PREFACE

The research reported in this monograph had two main objectives. The first objective was to assess the relevance, feasibility and practicality of modeling the spatial structure of a developing island economy using a new hybrid procedure to generate inter-regional input-output tables. The second objective was to apply the procedure to study the spatial structure of the island economy of Indonesia.

The first objective was achieved in four steps. Step 1: a review of the literature on hybrid techniques for constructing inter-regional input-output tables; Step 2: an examination of the regional characteristics of island economies and assessing their implications for developing a hybrid procedure; Step 3: a review of the current practices for generating of single-region and multi-region input-output tables in Indonesia; Step 4: an assessment of the potential of applying the hybrid technique for constructing inter-regional input-output tables in Indonesia. As a result a new hybrid procedure for generating inter-regional input-output tables (GIRlOT) for an island economy in a developing country has been developed. This procedure is the most significant contribution of the research.

GIRlOT combines and modifies the GRIT II and GRIT III procedures developed at The University of Queensland. At least three aspects of the new procedure are different to GRIT; the hybrid procedure designed for a mainland economy in a developed country. GRIT uses national technical coefficients. GIRlOT adjusts regional technology differences since in an island country like Indonesia; regional diversity exists in its ecology, economy and culture. GRIT uses LQ (Location Quotient) techniques. GIRIOT estimates the intra-regional input coefficients by employing the generalised RSP (Regional Supply Percentage) and uses column-only as well as row-only approaches. The two approaches are then reconciled. GIRlOT also estimates the inter-regional input coefficients using the inter-island transport pattern of commodity groups for primary and secondary sectors and the pattern of population distribution for the non-zero imports of service sectors.

Two other advantages of the GIRIOT procedure are important. First, it can provide the facilities for generating single-region input-output tables. Second, it can be expanded to generate inter-national input-output tables (GINIOT) if the appropriate data are available.

Inter-regional input-output tables were constructed for this research using 1990 data from Indonesia. Plausible validity testing showed that the GIRIOT procedure could produce inter-regional input-output tables that satisfactorily reflect the spatial characteristics of the

Indonesia economy, provided sufficient resources are available. The results also showed the stability of multipliers when all observed values of total multipliers for output, income and employment fell between the lower and upper boundary of the 95 per cent confident interval. Sensitivity analysis also showed that less than 15 per cent of direct coefficients are important for creating total output, income and employment multipliers.

Households proved to be the most critical sectors, confirming the suggestion that household sectors may be the most important feature of regional economies. The manufacturing sector in all regions was the next critical sectors for generating output, income and employment multipliers. Transport and communication sectors were crucial for Sumatera. Java and Kalimantan islands. Trade sectors in Sumatra, Java, Nusa Tenggara and Other Islands were also critical. The financial sector is critical only for the Sumatra and Java islands. Except for Kalimantan island, no agricultural sectors are identified as critical sectors.

The model proved useful for analyzing the spatial structure of the island economy of Indonesia as well as the impact of policy simulations. The results of the procedure are claimed to represent reality within acceptable professional norms.

This monograph offers five further contributions : (1) an evaluation of the current methods used to construct single-region and inter-regional input-output tables in Indonesia; (2) the development of an appropriate hybrid procedure to construct both single-region and inter-regional input-output tables for an island economy in a developing country; (3) an application of the inter-regional input-output model to analyse the spatial structure of Indonesia's island economy; (4) developmental methods of validating inter-regional input-output tables; and (5) an analysis of the sectoral, spatial and spatial-sector significance of an island economy.

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