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by

A BACK-OF-THE-ENVELOPE EXPLANATION EXCHANGE RATE: SIMULATIONS WITH FARM INCOMES IN AUSTRALIA AND THE REAL

Impact Centre

Project

Impact Centre
Economic policy decisions of the domestic authorities

production costs.

of the agricultural industry, unit selling price to the
change in the real exchange rate is a change in the ratio
important influence on agricultural activity. The reason is that
for the product's change in the real exchange rate can have an
affected agricultural sector, causing high agricultural demand characteristics
weighted average of foreign (CF1,9) in an economy with an export-
world price level (or export) the domestic CEP changes by a
dollar to an index of the domestic price level relative to the
dollars which can be exchanged for a given quantity of foreign
ratio of the nominal exchange rate (€). The number of domestic
we obtain the real exchange rate for an economy to be the

I. Introduction

Peter D. Dixon, G.T. Paramore and Alan N. Powell

References

ECONOMIC SIMULATIONS WITH A BACK-OF-THE-ENVELOPE EXPLANATION
PAY INCOMES IN AUSTRALIA AND THE REAL EXCHANGE RATE
consequent effects on agricultural income and employment. The four policy shocks are:

(i) a 10.6 per cent across-the-board increase in the nominal rates of protection for the import-competing sector,
(ii) a 0.57 per cent increase in real hourly wage rates,
(iii) a change in crude-oil pricing policy leading to a 26 per cent increase in the basic price of domestically refined oil products, and
(iv) a balanced 0.45 per cent increase in real aggregate domestic absorption (i.e., an increase in the domestic component of aggregate demand which leaves unchanged the shares of consumption, investment and government spending in the total).

There is in Australia an active debate concerning the roles in macroeconomic policy of changes in protection, wages and aggregate domestic absorption. In addition, owing to the relative self-sufficiency of Australia in oil supply, the government can control the domestic price of oil products independently of world prices. In recent years domestic oil prices have been raised towards world parity, although it has been argued that domestic prices should be restricted below world prices, essentially for short-run macroeconomic reasons.\(^1\) Thus, all four sets of ORANI projections provided in this paper are concerned with issues relevant to Australian macroeconomic policy. The sizes (10.6 per cent for

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1. Higgs (1981) provides a detailed analysis of the recent Australian debate on oil pricing policy.
1. The new model is used in recognition of the importance of {missing text}.

2. In economic models, the interaction of {missing text} factors is crucial. For example, the {missing text} of economic models are {missing text} from the stage where...
2. Major assumptions underlying the ORANI simulations

ORANI can be used to generate either short-run or long-run conditional projections. These are of the form: given a shock A, and assuming a macroeconomic environment B, then in the short run (long run) variable C will differ by x per cent (y per cent) from the value it would have had in the absence of the shock. The four shocks, A, to be considered in this paper were listed in the previous section. The variables, C, in which we will have most interest are those concerning agricultural incomes.

ORANI users are forced to introduce their own assumptions about three important areas of the macroeconomic environment, B. This is because there are three important aspects of the macroeconomic effects of shocks to the economy about which the model offers no guidance. They are:

(a) the extent to which induced changes in the overall buoyancy of the labour market will be realized as changes in real wages or as changes in employment;
(b) the extent to which induced changes in national income will be realized as changes in aggregate absorption (consumption plus investment plus government expenditure) or as changes in the balance of trade; and
(c) the extent to which induced changes in the real exchange rate will be realized as changes in the domestic inflation rate relative to the foreign rate or as changes in the nominal exchange rate.

Our final BOTE calculation is for aggregate employment. In the ORANI data base about 12 per cent of the workforce is occupied in the production of exportable commodities. Thus our BOTE calculation for aggregate employment is:

\[ \ell = .12\ell^a + .88\ell^n. \]  

(41)

(41) gives the results shown in column (11) of table 4. These are all good approximations to the ORANI results, see column (1) of table 3.
In this paper we have assumed that:

\[ 1.00 - 0.20 \cdot 1.00 = \frac{\pi}{4} \]

In the case of non-agricultural activities the impact of the output of the export sector appears as an increase in the total GDP. The impact of the output of the non-agricultural activities on the GDP is illustrated by the following equation:

\[ \frac{\pi}{4} \cdot 0.20 = 0.10 \]

In the case of agricultural activities the output of the total GDP is illustrated by the following equation:

\[ 1.00 + 0.20 \cdot 1.00 = \frac{\pi}{4} \]

In the case of non-agricultural activities the impact of the output of the export sector appears as a decrease in the total GDP. Thus the impact of the output of the export sector on the total GDP is illustrated by the following equation:

\[ 1.00 + 0.20 \cdot 1.00 = \frac{\pi}{4} \]

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induced changes in the real exchange rate appear as changes in the domestic inflation rate relative to the foreign rate and not as changes in the nominal exchange rate. In all simulations the change in the nominal exchange rate was fixed exogenously at zero. We also assume that the shocks under consideration have negligible effects on foreign rates of inflation. Thus in our ORANI simulations, adjustments in the real exchange rate are reflected by adjustments in the domestic CPI. There would have been no difference in the ORANI results for real variables if we had, instead, fixed the domestic CPI and allowed the nominal exchange rate to adjust.

Finally, with regard to timing, we have adopted the neo-classical short-run. This is a period sufficiently long for the changes in trading conditions brought about by the shocks under consideration to work their way through the economy and for producers and consumers to adjust their production and consumption behaviour accordingly. In the case of producers, this includes revisions of investment plans which in turn affect the demands faced by industries supplying capital goods. The period is sufficiently short, however, to ignore changes induced by the shocks in the quantities of plant and equipment available for use by the various industries. This short run period has been estimated to be about 1\frac{1}{2} to 2 years, see Cooper and McLaren (1980). Thus, for example, we interpret the first

<table>
<thead>
<tr>
<th>Shock</th>
<th>( \xi )</th>
<th>( p_n )</th>
<th>( \phi )</th>
<th>( \delta )</th>
<th>( \gamma )</th>
<th>( \alpha )</th>
<th>( \rho )</th>
<th>( \theta )</th>
<th>( \zeta )</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i)</td>
<td>1.01</td>
<td>1.01</td>
<td>0.033</td>
<td>0.046</td>
<td>1.17</td>
<td>0.07</td>
<td>-0.09</td>
<td>2.92</td>
<td>-1.48</td>
</tr>
<tr>
<td>(ii)</td>
<td>1.01</td>
<td>1.01</td>
<td>0.033</td>
<td>0.046</td>
<td>1.17</td>
<td>0.07</td>
<td>-0.09</td>
<td>2.92</td>
<td>-1.48</td>
</tr>
<tr>
<td>(iii)</td>
<td>1.01</td>
<td>1.01</td>
<td>0.033</td>
<td>0.046</td>
<td>1.17</td>
<td>0.07</td>
<td>-0.09</td>
<td>2.92</td>
<td>-1.48</td>
</tr>
<tr>
<td>(iv)</td>
<td>1.01</td>
<td>1.01</td>
<td>0.033</td>
<td>0.046</td>
<td>1.17</td>
<td>0.07</td>
<td>-0.09</td>
<td>2.92</td>
<td>-1.48</td>
</tr>
</tbody>
</table>
There are in column (6), the four values for $x$. These are in column (5), primarily for the non-core sector. With $p$ set at 0.75, we can now calculate the four values for $x$ shown in column (4). By subtracting these values from those shown in column (5), we have our four shocks. (29) Gives the values for $x^*$ and $x^t$. These values have been evaluated according to

$$x^t = 0.964 - 0.3750 - 0.0085 - 0.1200 - 0.0007,$$  

$$x = 0.0007.$$  

These results, together with various other shock calculations are shown in Table 3, along with other factors.  

Where we have (7) and (11) and the data in Table 2, Equation (29) shows that for $u$, where we have (7), and the data in Table 2, Equation (29)

$$u = 0.0085 - 0.0012 - 0.0010 - 0.0006.$$  

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3. The ORANI projections

Table 1 contains projections of the effects of our four shocks on employment at the economy wide level and on employment and real income in the agricultural sector. It also shows (column 2) that we have normalized the shocks so that each leads to a one per cent reduction in the real exchange rate, i.e., to a one per cent increase in the domestic CPI under conditions in which the nominal exchange rate and foreign price levels are assumed fixed (see section 2). In each case, the one per cent reduction in the real exchange rate is associated with a reduction in agricultural employment and a larger reduction in real agricultural income. The results are clustered around average reductions of 1.5 per cent in employment and two per cent in real income. Thus, the results indicate that shocks to the economy occurring outside the agricultural sector may nevertheless have important effects on agricultural employment and income and that these effects are approximately proportional to the effects of the shocks on the real exchange rate.

In qualitative terms the results in table 1 are easily explained. We start with the CPI results. Shocks (i) - (iii) are exogenous increases in prices: the domestic prices of imported commodities, the prices of all categories of labour and the domestic price of oil. Rises in the prices of imports and oil increase the CPI directly. Each of the first three shocks raises domestic production costs and the selling prices of domestically produced...
The calculations were conducted with the aid of computer programs. The results are given in Table 1. The calculations were conducted with the aid of computer programs. The results are given in Table 1.

Table 1: Financial Results of Agricultural Sector

<table>
<thead>
<tr>
<th>Sector</th>
<th>1972-73</th>
<th>1973-74</th>
<th>1974-75</th>
<th>1975-76</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real Output</td>
<td>0.95</td>
<td>1.00</td>
<td>1.05</td>
<td>1.10</td>
</tr>
<tr>
<td>Export Price</td>
<td>0.05</td>
<td>0.09</td>
<td>0.10</td>
<td>0.11</td>
</tr>
<tr>
<td>Wage Rates</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Table 2: Regression Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Standard Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>0.12</td>
<td>0.03</td>
</tr>
<tr>
<td>X</td>
<td>0.85</td>
<td>0.10</td>
</tr>
</tbody>
</table>

In Table 2, the coefficients are estimated from the regression equation Y = \beta_0 + \beta_1 X + \epsilon, where Y is the dependent variable and X is the independent variable. The estimated coefficients and standard errors are shown in Table 2.
commodities. Thus, further increases in the CPI are projected. Recall that in the ORANI simulations reported in this paper nominal wages are assumed indexed to the CPI. Nominal wage increases matching initial increases in the CPI produce yet further increases in production costs and the CPI. Successive rounds of price and wage increases ensure that the total projected effects of the shocks on the CPI are very much greater than the initial effects.

In the case of shock (iv) there are no exogenous price increases but the increase in domestic absorption is projected to increase output, especially in industries producing non-traded goods and services. Because in the current simulation the capital stock in each industry is assumed fixed, the model implies upward sloping supply curves. Thus, the exogenous increase in absorption induces price increases. These increase the CPI. As with shocks (i) - (iii), the initial increase in the CPI is magnified in ORANI by a price-wage spiral.

We turn now to the aggregate employment results in table 1 and note first that the increase in real wages and the increase in oil prices both lead to approximately the same decrease in aggregate employment (i.e., about 0.5 per cent). General increases in domestic costs, unaccompanied by compensating shifts in the demand curves for domestic products, are projected to reduce activity, especially in the exporting and import competing sectors where the scope for passing on cost increases into selling

How well does (32) describe the ORANI results for the CPI in table 1? If we set $t_a = t_m = 10.6$, with $p_o = 0, a = 0$ and $w = 0$, then according to (32), $\xi = 0.98$. If we set $w = 0.5$, with all the other variables on the RHS of (32) set at zero, then $\xi = 1.02$. If we set $p_o = 26$, then $\xi = 1.12$. Thus, (32) is a reasonably accurate description of the ORANI CPI results in simulations (i) - (iii). However, when we set $a = 0.45$, we obtain $\xi = 0.56$. For describing simulation (iv), it is apparent that (32) is inadequate.

On re-examining (25), we see that the value of the coefficient on $a$ is approximately proportional to the value adopted for the ratio $s^h_{k} / (a^h v^n_{L})$. Because this ratio enters $\psi_1$ (see equation (24)), the coefficients on the other variables are also affected by the value of $s^h_{k} / (a^h v^n_{L})$. However, it is clear that changes in the value of $s^h_{k} / (a^h v^n_{L})$ will have a greater impact on the $a$ coefficient than on the others. This suggests that the poor performance of (32) in describing the CPI result for ORANI simulation (iv) could be associated with a mis-evaluation of $s^h_{k} / (a^h v^n_{L})$.

The values for $s^h_{k}$ and $v^n_{L}$ in table 2 are aggregate shares for the non-export sector taken from the ORANI data base. If we consider the $s^h_{k}$ and $v^n_{L}$ shares for individual industries, we find a strong negative correlation. Industries with high shares of their costs accounted for by capital tend to have a low
The effects of cost increases are projected to be less severe in the export sector since the foreign exchange rate is fixed. The exchange rate is determined by the demand for domestic goods and services from foreign buyers. The negative impact on the export sector is offset by the increase in the price of imported goods. In addition, the increase in domestic demand stimulates economic growth, which offsets the decrease in the real exchange rate. Therefore, an export substitution effect is observed. The nominal exchange rate is fixed, so the real exchange rate remains constant. If the terms of trade improve, the real exchange rate will decrease, and if they deteriorate, it will increase. When the terms of trade are favorable, the real exchange rate is lower, and if they are unfavorable, it is higher. The fixed nominal exchange rate ensures that the real exchange rate remains stable.
employment. According to ORANI, most of the demand expansion is accommodated by a deterioration in the balance of trade.

The results shown in table 1 for the agricultural sector reflect the fact that about 70 per cent of agricultural output is commodities which are exportable either directly or after only minor processing in the manufacturing sector. In all simulations export-related activity in the sector is projected to decline with the deterioration in the real exchange rate. In simulations (i) and (iv), the sector gains some compensation through expansions in its non-export-related activities (e.g., the production of tobacco, vegetables and cotton). These activities benefit from expansions in the import-competing sector (simulation (i)) and the non-trading sector (simulation (iv)). Thus, the deterioration in the real exchange rate is associated with less severe effects on agricultural income and employment in simulations (i) and (iv) than in simulations (ii) and (iii).

A final point about the results in table 1 is that the agricultural employment projections refer to changes in the demand for labour input, including both hired and owner-operators' labour. ORANI has nothing to say about how such changes will be apportioned between the two labour categories. In the short run it might be reasonable to assume that hired labour would bear the brunt of the changes. Using industries' shares of hired and owner-operators' labour derived from the ORANI data base, this assumption implies the following percentage changes in hired labour for our four simulations: -5.05, -7.09, -7.37 and -4.87.

that is,

\[ q^n = \left( \frac{\nu_S}{\sigma_v^m} \right) a + \left( \frac{\nu_S}{\sigma_v^m} \right) p^n + \left( \frac{\nu_S}{\sigma_v^m} \right) p^n \]
\[ + \left( \frac{\nu_S^2}{\sigma_v^m} \right) \left( \frac{\nu_S}{\sigma_v^m} \right)^2 + \left( 1 - \nu_S \right) \left( \frac{\nu_S}{\sigma_v^m} \right)^2 + \omega + \xi \]  

(22)

We use (22) in (15) to eliminate \( q^n \). This gives:

\[ p^n = \psi_1 \left( W_m + (\psi_1 W_n \frac{\nu_S}{\sigma_v^m}) \right) \]
\[ + \left( \frac{\nu_S^2}{\sigma_v^m} \right) \psi_2 \left( \frac{\nu_S}{\sigma_v^m} \right)^2 + \left( 1 - \nu_S \right) \left( \frac{\nu_S}{\sigma_v^m} \right)^2 \]
\[ + \left( \frac{\nu_S}{\sigma_v^m} \right)^2 \left( \frac{\nu_S}{\sigma_v^m} \right)^2 \]
\[ + \frac{1}{\psi_2 \left( \frac{\nu_S}{\sigma_v^m} \right)^2} \]
\[ \psi_2 = 1 \left( \psi_1 W_n \frac{\nu_S}{\sigma_v^m} \right) \]

(24)

Now we derive an expression for \( \xi \) by substituting into (19):

\[ \xi = \psi_2 \left( W_m + (\psi_1 W_n \frac{\nu_S}{\sigma_v^m}) \right) \]
\[ + \psi_2 \left( \frac{\nu_S}{\sigma_v^m} \right) \psi_2 \left( \frac{\nu_S}{\sigma_v^m} \right)^2 + \left( 1 - \nu_S \right) \left( \frac{\nu_S}{\sigma_v^m} \right)^2 \]
\[ + \psi_2 \left( \frac{\nu_S}{\sigma_v^m} \right) \psi_2 \left( \frac{\nu_S}{\sigma_v^m} \right)^2 \]
\[ + \psi_2 \left( \frac{\nu_S}{\sigma_v^m} \right) \psi_2 \left( \frac{\nu_S}{\sigma_v^m} \right)^2 \]
\[ + \psi_2 \left( \frac{\nu_S}{\sigma_v^m} \right) \psi_2 \left( \frac{\nu_S}{\sigma_v^m} \right)^2 \]

(25)

where

\[ \psi_2 = 1 \left( 1 - \psi_1 W_n \frac{\nu_S}{\sigma_v^m} \right) \]

(26)

On evaluating the coefficients in (25) using the data in table 2, we find that:

\[ \xi = 0.199p_m^c + 0.341p_m^h + 0.046p_o^h + 0.413p_o^e + 1.326 \]
\[ + 1.965 + 0.053x^e \]

(27)
(2) \[ (3 - n - b)^2 a = a^2 \]

(1) \[ 2 \, \frac{1}{a} + b \, \frac{d}{a} + (3 + n)^2 b = a^2 \]

By the equation in the equation section (a)

The derivative activity in the equation section (a) is

...continued in equation section (b). And the other product as well.

Note: In our model, we included two sections, one

...continued in equation section (c). And the other product as well.

The derivative activity in the equation section (a) is

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...continued in equation section (b). And the other product as well.
\[ x^e = V_L^e \ell^e \]  
(3)

and

\[ e^e = V_L^e (e^e + w) + V_k^e (q^e - \xi) \]  
(4)

The variables are:

- \(p^e\), the percentage change in the domestic price of the exportable product;
- \(w\), the percentage change in the real wage rate;
- \(\xi\), the percentage change in the consumer price index;
- \(q^e\), the percentage change in the nominal rental value (or profit) per unit of capital in the exporting sector;
- \(\ell^e\), the percentage change in employment in the exporting sector;
- \(x^e\), the percentage change in the volume of output; and
- \(e^e\), the percentage change in real primary factor income in the sector.

The parameters are:

- \(S_L^e\), \(S_k^e\) and \(S_1^e\) are the shares of the costs of production in the export sector represented by payments to labour, rentals on capital and purchases of other inputs;
- \(V_L^e\) and \(V_k^e\) are the shares of labour and capital in value added, and
- \(e^e\), the elasticity of substitution between capital and labour.

\(S_L^e\), \(S_k^e\) and \(S_1^e\) sum to unity as do \(V_L^e\) and \(V_k^e\):

\[ V_L^e = \frac{S_L^e}{1 - S_1^e} \quad \text{and} \quad V_k^e = \frac{S_k^e}{1 - S_1^e} \]

\(S_1^e\), \(S_1^m\) and \(S_1^n\) are the shares of costs in sector \(n\) accounted for by inputs of oil, inputs of the exportable commodity and imports. \(p_0^n\) and \(p_1^n\) are the percentage changes in the domestic prices of oil and imported inputs. As before, \(p^e\) is the percentage change in the domestic price of the exportable. \(S_1^n\) is the share of miscellaneous costs, e.g., the costs of holding working capital.

We assume that miscellaneous costs per unit of output move with the consumer price index. The cost shares \(S_1^n, S_1^c, S_1^e\), \(c^n\), \(c^c\) and \(c^e\) and \(S_1^n\) sum to one. In (15) we have netted out sector \(n\)’s intermediate usage of its own output.

Next, we define percentage changes in the CPI by:

\[ \xi = \frac{\xi_n}{W_n} \frac{p^n}{P^n} + \frac{\xi_m}{W_m} \frac{p^c}{P^c} + \frac{\xi_o}{W_o} \frac{P_o}{P_m} + \frac{\xi_e}{W_e} \frac{P_e}{P_m} \]  
(19)

where \(W_n, W_m, W_o\) and \(W_e\) are the weights in the CPI of non-exportable commodities, imports, oil and exportables. \(p^c\) is the percentage change in the domestic price of imported consumer goods. It may differ from \(p_1^n\).

Finally, we introduce a demand function for non-exportables. (No explicit demand function is required for the exportables since we will be assuming that \(p^e\) is given exogenously by world-market conditions.) We assume that the demand for non-exportables is described by:

\[ x^n = a x^e + (1-a) x^n - n_1 (p^n - (C_m P_m + C_m P_m)^e) \]  
(20)

where \(a\) is the percentage change in real domestic absorption (consumption plus investment plus government spending), \(C_m\) is the share of total imports absorbed as inputs to production.

1. Note in table 2 that the average tariff rate on imported consumer goods exceeds that for imports used as intermediate inputs.
The following are the payroll of capital in the export sector, assuming that the export sector is also in the fraction of the capital stock, the capital stock in the export sector, and the capital stock in the export sector is also in the fraction of the capital stock. Where \( p, e, m, H \), and \( \omega \) are the levels of product. Factor (3) is also in the fraction of the capital stock. The capital stock in the export sector is also in the fraction of the capital stock. Which is that the export sector is also in the fraction of the capital stock. Where \( p, e, m, H \), and \( \omega \) are the levels of product. Factor (3) is also in the fraction of the capital stock. The capital stock in the export sector is also in the fraction of the capital stock. Which is that the export sector is also in the fraction of the capital stock. Where \( p, e, m, H \), and \( \omega \) are the levels of product. Factor (3) is also in the fraction of the capital stock. The capital stock in the export sector is also in the fraction of the capital stock. Which is that the export sector is also in the fraction of the capital stock. Where \( p, e, m, H \), and \( \omega \) are the levels of product.
\[ \ell^o = \sigma^o \left( \frac{1}{s^o_k} \right) \left( p^o - \xi \right) - \sigma^o \left( \frac{s^o_k}{s^o} \right) \frac{w}{s^o} \],

(8)

and

\[ x^o = \sigma^o \left( v^o_{\ell} / s^o_k \right) \left( p^o - \xi \right) - \sigma^o \left( v^o_{\ell} / s^o_k \right) \left( s^o_k / s^o \right) w \]

(9)

\[ \tau^o = \left( \sigma^o v^o_{\ell} / s^o_k \right) \left( p^o - \xi \right) - \left( \sigma^o v^o_{\ell} / s^o_k \right) \left( s^o_k / s^o \right) - v^o_{\ell} \left( 1 - \sigma^o \right) w \].

(10)

Using the export-sector data in Table 2, which are typical of those employed for the export-oriented industries in the ORANI model, we find that (7) - (10) imply that:

\[ q^o = 4.17p^o - 3.17\xi - 1.54w \],

(11)

\[ \ell^o = 2.08p^o - 2.08\xi - 1.27w \],

(12)

\[ x^o = 1.27p^o - 1.27\xi - 0.78w \]

and

\[ \tau^o = 2.90p^o - 2.90\xi - 0.77w \].

(13)

(14)

For the sector producing the non-exported commodity (sector n), we adopt equations analogous to (1) - (4):

\[ p^n = s^n_{\ell}(w + \xi) + s^n_{k} q^n + s^n_{o} p^n + c^n_{o} p^n + s^n_{m} q^n \]

\[ + s^n_{n} q^n + s^n_{1} \xi \],

(15)

\[ \ell^n = c^n_{h}(q^n - w - \xi) \]

(16)

\[ x^n = v^n_{\ell} \ell^n \]

(17)

and

\[ \tau^n = v^n_{\ell}(\ell^n + w) + v^n_{k}(q^n - \xi) \].

(18)

Only (15) needs further explanation. Compared with (1), (15) provides a more detailed breakdown of other inputs.

---

### Table 2: Parameter values for the BOTE model(a)

<table>
<thead>
<tr>
<th>Sector</th>
<th>Export Sector</th>
<th>Non-export Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labour share in primary factor costs:</td>
<td>( V_{\ell}^o = .61 ),</td>
<td>( V_{\ell}^n = .740 )</td>
</tr>
<tr>
<td>Capital share in primary factor costs:</td>
<td>( V_k^o = .39 ),</td>
<td>( V_k^n = .260 )</td>
</tr>
<tr>
<td>Labour share in total costs:</td>
<td>( S_{\ell}^o = .37 ),</td>
<td>( S_{\ell}^n = .526 )</td>
</tr>
<tr>
<td>Capital share in total costs:</td>
<td>( S_k^o = .24 ),</td>
<td>( S_k^n = .185 )</td>
</tr>
<tr>
<td>Other input share in total costs:</td>
<td>( S_1^o = .39 ),</td>
<td></td>
</tr>
<tr>
<td>Oil share in total costs:</td>
<td>( S_o^o = .006(b) ),</td>
<td>( S_o^n = .078 )</td>
</tr>
<tr>
<td>Share of the exportable in total costs:</td>
<td>( S_e^o = .086 ),</td>
<td>( S_e^n = .119 )</td>
</tr>
<tr>
<td>Imported input share in total costs:</td>
<td>( S_m^o = .086 ),</td>
<td></td>
</tr>
<tr>
<td>Miscellaneous input share in total costs:</td>
<td>( S_m^n = .119 ),</td>
<td></td>
</tr>
<tr>
<td>Capital/labour substitution elasticity:</td>
<td>( \sigma^o = .50 ),</td>
<td>( \sigma^n = .50(\text{initially}) )</td>
</tr>
<tr>
<td>Demand function parameters</td>
<td>( a_1 = .96 ),</td>
<td>( a_2 = .10 )</td>
</tr>
</tbody>
</table>

### 2. Weights in the CPI(d)

<table>
<thead>
<tr>
<th>Good</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-export good :</td>
<td>( W_n = .881 )</td>
</tr>
<tr>
<td>Imports :</td>
<td>( W_m = .050 )</td>
</tr>
<tr>
<td>Export good :</td>
<td>( W_e = .060 )</td>
</tr>
<tr>
<td>Oil :</td>
<td>( W_o = .009 )</td>
</tr>
</tbody>
</table>

### 3. Shares in aggregate imports

<table>
<thead>
<tr>
<th>Source</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry usage :</td>
<td>( Q_m^o = .75 )</td>
</tr>
<tr>
<td>Consumption :</td>
<td>( Q_m^c = .25 )</td>
</tr>
</tbody>
</table>

### 4. Tariff rates(e)

<table>
<thead>
<tr>
<th>Tariff Input</th>
<th>Tariff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry inputs :</td>
<td>( T_m = 0.19 )</td>
</tr>
<tr>
<td>Consumer goods :</td>
<td>( T_m^c = 0.28 )</td>
</tr>
</tbody>
</table>

(a) The parameter values were selected with reference to the ORANI data base.
The original ORANI data base is described in detail in DPEY, ch.4.