

Big Data at BBVA Research using BigQuery

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Summary



01 What is GDELT and how BigQuery helps us to exploit it



02 Geopolitical analysis



03 Economic and digital analysis

01

**What is GDELT and how
BigQuery helps us to exploit it**

What is GDELT?

Global Database on Events Location and Tone

Open database of human society from every corner of the globe dating back to 1979 ...

... including over 300 events around the world and more than 30000 themes...

... georeferenced across the entire planet...

...and collecting emotions using some of the most sophisticated algorithms

Why do we use BigQuery?



› Open access



› Easy to use using SQL



› Really fast dealing with Big Databases



› Flexibility and scalability

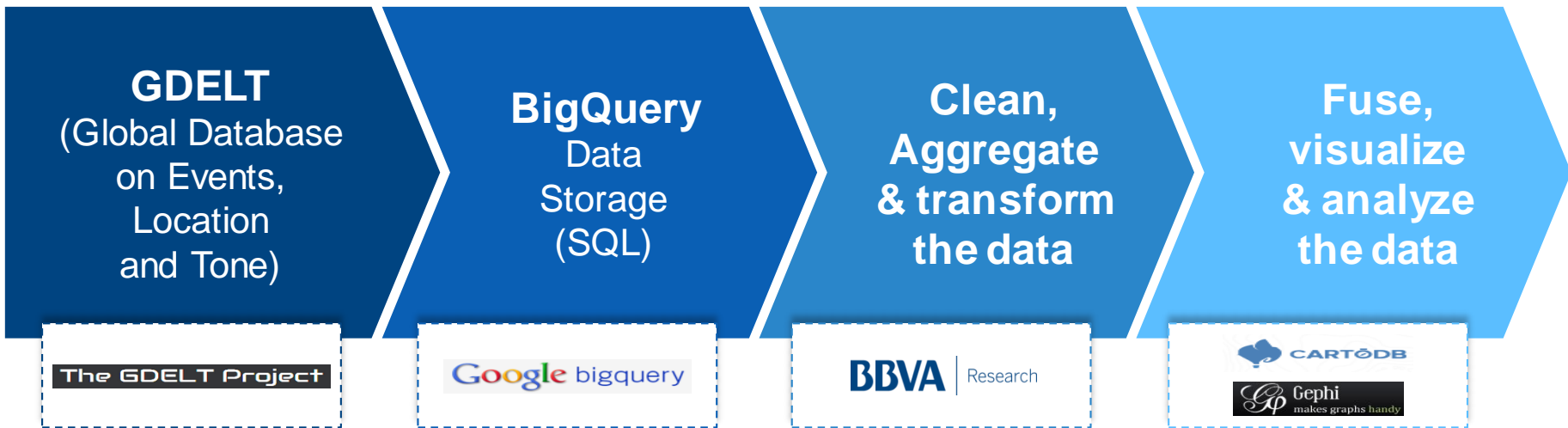


› Combination of historical data with real time data



› Complex data analysis

Our working process



Why is it important?



Novel data-driven computational approaches as needed to enable a new era in which these data can be used to study “real life” at population scales



At its core, we **analyze geopolitical, political, social and economic questions using quantitative data-driven methods rather than** qualitative introspection



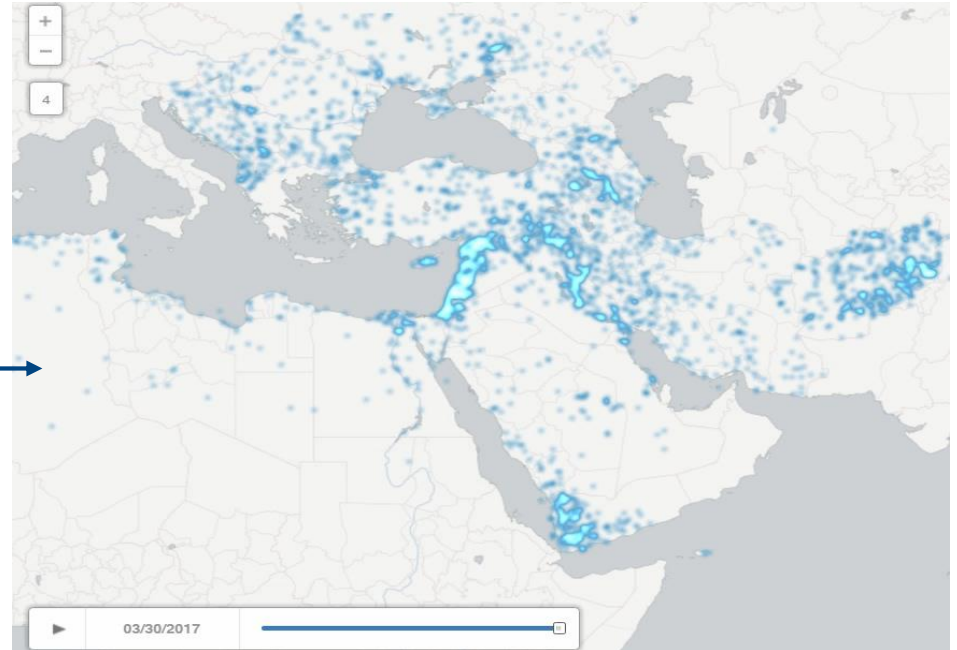
Among other things we can focus in **news intensity, geographic density of events and emotions across the world**

Tracking Geopolitics on real time

is useful to identify the main hot spots and potential spillovers

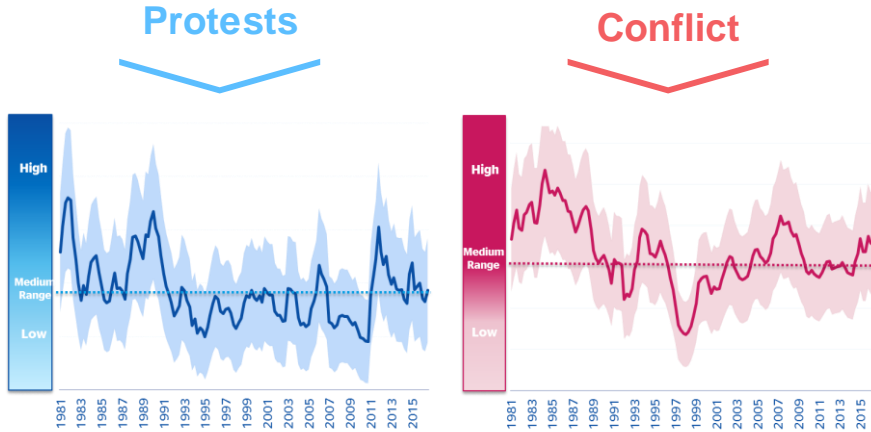
Conflict Intensity Map May 2017

(Number of conflicts/ Total events)

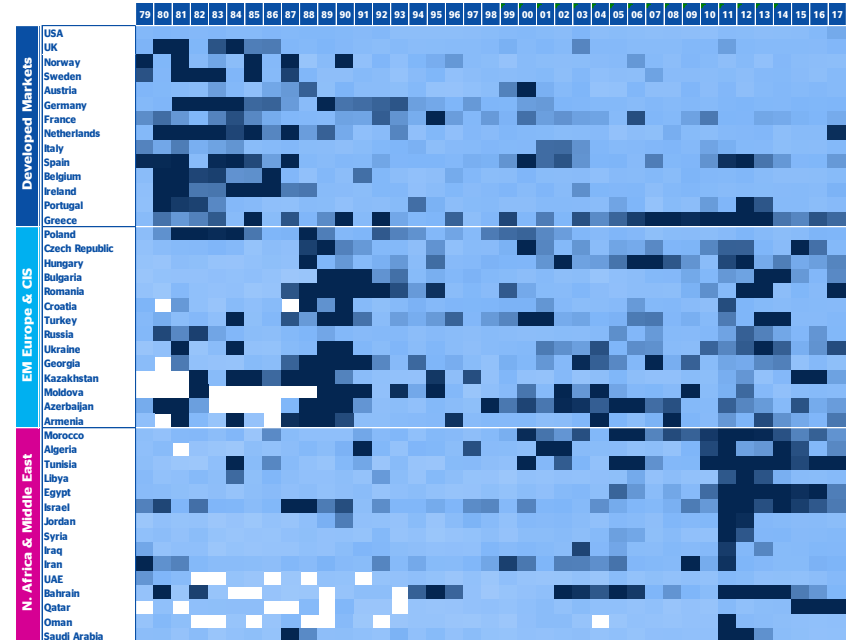


From an historical perspective...

BBVA Research World Protest and Conflict Intensity Index 1979-2017



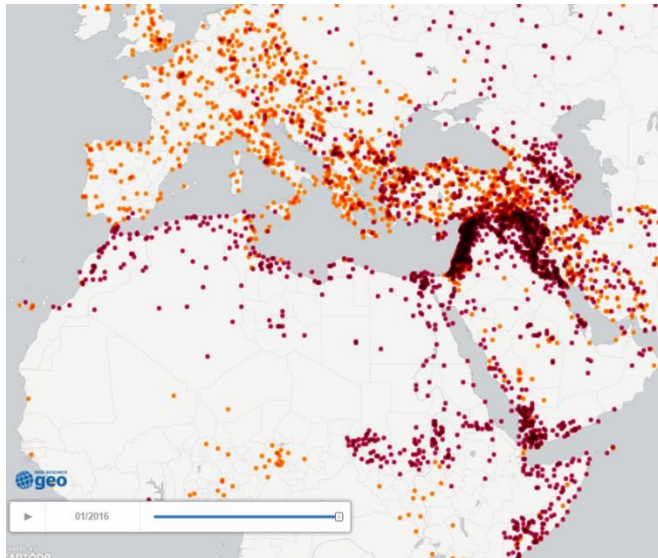
World Protest Intensity Map 1979- 2017



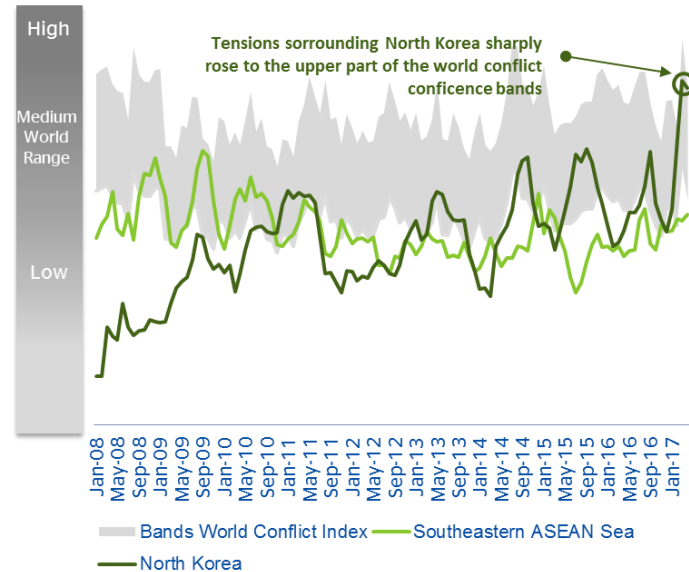
... to the main hot spots

BBVA Research Refugees Flows Map in 2015-17

Number of media citations about refugees' inflows and outflows



BBVA Research Asia Conflict Intensity Index 2008-17

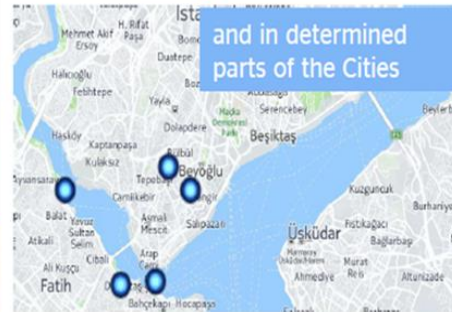
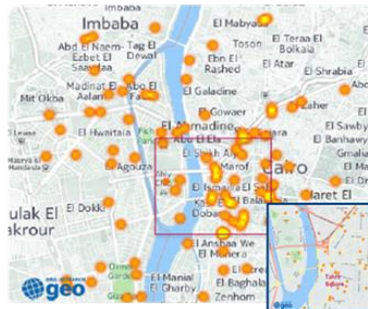
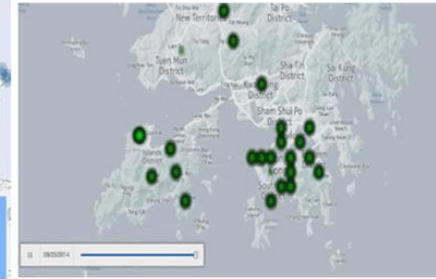


Geopolitical analysis

...at the exact geolocation

Social unrest events across the world: Cairo, Istanbul and Hong Kong cases

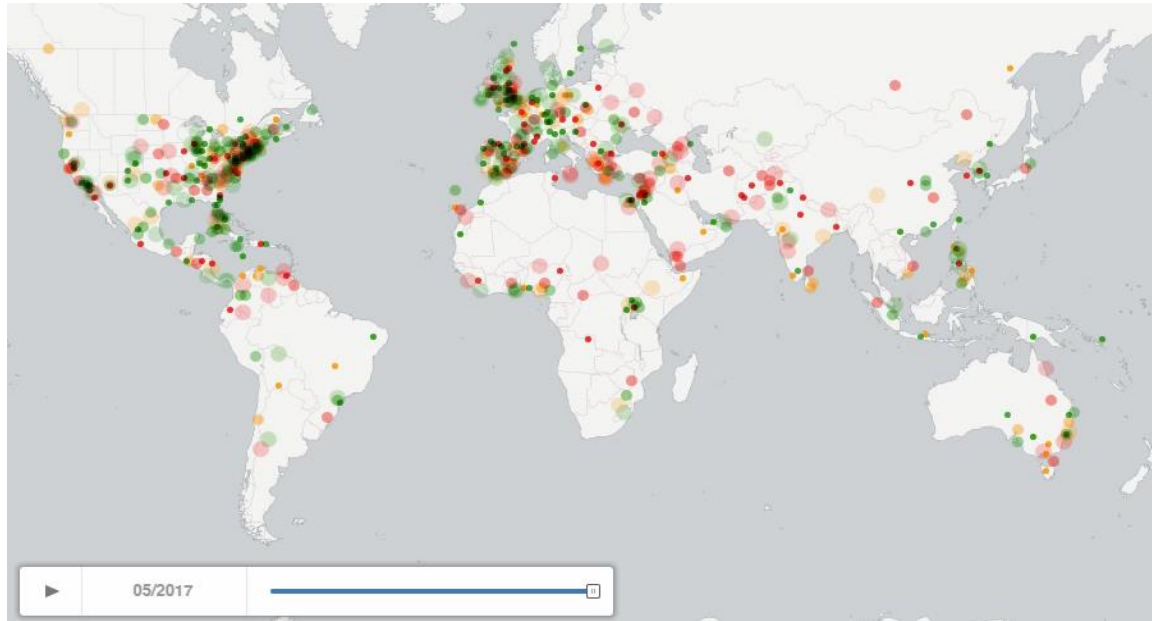
Protest events



Economic and digital analysis

Sentiment analysis: the case of Spain

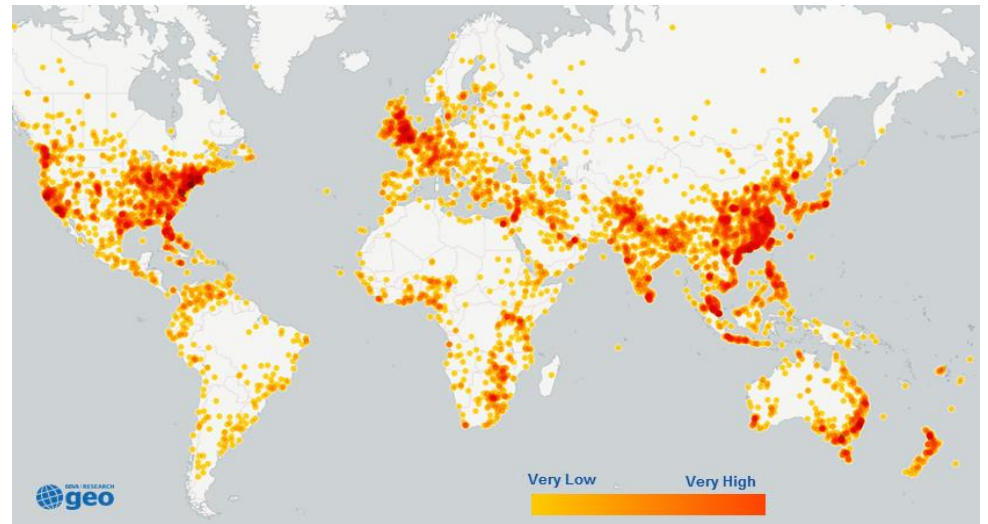
Spanish perception around the world according to the media



- Positive tone
- Neutral tone
- Negative tone

Contagion effects of China's slowdown

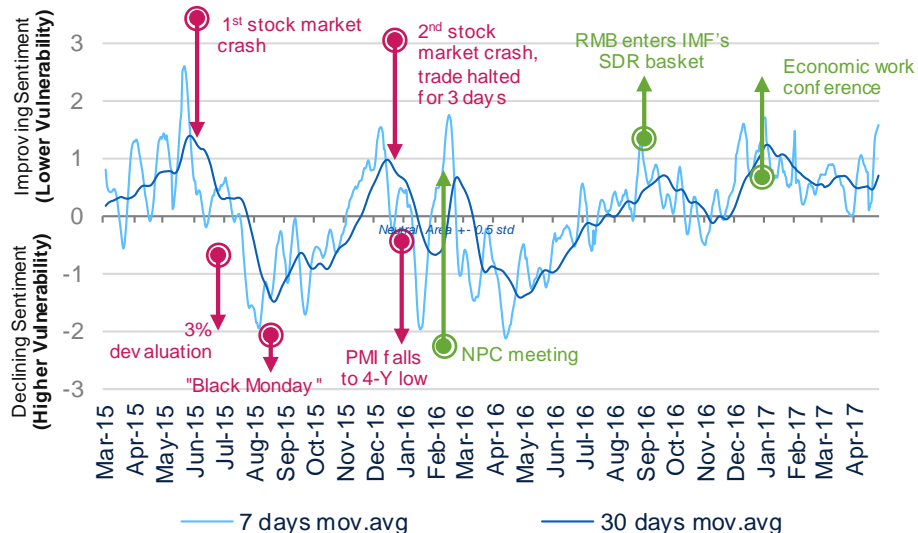
Chinese slowdown: media perception and country network



Measuring Chinese uncertainty

Chinese Vulnerability Sentiment Index (CVSI): components and evolution

China Vulnerability Sentiment Index (CVSI)			
SOE Vulnerability Index (SOEI)	Housing Bubble Vulnerability Index (HBI)	Shadow banking Vulnerability Index (SBI)	FX Speculative Pressure Index (FXI)
Principal Components Analysis on each component Tone			
Hard & Financial data			
Total_profits (M) Liabilities (M) 25%	Mortgages_loan (M) GICS_Housing_Index (M) Housing_Price (M) New_Construction (M) RealEst_Invest (M) 45%	NPL_Ratio (M) TSF_Aggregate_New_Increase (M) Entrusted_Loans (M) Wenzhou_Index (D) WMPs_Acceptances (M) 35%	Foreign_Reserves (D) CNY_Exchange_Rate (D) CNH_Exchange_Rate (D) HICNHON_Index (D) 40%
Big data (GDELT) indicators in real time			
State_owned_enterprises (D) Resource_misallocs_policy Failure (D) Resource_misallocs&SOEs (D) Institutional_reform_&_SOEs (D) Industry_policy (D) Industry_laws_and_regulations (D) Local_government_and_SOEs (D) Debt_and_SOEs (D) 75%	Housing_policy_&_institutions (D) Housing_markets (D) Housing_prices (D) Housing_construction (D) Institutional_reform_&_SOEs (D) Housing_finance (D) Land_reform (D) 55%	Non_bank_financial_institutions (D) Asset_management (D) Bank_capital_adequacy (D) Banking_regulation (D) Infrastructure_funds (D) Financial_vulnerability_&_risks (D) Monetary_&_financial_stability (D) State_financial_institutions (D) 65%	Currency_exchange_rate (D) Currency_reserves (D) Capital_account (D) Macroeprudential_policy (D) Exchange_rate_policy (D) Illicit_financial_flows (D) 60%

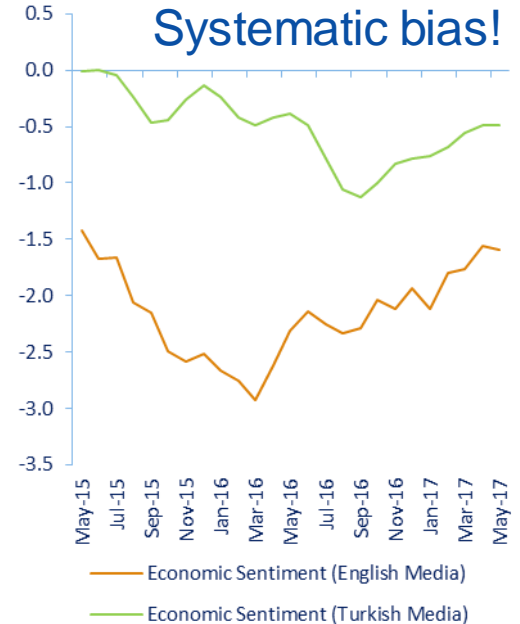
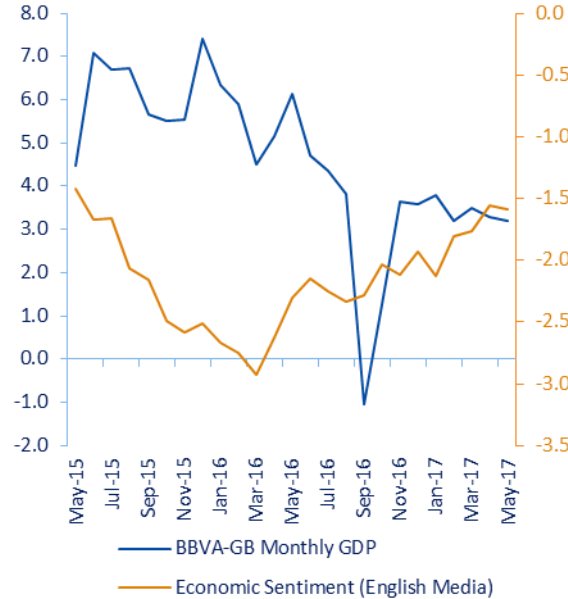
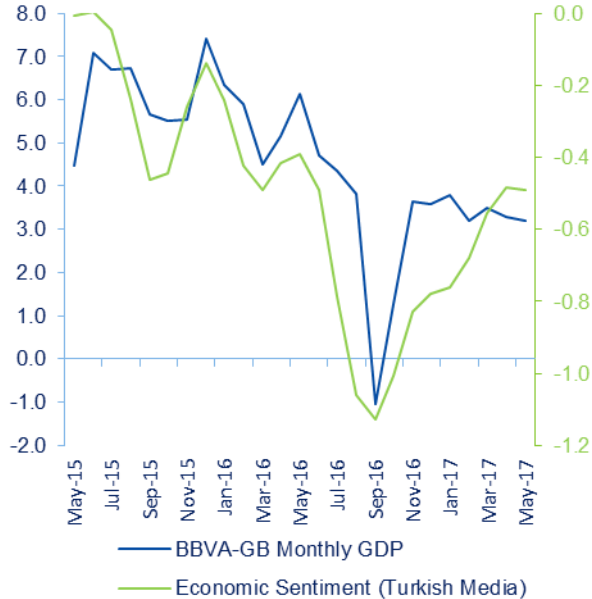


Economic and digital analysis

Narratives matter: language bias

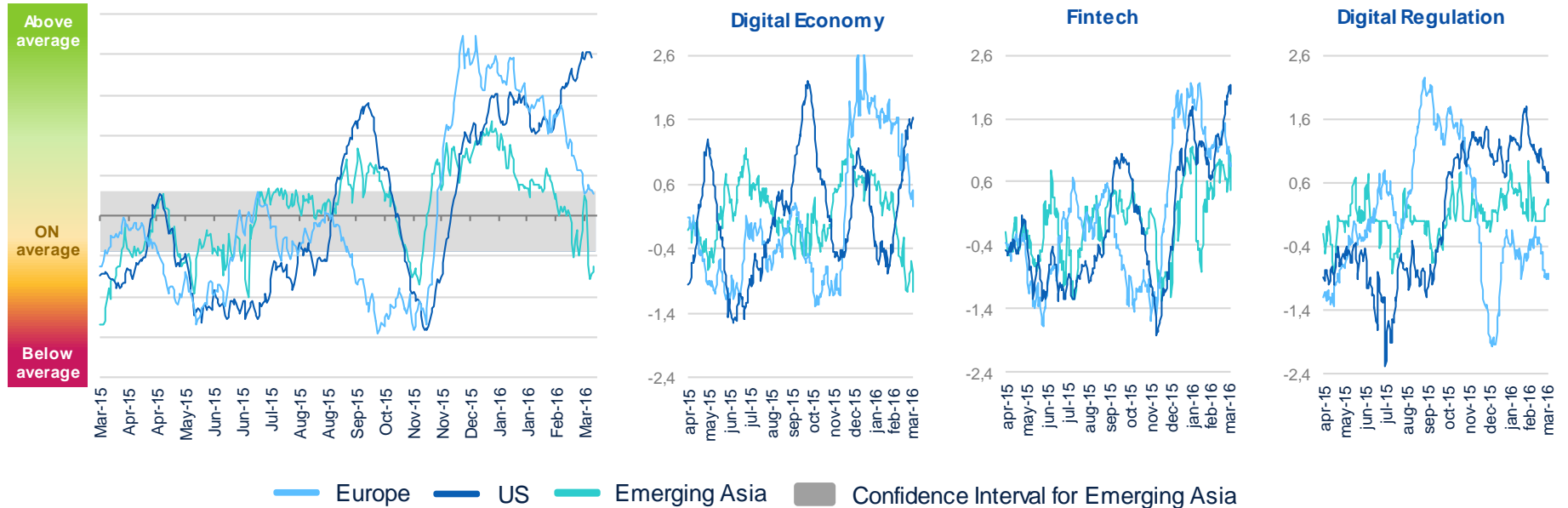
Turkey GDP & Economic Sentiment

(%YoY and media economic sentiment in Turkish and English)



Media Sentiment Digital Index

Media sentiment digital index and components



You can find us at:

Media sentiment digital index and components

◀ [BBVA Research webpage](#) ▶

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