

BOOK REVIEWS

THE DEMOGRAPHY OF TROPICAL AFRICA

William Brass, Ansley J. Coale, Paul Demeny,
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Princeton, New Jersey, Princeton University Press, 1968
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Africa has come a long way. Substantively, the white spots remaining on the demographic map are few (Ethiopia, Somalia, Djiboutti). The biggest unknown is Nigeria, but even there some demographic acrobatics can be performed and estimates for some parameters can be suggested. Methodologically, the model life tables are out. Regional life tables are in and new standard (African) life tables made their reappearance. This reviewer shared the excitement of the inaugural meeting at Princeton, which launched, in 1961, the demographic study of tropical Africa. Now, seven years later we are presented with this massive result.

The book is unusually well constructed with none of the unevenness usually associated with contributions by several authors. The blurb does not exaggerate when it states that the book is an "outstandingly original, uniquely comprehensive work, especially needed at this juncture where systematic demographic studies in Africa are becoming feasible." The book consists of two parts. The first 183 pages deal with characteristics of African demographic data, newly designed or at least freshly adopted methods of analysis and estimation built around stable population theory, summary of estimates of fertility and mortality (including estimates for areas not

reported in the second part), and one substantive demographic topic (nuptiality) treating Africa as a whole or rather such of the data as are available. The other 357 pages contain five case studies (the Kinshasa Congo, several French-speaking territories with comparable surveys, Portuguese territories, Sudan, Nigeria). The formal dichotomy between the two parts of the book is deceptive. The parts are fully interwoven and make a consistent whole. The first methodological part is firmly based on the case studies. The second part is not a collection of ad hoc case studies conducted in a theoretical vacuum as is often the state of case studies (said the experimental physicist: "one is a prime number, three is a prime number, five is a prime number, seven is a prime number . . . obviously all odd numbers are prime numbers"). The case studies flow organically from the first part and are an integral part of the book. The seven authors must have been a remarkable team of workers and their product shows teamwork at its best. Confronted with data defective in similar and dissimilar ways they must have been drawing strength from each other in developing the intricate technique they developed to describe Africa. With all this ingenuity, out of the 185 million estimated as living in tropical Africa, the nature of the data available permitted reasonably firm analysis for a quarter, and looser approximations, for almost half of the 185 million, largely drawing on the lessons of the quarter analyzed more fully. For more than a quarter no work of any kind was possible.

In its substantive parts the work shows conclusively that there is no such thing as African fertility and African mortality. The variations are great. Even within relatively small territories, populations, when broken up on tribal or linguistics or religious (e.g., Moslem and pagan) characteristics, often display marked differences in the level and pattern of fertility and mortality. It is, however, possible to indicate several common tropical-African features. Most of the territories seem to be breaking through from the early phase of development into the second stage of rapid population growth. One or two countries are already past the three per cent annual rate and on the way to joining Latin America at the 3.5 per cent level. They are thus facing, or will soon face, all the problems of social and

economic development accompanied by extremely rapid and historically unknown rates of population growth. In sparsely populated areas the per unit pay-off of some forms of investment would increase with greater population density. However, it is common sense that even in such a situation the population growth is at best a short-lived palliative.

The book indulges in several curious features that are of significance for this kind of detective analytical work. They are all uncertain and by no means general, yet prevailing apparently over numerous enough populations to warrant elevation to an African characteristic. The sex ratio at birth has a low masculinity, probably below 103. Child mortality is high relatively to infant mortality, marking probably the risks of weaning after the security of lactation. Marriage is universal, though by no means uniformly early. An interesting parallel is developed between the consequences of age at marriage in Africa and on this side of the Atlantic: the closer it is between the sexes the higher the proportion of widowed and divorced among women, unless polygyny interferes, an alternative not open to women in the United States and Canada. An apparent deficit of females centers on ages 10 to 14 and an apparent deficit of males centers on ages 15 to 19.

The last two characteristics are not real, substantive features, but rather are of methodological interest and significance. A very substantial part of the discussion in the book is concerned with the meaning and causes of these phenomena. This reviewer believes that the Princeton group are basically wrong in their viewing these phenomena as due to underassessment of some ages and overassessment of the ages of some other persons in the same or neighboring groups. They suggest that enumerators and respondents were somehow shy of those ages and preferred to record either younger or older ages. As a result of this shyness apparent deficits arise at the "shy" ages. All one then needs to do is to patch up the trough at the unpopular ages with the swellings or surpluses in neighboring ages through the application of regional stable populations or the (African) standard stable populations. They may well be right in some instances and to some extent in most cases, but they make an un-

convincing case. In fact, apart from the occasional lip service paid to the possibility of genuine omissions from censuses and surveys they seldom consider the possibility as a real alternative to age misreporting. The authors are not suggesting that the moon is flat, but they ignore the other side of it. They have written only half the demography of tropical Africa. This is a strange attitude at Princeton, where in 1955, alternative estimates of population size and age-and-sex composition for the United States gave rise to a whole new attitude and new methods of census assessment. The wiggles on the curves of age distribution of African populations parallel closely those of the United States population, except that they are more pronounced. Yet the conclusions drawn by the authors are so different.

This criticism must not be overdone, because the purpose of the book is to estimate fertility and mortality rates and not population size. (As recognized in the case of Nigeria, this will handicap in the years to come any projections done for Africa, unless further work is carried out to estimate population size.) Also, in several instances in the book, the admission of the possibility of underenumeration, as distinct from age misplacement, is helpful in arriving at more plausible rates. More usually, however, when the analysis based on age misreporting leads to absurd results, the situation is described as puzzling. In one, admittedly somewhat extreme, case an argument is advanced, not very successfully, in favor of the age misstatement alternative relevant for females, rather than underenumeration (that is actual omissions). When the same "female" argument works rather better in the case of men it is described as puzzling (p. 277). The advantage of this bias is that it enables the authors to proceed in a much more elegant manner than if they would have to look over their shoulders all the time and consider seriously the possibility of age and sex selective underenumeration. In fact, the possibility arises that the arbitrariness of many of the assumptions and alternatives accepted in the analysis as operational tools for arriving at closer approximations to reality than the reported sizes and rates, that is to say acceptable without stretching

credibility beyond common sense, would become intolerable and throw into question the usefulness of the whole approach.

The book documents several useful lessons for the attention of future census takers in Africa, and for that matter in other continents. For the purposes of demographic analysis small sample enquiries produce more significant results than do large-scale censuses. Even when so called "full-counts" are carried out for reasons other than demographic analysis, they should be supplemented with intensive surveys by closely supervised enumerators on a much smaller scale, rather than carry the full complexity of demographic enquiries to the whole population. Census takers should not try to deal through field instructions with traditional biases: awareness of tendency toward heaping at ages ending with zero results in troughs at zeros, measures against omissions of small children result in too many children (the latter only an implied conclusion in the book). Census takers will now appreciate more than ever how much demographic analysts are handicapped in the use of their tools when insufficient attention has been given age reporting. Original data should be published as collected (which opens an interesting question: should editing not be incorporated through cross reference to other parts of the same questionnaire? An editor's influence can be more subtle than the case of the elderly man who changed all single mothers into married women, because to have a child one must be "married"). This reviewer agrees that data should be published unadorned, but is afraid that the authors perform a disservice by gleefully reporting their findings as improvements over "official statistics." Improvements they are, but not over official statistics; merely over data reported. If theirs is typical of interpretation put by researchers on census data the next short-tempered minister or pompous civil servant will merely suppress the data or publish them in "cooked" form.

To obtain the full flavor of the ingenuity of the authors it is necessary to work one's way through this massive book. With fertility they are happiest when it has been asked retrospectively by ages of mother as well as in respect of current (last year) births. Retrospective births

are subject to errors of forgetting and require the assumption that the fertility of mothers surviving was the same as that of all mothers. Current births are subject to period errors (though this reviewer thinks that the authors make this error carry too great a burden; willingness—often arbitrary—to accept the possibility of under-enumeration at certain ages would likely result in more plausible estimates or less heroic and less arbitrary assumptions). Both are subject to age misstatements. By comparing one with the other the authors are able to improve both. On the mortality side, the level and pattern are selected from such age-specific data as might be available. Sometimes too much is made of apparent age specific patterns. Occasionally, the discussion comes close to implying that the age pattern of mortality affects the age distribution (surely not with data of African reliability and not in the Princeton office).

On the whole this is a difficult book. Your reviewer likes to think that he is an Africanist and demographer with familiarity in stable populations; he is a follower and admirer of Brass methods ever since he was a neighbor of Brass in Africa. Yet he found the text tough going. The announced editorial sponsorship of the Princeton Office of Population Research must have been more intellectual than editorial in the narrower sense. It is probably impossible to use the book as a reference book. It has to be read in entirety. When one runs into rates or data called alternatively and interchangeably: observed, reported, recorded, specified, registered, unless one follows the reasoning of the authors closely it is impossible to pick up the argument in the middle. A host of minor errors impedes fast reading. Table 4.3 does not exist (p. 179). The first line of table 4.A.14 is inconsistent with tables 4.A.12 and 4.A.13, with which it is meant to be consistent. Footnotes are wrongly placed (p. 254 and 285) or unnumbered and not placed at all (p. 254). Rates based on end-year total population instead of mid-year denominators are underestimated not overestimated (p. 469). More significant is the lack of common sense in this one or one and half per cent consideration, misplaced with the vital rates of an African population. Also, examples are seen of rather severe editorial inconsistency: some samples are described in detail (one actually three times), others

not at all; some territories are introduced through geographic descriptions, some not; maps are provided for those countries where one does not need them and are missing where they would be useful, that is in the case of less familiar countries. Decimal points are being switched at will in ratios, sometimes in the same sentence. The total line is sometimes at the top of the table, sometimes at the bottom.

These examples from a long list of errors and inconsistencies are to show that your reviewer has done his homework. They stand in no relation to—and do not diminish from—the path-breaking significance of this magnificent and difficult book.

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