Letter from America —

It's a big country, and how to measure it

In this Letter from America, Angus describes recent efforts to record the significant differences in regional price levels across the USA. The task is technically complex and also raises political sensitivities.

One of the first things visitors from Europe confront when they first come to America is just how enormous the place is, an enormity that is somehow enhanced by the fact that, after many hours in an airplane, you get off and discover that almost everything looks the same as where you got on, something that is rare in Europe. There may be mountains, palm trees, or a temperature difference that tells you that something has changed, but one thing that you will not find, at least in the official number and until very recently, is any change in the price level. In consequence, the federal poverty line is the same everywhere, independent of the local cost of living, which does not prevent it from feeding into a range of federal and state welfare policies.

The need for regional price indices

In 1995, a panel of the National Academy of Sciences thought hard about how poverty ought to be measured; I was fortunate enough to be a member of the group, which included another Brit, Sir Tony Atkinson. One of the group's recommendations was that the poverty line should be adjusted for differences in price levels in different places, something that was not possible in 1995, because the statistical system did not produce such price indices. Contrast this with *Eurostat*, for example, which regularly calculates price levels for member countries in the form of purchasing power parity exchange rates (PPPs). In the absence of this information, the panel recommended constructing local price indices from the rental equivalents of house prices, assuming that other prices — which have a larger weight in the index — do not vary much over space; spatial variation in house prices is also potentially important in smaller countries, such as the UK.

There was then, as now, some reluctance, including from the Bureau of Labor Statistics — the agency that produces consumer price indices — to calculate geographical price indices. The then Commissioner was concerned about political pressure from legislators to alter price indices in their favor — to entitle their constituents to greater federal benefits — just as the census counts — which are used for drawing boundaries of congressional districts — have, in the past, been politically contested and were for many years mired in the courts. For whatever reason, no policy change or new data collection took place for many years. There are private sector price indices — used to compensate employees for (usually) temporary visits away from home — but those are not weighted to the consumption patterns of the general population. The BLS produces regional price indices, but those are all indexed to 100 in the base year, and so can only be used to compare rates of inflation, not price levels.

Change came, as it often does, through a combination of analysis, personality, and the passage of time, which allows people to become more senior and more influential. Rebecca Blank, a distinguished economist who, as a professor at Northwestern, had been a member of the poverty panel, was appointed to the Department of Commerce by President Obama, finally becoming Acting Secretary of Commerce before returning to academia as the Chancellor of the University of Wisconsin-Madison. In the US, the Bureau of the Census reports to Commerce, from where Blank could help support the unfinished agenda of improving the poverty measure. Census, under the leadership of David S Johnson, developed a Supplemental Poverty Measure based in large part on the recommendations of the Academy Report. Incorporated into this new measure — which is *not* the official poverty measure — are spatial price indices constructed using rents. Surprisingly (though I hope this will change) the measure does not use the more comprehensive spatial prices indices for states and metropolitan statistical areas (MSAs) developed by another arm of Commerce, the Bureau of Economic Analysis — which is responsible for the National Accounts. The BEA uses indices to compile measures of real personal income for states and MSAs going back to 2008, data that were recently officially released.

'Regional price parities' now available…

The spatial indices use the data collected by the Bureau of Labor Statistics for the Consumer Price Index, but because they are *multilateral* indices designed to compare many places at once, each of which must be treated symmetrically, they are constructed in a very different way from a *bilateral* index like the CPI that compares a base and current period. The BLS, by some accounts, was not comfortable constructing such multilateral animals, though they supported the work at the BEA, who employed Bettina Aten (who had worked with Alan Heston on recent versions of the Penn World Table), who put together a team to produce the new indices. The BEA refers to them as regional price parities, or RPPs, and they are similar to the PPPs produced by *Eurostat*.

The RPPs show big differences across space. Hawaii and New York are the states with the highest price levels, and Arkansas and Mississippi the lowest; New York state's price level in 2012 was 36 percent higher than Mississippi's. The MSA of New York, Newark, and Jersey City is nearly 50 percent more expensive than is Rome, Georgia. Across MSAs, the elasticity of prices to income is about one third, and although, as anticipated, rents show the largest variance across states, there are significant differences in the price of goods (e.g. gasoline prices vary across states) and even more in other services, reflecting differences in wage rates. One interesting, if speculative, test of these numbers is to regress a measure of life evaluation on the logarithm of income and the logarithm of the local price index, as well as other standard controls: in a sample of nearly 2 million respondents from Gallup, the coefficients are equal and opposite. Real income is a better indicator of wellbeing than money income, and the RPPs do a good job of picking up the difference. While real income is somewhat more equally distributed over the country than is nominal income, the difference is very small, essentially because most of the dispersion of income is within areas, not between them.

...but the official poverty measure remains

The Supplemental Poverty Measure has not been adopted as *the* official poverty line, and indeed, its greater complexity would make it difficult to use for testing for individual eligibility. Yet this means that the official poverty measure, with all its flaws — including the failure to take local prices into account, and its blindness to taxes and official benefits — continues to be used, something that is unlikely to change in the current climate in Washington. Even so, the new measure is widely used in analysis including in official documents, particularly to assess the effects of the Great Recession of which it gave a much superior account than the official measure — not because of spatial price indices — but because the official measure ignored the substantial effects of the safety net on supplementing incomes of the poor. A bad measure can survive for a long time even when its deficiencies are well understood, though perhaps the recent crisis has helped make those deficiencies even more starkly and widely apparent, and may create some of the political momentum that will eventually lead to change.