



Monitoring Global Risk Events: Applying GDELT to Global Events

Over the course of 2017, we integrated big data analytics into Northwest Passage Capital Advisors' tracking of global events. As part of our firm's ongoing "Boots in the Cloud" research initiative, we are actively leveraging the vast data potential of the Global Database of Events, Language, and Tone ("GDELT") to gain a fuller and better-informed perspective on world events impacting emerging markets.¹ With many national elections scheduled, including those in Russia, Mexico, and Brazil, political volatility is expected to rise in 2018. Big data platforms, like GDELT, are indispensable tools for monitoring such potential risk events across the globe.

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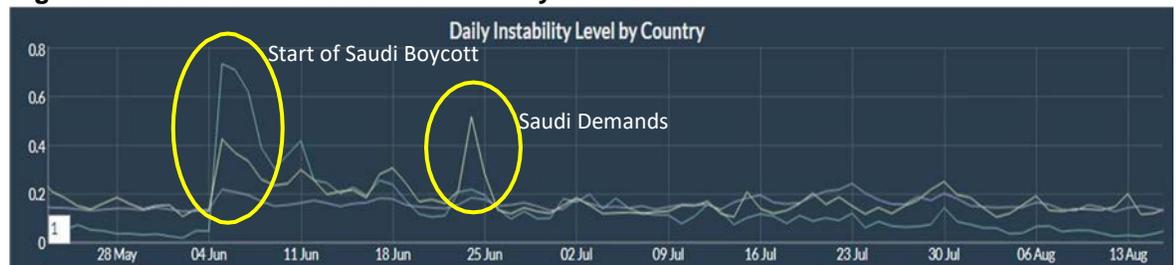
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The critical value-add of using GDELT lies in tapping into its "nowcasting" capabilities. Through GDELT, we can obtain detailed, near real-time data that reveals news sentiment and coverage volume, and allows for cataloging across variables such as location, actors, languages, and themes. Highlighted below are three examples of how we applied GDELT this past year to track and assess global risk events ranging from interstate conflicts to domestic political contests.

Example 1: Tracking Country Instability (Saudi Arabia-Qatar crisis)

In June, a diplomatic crisis broke out between Middle East neighbors, Saudi Arabia and Qatar. On June 5, Saudi Arabia, along with other Gulf countries, started a diplomatic boycott over statements attributed to the Qatari emir questioning Qatar's alliance commitments and its relations with Iran. The accompanying trade ban raised immediate concerns about Qatar's economic vulnerability with the country's stock market falling nearly 10% in 48 hours.

Figure 1. Saudi Arabia and Qatar Instability Levels



Source: Northwest Passage Capital Advisors, GDELT

The GDELT data measure for instability events instantaneously reflected the gravity of the crisis. As shown in Figure 1, there was an immediate upward spike in Qatar's instability level (green line), as well as a modest spike for Saudi Arabia (yellow line). The movement was notable as Qatar's daily instability level typically reported below the calculated average for our CEMEA (Central Europe, Middle East, and Africa) regional grouping (as shown by the purple line). Instability stayed at an elevated but dissipating level the rest of June. A

subsequent spike occurred on June 25 for Saudi Arabia when it issued demands to Qatar for ending the crisis, which the Qatari government subsequently rejected.

While making headlines over the summer, no further escalation occurred. The data reflects the subsiding nature of the crisis, which although still ongoing, it is holding at a low-level of intensity. By the start of August, both countries’ instability levels returned to pre-crisis levels. In the weeks that followed concerns over Qatar’s immediate economic vulnerability abated although its long-term sensitivity to external trade is still a downside risk.

Example 2: Tracking Elections, Political Parties, and Leaders (South Africa)

Another “nowcasting” benefit of GDELT is the ability to track sentiment trends for leaders and political parties. We employed GDELT to monitor sentiment levels for candidates contesting the ANC (African National Congress) party leadership decided at the recent party conference (December 16-20). We tracked sentiment scores for Cyril Ramaphosa and Nkosazana Dlamini-Zuma, limited to news sources based in South Africa, for the weeks before and after the conference vote (see Figure 2). In looking at the 30-day moving averages, sentiment for both candidates trended upwards (albeit remaining negative overall)² in mid-November, with Ramaphosa maintaining an advantage throughout. In adding sentiment scores for the ruling ANC party, we see a dramatic gain from -1.88 on November 12 to -1.21 on December 20, the day of the announced Ramaphosa victory.

Figure 2. Sentiment Scores for ANC Candidates and ZAR-USD Exchange Rate



Source: Northwest Passage Capital Advisors, GDELT

An added benefit of this data is its daily frequency. This near real-time output is in stark contrast to traditional economic or governance indicators published annually or quarterly and ultimately backward looking. In the case of South Africa, we see the daily sentiment scores for the leading candidates and the ANC moving in tandem with gains by the rand, which suffered a negative shock on the reporting of a poor Medium Term Budget Policy Statement on October 25. Following the Ramaphosa win, the rand gained 6% on December 18 moving to 12.77 ZAR-USD and moved to near yearly highs versus the dollar.

Example 3: Tracking Perceptions of Key Themes (NAFTA)

Beyond tracking specific events or people, GDELT allows for checking broader themes through its coverage and sentiment data. One such theme of interest to emerging market investors in 2017, and for 2018, is the status of the North American Free Trade Agreement (NAFTA) being renegotiated by the US, Mexico, and Canada. We have tracked the sentiment of news coverage on NAFTA, but have run separate sentiment scores based on news source location (Figure 3).

Figure 3. News Source Location Media Sentiment on NAFTA



Source: Northwest Passage Capital Advisors, GDELT

Disaggregating media coverage in this manner reveals differences in sentiment in the news coverage of NAFTA within each of the countries. Whether media coverage drives public perception or reflects it, the data are useful standing alone by showing the nature of different attitudes about NAFTA. Of greater importance is the ability to use this information in estimating how government leaders might position themselves for the ongoing trade negotiations and, even more critically, for domestic political purposes, specifically for national elections slated for Mexico and the US in 2018.

Conclusions

To date, our use of GDELT has offered insights otherwise missing from traditional research means alone. As captured by the highlighted examples, our current work with GDELT yields several lessons:

- Daily, near-time data are a vital supplement to more traditional data sources, allowing for “nowcasting” by assessing sentiment and coverage,
- The quick ramp up/down of instability events necessitates daily frequency data,
- Sentiment trends can offer useful insights into the lead up to elections, and
- Location is a key variable for showing differences in perceptions between actors.

In the near term, we expect greater and more varied uses of GDELT as political volatility rises in 2018. Looking further into the future, big data platforms, like GDELT, will play a vital role in monitoring political risk as the pace and volume of global events increase.

¹Launched in 2011, GDELT is the biggest open data database of political events in the world. Updating every 15 minutes, GDELT monitors the internet providing historical data since 1979 for all broadcast, print, and web news from nearly every country in over 100 languages and identifies people, locations, organizations, counts, themes, sources, emotions, quotes, images and events. Its algorithm uses more than 40 sentiment dictionaries and can categorize 2,300 types of emotions. For more information go to <https://www.gdeltproject.org/>.

²We have found negative sentiment scores for leaders to be a persistent feature. This appears due in part to the many controversial policies and event found in the associated new coverage. Our running average for our world leader sentiment score (comprised of 72 world leaders from both emerging and developed market countries) in 2017 is -0.94.

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