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Macro-implications of Income Redistribution in Thailand

Bandid NIJATHAWORN*

I The Preliminaries

By international standards, the performance of the Thai economy since the inception of the First Development Plan is impressive in terms of growth. The real per capita GDP growth rate between 1961 and 1980 averages 4.6 percent per annum, a rate comparable to that of Brazil. Available empirical evidence, however, shows that there has been a deterioration in the distribution of income accompanying what otherwise appears to be a notable economic achievement. A recent report by the World Bank shows that substantial poverty exists in Thailand.[1] Using poverty lines of Baht 200 per head per month for urdan areas and Baht 150 for rural areas, the report estimates the number of people subsisting in poverty was as many as nine million in 1976. This scale of poverty is not necessary for a country with Thailand's average income. A simple division of national income by population reveals that the presently available output, equally shared, is more than sufficient to provide every Thai with an adequate income. Instead, poverty of this magnitude indicates that Thailand has a severe distribution problem.

In recent years, there has been a resurgence of interest in the examination of growth and income distribution issues for developing countries.[2] One aspect of this examination focuses on the plausibility and the effectiveness of income redistribution as a development policy. Two approaches can be identified regarding methodology. The first approach, which is related to the works of Ballentine and Soligo, Chinn, and Pashrdes, employs a static input-output framework to identify the probable implications of a hypothetical income redistribution. This type of analysis deals primarily with the first round effect of income redistribution, i.e., income distribution is taken to be exogenous and is manipulated to trace its implications for demand, output growth and employment. The second approach, which is more elaborated, involves a construction of macroeconomic models in which income distribution is endogenized explicitly. The implications of a redistribution policy are assessed by considering the first round effects and the general-equilibrium effects simultaneously. The models constructed for this type of analysis are in the tradition of computable general-equilibrium models of Adelman and Robinson, Taylor, De melo, and Dixon.

* Faculty of Economics, Thammasat University, Bangkok 10200, Thailand

1) See World Bank [1977: Chapter 4].

2) For a review of these studies see Cline [1975: 359-400].

The purpose of this short paper is to explore, at an empirical level, the first round effects of a hypothetical income redistribution policy for Thailand. The analysis employs an extended input-output framework. Simulation of distributional changes is implemented and the probable first round implication of income redistribution for demand, growth and employment are identified. The findings from this study are taken as a basis for development of a CGE growth-cum-distribution model of the Thai economy.

The paper is organized into four sections. The first section is this introductory section. Theoretical issues regarding the effect of income redistribution are reviewed briefly in Section II. Section III presents the input-output model and its empirical configuration. The main aspects of this findings are summarized in Section IV.

II Theoretical Issues Regarding the Growth Effects of Income Redistribution

In the literature, there exist two diametrically opposed views on the growth effects of income redistribution in the context of developing economies. The first is that of the neo-classical school, the proponents of which advocate a trade-off between growth and income distribution under a distribution-neutral policy. According to this view, a redistribution of income from the rich to the poor is likely to jeopardize economic growth through (a) a general reduction in aggregate savings and (b) a recomposition of sectoral output away from capital goods in favour of consumption goods, thereby reducing capital formation. Broadly, it is argued that redistribution of income in favour of the poor would increase the demand for basic goods generally consumed by the poor, thus inducing expansion in the demand-oriented sectors. This expansion, in turn, would initiate resource reallocation in favour of the demand-oriented sectors and away from capital goods-producing sectors. In the short run, the expansion in demand could be choked off by price increases because the increased demand would not be immediately met. Over a period of time, productive capacities of the demand-oriented sectors would expand but at the cost of stagnation in the capacities of the capital goods sectors. Furthermore, the increased demand for basic goods could cause a decline in exports as domestic consumption is likely to compete with exports. This decline would be damaging to the economy's balance of payments as well as to the economy's ability to buy imported capital goods.

Contrary to the above view is the view of the structuralist school who argue that, under the trade-off hypothesis, the positive effects of income redistribution have been very much understated. It is argued that the growth-equity trade-off is operative only under a situation of full employment, a situation which is rarely observed in developing countries. If the resources are fully utilized, the more they are devoted to producing basic consumption goods, the less they are available for producing capital goods. But in developing countries, there is a possibility of both consumption and

investment expansion because the resources are underutilized. The main contention is that, as income distribution influences the pattern of demand and the composition of output, the shift of income in favour of the poor would lead to the reallocation of consumption expenditure in favour of consumption goods with low income elasticities. These goods are generally more labour intensive, and are produced with a relatively less import content compared with luxuries. Therefore, income redistribution would determine not only the supply of basic goods and services through output recomposition, but it could be crucial for establishing a pattern of economic growth that promotes labour absorption as well as lessens the burden of import requirements.

The views presented above offer a number of testable hypotheses regarding the first round effects of an income redistribution policy. In the context of a developing country, the net effect of income redistribution would depend on whether the forces hindering growth outweighs the forces encouraging growth, and vice versa. An empirical determination of these effects are possible with the help of an extended input-output model.

III Empirical Verification of the Effects of Income Redistribution Policy in Thailand

The present availability of macroeconomic data in Thailand makes it possible for the above hypotheses to be empirically tested. This is attempted below. Basically, it involves an examination of the demand patterns of rich and poor households, the associated import and labour intensities of their consumption bundles, and the likely effects which income redistribution may have on them. These properties can be integrated within a static input-output framework.

III. 1 The Model

The model employed to test the above hypotheses begins with the Leontief static model of the form

$$X=(I-A)^{-1}F \tag{1}$$

where X is an n by 1 vector of gross output, $(I-A)^{-1}$ is the domestic Leontief technology inverse, and F is the vector of final demands. Since we are interested in the effect of demand recomposition on consumption initiated by an income redistribution, the vector F is replaced by vector C^D, a vector representing the domestic consumption component of final demands. This gives the Leontief model of the form:

$$\tilde{X}=(I-A)^{-1}C^D. \tag{2}$$

Let C be an $n+1$ by 1 vector of household consumption by commodity which is partitioned by source of supply into domestic and import components, i. e., C^D and C^M. Treating imports as noncompetitive, C^D is an n by 1 vector of consumption commodities which are supplied domestically and C^M is a single cell entry representing the import content of C.

The reported data on household consumption usually classify consumption by

category of expenditure. In order to trace the implications of a change in household consumption for production and employment, a mapping between consumption by commodity and consumption by category of expenditure is required. This mapping is achieved through the use of a commodity-conversion matrix.

Let C^H be an m by 1 vector of household consumption by type of expenditure whose elements C_j^H $(j=1\cdots\cdots m)$ refer to expenditure on the j consumption category. The origin of commodity supply can be identified via a commodity-conversion matrix T of the form:

$$C=TC^H. \tag{3}$$

The matrix T is of the order $n+1$ by m. The elements of T indicate the commodity composition of consumption expenditure. In full, equation (3) may be written as:

$$\begin{aligned} C_1^D &= T_{11}C_1^H+T_{12}C_2^H+\cdots\cdots+T_{1m}C_m^H \\ &\vdots \\ C_n^D &= T_{n1}C_1^H+T_{n2}C_2^H+\cdots\cdots+T_{nm}C_m^H \\ C^M &= T_{n+1,1}C_1^H+T_{n+1,2}C_2^H+\cdots\cdots \\ &\quad +T_{n+1,m}C_m^H. \end{aligned} \tag{4}$$

As can be seen, the elements T_{ij} $(i=1\cdots\cdots n+1,\ j=1\cdots\cdots m)$ identify the proportions of expenditure on j consumption category which are supplied by commodity i.[3] As expenditure must be supplied either by domestic commodities or imports, it follows that $\sum_{i=1}^{n+1} T_{ij}$ is equal to one.

The matrix T can be partitioned by source of commodity supply into domestic and import components, T_1 and T_2, as shown below:

$$\begin{bmatrix} C_1^D \\ \vdots \\ C_n^D \\ C^M \end{bmatrix} = \begin{bmatrix} T_1 \\ \cdots\cdots \\ T_2 \end{bmatrix} \begin{bmatrix} C_1^H \\ \\ C_m^H \end{bmatrix}. \tag{5}$$

The effect of a unit increase in household consumption expenditure on gross output can be determined by substituting equation (5) into equation (2). This gives for gross output:

$$\bar{X}=(I-A)^{-1}T_1C^H. \tag{6}$$

The elements of matrix $(I-A)^{-1}T_1$ represent the direct and the indirect effects on gross output of a unit change in household consumption expenditure. A change in total output corresponding to a unit increase in expenditure on j consumption category is obtained by summing the ij elements of $(I-A)^{-1}T_1$ at the j^{th} column over all i, that is $\sum_{i=1}^{n} \{(I-A)^{-1}T_1\}_{ij}$.

Similarly, the output change of agricultural output for a unit increase in expenditure on consumption category j can be measured by summing the j^{th} column elements of $\{(I-A)^{-1}T_1\}_{ij}$ only over all sectors relating to agriculture.

The implications of a unit increase in consumption expenditure for employment and imports can be similarly constructed. Let W be an n by n matrix whose diagonal elements W_{ij} (for $i=j$) represent employment coefficients associated with a unit production of real output of sector j. The off-diagonal elements are zero. The diagonal elements of W are obtained by dividing the ratios between the sectoral wage bill and the sectoral gross output by the average wage level.

The vector of labour employment by

3) The $n+1^{th}$ commodity denotes imports.

sector, L, is given by:

$$L=W(I-A)^{-1}T_1C^H. \quad (7)$$

Again, the change in gross employment corresponding to a unit increase in expenditure on consumption category j is obtained by summing the ij elements of the matrix $W(I-A)^{-1}T_1$ at the j^{th} column over all i, i.e., $\sum_{i=1}^{n}\{W(I-A)^{-1}T_1\}_{ij}$.

For imports, the total implication of a unit increase in consumption expenditure consists of (1) the direct import leakage through direct consumption of imported commodities, and (2) the indirect increase through intermediate purchases of imports for production. The change in imports is given by equation (8), i.e.:

$$M_j=\sum_{j=1}^{n}\{N(I-A)^{-1}T_1\}_{ij}+T_{2j}. \quad (8)$$

M_j is a scalar representing total import implications associated with a unit increase in expenditure on consumption category j. The first term on the right hand side refers to the indirect effect on imports. T_{2j} refers to the direct import component of C_j^H. Note that N is an n by n matrix of import coefficients whose diagonal elements N_{ij} (for $i=j$) refer to the amount of import required for a unit production of commodity j. The off-diagonal elements are zero by construction.

Equations (6), (7), and (8) provide the basic contexts on which the implications of a general increase in consumption expenditure for gross output, employment, and imports are calculated.

To assess the implications of income redistribution, recall that C^H is the vector of household consumption by type of expenditure. The share of j consumption category in total consumption is given by:

$$\alpha_j=C_j^H/\sum_{j=1}^{m}C_j^H \quad (9)$$

or

$$C_j^H=\alpha_jTC. \quad (10)$$

TC is total household consumption expenditure ($TC=\sum_{j=1}^{m}C_j^H$) and α_j is the average expenditure share. It follows that $\sum_{j=1}^{m}\alpha_j$ is equal to one.

When households are disaggregated by income into poor and rich households and given that the consumption patterns of the rich and the poor are different, the values of α_j associated with the consumption bundles of the rich and the poor will differ. By substituting equation (10) into equations (6), (7), and (8), it is possible to assess separately the implications for changes in gross output, employment, and imports for a unit change in the consumption of the rich and the poor. The manipulation of α_j in equation (10) forms the basic context in which the simulations of income redistribution are implemented in this paper.

III. 2 Consumption Patterns by Income Class

The data on consumption expenditure by income class for Thailand are shown in Table 1. The data refer to average budget shares out of total expenditure. These data are obtained from the 1971-1973 Socio-Economic Survey.[4] The data on urban consumption refer exclusively to

4) See Thailand [*Socio-Economic Survey, 1971-1973*].

Table 1 Average Budget Shares by Income Class*

Expenditure Category	Below 3,000		Between 9,000-12,000		Between 18,000-24,000		Above 60,000	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Food	0.707	0.489	0.519	0.444	0.501	0.359	0.361	0.220
Household Operation	0.197	0.182	0.150	0.178	0.147	0.148	0.159	0.207
Clothing	0.004	0.009	0.076	0.124	0.060	0.125	0.085	0.047
Transport	0.019	0.036	0.056	0.040	0.049	0.086	0.126	0.262
Recreation	0.000	0.009	0.027	0.010	0.025	0.012	0.030	0.034
Medical	0.022	0.070	0.050	0.076	0.058	0.102	0.052	0.042
Tobacco	0.025	0.054	0.061	0.048	0.062	0.058	0.003	0.036
Others	0.026	0.151	0.061	0.080	0.098	0.110	0.184	0.152

Source: Thailand [*Socio-Economic Survey, 1971-1973*].
* Note: Income brackets are in constant 1972 Baht.

the Bangkok-Thonburi area, which is the largest urban settlement in the country. Consumption expenditure is disaggregated into eight categories of expenditure, the listing of which is shown in Table 1.

Several authors of demand analysis have suggested methods by which the classification of commodities into basic and luxury goods can be made on the basis of income and price elasticities. Any classification, however, can not escape some arbitrariness. In this paper we simplify the matter by classifying food, clothing and household operation, as basic expenditure. The remainder are defined collectively as luxury expenditure. Under this classification, as one moves up the income scale, the proportion of income devoted to basic expenditure declines while that of luxury expenditure increases.

Differences in the consumption patterns of rich and poor households in Thailand are revealed by the data in Table 1. In this study, urban rich households are defined as those with annual income greater than Baht 60,000 and urban poor households are those with annual income below Baht 3,000. It can be seen that expenditure on basic goods accounts forms some 90.8 percent of total expenditure by the poor urban households, whereas for the rich urban households it accounts for only 60.5 percent. A shift of income of Baht 100 from the rich urban household to the poor urban household would initially result in a net increase in the expenditure on basic goods by Baht 30.3. In the case of rural households, expenditure on basic goods by poor households—defined to be households with annual income less than Baht 3,000—accounts for 68.0 percent of their total expenditure. The percentage for the rich, i.e., rural households with annual income exceeding Baht 60,000 is 47.4 percent. An initial shift of income of Baht 100 from the rich to the poor would result in a net increase in consumption of basic goods by Baht 20.6 with a net reduction in the consumption of luxury goods by the same amount.

III. 3 The Multiplier Effects of Income Redistribution

Table 2 displays the estimate of the multiplier values associated with gross output, employment, and imports for a unit increase in consumption for each of the consumption categories classified above. The multipliers are calculated from equations (6) to (8) using the data from the 1975 input-output table published by the NESDB.[5] The commodity conversion matrix is derived from the input-output data and the national income accounts data. The data on employment coefficients are obtained from the 1975 Labour Force Survey.[6]

The data in Table 2 show that the multipliers on output and employment for basic expenditure, on average, are higher than that for the luxury expenditure. That is, the highest multiplier, both in terms of gross output and employment, is for a unit increase in the consumption of food, clothing, household operation, and recreation. As would be expected, increase in agricultural output per unit increase in consumption is greatest in the case of food, followed by tobacco and recreation. Excluding food, the multipliers on imports for basic expenditure are comparable to those of the luxury expenditure. This is a surprising, but highly interesting finding. The result is indicative of the fact that the production structure in the Thai economy is import-oriented. The lowest multiplier on imports is for food whereas the highest is for medical and personal health care. As for labour employment, the multiplier is greatest in the case of food, followed by recreation, and household operation.

Table 2 The Mutliplier Effects of a Unit Increase in Consumption by Commodity

Expenditure Category	Gross Output	Agricultural Output	Total Imports	Total Employment
Food	1.88	1.23	0.16	210.09
Household Operation	1.56	0.37	0.34	128.80
Clothing	1.63	0.11	0.43	51.93
Transport	1.32	0.04	0.42	24.16
Recreation	1.65	0.17	0.20	134.95
Medical	1.13	0.08	0.66	24.12
Tobacco	1.47	0.21	0.28	51.68
Miscellaneous	1.49	0.14	0.19	110.71

Source : See text.

The effects of a unit increase in consumption expenditure by rich and poor households are shown in terms of their multipliers in Table 3. The multipliers are computed on the basis of the values of average budget shares observed in Table 1. To afford a comparison between urban and

Table 3 The Multiplier Effects of a Unit Increase in Consumption Expenditure

Effects on	Poor Households		Rich Households	
	Urban	Rural	Urban	Rural
Gross Output	1.77	1.68	1.62	1.54
Gross Agricultural Output	0.69	0.71	0.55	0.40
Total Imports	0.22	0.27	0.28	0.31
Employment	179.22	144.67	129.43	105.77

Source : See text.

5) See Thailand [1978].
6) See Thailand [*Labour Force Survey, 1975*].

rural effects, the calculations were made separately for urban and rural households.[7] The data on Table 3 can be read as follows: a unit increase in the expenditure on consumption by the urban rich (column 3) would result in a 1.62 unit increase in gross output, a 0.55 unit increase in agricultural output, and a 0.28 unit increase in import requirements. As for employment, the data indicate that a one million Baht increase in consumption expenditure by the urban rich would lead to an increase in labour demand by approximately 129 units (persons).

Another highly interesting result which emerges from the data in Table 3 is that import intensity in the consumption pattern of the poor households in the rural areas does not differ significantly from those of the rich households. A possible explanation for this is that the reported data on consumption expenditure by rural households are net of the imputed expenditure on personal consumption. The expenditure data by rural households refer primarily to nonfood expenditure, the components of which most of the expenditure on imports is observed. Consequently, the import intensity per unit of the reported consumption expenditure appears to be only marginally smaller than those of the rich households.

Combining the output and employment effects, it is clear within the context of our static model that a unit increase in consumption expenditure by the poor would have a significantly greater impact on total output, agricultural output, and employment than a unit increase in consumption expenditure by the rich. The import multipliers associated with the poor's consumption pattern are lower, although only marginally. The greatest overall impact is found on the consumption pattern of the urban poor which exhibits the highest multipliers on output and employment, and the lowest multiplier on imports. The results therefore indicate a strong possibility of both output and employment expansion, and import reduction, accompanying a shift in consumption patterns from the rich to the poor.

Notwithstanding the preliminary character of our results, the effects of income redistribution can be analysed by simulating hypothetical income transfers between households. Consider, for example, the effect of an income transfer from the urban rich to the urban poor. From Table 3, a shift of income from the urban rich to the urban poor would lead to a net increase in gross output by 0.15 per unit of income shifted. In terms of percentage change, this implies income distribution elasticity with respect to a gross total output of about 0.051 using the base expenditure and income data of 1975, i.e., a one percent income redistribution from the urban rich to the urban poor would increase gross output initially by 0.051 percent.[8] On this

7) The urban poor refer to urban households with annual incomes less than Baht 3,000 and the urban rich refer to households with annual incomes greater than Baht 60,000. The rural poor refer to households with annual incomes less than Baht 3,000 and the rural rich refer to households with annual incomes greater than Baht 60,000.

8) Figures for gross output and income for 1975 are, respectively, million of Baht 1,083,838

basis, a redistribution of 10 percent of the national income from the urban rich to the urban poor would result in a net increase in output of about 0.51 percent. Similar calculations can also be made to assess the implications of income redistribution for imports, employment, and agricultural output. On the basis of the data in Table 3, the computation reveals that a 10 percent redistribution of national income from the urban rich to the urban poor would lead to a 6.7 percent increase in agricultural output, a 4.5 percent increase in employment, and a 1.2 percent decrease in import requirements.

Using this methodology, it is possible to assess the effects of any income transfer between any income groups by estimating the implied income redistribution elasticities. These calculations were made and the results are shown in Table 4. For each of the effects of income redistribution on outputs, import requirements, and employment, there is a matrix showing the impact of 16 possible results of a 10 percent

Table 4 Preliminary Estimates of the Effects of Income Redistribution

A: A simulation matrix of the effect of a 10 percent of national income redistribution upon total output (percentages)

From \ To	Urban Poor	Rural Poor	Urban Rich	Rural Rich
Urban Poor	0.00	−0.31	−0.51	−0.77
Rural Poor	0.31	0.00	−0.20	−0.46
Urban Rich	0.51	0.20	0.00	−0.26
Rural Rich	0.77	0.46	0.26	0.00

B: A simulation matrix of the effect of a 10 percent of national income redistribution upon agricultural output (percentages)

From \ To	Urban Poor	Rural Poor	Urban Rich	Rural Rich
Urban Poor	0.00	−4.11	−6.73	−9.27
Rural Poor	4.11	0.00	−2.62	−5.16
Urban Rich	6.73	2.62	0.00	−2.54
Rural Rich	9.27	5.16	2.54	0.00

C: A simulation matrix of the effect of a 10 percent of national income redistribution upon import requirement (percentages)

From \ To	Urban Poor	Rural Poor	Urban Rich	Rural Rich
Urban Poor	0.00	0.28	0.30	0.46
Rural Poor	−0.28	0.00	0.02	0.18
Urban Rich	−0.30	−0.02	0.00	0.28
Rural Rich	−0.46	−0.18	−0.28	0.00

D: A simulation matrix of the effect of a 10 percent of national income redistribution upon labour employment (percentages)

From \ To	Urban Poor	Rural Poor	Urban Rich	Rural Rich
Urban Poor	0.00	−2.81	−7.73	−5.96
Rural Poor	2.81	0.00	−2.36	−3.16
Urban Rich	7.73	2.36	0.00	−1.92
Rural Rich	5.96	3.16	1.92	0.00

and 368,505. Let Δy be the extent of income shifted and Δx be the change in gross output. It follows from Table 3 that, for a transfer from the urban rich to the urban poor.

$$\Delta x = 0.15 \Delta y$$

or $$\frac{\Delta x}{x} \Big/ \frac{\Delta y}{y} = 0.15 \left(\frac{y}{x}\right)$$

$$= 0.15 \left[\frac{368,505}{1,083,838}\right] = 0.051.$$

income transfer between the four income groups. When income is transferred from the rich to the poor, the positive effects of income redistribution are shown by the elements of the matrices below the diagonals. The elements above the diagonals have opposite signs, and except for this change in signs, the matrices are symmetrical. Because redistribution within the same income group has no effect, the diagonal elements of the matrices are zero.

A number of interesting results emerge from the data in Table 4. Broadly, the results show that income redistribution from the rich to the poor in likely to lead to expansion in gross output. The greatest effect is for a redistribution from the rural rich to the urban poor. Redistribution of income from the rural poor to the urban poor is expected also to increase gross output, although the extent of the increase is very small. The greatest stimuli for the expansion in agricultural output is associated with a redistribution of income from the rural rich to the urban poor.

As for imports, the scope for import redistribution through income redistribution seems limited. At best, about a 0.46 percent reduction in imports can be expected with a 10 percent income redistribution from rich rural households to the urban poor. The greatest scope of income redistribution is found in the areas of employment. The range of increase in employment is between 1.9 to 7.7 percent for a 10 percent redistribution of income. The highest income redistribution elasticity for employment is for a redistribution from the urban rich to the urban poor. The lowest impact is for a redistribution of income among the rich households, i.e., from the rural rich to the urban rich.

IV Concluding Remarks

The purpose of this paper has been to apply the present macroeconomic data to investigate, at an empirical level, a first round effect of income redistribution in Thailand. The analysis made use of a simple input-output framework. Preliminary verification of the results indicates that the major conditions required for the positive effects of income redistribution to operate seem to be present in Thailand. The consumption bundles of the rich and the poor are different, and the import and employment intensities in their consumption patterns are also different.

Assuming that aggregate demand is a bottleneck to growth, the results from our hypothetical income transfers suggest that, by manipulating income distribution in favour of the poor, there is a scope for an expansion of output and employment, and a reduction in import requirements. For output, the greatest effect is obtained when income is transferred from the rural rich to the urban poor.

The results show that income transfer from the rich to the poor can have desirable effects on agricultural output. For example, a shift of income from the rural rich to the urban poor would result in a 9.27 percent increase in agricultural output if 10 percent of national income was redistributed, assuming unitary expenditure elasticities with respect to income. Also a

4.11 percent increase in agricultural output would be achieved if income was shifted from the rural poor. This result follows from the fact that, on average, the urban poor spend significantly more on food as a proportion of their income than their rural counterparts. As a result, a shift of income from the rural poor to the urban poor would result in a net increase in the demand for agricultural output.

If it can be assumed that the rural poor derive their incomes mainly from agriculture, then our results strongly support the argument for using income redistribution as a policy basis for increasing agricultural incomes, via the effect of demand recomposition. On the other hand, were there to be a further decline in the income level of the poor, this could be detrimental to the agricultural sector because of a fall in the demand for foods and other agriculture-related products.

To formulate an income redistribution policy based on the empirical knowledge so far obtained is not, however, recommended. This is because the feedback effects and other properties of income distribution, in addition to those considered up to this point, need extensive consideration. The first is the secondary implications of income redistribution for other categories of final demand such as investment and exports. The second is the effect of income redistribution on price-cost ratios. An investigation of these issues is possible with the help of a disaggregated macroeconomic model. As noted at the outset of this paper, the results from this study are taken as a basis for the development of a growth-cum-distribution model that can provide a framework for a detailed analysis of these issues.

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