missing for a lot of small countries, as can readily be discerned from Table 2.3.[12]

2.1.4 Composite measures of size

Various statistical methods are adopted to generate a measure of size, which comprises more than one characteristic. «Principal component analyses», «discriminant function analyses» as well as «cluster analyses» have been applied in various studies.[13] In order to distinguish between groups of countries with respect to their (effective) size these methods can be quite helpful, because they are able to partly overcome one principle caveat of all single-dimensional measures of size: the inherent arbitrariness of cut-off points. Hence, sophisticated methods can rule out parts of the arbitrariness inherently associated with one-dimensional approaches. In a discriminant analysis, for instance, one identifies a linear combination of predictor variables that best characterize differences among certain groups. The discriminant function thereby resembles a multiple regression. Besides grouping or organizing data, one can also identify outliers, or those variables which are most useful for discriminating. In contrast to the discriminant analysis, the cluster analysis, which is strongly related to factor analysis, does not require a prior knowledge of group membership.[14]

Similar arguments apply to simple composite measures, which have been used widely in the analysis of small countries. Simple composite measures are characterized by the simultaneous application of more than one criterion. The combination of the characteristics may be additive, multiplicative or exclusive in the sense that a jurisdiction has to have all

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[12] Specifically, data are lacking for Afghanistan, Andorra, Bahamas, Bahrain, Barbados, Bhutan, Bosnia-Herzegovina, Brunei, Republic of China (Taiwan), Cuba, Cyprus, Djibouti, Equatorial Guinea, Guinea-Bissau, Iraq, Iceland, Kiribati, North Korea, Kuwait, Liberia, Libya, Liechtenstein, Luxembourg, Marshall Islands, Micronesia, Monaco, Myanmar, Nauru, Oman, Palau, Papua-New Guinea, Qatar, Sahara, San Marino, Sao Tome and Principe, Seychelles, Somalia, Suriname, Tonga, Tuvalu, United Arab Emirates, Uzbekistan, Vatican City and Yugoslavia. Most of these countries, though not all, would have to be included in Table 2.3. Some countries provide GDP and GNP data, but there are no comparable PPP data.
[13] See, e.g., Gstöhl (1989), Rapaport et al. (1971) and Waschkuhn (1991).
[14] Not requiring these methods for our empirical analysis, we do not go into detail here.