Documents Without Borders

Show Me the (International) Data!

Dory Shaffer

Some research is done in carefully controlled environments—where researchers painstakingly alter variables to determine how their change affects certain outcomes. These experiments, designed to test various theories and hypotheses, are dependent on the ability of researchers to control potential variables. Yet other methodologies focus on situations where the change in variables were dictated by policy, business, or social shifts. When these shifts happen on a large scale, international data is an invaluable tool for determining actual effects. In this column I will explore several international government data sources and their use in academic research.

Sustainability, climate change, and energy are currently huge topics—attracting ample research dollars and newspaper headlines alike. A lot of climate research depends on information collected by US government bodies like the National Oceanic and Atmospheric Administration (NOAA) and the United States Department of Agriculture (USDA).[1] Using valuable government collected data, researchers can analyze the consequences of actions taken by governments, businesses, and individuals on regional climate. However, to look at larger-scale issues like the effectiveness of the Paris Climate Accords, signed by 196 parties in 2015,[2] data from international sources must be considered. When researching climate, it is often nearly impossible to consider local data only, given the interaction between effects caused by domestic policies and global efforts. This can be exemplified by research done by Emily Shaw, a recent PhD candidate at my own institution, who was investigating PCB contamination in fish in the Great Lakes.[3] Shaw considered government data collected by both the US and Canada to draw conclusions and make policy recommendations, a common tactic. To assist researchers working in this area it is important to understand how to search for data collected by international governments and agencies.

Although the COVID-19 pandemic has calmed (a statement I hope holds true when this column is published in the spring), it left an indelible mark on public health. During its height, news was coming not only from the local officials and the Centers for Disease Control and Prevention,[4] but also the World Health Organization and numerous international bodies.[5] It was hard to determine what advice to follow given seemingly mixed messages from different authorities, but it was also the nature of a sudden global pandemic that required a global response. This response, followed anxiously by millions stuck at home, provided a look into the interlocked system that is public health. Public health professionals and researchers in the US are constantly working with and pulling data from international sources to make recommendations regarding both domestic and foreign policies. To share an example, in 2014–2016 when the Ebola Virus was a growing concern in West Africa,[6] the US not only worked closely with the WHO and other international groups to track progression, but committed funding and manpower to help contain the spread.[7] Their involvement meant the world would have a better understanding of the virus and how to fight it if it hit the US while limiting that chance and providing humanitarian assistance.

A final example area where international data is valuable is in the world of finance and economic indicators. Many sources cited in news reports on the economy regarding topics like current interest rates, unemployment rates, and domestic inflation rates are from US government sources like FRED.[8] However, when a shipping accident or breakout of conflict causes noticeable changes in consumer prices, it is plain to see that the economy in the US is intrinsically tied to a global system. Economic indicators from the United Nations and European Union are valuable in understanding current issues and making forecasts. During trade disruptions, like those that occurred somewhat frequently over the past few years, the UN's trade aggregating database, Comtrade, is a helpful tool, giving researchers access to data covering more than 99% of the world's merchandise trade.[9] Data sources like Comtrade make large amounts of data accessible to policy makers, academic researchers, think tanks, and industry leaders—contributing to informed decisions and research that takes global variables impacting the economy into account. In fact, some of the economic reports by US agencies that are followed closely include global data sources like the United Nations and International Monetary Fund.[10] UN bodies also follow actions taken by the US closely. Last October, the United Nations Conference on Trade and Development (UNCTAD) made headlines after publishing its' annual *Trade and Development Report*,[11] pointing to interest rate hikes by the FED to slow down the economy in the US as the cause for potentially billions in lost future income in developing nations. As when considering climate and public health data, looking exclusively at US economic information can only illuminate a portion of an interlocked global system.

Having said all this, I want to impart a few words of caution to anyone working with international data—it's complicated. Different nations collect data and statistics using different

methodologies with different priorities, and from different cultural approaches. Comparing economic data from the US FED and data from a neighboring country could easily lead to a misuse of data when these factors are not considered. In fact, the UN Department on Economic and Social Affairs heads a Statistical Commission in part charged with managing this issue and increasing the comparability of national statistics.[12] Differences in data collection can also reveal disparities in countries for certain groups, for example, data on women and girls is often scant.[13] Furthermore, nations do have motivation to misrepresent or hide data that could cast them in a bad light. China has been repeatedly called out for their reporting related to the COVID-19 pandemic, leading to a plea from the WHO for more comprehensive COVID-19 data to be released.[14] However, these issues are not exclusive to international data sources, as data can be misunderstood and easily manipulated no matter the source.

Though the data we have access to is imperfect, it is still an important piece of research across disciplines and helps explain challenging issues. There are unique challenges to working with international data sources, but it is often vital to consider the global picture in many situations. In this column I spoke about environmental, public health, and economic data, but those examples are a small sampling of value added by understanding and integrating international government data sources into research and decision-making. Maintaining a limited scope makes information searching easier in many cases, but consistently limiting it to domestic sources would also limit our ability to fully comprehend issues that go beyond borders.

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Notes

1. National Oceanic and Atmospheric Administration (NOAA), "National Centers for Environmental Information: Climate Data Online," https://www.ncei.noaa.gov/cdo-web/; United States Department of Agriculture, "National Agriculture Statistics Service," https://www.nass.usda.gov/.
2. United Nations, "Paris Agreement (English)," 2015, https://unfccc.int/sites/default/files/english_paris_agreement.pdf.
3. Emily Shaw, "Polychlorinated Biphenyls (PCBs): A Legacy of Contamination in Michigan's Rivers," 2018, https://digitalcommons.mtu.edu/etdr/749/.
4. Centers Disease Control and Prevention, "COVID-19," https://www.cdc.gov/coronavirus/2019-ncov/.
5. World Health Organization, "WHO Coronavirus (COVID-19) Dashboard," https://covid19.who.int/.
6. World Health Organization, "Ebola Virus Disease Fact-sheet," https://www.who.int/news-room/fact-sheets/detail/ebola-virus-disease.
7. Centers Disease Control and Prevention, "2014–2016 Ebola Outbreak in West Africa," March 8, 2019, https://www.cdc.gov/vhf/ebola/history/2014-2016-outbreak/index.html.
8. Federal Reserve Bank of St. Louis, "FRED, Federal Reserve Economic Data," https://fred.stlouisfed.org/.
9. United Nations, "UN Comtrade Database," https://comtrade.un.org/.
10. Federal Reserve Bank of St. Louis, "Interest Rates, Discount Rate for United States," October 4, 2021, https://fred.stlouisfed.org/series/INTDSRUSM193N.
11. United Nations Conference on Trade and Development, "Trade and Development Report 2022," https://unctad.org/tdr2022.
12. UN Department on Economic and Social Affairs, "United Nations Statistical Commission," https://unstats.un.org/UNSDWebsite/statcom.
13. UN Women, "Women Count," https://data.unwomen.org/.
14. World Health Organization, "WHO Director-General's opening remarks at the media briefing," January 4, 2022, https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing---4-january-2023.