

‘Small states: a composite vulnerability index’—a comment

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The paper ‘Small States: A Composite Vulnerability Index’ presents a new summary economic measure for the world’s smallest nations. The motivation for the work is a desire to broaden the quantitative measures used to assess the need of such countries for concessionary international donor assistance.

The introductory sections provide an overview of thinking on why vulnerability warrants more attention. Thirty-four ‘small’ nations are also identified as the basis of empirical analysis—11 from Africa, 13 from the Caribbean, 7 from the Pacific and the remaining 6 from the Indian Ocean, the Mediterranean and Asia. A population of less than 1.5 million is the criterion for ranking as a small state (a special exemption is made for Papua New Guinea and 2 other larger ‘small’ states). Seventy-four ‘large’ nations are also identified to assist empirical comparisons of the differences between small and large nations.

The bulk of the paper deals with the estimation of an equation to explain economic vulnerability. This is interpreted as output volatility which is measured as the volatility in GDP in constant price, purchasing power parity (PPP) terms. A

range of alternative forms of this equation are tested, with the preferred form explaining output volatility as a function of susceptibility to natural disasters, export dependence and the diversification of exports.

The composite vulnerability index developed is used to rank the 111 developed countries examined. Small states dominate the higher ranks (that is, the most vulnerable nations), accounting for 31 of the top 34 ranking nations. Pacific nations are assessed as highly vulnerable, with Vanuatu the highest ranked of the 111 nations examined. Tonga is ranked third, followed by the Fiji Islands (8), the Solomon Islands (11), Samoa (20), Papua New Guinea (30) and Kiribati (59).

One of the points of note of the analysis is the low explanatory power of the preferred equation. The coefficients have a high level of statistical significance, but the R^2 is low and the equation only explains 33 per cent of the observed output volatility. Furthermore, 8 of the 111 nations were excluded from the data used to estimate the equation because of excessive volatility, and it appears that more than 25 different explanatory variables may have been trialled.

The reader is left with the sense that the authors worked very hard to find an equation that would fit, but met with limited success.

The intuitive appeal of the analysis is questioned by the ranking of Kiribati at 59. Its low ranking relative to other Pacific island nations appears to be a result of the inclusion of export shares in the estimated equation with a positive coefficient. This has the effect that a country such as Kiribati with a very poorly developed private sector and limited natural resource base is assessed as less vulnerable than its stronger and more diverse neighbours. The favourable ranking of Kiribati is contrary to the generally held view that Kiribati is one of the most vulnerable Pacific island nations.

The preferred ranking developed by the author would see Vanuatu, Samoa and Tonga receive a higher priority amongst the international donor community than Kiribati, Solomon Islands and Papua New Guinea. This reader finds this difficult to reconcile with more detailed comparisons of economic and social need and the relatively high level of assistance Vanuatu, Samoa and Tonga already receive (relative to their need and/or capacity to implement). This highlights the potential weaknesses of simple measures of need.

GDP per capita is also a problematic measure, particularly on a PPP basis. But perhaps surprisingly it may continue to offer a more reasonable basis for allocating donor resources amongst the Pacific nations.

So, in summing up, the paper is a useful and interesting attempt to develop the concept of vulnerability. However, the paper has also clarified the difficulty of applying the concept, and a quick assessment suggests the vulnerability index developed is poorly suited to practical application at this stage.