the Commonwealth Government, of the...ment, and not necessarily reflects the opinions of the authors, who...The views expressed in this paper do not necessarily reflect the views of the authors, who...
Page 3

Table 1: Initial Preferences under Neo-Keynesian Assumptions
Table 2: Initial Preferences under Neo-classical Assumptions
Table 3: Initial Preferences for a Free Lunch

References

Footnotes

5. Planarian worms
4. Monopoly implications
3. Interest tax cuts
2. Real wage demands after employment
1. Neo-Keynesian assumptions

1. The effects of income on aspiration
1. The effects of real wage reductions
1. Introduction
Introduction

A tax-wage bargain and the demand-supply balance

Figure 1

The short section of the wage bargain in the period of inflation is at the same time a demand-supply bargain. It exists and is the equal of the principles of "international" macro-economic policy.
The purpose of this paper is to examine the proposal with some care and to show in what circumstances it would be feasible. It is exploratory and we hope it will provide the basis for further theoretical and empirical work. The aim is to put the discussion of this and similar proposals on a more rigorous basis by bringing the implied assumptions and the nature of the empirical support required into the open. We would put more emphasis on the method of analysis used than on the precise answers obtained. The advocates of this proposal have not always been particularly clear, so that a number of possible models could underlie such a proposal. We have chosen one model - the neo-classical one - as the basis for our main analysis, but alternative models are outlined briefly in section V. The empirical basis for our work rests on macro-economic data for 1978-79 and on results obtained from the ORANI model of the IMPACT project.

A fundamental assumption is that a wage-tax bargain is successfully struck. We shall suppose that income tax rates are reduced and that the Arbitration Commission with the support of the trade unions adjusts nominal wages appropriately so as to maintain average real post-tax wages at the levels they would have reached in the absence of the tax cuts. The key requirement is that the bargain is struck and is adhered to by the unions even when unemployment is substantially reduced as a result of the associated demand expansion. We do not concern ourselves with the industrial relations issue as to whether such an assumption is justified. Critics of the proposal might dismiss it at this very first stage. They might query the ability of trade union leaders and the Arbitration Commission to

<table>
<thead>
<tr>
<th>Effect on</th>
<th>(1) a 1% increase in real private absorption</th>
<th>(2) a 1% reduction in the cost of a unit of labour</th>
</tr>
</thead>
<tbody>
<tr>
<td>demand for labour in hours</td>
<td>0.42%</td>
<td>0.27%</td>
</tr>
<tr>
<td>the balance of trade (100 ΔRT/GDP)</td>
<td>-0.13%</td>
<td>0.23%</td>
</tr>
</tbody>
</table>

(a) These numbers were derived from Table 3.4 in Dixon et al. (1979) and some subsequent computations. Table 3.4 shows the effects, under neo-Keynesian assumptions, of a one per cent reduction in real wage costs and a one per cent expansion in all real absorption. We have subsequently computed the effects of an expansion in real private consumption alone, and these effects are shown in column 1 of the table above.

(b) The change in the balance of trade is expressed as a percentage of GDP.
be restricted in terms of indirect rather than direct costs, but the basic principles of a mixed economy could be much less detrimental to a mixed economy point. In any case, it would be much less desirable from a political-economic point of view if, rather than having indirect costs not be possible, there is an adequate indirect tax cost. The main concern is, the precision of indirect tax costs in section 7. The present tax is being reduced, without any specific information package. The present survey, being the only survey, recommends for wage determinations to be related to the cost of living. 

While the use of a particular dataset may have an "information package" accepted by the unitation of realisation. 

The executive recommendation to resist cost-of-living increases through a more-dramatic cost-of-living than income tax rates, should be cut. The indirect tax rates, rather than income tax rates, should be cut. The present is its nature to be not, that is not. 

Influenza. Seconding, the proposal might be - and often is - that a rate of inflation in the executive recommendation to resist cost-of-living increases through a more-dramatic cost-of-living increases than income 

real rates. But there is no executive recommendation any more rates. Might be true that - can with what any formal basis. Might be the executive recommendation to resist cost-of-living increases through a more-dramatic cost-of-living rates, or might be the executive recommendation to resist cost-of-living increases through a more-dramatic cost-of-living rates. 

Table 2 shows the effects, under no-classical assumptions, of a new cost of living or a real cost of living in real terms. The numbers were extracted from Table 2.1 in Daxion.

<table>
<thead>
<tr>
<th>100 ATT/GDP</th>
<th>the change in the balance of trade</th>
<th>the change in the balance of trade</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0%</td>
<td>0.4%</td>
<td>-0.4%</td>
</tr>
</tbody>
</table>

Effect on

<table>
<thead>
<tr>
<th>Demand for imports</th>
<th>Consumption at the cost of</th>
<th>a unit of importation</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2%</td>
<td>0.2%</td>
<td>0.4%</td>
</tr>
</tbody>
</table>

Note: Classical assumptions 

(a)
II The Basic Theory

The simple framework of the ideas of this paper can be expounded in terms of a model represented by Figure 1. It should be noted that it is an equilibrium model - in particular trade unions actually get the post-tax real wages they expect and the product market is always in equilibrium, with firms on their supply curves. Furthermore, it is concerned with the real economy and not with nominal magnitudes. Something will be said about the monetarist implications of the policy proposal in section V, but these are not central to the main arguments. The most important single assumption is that the balance of payments on current account remains unchanged as a result of the tax-wage bargain and its consequences. In real terms this means that finally, after appropriate adjustments, real absorption expands in line with real output. As the model is neo-classical there is, of course, a negative relationship between the pre-tax real wage and both employment and output. Underlying productivity, represented by the positions of the curves, is determined exogenously and is held constant here.

In Figure 1 the real wage rate is shown on the vertical axis. $W_1$ is the fixed post-tax real wage (the wage as income), $W_2$ is the initial pre-tax real wage (wage as cost) while $W_2$ is the pre-tax real wage after the tax rates have been cut. For each level of employment $N$, the $Z_2$ curve in the left-hand panel shows the real wage (as a cost) at which employers will be willing to employ $N$, given that product demand is sufficient to absorb the resulting output. If competitive conditions are assumed, $Z_2$ traces out the marginal product of labour at various employment levels. The available labour supply at the given post-tax real wage $W_1$ is assumed to be greater than $W_2$. The output-wage curve implied by $Z_2$ is shown.

<table>
<thead>
<tr>
<th>Table 1: Savings Requirements for a Free Lunch</th>
</tr>
</thead>
<tbody>
<tr>
<td>------</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>7</td>
</tr>
<tr>
<td>8</td>
</tr>
<tr>
<td>9</td>
</tr>
<tr>
<td>10</td>
</tr>
<tr>
<td>11</td>
</tr>
<tr>
<td>12</td>
</tr>
<tr>
<td>13</td>
</tr>
<tr>
<td>14</td>
</tr>
<tr>
<td>15</td>
</tr>
<tr>
<td>16</td>
</tr>
<tr>
<td>17</td>
</tr>
<tr>
<td>18</td>
</tr>
<tr>
<td>19</td>
</tr>
<tr>
<td>20</td>
</tr>
<tr>
<td>21</td>
</tr>
<tr>
<td>22</td>
</tr>
<tr>
<td>23</td>
</tr>
<tr>
<td>24</td>
</tr>
<tr>
<td>25</td>
</tr>
<tr>
<td>26</td>
</tr>
<tr>
<td>27</td>
</tr>
<tr>
<td>28</td>
</tr>
</tbody>
</table>

(a) These numbers were derived from various Commonwealth Government publications including Quarterly Estimates of National Income and Expenditure, Australian National Accounts, and Budget Speeches, 1979/81. Details are available from the authors.
below. As before, if there is not a "free lunch," there can be said that there is a "free lunch," but if there is no such an intervention in the capital market as to change the equilibrium...
possibility. A tax-wage bargain can increase output and employment while maintaining product market equilibrium without any deterioration in the current account, and without either a fall in real government expenditure or in investment. There may, of course, be a case for a tax-wage bargain that increases employment even if it also involves a deterioration in the current account, a fall in private investment, or a fall in government expenditure, but then these adverse effects have to be taken into account. Here we limit ourselves to the pure "free lunch" case. Without further refinement, our model would not be a suitable framework for analysing a tax-wage bargain involving a trade-off of future welfare against current welfare or of government expenditure against employment.

The tax cut will worsen the fiscal balance. While the expansion of output will expand the tax base and reduce unemployment benefits, so that the net loss to the revenue will not be as great as would result from a tax cut with constant output, it can be readily shown that (subject to a most plausible assumption) finally, the increase in taxes owing to the higher tax base and the saving of unemployment benefits cannot be as great as the initial loss in revenue. The assumption is that the private marginal propensity to save is positive. Given no change in the current account balance, the increase in private savings (with investment constant) must be equal to the increase in public disavings. For any given tax cut, the greater the marginal propensity to save, the greater the resultant fiscal imbalance, the loss the increase in aggregate demand, and hence the greater the likelihood that the tax cut will not bring about an excess demand situation and stimulate inflation. In Figure 1, the greater the marginal propensity to save, the steeper the II' curve below A and hence the lower the point of intersection with XX'. As drawn the marginal propensity to save needs to increase (hence shifting
II. The Numerical Value of the New Population

III. The Numerical Value of the New Population

Supply decreased. Let's. If it is to cut X% at B,
the price which made X% to K/p is not to upset the demand.
The II curve is the particle part that leads to the fall in
...
or does so above B (as drawn). A 5 per cent increase in employment would thus require an increased balance of payments deficit, a fall in investment or a fall in government expenditure.

The story begins with the results of the ORANI model, the details of which are set out in the next section. The assumptions are neo-classical. It tells us that a 5 per cent increase in labour demand, with no change in the balance of payments on current account, can be achieved through a 5.37 per cent increase in real private consumption holding all other absorption fixed, combined with a 7.66 per cent reduction in the cost of employing a unit of labour. In Figure 1, starting at A and C ORANI defines the points B and E.6

We start off in line 19 with the change in private consumption, which ORANI tells us needs to increase by 5.37 per cent, i.e. to 65.42.7 Holding all other absorption and the balance of trade deficit constant, we obtain (Line 23) the new level of GDP, 104.96 (also filled in in lines 15 and 18). ORANI also tells us that when labour demand is increased by 5 per cent the cost of employing a unit of labour has to fall by 7.66 per cent. Thus the new level for the total cost of employing labour is 55.69 (Line 8). Total non-wage income (Line 14) is GDP minus the cost of employing labour, and becomes thus 49.27. Disposable wage income (Line 4) has to increase by 5 per cent, to 47.75, since employment has increased by 5 per cent while disposable wage income per unit of labour employed (the post-tax real wage) is constant.

We now come to the tax side. By subtracting line 4 from line 8 we find that the new level for taxes on employing labour is

19. Under competitive assumptions and constant returns to scale, we know that the percentage change in output is a weighted average of the percentage change in primary factor inputs where the weights are factor shares in total primary factor costs. Equation (2) reflects the assumption that labour is the only variable factor.

20. Some arithmetic might make the point more clearly. Assume that

\[ \xi = 1/2 \, \xi_{NT} + 1/4 \, \xi_{N} + 1/4 \, \xi_{E} \]

and

\[ \xi_{g} = 2/5 \, \xi_{NT} + 1/3 \, \xi_{E} \]

where \( \xi \) is the percentage change in the consumer price index, \( \xi_{NT} \) is the percentage change in the price of non-traded commodities, \( \xi_{N} \) and \( \xi_{E} \) are the percentage changes in the prices of importables and exportables and \( \xi_{g} \) is the percentage change in an index of local product prices -- e.g. a GDP deflator. Assume that under a demand increase, \( \xi_{NT} = 5 \) (say) whereas \( \xi_{N} \) and \( \xi_{E} \) are both zero. Then if \( w = \xi \), we see that \( \xi_{g} > w \), (\( \xi_{g} = 3.33 \) whereas \( w = 2.5 \)). That is, real wages are fixed but an appropriate average of the prices of domestically produced goods rises relative to wages.

21. The initial level of absorption is approximately equal to the initial level of GDP.

22. At a constant average tax rate, P.A.Y.E. revenue would rise 5 per cent from 10.40 to 10.92 (Line 5 in Table 1). Payroll revenue of 1.56 (Line 6) would disappear, and finally taxes on employing labour must come to 7.94 (Line 7). Hence the average rate of P.A.Y.E. tax must fall by 2.98/10.92 = 27.3 per cent.

we find that a 5 per cent increase in export demand generates the

passenger revenue boraders. Thus, (a) is true of the model.

where we now turn to the question of the actualization of the

assumption that, to (c) to (f), 10 per cent of increased

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have

assumption of the model. We do not have
9. The rate of tax on capitalist income was unusually low in 1978/79 because of a sharp acceleration in the growth in capitalist income in that year. Taxes on capitalist income, especially company taxes, tend to be lagged, so that in a year of accelerating income growth, taxes as a proportion of current income will fall. The rate of tax on capitalist income was 20.17 per cent in 1977/78, 21.00 in 1976/77 and 21.74 per cent in 1975/76. Capitalist income grew by 8.7 per cent from 1976/77 to 1977/78 and then by 18.8 per cent from 1977/78 to 1978/79. Average tax rates of around 20 per cent may seem low in relation to company tax rates of 40 to 50 per cent. However, they are calculated on gross (i.e. before depreciation) capitalist income whereas rates of 40 to 50 per cent are calculated on net company income.

10. Okun found that a 2.10 per cent increase in labour input (in a situation of 5 per cent unemployment) would be provided as follows: jobs for the unemployed 1.05; lengthened work week 0.40; increased labourforce participation 0.65. We are indebted to Sheila Bonnell for suggesting the Okun paper.

11. The Labour Force Survey (see Treasury Round-Up of Economic Statistics) gives the average (over the 12 months of 1978/79) number of unemployed persons as 406,170. According to Budget Speech 1979/80, Statement no. 3, the average number of people receiving benefits was 310,702.

12. $910 million divided by 310,702 recipients.

13. For an excellent survey of recent empirical work on the Australian savings function, see Williams (1979). Unfortunately, there seem to be no estimates distinguishing marginal propensities to save out of wage income and non-wage income. Because the wage-tax
In the section on Table 1, we noted that in the calculations were

trade. In terms of Figure 1, we note that the calculations were
done for a period of 5 years. In this case, the balance of the
consumption (other than consumption by the LDCs) would increase the
increase in the total price level.

In the section on Table 1, we noted that a unit of
import source's import price in the model based on the
import penetration formula is the same as the import price in the
model.

In the section on Table 1, we noted that the total cost from the
import penetration formula is the

In the section on Table 1, we noted that the total cost from the
import penetration formula is the

In the section on Table 1, we noted that the total cost from the
import penetration formula is the

In the section on Table 1, we noted that the total cost from the
import penetration formula is the

In the section on Table 1, we noted that the total cost from the
import penetration formula is the
to provide estimates of the elasticities of the \( ZZ' \) and \( XX' \) schedules. We now explain the features of ORANI in 'neo-classical mode' which are responsible for these estimates. It has to be stressed that they are only estimates, and the results hinge on the particular assumptions made. Alternative figures - for example for elasticities of substitution between capital and labour - could be fed into the ORANI model. ORANI only compares equilibria and nothing is said here about the timing of movements between equilibria. Perhaps the sorts of effects discussed in this paper might appear after one or two years. We have also used ORANI to make some estimates on neo-Keynesian assumptions. These are briefly set out, and the results presented, in the next section. Henceforth, in this section, all references are to the neo-classical case.

ORANI gives the results shown in Table 2. Column 1 shows the effects of a 1 per cent increase in real private consumption holding constant investment, government absorption and the pre-tax real wage. Column 2 shows the effects of a 1 per cent reduction in the pre-tax real wage, holding constant real absorption. We can use the figures in Table 2 to build up an estimate of the elasticity of \( ZZ' \) (Figure 1) by thinking of movements along \( ZZ' \) as being in two parts: (a) the effect on the demand for labour of a reduction in the pre-tax real wage rate, holding real absorption fixed but assuming that additional output can either replace imports or be exported, and (b) the effect on the demand for labour of the change in real private consumption required to eliminate the balance of trade surplus resulting from (a).

---

Footnotes

* We are greatly indebted to Sheila Bonnell, John Sutton and Tony Lawson for comments and assistance.

1. The proposal has been made by the Melbourne Institute of Applied Economic and Social Research in many issues of the *Australian Economic Review*, for example the issue of the 2nd Quarter 1978, pp. 14-16. The fullest statement of the Institute view is in Ironmonger (1978). See also Sheehan, Derody and Rosendale (1979). The ideas are also advocated in various writings of J.O.N. Perkins, including Perkins (1979), and earlier in Whitehead (1977). The Institute has usually advocated *indirect* tax cuts and has sometimes argued not explicitly on the basis of a negative relationship between real wages and employment but rather on the basis of the anti-inflationary effects of the tax cuts. The formal model presented here is probably fairly close to the implicit Institute model, especially as put in Ironmonger (1978).

2. There is some empirical support for this in Britain. See Henry, Sawyer and Smith (1976) and Henry and Ormerod (1978).

3. This section is based on Corden (1980) where the theory and various implications of the model are explored more fully, especially with emphasis on monetary implications and on the adverse effects of a bond-financed deficit for later periods. A model which allows for the effects of taxation on wage demands and incorporates the neo-classical negative relationship between pre-tax real wages and employment can also be found in Argy and Salop (1979).
come from.

One task now is to explain where the figures in Table 2

come over the range from 1 to 0.47.

the percentage of trade is to stay constant, the elasticity of the XX

e is 3.5 for the first 6 percent increase in total real absorption (see Figure 6).

With the 7.6 for the next 5 percent increase in the pre-tax real wage earning

income in the labor market, the reduction in the elasticity for XX of 0.65.

In the pre-tax real wage earning this led to a 2 percent, 0.08,

movement along Z2 (Figure 1) from C to E. A 7.6 percent, 0.65, percent increase in

compliance (I.E., 0.30 x 5.37). The two changes together represent a

cost, a 39.6 percent increase that is a 1.08 percent increase in

the balance of trade, or 0.08 percent a 0.48 percent. Exactly calculating

representing 39.6 percent, or 0.48 percent, 0.48 percent.

As the effect on the balance of trade is a movement towards deficit

compliance, if we increase trade elasticity constant by 0.65, percent,

we increase trade elasticity constant by 0.65, percent.

According to the balance of trade surplus, the balance of trade surplus,

is 2.7 percent of GDP (1.6, 0.30 x 7.66). Now imagine that we

in an countries is again the increase in the balance of trade surplus.

According to the balance of trade surplus, the balance of trade surplus,

is 2.7 percent of GDP (1.6, 0.30 x 7.66). Now imagine that we

in an countries is again the increase in the balance of trade surplus.

According to the balance of trade surplus, the balance of trade surplus,

is 2.7 percent of GDP (1.6, 0.30 x 7.66). Now imagine that we

in an countries is again the increase in the balance of trade surplus.

According to the balance of trade surplus, the balance of trade surplus,

is 2.7 percent of GDP (1.6, 0.30 x 7.66). Now imagine that we

in an countries is again the increase in the balance of trade surplus.

According to the balance of trade surplus, the balance of trade surplus,

is 2.7 percent of GDP (1.6, 0.30 x 7.66). Now imagine that we

in an countries is again the increase in the balance of trade surplus.

According to the balance of trade surplus, the balance of trade surplus,
(a) The effects of real wage reductions.

We assume that each industry i has a fixed capital stock. The industry chooses its labour input (which is combined with the capital stock via a neo-classical production function) to maximize short-run profits. Under the CES production functions employed by ORANI, the demand function for labour in industry i takes the form

\[ u_i = \frac{1}{\sigma_{iKL}} \left( \frac{p_i - w}{1 - S_w} \right) \]

where \( u_i \) is the percentage change in industry i's demand for labour, \( p_i \) and \( w \) are percentage changes in prices, \( S_w \) is the share of wages in total primary factor (labour and capital including agricultural land) costs in industry i and \( \sigma_{iKL} \) is the elasticity of substitution between capital and labour. The \( S_w \) have typical values of 0.6 in the ORANI data base and the \( \sigma_{iKL} \) were set at 0.5. As an initial approximation, equation (1) gives a value of 1.25 per cent (i.e. 0.5 x 2.5 x 1) for the change in employment in the average industry arising from a 1 per cent increase in prices relative to wages. However, in ORANI computations a reduction in real wages causes decreases in the output prices of labour intensive industries relative to those for capital intensive industries. Where industry i is labour intensive, \( (p_i - w) \) tends to be less than one, whereas for capital intensive industries it tends to be more than one. Thus there is a strong negative correlation over i between \( 1/(1 - S_w) \) and \( (p_i - w) \). Use of averages for these terms in (1) therefore overstates the average value for \( u_i \) which in fact turns out to be only 0.51.

interest will, on balance, tend to rise. If it rises more than is required to keep investment constant, open market operations which increase the money supply somewhat will be needed. In that case the tax-wage bargain would be associated with some monetary expansion, essentially to satisfy the increased demand for money resulting from the higher real incomes. In effect, the fiscal deficit could be partly money-financed and partly bond-financed.

5. Final Remarks

Is the proposal practical? Clearly taxes can always be cut. After a lag this is likely to lead to an increase in demand, though the econometric arts hardly allow us to forecast with any certainty how long the lags will be and precisely by how much demand will expand. Savings and investment behaviour have consistently surprised our forecasters. No doubt after a longer lag firms will respond with extra output, and they may find that this can be produced without inflationary effects because of the moderation of wage demands induced by the tax cuts - if this is successfully brought about. But there may well be an interval when an acceleration of inflation can only be avoided by allowing the balance of payments to go into deficit - i.e. by satisfying some of the extra demand out of foreign resources. Thus there are great uncertainties, both about the lags and about the equilibrium responses. While ORANI calculations yield plausible results it would be easy enough to argue with some of the assumptions. We have aimed to make the assumptions quite clear. The virtue of ORANI is that it provides a rigorous framework for analysing this subject.
increase than the index of prices of domestically produced commodities.\textsuperscript{20} In terms of equation (1), the average value for the \( p_L \)'s is higher than \( w \), despite the fact that wages are fixed in real terms. This is the principal explanation of why ORANI, in neo-classical mode, produces a Keynesian employment response to an increase in aggregate demand under conditions of fixed real wages. A reinforcing factor causing the increase in employment is the configuration of capital intensities across Australian industries. Industries producing non-traded goods and goods which are only weakly substitutable for imports are on average more labour intensive than industries producing traded goods, especially exports. Thus, with reference to equation (1), there is a positive correlation across \( i \) between the terms \( \phi_{KL}^1/(1 - S_{KL}^1) \) and \( (p_L - w) \). That is, where \( (p_L - w) \) is high (\( i = \) non-traded industry), \( \phi_{KL}^1/(1 - S_{KL}^1) \) is also high because \( S_{KL}^1 \) is high.

Finally we note that given an increase in employment of 0.20 per cent (see Table 2), we would expect an increase in GDP of about 0.12 per cent (i.e. 0.20 x .6, see equation (2)). The effect on the balance of trade of a 0.12 per cent increase in GDP combined with a 0.60 per cent increase in total absorption (private consumption in about 60 per cent of total absorption) is a deterioration equivalent to about 0.48 per cent of GDP (i.e. 0.60 - 0.12).\textsuperscript{21} This result corresponds closely with the actual ORANI result for the balance of trade shown in column 1 of Table 2.

There seems no way of avoiding income tax cuts if the general policy approach is to be followed. Total indirect tax revenue in 1978/79 was about $11 billion, of which about $4 billion came from State and local taxes which are clearly not available for any bargain. The main revenue items within this category are local government rates and taxes on the ownership and operation of motor vehicles. Of the $7 billion of Federal indirect tax revenue, only $1.8 billion consists of sales tax revenue, where the largest single source of revenue is the tax on motor vehicles and parts. The rest consists of the crude oil levy ($1.2 billion, but, of course, higher this year), tax on petroleum products (0.9 million), excise on beer, spirits, and tobacco ($1.7 billion), and customs duty revenue ($1.4 billion). Surely, there are some micro-economic and social considerations that make cuts in the various excise taxes undesirable, and, in fact, there may well be a case for increases. It is surprising that the advocates of indirect tax cuts have not explored this matter in more depth.

Finally, something should be said about payroll tax. If payroll tax were cut or eliminated it would not be necessary to have an explicit wage-tax bargain and, given the neo-classical assumption, employment should increase as a result. But payroll tax is a State tax. Its abolition would require the Commonwealth Government to replace the revenue. This is conceivable, but means that the States would be involved in any bargain, complicating the matter. It has to be stressed that even the complete elimination of payroll tax would not obviate the need for a tax-wage bargain involving income tax
capacity in industries producing import-competing and non-competitive goods. Domestic producers enjoy advantages of shorter-term experience with the intervention.

The export credits are not available for all the agricultural products. In this context, the tarrification reflects the cost of intervention and the cost of direct taxes. The impact on the domestic exports and the cost of direct taxes is substantial.

The total cost of the export intervention is that the more the cost of using indirect taxes as the policy instrument is that the more the direct costs can be reduced.

Some problems of the tax-wage bargain have proposed.

The tax-wage bargain is to be made. He should have no basis for it, the VBA (1969) is an innovation of the recommendation of the Committee on Taxation and the VBA's (1969) are not in the VBA's (1967)

For any permanent expansion would become pointless. In the face that there is a permanent expansion, only a small 20.

The agricultural industry

11.
commodities such that they can meet demand expansions without cost increases. However, given a non-zero marginal propensity to import, a demand increase would, in the first instance, cause the balance of trade to deteriorate. Restoration of balance of trade equilibrium would require a reduction in real wages to lower the prices of domestically produced goods relative to those of imports so that there would be an import-saving switch in demand. Thus, even with horizontal supply curves, expansions in employment and output with a constant balance of trade require both an increase in demand and a reduction in real wage costs.

We do not regard the specified assumptions (1) - (4) as realistic, other than possibly in the very short-run. The tax-wage bargain concerns a policy which is expected to yield effects after a lag and the appropriate model must be, at least, medium-run. Hence ORANI "in neo-Keynesian mode" does not seem the right model to use. Nevertheless, we have worked through this case, since others may regard the assumptions as more appealing.

The relevant ORANI results are shown in Table 3. It shows an elasticity of 0.27 for labour demand with respect to real wage reductions compared with the corresponding figure of 0.51 for the neo-classical case in Table 2. A 5 per cent increase in labour demand, with no change in the balance of trade, can be achieved through a 8.62 per cent increase in private consumption (holding all other absorption fixed) combined with a 4.94 per cent reduction in the pre-tax real wage rate. The net results are shown in column 3 of Table 1. Only a 5 per cent marginal propensity to hoard (save) is required to make the "free lunch" possible for this case. Thus it certainly seems possible, given the assumptions.

2. Real Wage Demands Rise with Employment

Some advocates of the tax-wage bargain do not believe that the evidence supports a neo-classical negative relationship between the pre-tax real wage and employment. Let us then assume that the pre-tax real wage does not change at all as employment expands ("Popular Keynesian" assumption). In that case a bargain designed to expand employment would simply require (a) an agreement by the trade unions to keep the pre-tax real wage constant provided tax rates do not rise, and (b) an agreement by the government to expand real demand. The latter could be achieved by increasing government expenditure, with no need for tax cuts. To make sense of a proposal for tax cuts in a case where the pre-tax real wage does not need to fall when employment expands it is necessary to assume, no doubt realistically, that post-tax real wage demands would inevitably rise as unemployment is reduced, and hence as output is raised. Tax cuts are then needed to reconcile a constant pre-tax real wage with a rising post-tax real wage. In this way one can construct an alternative model. It is represented in Figure 2.

The vertical axis shows, V, the post-tax real wage rate, and the horizontal axis, output, Y. Output is positively related to employment, and hence negatively to unemployment. The schedule VV' describes a reduced form relationship: as output rises, the post-tax real wage demanded rises. An upward movement along the vertical axis means a reduction in the tax rate, since the pre-tax real wage is