Numerical Models of Economic Development by A. Qayum. Rotterdam University Press, 1966.

From the author's preface, "this is a collection of some of my published and unpublished articles containing simple models relating to problems of economic development of underdeveloped countries. A characteristic common to all the models discussed here is that they lead to numbers or to figures corresponding to numbers". This is an indirect way of saying that the author has taken a quantitative approach to problems of development as opposed to the usual verbal —empirical approach. In that the author has the reviewer's whole-hearted support.

The first three chapters consist of either exposition or simple extensions of one-sectoral Harrod-Domar and Cobb-Douglas models. This may well be good reading material for advanced undergraduates or first-year graduates rather than being "more useful in actual programmes of development" as the author claims.

Chapter IV is an exercise in optimal saving under the unusual constraint that the saving rate is time-invariant.

Chapter V raises a cute issue of optimal taxation in order to raise a given sum of revenue. It is a problem in the calculus of variations subject to an integral constraint. The author "solves" it by brute force: by restricting taxation to be a parabolic function of income and then optimizing with respect to the two constants of the function. In any case, it would be fun reading this chapter.

In Chapters VI and VII, the author raises some burning questions in the field of foreign aid. However, he treats each aspect of foreign loans in an isolated fashion and misses the intricacies due to interdependence of these aspects. Still, his presentation is worth looking at.

Chapter VIII is a "diagrammatic representation of the policy of accounting prices". Those who want to understand shadow prices without reading programming literature, may look at this chapter.

Chapter IX is a clumsy way of chiding John Fei for making the sensible remark about the "impossibility of achieving sustained and unbounded increases in its [an economy's] per capita consumption stream through time" without technical progress and population control.

(To show his lively interest in all branches of economic theory,) the author finally arranges a confrontation with capital theory in Chapter X, the final chapter. Here he seeks to derive a good criterion for choice of technique in a Johansen model where factor substitution is possible *ex-ante* but not *ex-post*. The author ought to have done, as did Johansen himself in his 1967 Economica Paper, some intertemporal optimization rather than suggest *ad hoc* his so-called "cumulative marginal productivity" criterion.

In this slim volume of 106 pages, the author has raised almost all the questions of economic theory pertinent to growth and development. Naturally, he has been able to provide few answers. But we must thank him for bringing the issues into clear relief.

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