Geopolitics

BBVA Research Big Data Geopolitics Monitor

Big Data Unit
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## Hamas-Israel conflict: Broad Based geopolitical risk deterioration

More than ten days after the Hamas-Israel attack the conflict has triggered a broad reaction of our BBVA Research Big Data Geopolitics Sentiment indexes[1], not only in the Middle East but also in Western Countries (Fig1 & Fig2). Beyond the sharp deterioration of our more external **Geopolitical Risk** and **Conflict** (Fig3) indexes, some of the local indicators as the **Political Sentiment and Protest Indexes have started to be affected** as the Middle East social unrest intensifies and the people in European countries start to position a protest more loudly with some of the contenders. The only exception is **the Economic Political Uncertainty index which remains, so far, in the neutral area**. However, some of the variables as the oil price have started to rise in response to the conflict. In sum, the situation remains risk, extreme in some countries (Fig3), with the potential to escalate as the expected ground response by Israel is still unknown. The Diplomatic efforts to contain main actors in the area intensifies and President Biden is already there. However, the deadly Attack yesterday to a Gaza Hospital reflects the magnitude and the size of uncertainty of the conflict and potential global implications.

The Global Geopolitical Risks indicator deterioration

Many countries included in our Big Data Geopolitical Sentiment indexes have jumped to the high-risk area, and even at extreme levels, as the global and local news have spread across the board:

- **Israel, Saudi Arabia, Iran, and Egypt**: These countries jumped to the high-risk area as the increasing coverage and very negative sentiment deteriorated their geopolitical risk indexes during the week.
- **European Countries:** Some of the European countries' indexes of geopolitical risk sentiment reacted to the Middle East tensions as they tried to mediate in the conflict such as Türkiye, which defends the creation of a Palestinian State, or took a clear posture with Israel, such as Italy and the United Kingdom. Spain and France have not been an exception and their indexes also entered in the risk area.
- **Other countries**: The geopolitical tensions have been perceived also by other countries such as Argentina (the Argentinian community in Israel is near 100k people) and Colombia, which joined Brazil in the high-risk sentiment area. In Asia, China and Taiwan remain in neutral while Australia entered in the risk area.
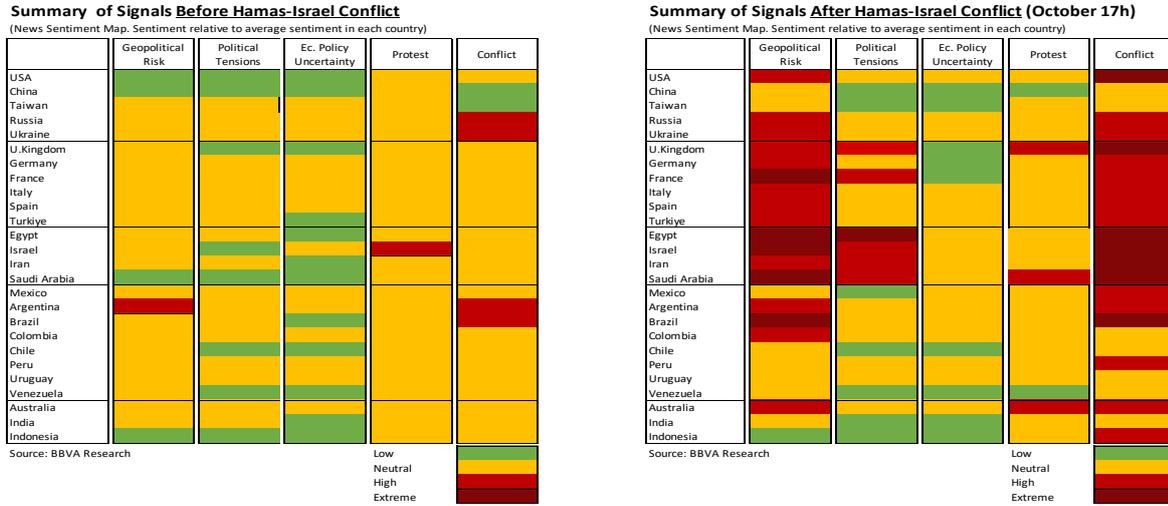
Fig1. **GEOPOLITICAL SENTIMENT INDEX: M EAST**
(28-day weighted moving average, normalized by its own history)
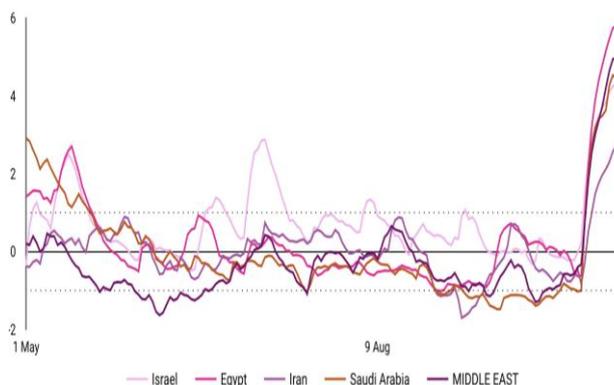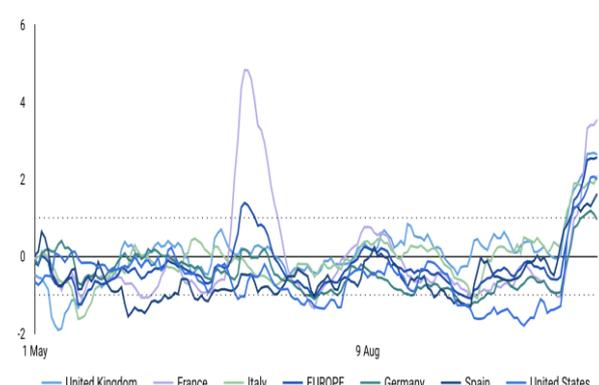
Source: BBVA Research & www.gdelt.org. **Positive (negative) values indicate greater (lower) risk relative to the mean of period 2021-nowadays)**

Fig2. **GEOPOLITICAL SENTIMENT INDEX: EUROPE**
(28-day weighted moving avg, normalized by its own history)

Source: BBVA Research & www.gdelt.org. **Positive (negative) values indicate greater (lower) risk relative to the mean of period 2021-nowadays)**

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[1] BBVA Research Big Data geopolitics indexes are built from the media news articles using artificial intelligence techniques (NLP techniques including Sentiment Analysis) to display real-time signals of geopolitical tensions and risks, sourced from a global news Big Data set (GDELT). See the annex for further information.

Fig3. BBVA RESEARCH GEOPOLITICS MONITOR "SIGNAL" CHANGES AFTER HAMAS-ISRAEL CONFLICT

(Signals in Geopolitical Risk, Political Tensions, Economic Policy Uncertainties, Protest and Conflict according to Standard Dev,)


Summary of Signals Before Hamas-Israel Conflict
(News Sentiment Map. Sentiment relative to average sentiment in each country)

Summary of Signals After Hamas-Israel Conflict (October 17h)
(News Sentiment Map. Sentiment relative to average sentiment in each country)

Source: BBVA Research and www.gdelt.org

Fig4. PROTEST INTENSITY INDEX: MIDDLE EAST
(28-day weighted moving avg, normalized by its own history)

Source: BBVA Research & www.gdelt.org.
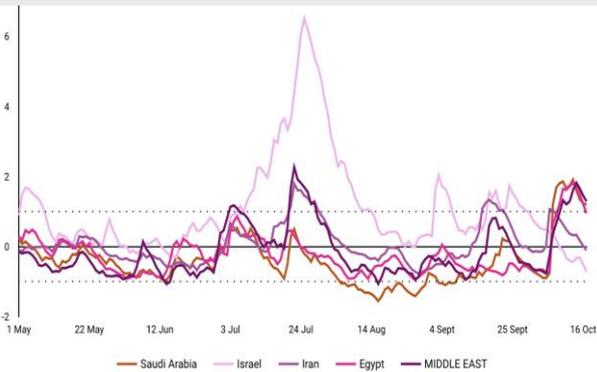
Fig5. PROTEST INTENSITY INDEX: EUROPE
(28-day weighted moving. avg, normalized by its own history)

Source: BBVA Research & www.gdelt.org.
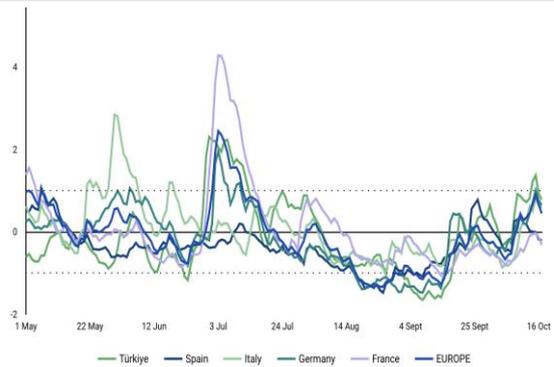
Fig6. BBVA RESEARCH PROTEST AND CONFLICT HEAT MAPS

(Evolution of Protest and Conflict over time by regions)

Protest Intensity Index Heatmap

Conflict Intensity Index Heatmap

Source: BBVA Research and www.gdelt.org

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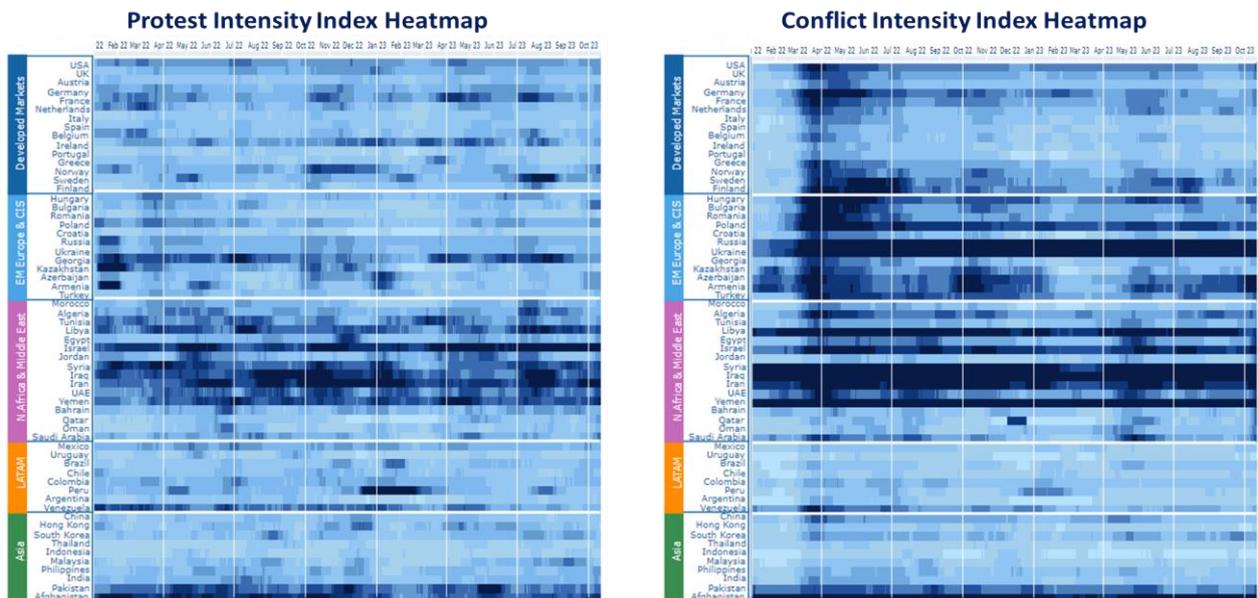
Methodological annex: indicators' construction

We have developed a daily tracker with weekly updates to monitor protest and conflict indicators for every country in the world from 2019 to present day. To construct this, we use a rich 'big database' of international events (GDELT), created by Leetaru and Schrodt (2013). GDELT is an open-source database which extracts and parses digital news monitoring world events covered by news media from nearly every corner of the world, whether broadcast, printed or published on the web, in over 100 languages, every moment of every day, updated every 15 minutes. Thus, it contains a comprehensive and high resolution catalog of geo-referenced events and themes.

Using different dictionaries, several thousands of taxonomies and themes are identified in the news pieces to classify the information. The algorithms used by GDELT also identify emotions, organizations, locations, news sources and events across the world as well as their average sentiment using Natural Language Processing (NLP) techniques and the lexicon approach.

The included indicators are:

- Geopolitical Risk: or sentiment (weighted by coverage) of the country's geopolitical risk perception.

- Political Tensions: or sentiment (weighted by coverage) of the country's political tensions.

- Economic Policy Uncertainty or sentiment (weighted by coverage) about the country's economic policy uncertainty, also disaggregated by media origin.

- Protests or coverage regarding social protests or unrest in the country.

- Conflict or coverage of armed conflicts, which go beyond verbal protests.

- Bilateral Tensions or the sentiment (weighted by coverage) between a specific pair of countries that appear together in the news article (plus NATO and EU).

The indicators track the evolution of tensions and are normalised by its own country history since 2019, thus they are all expressed in terms of standard deviations from their historical patterns. Indicators usually lie within the range [-1,1]. Therefore, when the values exceed one (the upper boundary of the range), this means escalating tensions. While it's possible to observe simultaneous tensions arising in multiple countries (for example, due to geopolitical events affecting several nations, as seen in some of our heatmaps), using these indicators for direct quantitative comparisons of risk levels between countries is not recommended.

We apply a weighted moving average of 28 days (to include four complete weeks with the same number of days of the weeks) to reduce noise of daily information and identify signals more clearly. The weights have been calculated using a discrete geometric distribution such that it puts more weight on recent data and less on past data (see Graph 1). Aggregating by weeks, the weight of the most recent week has a weight of 68%, the past week 22%, the previous 7% and the fourth 3%. The weight of the 28 days can be seen in the following image. In such a way, the indicators reflect what is happening in the last days.

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