SOCIAL ACCOUNTS AND THE DISTRIBUTION OF INCOME: THE MALAYSIAN ECONOMY IN 1970

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Although the functional and institutional distributions of income are integrally connected to individual living standards and other development policy objectives, these dimensions are rarely given prominence or even accommodated within standard national accounting frameworks. This paper summarizes research on the estimation of a social accounting matrix (SAM) for Malaysia for 1970 in which the distribution of income between different factors and socio-economic groups is identified. It is the latest of a series of case studies involving some of the authors and is, perhaps, the most detailed of its kind. The study departs from the United Nations SNA guidelines at various points. The SNA basically proposes a commodity balance approach to national income accounting. In giving equal emphasis to income/outlay accounts as to the production accounts, the present study has brought together data from two major primary sources: a household expenditure survey and a production survey. Their combination poses several problems which are discussed in the paper. It leads to an integrated picture, in matrix form, of the interrelationships between income distribution and production structure in the Malaysian economy.

Both the factor and household accounts in our SAM are disaggregated according to race and the geographic distinction between Peninsular and East Malaysia, with an urban/rural split within Peninsula Malaysia. The Peninsula labor force is further disaggregated by education level, while its households are then subdivided according to the employment status of main income earners. Arguments for and against these choices are presented.

Some other aspects of the study can be noted. First, the distinction drawn between East and Peninsular Malaysia is desirable not only because of the inherent interest of the regions but also because of large differences in data availability and hence in estimation methods. Secondly, to complete our SAM it was necessary to estimate inter-household transfers, being the institutional analogue of inter-industry commodity flow. And finally an attempt has been made to impute the labor component of unincorporated business income. These, then, are the major problems which had to be overcome in our attempt to quantify the generation, distribution, and redistribution of income within Malaysia in a SAM framework.

1. SOME BACKGROUND TO THE MALAYSIAN SAM[1]

The case for a social accounting matrix (SAM) approach to macro-economic data systems has been set out by the United Nations in UNSO (1968). Adaptations of this system of national accounts in developing countries have previously been presented;[2] and case studies for Iran, Sri Lanka, and Swaziland involving some of the present authors have shown how the flexibility of the framework can be exploited within certain broad limits. The present paper reports on a more recent study, of Malaysia in 1970, which illustrates the relevance of the SAM system for the examination of distributional issues in the process of development.

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[1]The views expressed in this paper are those of the authors in their individual capacities and should not be attributed to the Government of Malaysia, the World Bank, or any of its affiliates.
[2]See Pyatt G. and Round J. I. (1977).

Malaysia proved to be an excellent country to study from a number of standpoints. First, it is possibly the only developing country which can claim to have adopted and implemented the new United Nations System of National Accounts (SNA) at the present time. The new SNA, with its emphasis on compilations based on commodity flows, requires the construction of input–output matrices. For our purposes this has distinct advantages since the input–output system is an important part of the broader SAM approach which we favor. Secondly, two important and comprehensive socio-economic surveys,[3] focussing on the labor force and the income and outlay patterns of households, have been conducted in Malaysia. In addition some 20 establishment–type enquiries, canvassed by the Department of Statistics, provide detailed information on employment and input–output structures. These statistical sources permit detailed disaggregations within a SAM structure, so that it has been possible to pursue further in practice some of the principles which lie behind this and earlier studies. A third factor in favor of Malaysia as a country to study is that our own efforts have been complemented by other collaborative research activities between the Government of Malaysia and the World Bank. The collaborative nature of our project is reflected in the present joint authorship.[4] Beyond this, the concern of the Malaysian authorities to tackle distributional issues within the context of development[5] has meant that our most important ambition for national accounting has been welcomed. This is to shift the emphasis away from production structure and commodity flows, and to relocate it in the institutional income and outlay accounts. By so doing we are able to put the primary questions of national accounting first: who gets what as a result of economic activity in Malaysia? And, who generates this income?[6]

Malaysia comprises Peninsular Malaysia together with the States of Sabah and Sarawak, hereafter referred to as East Malaysia. From a statistical point of view these geographically separated states are very different. The national accounts for East Malaysia in 1970 are weak. They are based on incomplete statistical information and do not use the approach of the new SNA. In contrast, as already noted, the national accounts for Peninsular Malaysia are among the most sophisticated yet available in the developing world. This paper relates to Malaysia as a whole, but some regional distinction in particular accounts is inevitable, since the East Malaysian statistics will not always support the detail which we have sought and achieved for the Peninsula. Beyond this, a regional delineation of accounts is, of course, useful in some other regards, while with respect to national aggregates, it can be noted that although in terms of surface area East Malaysia is sizeable, its population of 1.6 million in 1970 represented only about 15 percent of the total and its share of GDP in Malaysia was also about 15 percent.

[3]Department of Statistics (1978), *Household Expenditure Survey*, 1973, *Malaysia*, Summary Statistics, Report No. 1, covering Peninsular Malaysia and the urbanized areas of Sabah and Sarawak. Department of Statistics (unpublished), "The 1970 Post Enumeration Survey" (PES) covering Peninsular Malaysia.

[4]Ramesh Chander was Chief Statistician, Government of Malaysia, at the time this work was undertaken. He is currently on leave from that post.

[5]See, for example, Government of Malaysia (1976).

[6]Any doubts that these are the primary questions can be challenged by reference back to the pioneering work of Gregory King and François Quesnay.

This paper is in four parts. Section 2 concentrates on an aggregate display of the national accounts for Malaysia in a matrix format. Although not wholly new, the presentation has some original features and, of course, the estimates themselves are a culmination of efforts to synthesize the regional accounts for East and Peninsular Malaysia. Dwelling on these aggregates runs counter to our sense of the importance of social accounting, and in section 3 we discuss appropriate criteria for disaggregating factor and household accounts, at the same time reporting the extent of the disaggregations that were finally adopted. We also present a partially disaggregated version of the complete Malaysian SAM: some aggregation is inevitable for it to fit on to the printed page.[7] In a final section we offer some reflections on the study, assessing its particular strengths and the nature of the weaknesses which inevitably remain.

2. THE MALAYSIAN SAM IN OUTLINE

The approach underlying the construction of our Social Accounting Matrix for Malaysia, in common with previous studies, is to devise and implement a framework of accounts which accords with two guiding principles. First, the framework must be comprehensive and internally consistent in order to support and monitor development planning at the economy-wide level. The property of full articulation, which is inherent in the matrix approach to social accounts and fundamental to the United Nations SNA,[8] is a great advantage in this respect. The second principle, while not at variance with the SNA, shifts the emphasis so as to cater specifically for the distributional objectives of development policy within the economic data system. The framework we have sought to implement is explicitly geared towards the particular needs of Malaysia in this regard as set out in the Third Malaysia Plan.[9]

The aggregate structure of the framework we have adopted is a SAM which has eleven major sets of accounts. This is shown in both schematic and numerical form as Table 1. Following usual conventions, the rows of the accounts show receipts and the columns show expenditures. The accounting balance between receipts and expenditures is captured by the equality of corresponding row and column sums. The eleven sets of accounts, represented by separate rows and columns in Table 1, contain seven broad groups of accounts as follows: Wants (account 1), Factors (account 2), Domestic Institutions Current Accounts (accounts 3–5), a consolidated Capital Account for Domestic Institutions (account 6), Rest of the World (accounts 7 and 8), Production (accounts 9 and 10), and Indirect Taxes (account 11).

An immediate and unconventional feature of the matrix is the positioning of two sets of accounts—for "Wants" and "Factors"—in the first two rows and columns. This ordering is chosen simply to reflect the importance of these accounts in the display of data for monitoring policy. Policy objectives ultimately reduce to the welfare of individuals (subject to the need to supply public goods to

[7]The complete SAM for Peninsular Malaysia provides full income and outlay details for each of 212 accounts. Our matrix for East Malaysia is somewhat smaller.
[8]United Nations Statistical Office (1968).
[9]Government of Malaysia (1976).

provide for the national interest), and these are met by the provision of "wants," or needs. Ideally, such wants include items which go beyond those normally captured within private consumption expenditure categories, and embrace the public provision of services such as health and education.[10] To accommodate these services would require imputations of income for households in the form of transfers from government. However, in our work imputations of income are restricted to the rents on dwellings of owner-occupiers and the value of goods which households produce for their own consumption.[11] Accordingly, the first row of Table 1 has only one entry, showing receipts from the supply of wants defined as categories of private consumption expenditures, to households. The entry in Table 1 is therefore the aggregate level of consumer expenditure. The first column is equally simple: it converts wants into the range of commodities specified in the production accounts. From the point of view of the wants accounts this is an outlay, and hence it is a receipt by the commodity accounts. In aggregate this is an uninteresting mapping: the benefits of treating household expenditure in this way emerge more fully upon disaggregation. Thirty-three separate wants (consumer expenditure categories) were distinguished in the full Malaysian SAM, and these are mapped into 59 commodities in the production accounts.

The second row and column of Table 1 refer to a set of factor accounts which receive factor incomes (domestically generated by activities and those received from abroad) along the rows, and pay these out down the columns to domestic institutions (i.e. households, companies and government), and abroad. The importance of the factor accounts and their relationship with the institutional accounts is discussed at some length in the next section.

The schematic entries in Table 1 are self-explanatory. Nevertheless it is perhaps important to highlight some general features and especially the connection between the factor and institutional accounts. The incomes of institutions can be seen to comprise a combination of factor and non-factor (i.e. transfer) receipts. From the point of view of describing and understanding distributional mechanisms within the economy this is a useful distinction to make. Thus, for example, account 3 relates to households and shows receipts of factor income in the form of wages, salaries and unincorporated business income, plus income redistributed from other institutions (which, at a disaggregated level, may include inter-household transfers) as well as current transfers from abroad. Similarly, on the outlay side of these accounts, inter-institutional transfers are located at the intersection of rows and columns for accounts 3 to 5. For example, household payments of direct taxes are included at the intersection of row 5 and column 3.

Estimates[12] for Malaysia in 1970 of the cell aggregates are also given in Table 1. These show, for example, that total household income amounted to 9,493, of which 797 was in the form of transfers among households and from other institutions including the rest of the world. Out of this income, 7,528 was spent on

[10]See Meerman (1978) for a discussion of access to such public services in Malaysia. Pyatt and Thorbecke (1976) discuss going beyond the categories of goods and services to an expression of Wants in the spirit of Lancaster (1966), e.g. in terms of nutritional requirements.

[11]Imputations are also involved in splitting aggregate income into labor and non-labor components as discussed in section 3.

[12]All subsequent estimates are in units of M$ millions.

wants (consumption) and, after allowing for transfers, 1,101 was saved. The total income of institutions other than households is similarly affected by transfers: Table 1 shows that the government's income of 3,197 is made up of transfers from other domestic institutions, including such items as direct taxes, operating surplus from public enterprises, and social security payments (Employers' Provident Fund); plus current transfers from abroad (15); and indirect taxes less subsidies (1,802).

Table 1 also shows the domestic institutions' capital accounts in consolidated form. One of the limitations of our study is that at no stage in further dis-aggregation of the SAM were capital accounts obtained for the separate institutions. However, because the corresponding current accounts are disaggregated, the separate contributions of the various institutions to domestic savings can still be ascertained as elements of row 6, even though the capital accounts as a whole are consolidated. The principal loss in informational content is therefore in the origin of investment expenditures and the details of the flow of funds which would otherwise be recorded as transfers between the capital accounts. To capture such detail for Malaysia, a good deal more work needs to be done, and this might deserve a high priority in future developments.

The current and capital accounts for the Rest of the World are shown as accounts 7 and 8. In accordance with normal practice, the Balance of Payments current account deficit, from the point of view of Malaysia, is shown as a transfer of 39 from current to capital account (i.e. a Rest of the World "saving" of 39). Overall balance in the Rest of the World account for 1970 is achieved via net lending abroad of −39 (i.e. a reduction of assets held abroad by Malaysia of 39) which arises out of net disinvestment abroad of 124, plus net capital transfers from abroad of −85.

Our treatment of the production accounts follows SNA practice in recognizing separate sets of accounts for commodities and activities. These have been quantified on the basis of the commodity balances compiled for construction of the national accounts, together with the detailed tabulations on which the input–output tables for Peninsular Malaysia (1970)[13] are based. Although only aggregative flows relating to commodities and activities are shown in Table 1, our most detailed SAM involves substantial disaggregations of these accounts, viz. 59 commodities as previously noted and 30 activities. Even this level of detail is an aggregation of the basic data set compiled in Malaysia by the Department of Statistics.

One feature of these SAM accounts requires further explanation. It concerns the valuation of the commodity balances, which we have made at market prices. In the SNA described in UNSO (1968), the production accounts (and commodity transactions in particular) are valued in basic prices. Such prices are essentially factor costs (i.e. market prices net of indirect taxes) *less* margins for trade and transportation. The principal argument in favor of this convention is that users of commodities are thereby seen as paying commodity taxes and distribution margins which are specific to them. Such margins and taxes may well differ between purchasers, so that the price of a commodity is not independent of who

[13]Department of Statistics (1975).

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TABLE 1

A SAM FOR MALAYSIA, 1970 ($M MILLION)

			EXPENDITURES				
			1	2	3	4	5
			Wants	Factors	Institutions' Current Accounts		
					Households	Companies	Government
RECEIPTS	1.	Wants			Want requirements by house-holds 7528		
	2.	Factors					
	3.	Institutions' Current Accounts — Households		Wages & un-incorporated business income 8696	Inter-household transfers 476	Distributed profits 109	Government transfers to households 196
	4.	Companies		Operating surpluses of companies 1551			Government transfers to companies 134
	5.	Government			Direct taxes 388	Direct taxes 992	
	6.	Consolidated Capital Account for Domestic Institutions			Household savings 1101	Company savings 369	Government savings 855
	7.	Rest of World — Current		Factor incomes paid abroad 586	Household transfers abroad 0	Company transfers abroad 230	Government transfers abroad 27
	8.	Capital					
	9.	Production — Commodities	Conversion of wants into commodities 7528				Government current expenditure 1985
	10.	Activities					
	11.	Indirect Taxes					
	12.	**TOTAL**	Total want requirements 7528	Total factor payments 10833	Total Household expenditures 9493	Total Company expenditures 1700	Total Government expenditures 3197

6	7	8	9	10	11	12
Consolidated Capital Account for Domestic Institutions	Rest of World		Production		Indirect Taxes	
	Current	Capital	Commodities	Activities		TOTAL
						Total want requirements 7528
	Factor incomes rec'd from abroad 232			Value added payments to factors 10601		Total factor incomes 10833
	Current transfers from abroad 16					Total household incomes 9493
	Current transfers from abroad 15					Total company incomes 1700
	Current transfers from abroad 15				Net indirect taxes 1802	Total government income 3197
		Capital transfers from abroad −85				Total capital receipts 2240
			Imports 4798			Total current payments abroad 5641
Net investment abroad −124	Balance of payments current deficit 39					Total capital payments abroad −85
Gross fixed capital formation & stock increases 2364	Exports 5324			Intermediate commodity demands 9311		Total commodity demands 26512
			Domestic commodity supplies 20403			Gross outputs 20403
			Commodity indirect taxes net of subsidies 1311	Non-commodity indirect taxes 491		Total net indirect taxes 1802
Total investment 2240	Total current receipts from abroad 5641	Total capital receipts from abroad −85	Total commodity supplies 26512	Gross inputs 20403	Total net indirect taxes 1802	

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buys it unless these margins and taxes are first removed. However, the removal of these elements of costs can give rise to certain practical difficulties while, as is argued elsewhere, the theoretical support for doing so is based on restrictive economic assumptions.[14] The practical difficulties stem from the fact that such margins are frequently unknown. For example, material input costs are usually reported in market prices rather than at "ex factory" cost. Therefore the margins are almost always debited according to an arbitrary rule of thumb. Rather than follow this route of revaluing commodity purchases to basic units of value, we have retained a market price valuation throughout. This means, for example, that the want requirements in row 1 of Table 1 represent consumer expenditure of 7,528 in market prices; investment is 2,364 at market prices; and so on. Much of the difference between our convention and the use of basic prices is not apparent at the aggregate level of Table 1. It is seen more readily at the disaggregated level of accounts where trade and transportation are separated from other com-modities. However, there is a difference at the aggregate level in respect of indirect taxes: the commodity purchases in row 9 include commodity taxes, whereas in the SNA formulation these taxes would be shown separately. In our framework, accounting balance in indirect taxes is preserved by debiting com-modity taxes from the commodity accounts (1,311) and non-commodity indirect taxes of 491 from the activity accounts. Both of these appear as a credit in the indirect tax account row.

The estimates in Table 1 are the result of a series of three computational stages. The macro-economic data for Peninsular Malaysia which are needed for the aggregate social accounting matrix framework were already available in a relatively advanced state from 1969 onwards.[15] The first stage therefore was to complete these data, and to extend the disaggregation available on commodities and activities by constructing disaggregated accounts for factors and households. This involved a certain amount of data reconciliation as well as new estimation of many elements for Peninsular Malaysia. The second stage involved a series of estimations for East Malaysia using the incomplete data that were available. This was basically achieved by using the structure of the Peninsular Malaysia matrix as a first approximation to be modified in the light of known facts about East Malaysia. Finally, in order to synthesize the Peninsular and East Malaysia transactions into a combined SAM for Malaysia as a whole, it was necessary to give special consideration to the regional accounting structure in general, and the degree of interregional interaction between East and Peninsular Malaysia in particular. In this we were greatly assisted by the fact that within our regional accounting structure[16] some of the interregional linkages are definitionally zero.

In consequence of this three-stage process, each of the cell entries in Table 1 is a combination of East and West Malaysia elements, suitably adjusted for

[14]See Pyatt and Round (1978). The argument is essentially that, in general, economic behavior is conditioned by market prices. If the data base embodies a valuation of commodities other than at market prices, then it cannot serve as a starting point for modeling actual behavior when prices change.

[15]See Department of Statistics (1975b). The Department of Statistics now have similarly detailed accounts on an All Malaysia basis (unpublished) for the period 1971–75; these were facilitated by estimates of interregional flows between East and Peninsular Malaysia.

[16]Based on Stone (1961).

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interregional flows wherever necessary. The inherently weak basis for the East Malaysian components is considerably strengthened by the constraints that are implicit within the SAM framework. This fact, in combination with the relevance of Peninsular Malaysia data as a basis for estimating, e.g., cost structures for activities in East Malaysia (to the extent that primary data was not available), gives us a good deal of confidence in the results we have obtained as represented in Table 1.

The aggregate SAM shown as Table 1 serves two purposes. First, it is a convenient summary of the structure of the Malaysian economy in 1970 and thereby shows some of the linkages between the classes of accounts we have defined. Secondly, the table serves as a framework of controls for the dis-aggregations we have achieved for five of the eleven accounts within the system. Thus the full SAM is a further disaggregation of five of these principal classes of accounts.[17]

In an Appendix we demonstrate how further aggregation and rearrangement of the SAM shown in Table 1 can yield the main national accounting aggregates in a useful summary form. However, our main concern in this paper is to show some of the disaggregations of the table and to discuss the appropriate criteria on which to base them. In section 3 the discussion is focussed on disaggregations for the factor and household accounts. We do not discuss the disaggregation of com-modity and activity accounts since this aspect is well established. Similarly, separate accounts for wants (in terms of consumer expenditure categories) are also recognized in the SNA. The most innovative part of our work is therefore with respect to factors and institutions.

3. THE DISAGGREGATION OF FACTOR AND HOUSEHOLD ACCOUNTS

It has been stated earlier that the role of the factor accounts is to receive value added from the production activities in return for factor services, and then to distribute this factor income to institutions according to the factor services which they supply. The mapping of factor income from production activities to institu-tions could, of course, be achieved in one step so that, for example, wage income could be shown as a direct payment to households.[18] Such an approach would allow details of the distribution of income across household types and other institutions to be displayed. However, by explicitly mapping factor income from activities to institutions through a set of factor accounts, some further dimensions of income distribution can be captured. The two stages in the mapping we adopt reflect two mechanisms in the distributional process. The first concerns the use of factor services by production activities, which may be thought of as technologic-ally-linked requirements of these services. This aspect includes the employment of different types of labor by the various production activities as well as the employment of capital services. In aggregate, the factors receive the value added by each activity. By disaggregating factors we can therefore capture the factoral

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[17]The disaggregated accounts are for Wants, Factors, Institutions (current only), Commodities and Activities.

[18]This is the treatment in Quesnay's *Tableau Economique* as represented by Barna (1975), and in the case study of Iran discussed in Blitzer, Clark and Taylor (1975) and Pyatt and Round (1977).

distribution of income for each activity, and hence at the economy-wide level. The second stage of the mapping translates the aggregate income of factors and its distribution into that part of the incomes of institutions which is derived from the provision of factor services. For a given factor, the distribution across institutions of the income earned will depend on the relative contributions of each institution to the total supply of that factor, i.e. to factor endowments across institutions or, in other words, to the distribution of wealth held in the form of factors of production, defined to include labor endowments as well as land and physical capital.

Since factors are heterogeneous, separate accounts have to be specified for each, including the different types of labor services which are distinguishable in a fragmented labor market. There is little by way of conventional wisdom on how this should be done. To some extent the choice of classification criteria for factors is bound up with the corresponding choices for households and other institutions. At the same time, by the very nature of the distinction we have drawn between factors and institutions, it is unlikely that the two sets of criteria should be identical. Distinctions arise, at least in part, from the fact that although the individual is the basic unit from the point of view of the provision of labor services in factor markets, the household is the natural basic institutional unit in the personal sector. Although part of household income can be attributed directly to individuals (for example, wages and salaries) there is some income which can only be ascribed to the household as a whole. Many households are engaged in unincorporated business enterprises, and income thus derived is properly defined as household income. The same is true from an expenditure standpoint. Most, if not all outlays of households are best thought of as collective household expenditures, even though individuals within the household unit are the ultimate beneficiaries of the services which these expenditures provide.

The criteria for classifying factors and households are inevitably interrelated given that characteristics of individuals are the essential ingredients common to both sets of classifications. In both cases the distinction between Peninsular and East Malaysia is a useful one, in view of the quite separate geographical areas to which they relate. For Peninsular Malaysia, a further geographical distinction is made between rural and urban areas for the location both of households and the labor services they provide. The mapping between labor and households in this respect is assumed to be "one-to-one" in our study. This means, for example, that urban households ultimately receive all the income paid to urban labor. But this does not preclude the transfer of income from urban to rural (or from rural to urban) households. The way we have determined the locational characteristics of individuals and households is largely (but not entirely) one of statistical expediency, resulting from the conventions adopted in the Household Expenditure Survey.

Apart from locational criteria, the remaining classifications for factors and households in Peninsular Malaysia are quite different and serve to emphasize the desirability of treating these accounts separately. Of various socio-economic characteristics which were explored as a basis for classifying labor, the level of educational attainment of the individual proved to be the most important single factor in explaining wage differentials. Thus the estimation of a wage matrix according to a multi-way classification of labor types showed that the most

significant influences on income were education level and industry of employment. This accords with the evidence from recent literature where education enters as an important explanatory variable in earnings functions.[19] There are two main interpretations of this finding, each of which shows earnings being positively related to education. One is the human capital theory, which is usually ascribed to Becker (1966), in which education is seen as directly increasing productivity and (hence) wages. The other is the "screening" hypothesis which views education as a means of sorting individuals by skill or ability. Whichever explanation is considered more persuasive, the results of our own statistical work for Malaysia indicate a strong positive association between earnings and level of education attained by individuals.[20] We depict three categories of education level, namely, low, medium and high, the division between the categories being defined as "up to completion of primary (or lower secondary) schooling." This represents a consolidation of six educational levels distinguished in our initial tabulations.

In common with the factor accounts, further disaggregations of the household accounts were possible for Peninsular Malaysia only by virtue of the richness of survey data for this region. Our disaggregations of households beyond the simple urban/rural dichotomy have been based on two criteria. An ethnic dimension was introduced by distinguishing four groups: Malay, Chinese, Indian and a group comprising all other races. The interest in this dimension derives both from existing differences in household asset structure and from an emphasis on restructuring in the economy which has been prominent in recent government policy. The aim of this policy is to eradicate poverty wherever it resides and, at the same time, to raise the economic status of "Bumiputras" (Malays and other indigenous people) through their greater participation in the modern sectors of the economy. The policy calls for restructuring of both employment opportunities and asset ownership.

A third criterion for classifying households was the employment status of the principal income earner. Four employment status codes were used: employer, employee, own account worker and all others, the latter group comprising students, housewives, unpaid family workers and retired persons. In this paper, the categories for employers and own account workers are combined to form a group called "self-employed and employers." In some cases, it could be argued that employment codes are more satisfactorily based upon the head of household, rather than the main earner, since the socio-economic characteristics of a household may be primarily determined by its head. Against this, however, is the fact that the proportion of household heads categorized as having employment status "other" is much higher than for principal earners because household heads are more likely to be retired. This observation has led us to prefer the main earner criterion to classify households by location, ethnic group and employment status.

Table 2 shows the results of disaggregating the factor and household accounts in the SAM for Malaysia according to each of the above criteria excluding race. In

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[19]See Blaug (1976).

[20]These conclusions are also supported by a study undertaken by Sudir Anand which demonstrated that Malay poverty was explained by lower educational and skill endowments of Malays in the labor force. See S. Anand (1977).

TABLE 2
A SOCIAL ACCOUNTING MATRIX FOR MALAYSIA IN 1970 ($M MILLION)

| | | Expenditures | | | | | | | | | | | | | |
| | | **1** Wants | **2** Factors — East Malaysia | | | | **2** Factors — Peninsular Malaysia | | | | | | | | |
			Labor	Unincorporated business capital	Incorporated business capital	Housing	Labor Urban Low	Labor Urban Medium	Labor Urban High	Labor Rural Low	Labor Rural Medium	Labor Rural High	Unincorporated business capital	Incorporated business capital	Housing
1	Wants														
2	Factors — East Malaysia: Labor / Unincorporated business capital / Corporate business capital / Housing														
	Factors — Peninsular Malaysia: Labor (Urban: Low/Medium/High; Rural: Low/Medium/High) / Unincorporated business capital / Corporate business capital / Housing														
3	Institutions / Current Accounts / Households — East Malaysia		659	617		100									
	Peninsular Malaysia Urban — Malay, Chinese and Indian: Self-employed and employers						312	70	39				380		112
	Employees						1009	722	328				57		152
	Other						50	22	9				14		54
	Other						19	19	145						4
	Peninsular Malaysia Rural — Malay, Chinese and Indian: Self-employed and employers									588	50	9	675		149
	Employees									1333	398	140	136		156
	Other									54	12	7	4		37
	Other									11		45	*		1
4	Companies				149									1402	
5	Government														
6	Combined Capital Account														
7	Rest of World — Current Account				51									536	
8	Rest of World — Capital Account														
9	Production Accounts — Commodities	7528													
10	Production Accounts — Activities														
11	Indirect taxes (net)														
	Totals	7528	659	617	200	100	1389	833	521	1987	460	201	1267	1938	663

Expenditures

East Malaysia (3)	Urban — Self-employed and employers	Urban — Employees	Urban — Other	Urban — Other	Rural — Self-employed and employers	Rural — Employees	Rural — Other	Rural — Other	Companies (4)	Government (5)	Combined Capital Account (6)	Rest of World Current Account (7)	Rest of World Capital Account (8)	Commodities (9)	Activities (10)	Indirect Taxes (net) (11)	Totals
1179	622	1836	202	121	1335	2008	178	47									7528
															659		659
															617		617
												13			187		200
															100		100
															1389		1389
															833		833
															521		521
															1987		1987
															460		460
															201		201
															1267		1267
												219			1719		1938
															663		663
74									11	25							1486
	2	7	1			1			29	9							961
	10	54							50	48							2428
	18	33	8		15	9	*		6	22							259
				5				*				16					208
	4	7	*		19	12	2		11	38							1564
	4	39	*		13	73			2	36							2328
	1		4		33	23	4			17							197
				4				*									63
										134		15					1700
36	12	154	6	30	16	120	4	10	992			15				1802	3197
197	288	300	38	48	135	82	8	5	369	855			-85				2240
									230	26				4798			5641
											-124	39					-85
										1985	2364	5324			9311		26512
														20403			20403
														1311	491		1802
1486	961	2428	259	208	1564	2328	197	63	1700	3197	2240	5641	-85	26512	20403	1802	

other respects the table is the same as the aggregate SAM previously shown in Table 1, apart from slight discrepancies due to rounding certain estimates to the nearest M$ million.

It can be observed from Table 2 that our disaggregation of factors includes separate regional accounts for unincorporated business capital, corporate business capital, and housing. Disaggregation of labor services in Peninsular Malaysia according to rural/urban location and level of education leads to a total of 13 factor accounts. Similarly, disaggregation of the household accounts leads to a total of 9 separate accounts. It should be noted that the disaggregation of Peninsular households by employment status has been applied only to the aggregate of the Malay, Chinese and Indian ethnic groups. The remainder are a relatively small and heterogeneous part of the whole population, within which the results of further disaggregations are dominated by small sample problems.

The factor accounts draw a distinction between labor and capital services. To achieve this, it was necessary to separate out the wage component of unincorporated business income (arising from the labor contributions of own-account workers and unpaid family helpers) and also employers' wage income. It was observed from survey results that employers, in comparison with employees of equivalent factor type, have a tendency to pay themselves too little as wage income, and consequently to draw too much through unincorporated business income. This observation, in association with other critera,[21] provides a basis for imputations of labor income for those individuals who are not employees. Hence labor incomes in Table 2 refer to actual plus imputed wages. The three remaining factor accounts for each of the two regions receive the estimated profit element of unincorporated business income, corporate business profits, and rent (actual plus imputed) from the activity which produces the services of dwellings.

Having discussed classifications within the factor and institutions' current accounts, it is interesting to note some features of the mapping of factor income between them. We have made the assumption that urban (rural) households only contain members of the urban (rural) labor force, an assumption which is readily apparent from Table 2 since the mapping of factor incomes is structured in blocks within the submatrix intersecting household rows (account 3) and factor columns (account 2). The Household Expenditure Survey of 1973 provided the basis for our estimates. Within it, the definition of the urban/rural distinction conforms to the Census criterion for distinguishing urban from rural areas. Gazetted areas with population in excess of 10,000 defines urban areas. This definition is not entirely satisfactory since some small settlements categorized as "urban" are essentially rural in nature, e.g. with respect to their patterns of economic activity. It follows that some urban households are endowed with what should be described as rural labor, and conversely. However, our available data sources did not permit this issue to be explored.

Table 2 also shows the results of our attempt to estimate "urban to rural" or "rural to urban" household income transfers within Peninsular Malaysia. The

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[21]These are fully described in Pyatt and Round (1978), Chapter 4. The main criterion employed has been to impute an average wage for workers who do not receive a wage which is equal to the average wage of those wage earners who are resident in a household in which the principal income earner is an own account worker.

estimates are shown in the submatrix defined by the intersection of rows and columns of the household accounts (account 3). In deriving this part of the SAM, it was assumed that transfer payments by each household type are received by households with the same ethnic characteristics. Secondly, to distribute inter-household transfers within an ethnic group it has been assumed that the flow of transfers is from richer household types to poorer ones. A third assumption was that the pattern of transfers between households is uniform in percentage terms. However, this latter assumption was invoked only as an initial assumption, subsequently modified to allow the final pattern of transfers to be consistent with aggregate data on income transfers received and paid by each household type. The resulting estimates show quite clearly a general tendency for transfers among households to flow from urban to rural areas; and in both urban and rural areas to households in which the main earner has the occupation status "other." These results correspond to what one might expect. They are based on relatively crude methods of estimation, which may be excusable in view of the relative unimportance of transfer payments as an element of income received.

Table 2 is a partially aggregated SAM taken from the study described in Pyatt and Round (1978). Although disaggregations for Wants (account 1), Commodities (account 9) and Activities (account 10) have been undertaken in the parent study, these have been suppressed in Table 2 so as to highlight the disaggregations for Factors and Households. The latter provide a perspective for the distribution of income in Malaysia set in an overall mocro-economic framework. The table captures the sources of factor income for the different institutions (and for households in particular) and the contribution of non-factor income in the form of transfers between institutions and from abroad.

4. SOME REFLECTIONS ON THE STUDY

The SAM for Malaysia which has been illustrated in this paper represents a departure from the United Nations System of National Accounts in some important respects. More than ever before among the current efforts in social accounting[22] the resulting SAM is geared to the statistical needs for monitoring policies related to the redistribution of income in a developing country. In this section we offer some reflections on the study, highlighting some of its successes and shortcomings from our respective standpoints.

An obvious requirement of both the framework and the estimates within is that it should serve a useful purpose. From the point of view of the SAM being a convenient visual display of "who gets what, and from whom," we feel that our study has achieved some degree of success. As a basis for analyzing change and the impact of policy, the SAM requires more by way of a formal economic model, which the framework alone does not give. Such work is being undertaken in parallel with our efforts. Meanwhile, and in a limited way, the SAM quickly

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[22]In addition to the studies of Iran, Sri Lanka and Swaziland reviewed in Pyatt and Round (1977), a recent World Bank conference received reports on social accounting studies of Botswana, the Philippines, Saudi Arabia and the UK, as well as a presentation of an earlier draft of this paper. All of these studies were concerned with distributional matters among others.

illustrates the connectedness of different parts of the economy and this alone can be of great assistance in facing some policy options.

There are certain methodological issues which have been confronted at various stages of this study. Perhaps the most important of these in the context of this paper are the implications of our work for computational conventions for the estimation of national income accounts. The approach which has been pioneered by the "new" SNA (United Nations (1968)) is to first generate a set of commodity balances, that is, to work towards a consistent set of commodity and activity accounts (principally through use of the census of production and agricultural surveys). The concern in the Malaysia SAM has been to go beyond these established procedures and to subject the national accounts estimates to a further set of restrictions. In particular, the main feature has been an attempt to forge detailed and consistent links between value added and final demand via the income and outlay accounts for factors and institutions. It is in this context that the comprehensive Household Surveys conducted in Malaysia have been essential to our efforts. There can be no doubt that if national income was initially estimated with reference to the restrictions inherent in explicit factor/institutions income balances, as well as the commodity balances, then superior estimates of the national accounts would emerge. However, in this study the national accounts published by the Department of Statistics, Malaysia, have been used as datum. Accordingly consistency between the factor and institution accounts had to be achieved entirely through the adjustment of flows through the latter accounts, although we recognize that a potential gain in accuracy has been sacrificed in consequence. All of which leads us inevitably to the view that multi-purpose household surveys of both incomes and outlays should be recognized as having an essential role in the estimation of national accounts in a SAM framework. Furthermore, this fact should influence the initial design of such surveys so that their results may be more readily integrated in the major macro-economic data system. Only in this way can we look forward to having more reliable information on the structure of national income, and to revitalizing the concept of national income in the spirit that what really matters are the living standards of peoples.

It is inevitable that there are shortcomings in our exercise. Perhaps most prominent amongst these is the lack of detail on wealth or the asset structure amongst institutional groups, even though endowments of both types of labor and capital are seen in the SAM as determinants of the distribution of income which emerges. To the extent that labor endowments reflect part of the overall wealth distribution of households, then a start can be made in this area. But more needs to be achieved on the asset structure of institutions to complete the story which our framework potentially has to tell on the evolution of living standards over time. If the living standards of identifiable groups are really the root concern of development planning, then attempts will eventually have to be made to incorporate imputed flows of non-pecuniary transfer benefits from government (such as health services, education, etc.) to the different household groups. The SAM for Malaysia, although portraying a new perspective on social accounting, is only a first stage in a process of methodological change whereby national accounting is weaned away from its contemporary preoccupation with goods and focuses once more on

the contributions and living standards of different socio-economic groups within society.

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APPENDIX

National Accounting Aggregates and the Malaysia SAM

A further aggregation and rearrangement of the SAM shown in Table 1 can yield the main national accounting aggregates in a useful summary form. Table A.1 shows the result of a sequence of consolidations, as follows. The "Wants" accounts have been subsumed within the Production accounts, so that the fourth account of Table A.1 includes Wants (previously account 1), Commodities (account 9) and Production Activities (account 10). The first account is now Factors (previously account 2). All current accounts for institutions are consolidated into the second account of Table 3 which therefore comprises Households (account 4), Companies (account 5) and Government (account 6). The capital account for institutions now becomes the third account. Indirect taxes form the fifth account, and accounting balance is maintained by incorporating an account for the Rest of the World as a sixth and final account. The combined current and capital account of the Rest of the World appears only as a column in which *net* transactions between each domestic account and the Rest of the World are

NATIONAL ACCOUNTS AGGREGATES ALL MALAYSIA, 1970 ($M MILLION)

			Factors	Institutions		Production/ Commodities	Indirect Taxes	Rest of World (Net)	Total
				Current	Capital				
			1	2	3	4	5	6	
Factors		1				GDP at factor cost (10601)		*Net* factor income from abroad (−354)	Domestic factor income (10247)
Institutions	Current	2	GNP at factor cost (10247)	*			*Net* Indirect Taxes (1802)	*Net* non-factor income from abroad (−211)	Disposable national income at market prices (11838)
	Capital	3		Domestic Savings (2325)				Balance of payments deficit (39)	Savings (2364)
Production/Commodities		4		Consumption (9513)	Investment (2364)	*		Exports *minus* Imports (526)	*Net* final demand (12403)
Indirect Taxes		5				Net Indirect Taxes (1802)			Total net indirect taxes (1802)
Total			Domestic factor income (10247)	National expenditure at market prices (11838)	Investment (2364)	GDP at market prices (12403)	Total net indirect taxes (1802)	0	

Source: Table 1

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represented. The sum of these net external transactions and transfers must be zero.

Applying this sequence of consolidations to Table 1 results in the numerical outcome shown within the cells of Table A.1. It is to be noted that an asterisk (*) appears as a diagonal entry for accounts 2 and 4. These are to be read as zeros for national accounting purposes since they arise from transactions between accounts in Table 1 which are consolidated in arriving at Table A.1. Hence, in the latter context, they are transfers. For example, direct taxes paid by households to government are part of the transfers within the current account for institutions in Table A.1. Such transfers are not a part of national income so that they are ignored in arriving at the row and column sums of the table.

Table A.1 also shows the entries in schematic form, thus defining the corresponding numerical estimates. Total factor income accruing to normal residents in Malaysia is shown in the first row of the tables: it equals factor income generated by production activities in Malaysia (Gross Domestic Product), plus net factor income from abroad. Noting that (net) indirect taxes are a separate debit from the production accounts (column 4) it follows that this factor income is valued at factor cost. On the outlay side of the factor accounts, total income, i.e. the Gross National Product at factor cost, is paid out to the current accounts for institutions. Adding to this the receipts of (net) indirect taxes, we obtain GNP at market prices. Making the further addition of net non-factor income from abroad (i.e. net current transfers from abroad) we arrive at what we refer to here as national disposable income at market prices. Finally, it can be noted that investment, being the composite outlay of the domestic institutions capital accounts, is financed by the sum of domestic savings and net disinvestment abroad, where net disinvestment abroad is simply equal to the Balance of Payments deficit.

The simplicity and visual appeal of this national accounts table is largely due to the retention of the factor accounts as a separate entity. The distinctions between factor cost and market price measurements, and between domestic and national concepts are more readily apparent when factor accounts are represented explicitly in this way. This discussion demonstrates that the conventional national accounting aggregates emerge directly from our SAM representation of transactions.