Fragility Gone Awry: Why Policy Reports Need Replication

May 13, 2015

Thomas Leo Scherer

In its 2015 States of Fragility report, the OECD made the ambitious decision to disaggregate their annual list of fragile states into five dimensions or clusters of fragility: Violence, Justice, Institutions, Economic Foundations, and long term Resilience. On the one hand, this change shows conceptual progress toward an understanding of what exactly fragility means and how the international community should tailor its response. Now countries like Benin and Cambodia are seen as having very different vulnerabilities requiring different types of foreign assistance. On the other hand, the OECD's presentation and execution of the new framework reveal an opaque methodology and a disregard for the standards of reproducibility that must be addressed if its approach is to gain traction with the international community. Based on an intense effort to replicate the framework, the fragility classifications are problematic at best.

The easiest way to grasp the problem is to look at the main visualization of the classification system, a five-dimensional Venn diagram that I call the pentagram of fragility. For each of the five dimensions, the OECD created an index by taking the average of three inputs that are normalized to a scale of 0 to 100. For example, the Violence dimension is calculated by taking the average of a country's scores on measures of battle deaths, interpersonal injuries, and political instability. The 50 countries with the lowest averages are considered vulnerable in that dimension. The report focuses on those countries that are vulnerable in two or more dimensions.

Figure 1.1. **Venn diagram representing fragility clusters across states and economies**
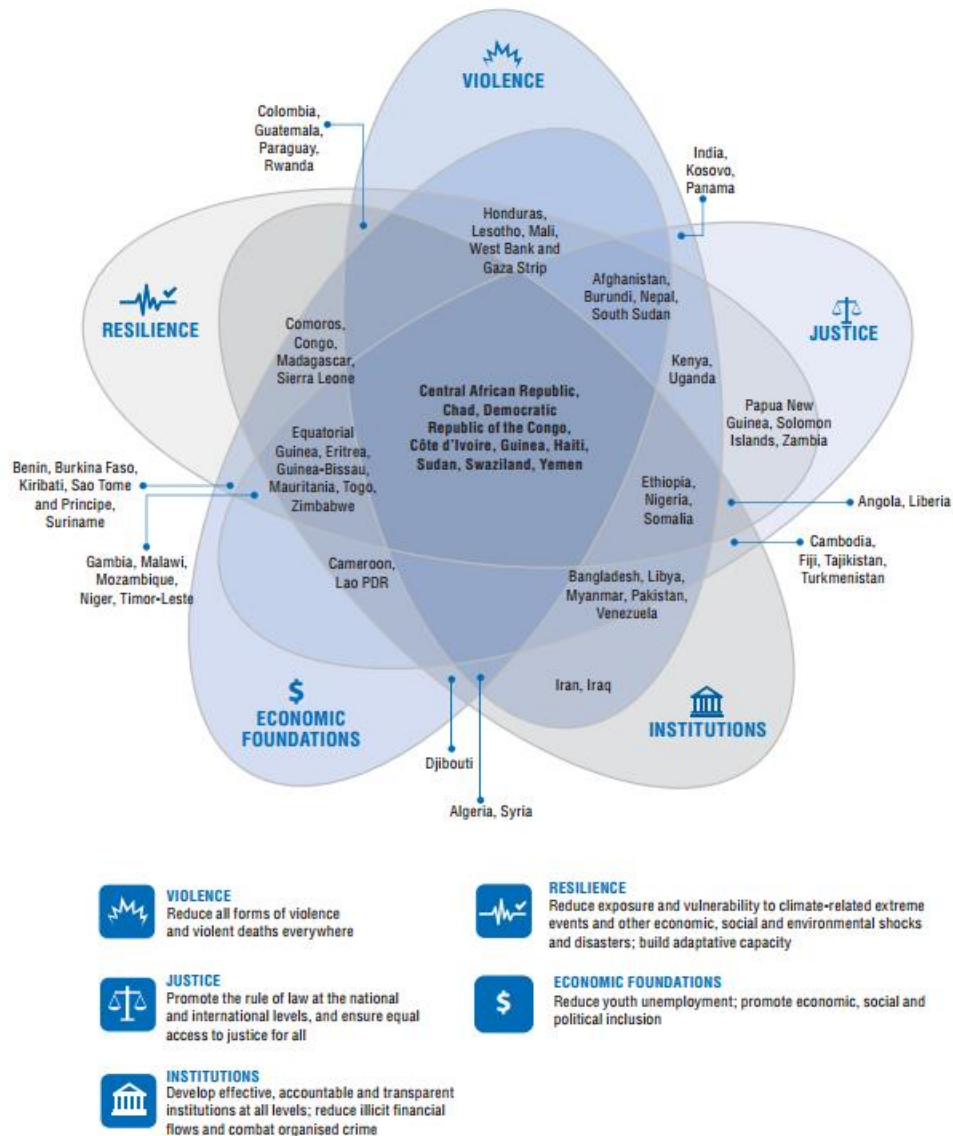

Do the classifications make sense? With indices like this, cherry-picking a country and arguing against the result is like shooting fish in a barrel. Afghanistan stands out as it is listed as vulnerable in every cluster except Institutions. Is that credible? Afghanistan regularly ranks near the bottom on corruption indicators. General Allen identified corruption as "the existential threat to the long term viability of modern Afghanistan." How then did Afghanistan not make the bottom 50 for the Institution dimension?

After replicating the classifications I found Afghanistan does belong in the Institutions cluster. However, Afghanistan wasn't the only one; over half of the countries are misclassified! It is impossible to say what went wrong since the report does not follow any of the replication best practices that are highlighted in the OECD handbook for constructing indicators and making their way into political science (on that note, my replication including the datasets and calculations are available on GitHub). All I can say is that despite several attempts to follow their basic recipe, what comes out doesn't match the picture on the box.

The underlying data is not released with the report and the citations are not always clear. I pushed on, gathering the datasets including hand-coding [health-care capabilities from a map](#) (a tedious reverse paint-by-number). After cleaning and merging I calculated the indices using the report's methodology. The methodology is vague in several places such as how to handle missing data or whether to include territories and small island states. The report says it uses data from "2012 or most recent year" which could mean closest to 2012 without going over – standard The Price is Right rules - but could also mean using 2013 data when available.

For each uncertainty I tried every interpretation with similar results. No matter how I interpret the OECD's methodology, I find that over half of the Venn diagram is wrong. Only 30 of the 70 listed states are classified correctly. I made the edits found in one of my closer matches on the Venn diagram below.

Figure 1.1. **Venn diagram representing fragility clusters across states and economies**
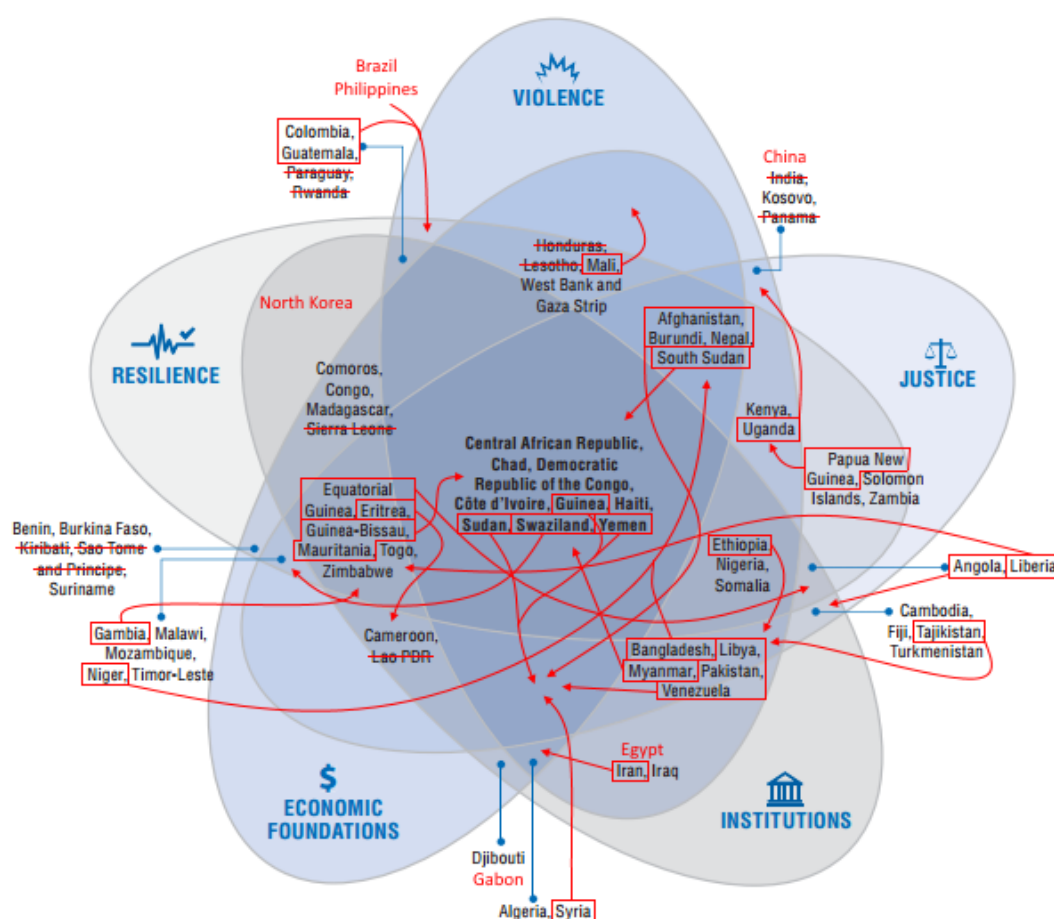
These errors are not minor. Some states make small hops over cluster lines, but other changes are substantial. North Korea does not appear on the OECD's original Venn diagram but has been on the one-dimensional Fragile State Index every year since 2008. In my replication North Korea is ranked as the absolute worst country for Institutions and Resilience.

North Korea may have been excluded because it is missing some inputs event though it has less missing variables than Kosovo or Somalia which do make the diagram. The Philippines is not missing any data and similarly did not make the OECD diagram, but in my replication it ranks 19th from last in Violence

and 15th from last for Resilience. On the other end of the spectrum, I drop Lesotho from the diagram as it ranks as 124th from the bottom for Violence, far from the bottom 50 cutoff.

Increasingly, the international community is using methodologies like these and related indicators to frame discussions on foreign assistance, even if other factors shape aid disbursement. One of the OECD's goals with the new indicators, for example, was to inform the Sustainable Development Goals, which will replace the Millennium Development Goals post-2015. The issues highlighted here should serve as a call to arms for some changes in the policy community. Specifically, public officials and international civil servants need to get serious about instituting norms of best practice for sharing data and methods that inform the policy reports they publish. This would make their findings and policy recommendations more robust and encourage the kind of engagement we need given the challenges we all face.

Thomas Scherer is a PhD candidate in International Relations at Princeton University and a Senior Research Specialist at the US Institute of Peace. The views expressed in this article are his own and not those of the U.S. Institute of Peace