The confounding economics of natural disaster shocks

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In the hours (not days) after the enormous earth and tsunami hit Japan on March 11th before it was even known that the Fukushima nuclear plant had been badly damaged and well before the scope of the mortality and damage had been assessed, the Japanese yen rapidly appreciated in value. The G7 nations moved to quickly stabilize the yen — not to prevent it from falling, but to prevent it from further appreciating.

From a geophysical point of view this earthquake and tsunami rank among the very worst things that nature can throw at us. But most economists are saying that this disaster will not hurt the Japanese economy very much in the long term. Large disasters, it turns out, are not necessarily bad for the economies of wealthier countries, including Japan. In fact, in perverse ways, some disasters can actually create economic progress.

Earthquakes, hurricanes, floods and other such disasters all cause damage in relatively restricted areas so unless the disaster makes a direct hit on an industry that is particularly critical to a country's economy, production in the rest of the country can often buffer the effect.

The U.S., for example, is so large geographically, and its economy is also so large and diversified, that it is hard to imagine a natural disaster that would seriously impact the total national economy for very long. Regional economies, of course, can be seriously affected — but even Hurricane Katrina went relatively unnoticed in the national economy.

It makes sense then that small countries would experience greater impacts. Hurricane Mitch's strike on Honduras in 1998 was so devastating that Honduran President Carlos Roberto Flores said that economic progress in the country had been set back 50 years. That turned out not to be quite true, but he could hardly be blamed for thinking it might be, given the devastation of that event. Virtually every corner of the country was affected. Other small countries, including Fiji, Samoa, St. Lucia and Madagascar have had similar experiences. Large countries, and wealthier countries, have not.

In Japan, most of the wealth is produced from Tokyo southward. The northern region hit by the tsunami accounts for a very small fraction of the country's gross domestic product (GDP). Fishing and farming are just not big parts of the Japanese economy. The power plant is another story of course, and given that it supplies Tokyo with power, the disaster there is felt well outside the directly affected area. Still, the Japanese economy has not tanked and most pundits say it isn't going to.

The immediate spike in the yen came about because Japanese people have many of their investments outside the country and it was thought they would need to bring their money back home to help them recover from the disaster so investments made in foreign currency would need to be converted back into yen. Currency traders thought that yen would become scarce and started buying up the currency, driving up the price.

That was a short-term spike and was quickly corrected but there is a deeper, and seemingly more perverse, economic current running through many disasters: There is evidence that disasters can be agents of progress. This is more than the short-term bump you might expect in the building industry.

Think about it in the same way a homeowner can use an insurance claim for fire damage to make needed home improvements. No one would replace kitchen appliances damaged in a fire with the same old models. We would all want to upgrade.

Now translate that to a national scale. If the infrastructure essential to commerce (bridges, roads, port facilities) that was washed away in a hurricane or tsunami were old and inefficient (as is often the case), and if it could be quickly replaced by much better infrastructure — particularly if that can be done using external aid, say, from the World Bank — then a lasting benefit to a country's economy might ensue. Resources contributed to relief efforts are equivalent to an economic stimulus package.

So should we not worry about disasters? Should we just sit back, let them happen and reap the benefits?

I'm afraid not. Alas, only wealthy nations, or regions, seem to reap any "benefits." Certainly Haiti hasn't seen any economic benefits since the 2010 earthquake, and although much of New Orleans has come back following Hurricane Katrina, the Lower 9th Ward probably hasn't seen much windfall, nor has the coastline of Indonesia that was destroyed in the 2004 tsunami, or any other very poor place, as far as I can tell. Perhaps the potential for a disaster windfall is just another expression of the injustice of disasters. It may even be deeply misleading.

The standard measure of an economy is GDP, the market value of all final goods and services produced within a country. It sums four components: private consumption, gross investments, government spending and the value of exports minus imports. Usually GDP per capita is employed as a welfare measure, but it is routinely criticized as imperfect, especially as a measure of the state of poor countries where so much of the economy is at subsistence level. Look at the components of GDP and it isn't hard to see why they might all increase after a disaster — but only for countries with a lot of consumers, many investors, good government institutions and significant exports.

Other losses — such as the deaths of people who were not consuming, investing and producing exports — also don't alter the balance of a GDP-measured economy. The economic hit a country takes from a disaster bears little relationship to mortality figures.

So to the GDP economy, high death tolls are not of interest. No wonder economics is known as the dismal science.

What this all means is that standard economics will often overlook the harm disasters cause to those in poorer countries and to poorer people everywhere. It is the profound injustice of disasters.