Short-Term Effects of Malaysian Redistribution Policies Based on a Computable General Equilibrium Model

Ragayah Haji Mat Zin

ABSTRACT

This study investigates the base-year solution to the general equilibrium model of Malaysian redistribution policies. These policies include the tax-expenditure policies and, in particular, those of the New Economic Policy. The first-round effects indicate that increasing borrowed capital of Bumiputeras appears to be one of the most effective means of moving the economy towards achieving the Bumiputera share capital ownership target, while increasing the land ownership share of Bumiputeras and government expenditure benefits are efficacious for the income redistribution objective. Increasing employers' contributions to the EPF and reducing the corporation tax rate are efficient means of attaining the employment restructuring targets.

INTRODUCTION

This study examines the base-period solution to the general equilibrium model of Malaysian redistribution policies which was presented
in an earlier issue of this journal (Ragayah 1988b). This model was formulated in order to investigate the probable effectiveness of the Malaysian Government's redistributive policies. These policies include the tax-expenditure and, in particular, the policy of redistributing capital ownership and the restructuring of employment among Bumiputeras, as well as that of eradicating poverty, which has an income redistribution connotation. In constructing the model, attempts were made to capture the principal features of the economy and the relevant restructuring policies that were being carried out to attain the set targets.

In our earlier paper, we have described that the structural form of the model can be written as

\[ A_0 \hat{Y}_t = A_1 \hat{Y}_{t-1} + B_0 \hat{X}_t, \]  

where \( A_0, A_1 \) are 91 \( \times \) 91 matrices while \( B_0 \) is a 91 \( \times \) 16 matrix, and \( Y \) is the column vector of the endogenous variables, \( Y_{t-1} \) is that of the lagged endogenous variables and \( X \) is that of the exogenous variables. The symbol \( \hat{Y} \) indicates that all these variables are expressed as proportionate changes, for example, \( Y = \frac{dY}{Y} \). We then solved the system in its reduced form:

\[ \hat{Y}_t = A_0^{-1} A_1 \hat{Y}_{t-1} + A_0^{-1} B_0 \hat{X}_t. \]  

The coefficient matrix \( A_0^{-1} B_0 \) in equation (2) is the matrix of the estimated impact multipliers. An impact multiplier, \( \frac{\partial Y_j(t)}{\partial X_i(t)} \), measures the immediate response of an endogenous variable consequent to a change in an exogenous variable, keeping all other exogenous variables constant. Owing to the method of taking total derivatives and proportionate changes, the multipliers yielded are proportionate changes of the base period values, that is the coefficients of \( A_0^{-1} B_0 \) measure the proportionate changes in the endogenous variables on the left hand side consequent to one percent change in the exogenous variables on the right hand side.

As mentioned previously (Ragayah 1988a, 1988b), the linearization process requires the absolute values of all the variables involved. Sahota (1975: 98) points out that the choice of which year values depends on the objective of the study. If the purpose is to make predictions, the final-year values of the variables in current prices should be used, but if it is to explain the data the appropriate values are the sample means in constant prices. However, in our case, these two options are not opened to us due to the paucity of data. Hence, our choice was made on the basis of which year has the most data
Effects of Malaysian Redistribution Policies

available, and by this criterion 1973 was chosen as the base year. For those variables that do not have their 1973 values, we have used the Consumer Price Index to inflate or deflate the available values to their 1973 equivalents.


Goldberger (1959), Sahota (1975), and Sahota and Rocca (1980) pointed out several caveats that must be borne in mind when interpreting these impact multipliers. Following Sahota's latter work, we enumerate these caveats here. Firstly, their values are likely to be different from the total multipliers since they only register the first year responses and neglect the lagged influences. Secondly, these coefficients are expressed in terms of impact elasticities instead of marginal effects. As such, it is thus quite possible for the values of some of these multipliers to exceed unity. Thirdly, some of multipliers have signs that appear prima facie contrary to expectation. However, it must be remembered that the ultimate impact effect is the outcome of several supply and demand markets, and the price effects within and across the different sectors. Given such a situation, it will be sometimes impossible to distinguish a single force which can account for such contrary results. Fourthly, the difficulty in analyzing these supposedly suspect results is further compounded by the fact that these computed coefficients are also subject to stochastic errors. Since it is not possible to calculate the standard errors, then some of these unexpected outcomes could be merely due to cumulated errors. Finally, as mentioned elsewhere, we abstract from the foreign sector in order to keep the size of the model at a manageable level.

THE SOLUTIONS

The impact elasticities of the base period solution are given in Table 1. In order to avoid the problem of not being able to see the trees for
TABLE 1. Impact elasticities

<table>
<thead>
<tr>
<th>Indep. Var.</th>
<th>Dep. Var.</th>
<th>k_{t-1}^{B'}</th>
<th>t_B</th>
<th>t_y</th>
<th>t_{dm}</th>
<th>t'_M</th>
<th>t_{w1}</th>
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<td>0.04573</td>
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### TABLE 1. (Continued)

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### Notes:

1. Definitions of endogenous variables:

   - \( k_{B} \) : Capital owned by Bumiputera household
   - \( k_{NB} \) : Capital owned by non-Bumiputera household
   - \( K_{B} \) : Share of Bumiputera capital ownership
   - \( Y_{1B} \) : Income of Bumiputera household in the rural sector
   - \( Y_{1NB} \) : Income of non-Bumiputera household in the rural sector
   - \( Y_{mB} \) : Income of Bumiputera household in the modern sector
   - \( Y_{mNB} \) : Income of non-Bumiputera household in the modern sector
   - \( Y_{6B} \) : Income of Bumiputera household in the urban informal sector
   - \( Y_{6NB} \) : Income of non-Bumiputera household in the urban informal sector
   - \( Y_{B} \) : Income of Bumiputera household
   - \( Y_{NB} \) : Income of non-Bumiputera household
   - \( Y_{R} \) : Income of rural household
   - \( Y_{U} \) : Income of urban household
   - \( L_{1B} \) : Bumiputera labor supply to the rural sector
   - \( L_{1NB} \) : Non-Bumiputera labor supply to the rural sector
   - \( L_{2B} \) : Bumiputera labor supply to the secondary sector
   - \( L_{2NB} \) : Non-Bumiputera labor supply to the secondary sector
   - \( L_{3B} \) : Bumiputera labor supply to the tertiary sector
   - \( L_{3NB} \) : Non-Bumiputera labor supply to the tertiary sector
   - \( L_{6B} \) : Bumiputera labor supply to the urban informal sector
   - \( L_{6NB} \) : Non-Bumiputera labor supply to the urban informal sector.

2. Definitions of exogenous variables:

   - \( k_{B-1} \) : Borrowed capital of Bumiputera household
   - \( \tau_{B} \) : Share of Bumiputera land ownership
   - \( t_{y} \) : \( t_{y} = 1 - t_{c} \); \( t_{c} \) is personal income tax rate
   - \( t_{dm} \) : Domestic or commodity tax rate
   - \( t_{M} \) : Import tax rate
   - \( t_{w1} \) : \( t_{w1} = 1 - t_{w1} \); \( t_{w1} \) is employees’ contribution rate to the EPF
   - \( t_{w2} \) : \( t_{w2} = 1 + t_{w2} \); \( t_{w2} \) is employer’s contribution rate to the EPF
   - \( t_{c} \) : \( t_{c} = 1 - t_{c} \); \( t_{c} \) is corporation tax as a percentage of profits
   - \( u' \) : Undistributed profits rate of Bumiputera household
   - \( u'' \) : Undistributed profits rate of non-Bumiputera household
   - \( i* \) : Cost of borrowing capital to Bumiputera household
   - \( G \) : Government expenditure benefits to each household.
the forest, and not to discourage the reader from examining these results, we have presented only the impact multipliers of the twenty-one dependent variables in which we are particularly interested in the capital ownership, income and employment (this is proxied by labor supply) variables, consequent to changes in the twelve policy variables. Let us now look at the effects of these policy instruments.

**Borrowed capital of Bumiputeras,** \( k_{t}^{B'r - r} \) It is comforting to note that the effects of borrowed capital of Bumiputeras mostly display the anticipated results. An increase in this item will definitely enhance the value of Bumiputera capital accumulation in the first year. Non-Bumiputera capital ownership contracts marginally, which is expected due to the crowding out effect. This expansion in the value of Bumiputera capital accumulation leads to an increase in the capital ownership share of Bumiputeras, as the impact multiplier for the capital share of Bumiputeras is positive.

In terms of income, with the exception of Bumiputeras in the rural and non-Bumiputeras in the rural and modern urban sectors, borrowed capital of Bumiputeras benefit everyone else, with Bumiputeras in the urban modern sector making the greatest gain. However, these negative effects are very small and can be considered neutral. The outcome of Bumiputeras' income in the urban modern sector is an expected one since this group holds the largest amount of borrowed capital, and has the highest capacity of increasing its holdings. This group also accounts for the fact that Bumiputera and urban incomes increase at faster rates than non-Bumiputera and rural incomes respectively as a consequence of an increase of this policy instrument.

The effects of borrowed capital of Bumiputeras on labor supplies seem to be mixed. Labor supplies of both races rise in the rural and urban informal sector, but drop slightly in the urban modern sector. We can try to explain this outcome in the following way. Borrowed capital, which becomes part of total capital, is mainly being ploughed into the more capital intensive modern sector. Here, capital appears to be a substitute for labor inasmuch as jobs in this sector are more easily mechanized. On the other hand, expansion in capital investment would lead to an increase in employment of these displaced workers in the rural and urban informal sectors since these are low-skilled or unskilled workers who are utilized in labor-intensive jobs. Hence, here capital is complementary to labor. Thus, even though this policy instrument does enable the Bumiputeras to increase their
capital ownership, it has a negative effect on the employment restructuring policy.

**Share of Bumiputera land ownership,** $\tau_B$  
As expected, the share of Bumiputera land ownership has positive effects on the value of capital accumulation of Bumiputeras. Similarly, it has the anticipated favorable outcome on the income levels of all Bumiputera groups, with those in the agriculture sector making the largest gain. Increases in land ownership means direct increase in income through its return, and a rise in income would lead to greater capital accumulation. Naturally, Bumiputera and rural households make the greatest gains, which is accounted for by the fact that all returns from land is attributed to the rural households.

The results also indicate that the effects of this instrument on the value of capital accumulation of non-Bumiputeras and their income levels are also positive. However, since the value of the multiplier for the capital ownership of Bumiputeras is greater than the elasticity of capital ownership of non-Bumiputeras, its effects is to increase the capital share of Bumiputeras. These positive results on the capital accumulation and income levels of non-Bumiputeras may be unexpected at first. Nevertheless, if we recall that the supply of cultivable land is increasing annually, then these results might not be as puzzling as it first appear. Since Bumiputeras also own a much smaller proportion of cultivable land than non-Bumiputeras, a rise in their share would not jeopardize the share of non-Bumiputera land income much. This leads to the positive values of their capital ownership and income multipliers, though the magnitudes of these are smaller than those for Bumiputeras, which enforces our argument.

The expansion in Bumiputera land ownership has negative effects on labor supplies to the modern sector and positive effects to the rest. In the rural sector, a bigger land holding requires more labor or can accommodate more labor to work on it resulting in an expansion in Bumiputera rural employment. While non-Bumiputera labor has relatively less employment opportunity in the agriculture sector consequent to the expansion in the share of Bumiputera land holdings, this policy still results in a positive, though slight, change in non-Bumiputera labor supply in this sector. As pointed out above, rural labor supplies of both groups can expand because the supply of cultivable land is rising every year. Consequently, there are negative effects on labor supplies to the urban modern sector. These vacancies cannot be filled by those from the urban informal sector.
because, according to Mazumdar's findings (1981: 223), unlike the stereotype of rural-urban migrants who flocked to the urban informal sector, recent Malaysian rural-urban migrants apparently obtained jobs in disproportionate numbers in large enterprises with employment of one hundred or more. Furthermore, Mazumdar also found that the migrants appeared to be generally better educated than the natives in the urban informal sector, and as such, it may not be possible for the latter to fill in the vacuum in the modern urban sector.

**Personal income tax, \( t'_p \)** In interpreting these multipliers, it must be kept in mind that personal income tax is defined as \( t_y = (1 - t_y) \), which implies that a percentage increase in \( t_y \) means a reduction in the tax rate, \( t_y \), not a rise. Hence, the effects of personal income tax on the three groups of dependent variables mostly conform to predictions. A decrease in personal income tax rate, and thus a rise in disposable personal income, has favorable effects on capital ownership of both racial groups, with the multiplier for the non-Bumiputeras being slightly higher than that for the Bumiputeras. This then accounts for the negative growth in the share of capital ownership of Bumiputeras. The positive outcomes of this change on the various income levels are self-explanatory. Generally, while everyone's income increases, non-Bumiputera households obtain the greatest gain with this policy.

With regards to labor supplies, we expect a smaller tax rate to encourage more labor to enter the job market since this means higher realized disposable income. This is because labor supplies depend on net-of-tax wage rates, while demand for labor depends on gross-of-tax wage rates, and wages form part of income. Our results show that when the personal income tax rate is lowered, labor supplies of both racial groups to the rural and urban informal sectors increase while that to the urban modern sector decrease. This result can be explained in the following way. Reducing personal income tax leads to an increase in incomes and savings, and thus capital accumulation. This more capital intensive investment substitutes for labor in the modern sector. Less labor will be employed (only the relatively skilled ones) in this sector. Others will flow back to the rural and urban informal sectors, thus accounting for the positive multipliers of the labor supply variables in these sectors.

**Commodity taxes, \( t'_{dm} \)** Commodity taxes, which include export duties, excise duties and sales taxes, were aggregated and denoted as
domestic taxes since the appropriate data that were available come in this form. The impact on the capital ownership of Bumiputeras is positive while that on non-Bumiputeras is negative, though both effects are marginal, the values of the multipliers being almost zero. These results cause the share of Bumiputera capital ownership to improve by a tiny margin. The Bumiputera result comes about due to the fact that the positivity of their urban informal sector households' income and saving are able to overcome the negativity of these two variables of the rest of the Bumiputeras. In the non-Bumiputera case, the negative impacts on incomes and savings of their rural and urban modern households dominate over the favorable outcomes on these variables of the urban informal sector households.

The unfavorable effect on income is true for all households except those in the urban informal sector. These adverse impacts come about as a consequent of a decrease in profitability due to the imposition of these taxes. The incomes of the urban informal households are not negatively affected because very little of these taxes are levied from this sector. Furthermore, the taxes collected are being redistributed as government expenditure benefits which could overcome the duties levied in these two sectors. All these effects tend to neutralize each other, resulting in very small values in the multipliers.

The labor supply variables also reacted in a mixed way, with increases in the rural and urban informal sector groups and reductions in the urban modern sector groups. However, these responses are compatible since commodity taxes are growth-retarding, as indicated by the negative multipliers of output in most of the modern sector. Hence, employment intake in the urban modern sector would have damped and in turn, this would discourage entry into this sector. Consequently, labor supplies in the other two sectors would expand.

Import taxes, $t'_m$ Import duties have a slight favorable effect on non-Bumiputera and a marginal discouraging outcome on Bumiputera capital accumulation, thus resulting in a small decrease in Bumiputera share capital ownership. These effects on capital accumulation arises from the positive reactions of incomes and savings of households in the urban sectors.

Incomes of all households in the rural areas respond negatively to the imposition of import taxes while incomes of the rest of the households react favorably. This reduction in rural incomes is caused by the fall in the rural wage rate, which in turn is due to an expansion in labor supply in this sector. On the other hand, import duties raise
the income levels of the rest because wages increase in these sectors owing to the contraction in labor supplies, which in turn is caused by the decrease in outputs and net prices. However, the reduction in labor supply exceeds the decrease in outputs and net prices, thus resulting in the increase in the wage rates of these households.

**Social security tax contributions, t'w1, t'w2** In Malaysia, both employees and employers contribute to the EPF, the employees contributing at the rate t'w1 and the employers at t'w2. In our calculations we have defined t_w1 = (1 - t'_w1) implying that, as in the case of personal income tax, t_w1 increases with the reduction in the employees' contribution rate. This means that the net-of-contribution wages of employees increase with the fall in these rates, as wage incomes are defined to be net of these contributions. Hence, we expect income levels of all groups to react positively to this instrument, and our results bear this out. Bumiputeras gain relatively more since the value of the multiplier of their income is a little higher than that of non-Bumiputeras.

With higher incomes, we expect that capital accumulation would be increasing. However, this is not so for the multipliers of both capital ownership variables are negative consequent to the implementation of this policy. This is explained by the fact that a decrease in t'_w1 means a reduction in forced savings in its entirety, while only part of the increase in income emanating from this policy would be saved. Thus, the net result would be a decrease in savings and capital accumulation. The negative multipliers of all saving groups testify to this prediction.

A reduction in this tax causes labor in the modern sector to reduce their supplies which naturally flow back into the other two sectors. These results arise from the following reactions. Lowering this tax causes a reduction in savings and hence capital accumulation. This leads to a contraction of most of modern sector outputs, and consequently, their labor requirements, especially the relatively less skilled ones.

Regarding t'_w2, where we define t_w2 = (1 + t'_w2), employers consider their share of the contributions as labor cost, and therefore increasing the price of labor relative to the price of capital. Thus, the results of the capital accumulation variables conform to the theory that a fall in the relative price of capital would lead to more capital investment. This is confirmed by the negative value of the price of capital elasticity and positive multiplier for the rate of return to
capital. At the same time, this tax, while being a cost to the employers, represents an increase in savings and postponed income to the employees. This also enhances capital accumulation and raise the income of workers. These expected results are borne out by the incomes of all non-Bumiputeras and those households in the modern sector. On the whole, incomes of both Bumiputeras and non-Bumiputeras change favorably. Moreover, the share of Bumiputera capital ownership decreases since the value of Bumiputera capital accumulation elasticity is lower than that for non-Bumiputeras.

Raising \( t_{w2} \) has the effect of increasing the migration of workers into the modern sector and contracting the supplies to the rural and urban informal sectors. The contraction of the rural labor supplies arises from the fact that output in this sector has declined, resulting in a negative change in the return from land. On the other hand, output is increasing in the modern sector and wage here is rising proportionately more than in the other two sectors. The latter reason also explains the exodus of labor supplies from the urban informal sector into the modern sector.

**Corporation tax, \( t_c \)** Like the personal income tax, this tax is defined as \( t_c = (1 - t'_c) \), which means that an increase in \( t_c \) is a decrease in the tax rate \( t'_c \). Here, the impacts on capital ownership are expected, that is, a lowering of the corporation tax rate would lead to an expansion in capital ownership of both Bumiputeras and non-Bumiputeras. In terms of the share of capital ownership, the impact multiplier of Bumiputera capital ownership increases slightly, which is not surprising since the corresponding value of the Bumiputera capital accumulation is higher than that of non-Bumiputeras.

Incomes of all households in the rural and the urban modern sectors react positively to the reduction of the corporation tax. This is anticipated since incomes increase both directly via an rise in dividends as well as through the return to additional capital accumulation encouraged by the reduction in this tax. Urban informal households suffer a reduction in income following the lowering of this tax. This is not a surprising outcome since these households are only slightly influenced by this tax. At the same time, the impact on wage in this sector is negative, resulting in a negative response in income. However, these negative multipliers do not affect the positivity of the multipliers for the Bumiputera and non-Bumiputera incomes, as well as rural and urban incomes as a whole.

Where labor supplies are concerned, reducing this tax has positive impact on labor supplies to the urban modern sector and adverse
effects on those in the urban informal and rural areas. This result can be accounted for by the fact that the reduced corporation tax influence modern sector income to rise, thereby attracting labor from the other two sectors. Furthermore, outputs in the agriculture and urban informal sectors contract, thus diminishing employment opportunities in these sectors. This outcome is consistent with the employment restructuring objective of the NEP since this instrument has induced relatively more Bumiputera labor into the modern sector.

*Undistributed profits' shares, \( u'u'' \)* Available data have indicated that the undistributed share of profits differ for Bumiputeras and non-Bumiputeras. An increase in undistributed profits of Bumiputeras, \( u' \), is consistent with increasing their capital ownership since the higher is this share, the higher is the rate of their savings. It has a slight positive effect on the value of capital accumulation of non-Bumiputeras. Therefore, it is not surprising that the elasticity of the share capital ownership of Bumiputeras is positive. Similarly, undistributed profits of non-Bumiputeras, \( u'' \), encourages capital accumulation among non-Bumiputeras, and has a positive but almost zero effect on Bumiputera capital ownership. Naturally, the share of Bumiputera capital ownership is decreasing under this regime.

Generally, the effects of undistributed profits of both racial groups on incomes variables also correspond to our expectations, that is, higher shares of undistributed profits mean lower realized disposable income, and hence their negative signs. In both cases, the modern sector households suffered the largest reductions in their incomes, which is not surprising since they derive the highest incomes from capital ownership among all the income groups. It follows then that when \( u' \) is increased, it has negative consequence on Bumiputera and urban incomes as a whole. Likewise, non-Bumiputera and urban incomes reacted unfavorably when \( u'' \) is raised. The adverse effect of \( u' \) on Bumiputera income is worse than that for non-Bumiputera income, and vice versa, while they both curtail urban income more than rural income.

Raising each of the undistributed profits shares would attract greater supplies of labor to the modern sector. This is not surprising since greater investment activity also calls upon greater labor absorption. Furthermore, although \( u' \) has slight positive effects on wages, the value of the multiplier is largest for the modern sector wage. Moreover, both induce a faster increase in Bumiputera employment in the modern sector than non-Bumiputera employment.
This higher demand for labor in this sector draws its supply from the other two sectors, thereby decreasing their supplies, as indicated by the negative coefficients of these variables. In general, the results of increasing \( u' \) are consistent with the capital ownership as well as the employment restructuring objectives of the NEP.

**Cost of borrowing capital to Bumiputeras, \( i^* \)** The results bear out the forecast that capital ownership of Bumiputeras is adversely affected by an increase in the cost of borrowing capital. The value of non-Bumiputera capital ownership rises marginally. Both of these reactions result in the share of Bumiputera capital ownership to shrink.

As expected, incomes of Bumiputera households in all sectors are unfavorably affected by this policy. Non-Bumiputera households in the rural and urban modern sectors react positively while those in the urban informal sector have a negative response to this policy. However, all the non-Bumiputera elasticities are marginal and could be considered neutral. When aggregated into the racial and rural-urban groupings all incomes are reduced owing to this higher cost of borrowing faced by Bumiputeras, and the reduction being larger, understandably, for Bumiputera income than non-Bumiputera income and urban income than rural income.

The cost of borrowing capital to Bumiputeras appears to have the effect of swelling the labor supply in the urban modern sector, and lessening the labor supplies in the other two sectors. We can explain this phenomena in the following way. When there is an increase in \( i^* \), this implies that the Government subsidy element is reduced, thus discouraging Bumiputeras from borrowing and investing in the stock market. It follows that the supply of capital contracts and producers substitute labor for capital, which raises wages in all sectors marginally. This factor substitution seems to induce Bumiputera labor to enter the modern sector more than it does non-Bumiputera labor, thereby steering Bumiputera employment at least in the direction of the NEP employment restructuring target.

**Government expenditure benefits, \( G \)** Government expenditure benefits include expenditures on education, medical and agricultural services, and pensions. The estimated impact elasticities indicate that Government expenditure benefits raise the value of capital ownership of Bumiputeras, but lower that of non-Bumiputeras. The former complies with our prediction since Government expenditure benefits represent an increase in income, at least in the year they are
received, and households save part of this increment and augment capital accumulation. Non-Bumiputeras do not enhance the value of their capital ownership because most of this increase in income is spent on consumption, as most of the impact multipliers for the various consumption groups of non-Bumiputeras are positive. Furthermore, Bumiputeras, especially those in the rural sector, receive a greater amount of Government expenditure benefits than non-Bumiputeras. It is not surprising that the multiplier of the share of Bumiputera capital ownership is positive under these circumstances.

This policy instrument is beneficial to Bumiputera households in the rural and urban informal sector as well as non-Bumiputeras in the rural areas by raising their income levels. However, it is disadvantageous to all households in the urban modern sector and non-Bumiputera households in the urban informal sector. This is an unanticipated outcome since Government expenditure benefits represent a direct increase in income levels. The only way for these income levels to contract is for the gain in income via Government expenditure to be less than the loss in income through the other two components, namely wages and the return to capital. For the rural households, they also receive incomes in the form of the return from land whose multiplier is positive to overcome this negativity, hence making their income elasticities positive. Wages of these groups did fall substantially. In the modern sector, this is caused by the fall in output. Similarly, the impact multiplier of the return to capital is also negative. These factors then explain why the income levels of the households in the modern and non-Bumiputera households in the urban informal sectors decrease instead of increasing with Government expenditure benefits. This response is more acceptable when we realize that the amount of Government expenditure benefits to these households are much less than those to the Bumiputera households in the agriculture sector. Hence, it is not surprising that when the incomes of Bumiputera and non-Bumiputera, and rural and urban, households are contrasted this policy instrument is found to be pro-Bumiputera and pro-rural, and therefore redistributive. Much of the gain is made at the expense of the rich urban modern sector.

The consequence of Government expenditure on labor supplies does not come as a surprise. Since Government expenditure is advantageous to rural households as well as Bumiputera households in the urban informal sector, it acts as a deterrent to the flow of migrant into the urban areas. Negative effect on modern sector wage
discourage workers from migrating into the modern sector. All the surplus labor flow back to the other two sectors which act as depots for the unemployed.

CONCLUSIONS

On the basis of these results, a number of policy instruments available to the Government do encourage capital accumulation by Bumiputeras. Increasing borrowed capital of Bumiputeras appears to be one of the most promising means of achieving the target of Bumiputera share capital ownership. This is explained by the fact that an increase in this borrowing has the impact of increasing capital ownership of Bumiputeras by the whole amount since all the money has to be used for purchasing capital shares. Other effective instruments in steering the country towards this goal are the provision of Government expenditure benefits and raising the share of land ownership of Bumiputeras, both of which are understandable.

The most discussed income distributions in the Malaysian economy are those between the ethnic groups and the rural and urban areas. With regards to the former, our results indicate that a majority of the instruments does raise the income of Bumiputeras. However, the most efficient policy to achieve this objective is the reduction in the personal income tax followed by a lowering of the social security tax contributions by employees. Nevertheless, these are not redistributive since the former is more pro-non-Bumiputeras, while the second is only slightly pro-Bumiputeras. Increasing the share of land ownership of Bumiputeras and Government expenditure benefits are the most effective for this income redistribution goal. These are also the policies to be pursued in order to redistribute income from the urban to the rural areas, with increasing Government expenditure benefits to be the most effective.

Where employment restructuring is concerned, the policies which encourage positive increase in labor supplies to the modern sectors are increasing the employers' contributions to the EPF, reducing the corporation tax rate, increasing undistributed profits of both racial groups and the cost of borrowing capital to Bumiputeras. All of these policies favor Bumiputera labor relative to non-Bumiputera labor, the most effective being employers’ contributions to the EPF.

Still, all these results only record the first year responses. We have to examine the dynamic multipliers to see how effective these policies are in moving the economy towards the NEP targets.
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NOTES

1 The existence of a solution requires that $A_o$ is a non-singular matrix.

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