrastructure

Education and training programs

BBVA DATA & ANALYTICS

The GDELT Project

Google bigquery

Index

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Education programs need to incorporate new competences to take advantage of this new era…

New skills are focused on

Making the right questions

Developing the data management and programming capabilities to work with large-scale datasets

Deepening the Statistical and econometric skills to analyze the data

Interpreting the results: summarize, describe and analyze the information

New data may end up changing the way economists approach empirical questions and the tools they use to answer them.

… and to match market's demand

The most in-demand skills in the next years will be

Programming and application development

Security, compliance and governance

Business intelligence and analytics

Big data expertise

New data will also transform the business demanded competences to adapt to the digital era and to exploit its potential

Thank you

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