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Some Short-Run Implications
of Fightback: A General
Equilibrium Analysis

by

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General Paper No. G-101 July 1993

ISSN 1031 9034

ISBN 0 642 10289 9

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Abstract

We report ORANI projections of the short-run effects on the macroeconomy and the industrial structure of the main elements of the Fightback proposals, namely the proposed abolition of the wholesale sales tax, petroleum excise and the payroll tax, proposed cuts in income taxes and government outlays, and the proposed introduction of the goods and services tax. In making the projections, we assume (with Fightback) that nominal wage rates are unaffected. We also assume that private domestic aggregate demand moves in line with changes in disposable income.

These fiscal changes fall into two main groups — changes in indirect taxes which affect relative prices directly, and changes to income tax rates and government outlays which have their direct impacts on the level and commodity composition of domestic demand.

Analysis of the second group is relatively straightforward. Cuts in income taxes increase private-sector demand, crowding out exports but generating a net increase in output and employment. Cuts in government outlays reduce public and private demand, allowing exports to expand but generating a net contraction of output and employment. Because public demand is concentrated on labour-intensive commodities, the contractionary employment effect of cuts in outlays is greater, per dollar of change, than is the expansionary effect of the income tax cuts.

Differences in the macroeconomic effects of the indirect-tax components of the package depend on:

- differences between the taxes in the effects of imposing a dollar's worth of tax on any given industry;
- differences in the industrial incidences of the taxes; and
- differences in the sizes of the tax changes.

The payroll tax affects the cost of employing labour directly. It therefore has a greater effect in any given industry on employment per dollar of tax change than does the wholesale sales tax, the petroleum excise or the goods and services tax.

The GST does not discriminate between imports and domestic commodities and affects exports in only a minor indirect way. Hence, its impact on cost-sensitive industries exposed to international competition is smaller than the impacts of the other taxes, especially the payroll tax. Hence, the implications of the GST for output and employment are relatively small.

Our translation of proposals from the Fightback document into shocks for our model is not without some difficulties. The appropriate size of the income tax cuts is one especially controversial issue. We present sufficient information in the paper to allow the reader to perform some sensitivity analysis. For example, to see the effects of assuming that income tax cuts are worth \$10billion rather than the \$13billion which we impose, the income tax columns in our tables should be scaled down by a factor of 10/13.

Substitution of the goods and services tax for the wholesale sales tax, petroleum excise and the payroll tax is a major feature of the Fightback package. Because employment is less sensitive to the cost effects of the goods and services tax than it is to those of the taxes which are replaced, our major conclusion is that the package would generate increases in employment and GDP in the short run.

However, our projections also imply that, without adjustments to nominal wage rates, the package would lead to a reduction in the real value of the take-home wage rate. When nominal wage rates are adjusted to maintain the real value of disposable income per unit of employment, the expansionary effects of the package on employment and the GDP are substantially reduced, but not entirely eliminated.

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SOME SHORT-RUN IMPLICATIONS OF FIGHTBACK: A GENERAL EQUILIBRIUM ANALYSIS

by

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I. Introduction

In this paper we use the ORANI model (Dixon, Parmenter, Sutton and Vincent, 1982) to project the short-run effects on macroeconomic variables and the economy's industrial structure of the main changes to taxation and government spending proposed in Fightback (Liberal and National Parties, 1992). These changes are:

- abolition of the wholesale sales tax (WST);
- abolition of excise on petroleum products (PT);
- abolition of the payroll tax (PRT);
- cuts to income taxes;
- imposition of a new goods and services tax (GST); and
- extensive cuts in government outlays.

Details of the changes and of how we translated them into shocks for the model are outlined in section II.

Our main interest is in the relationship between the proposed fiscal reforms and macroeconomic outcomes, especially the employment outcome, in the short run. We do not deal with the longer-run implications of the reforms for economic welfare. These centre on the economic efficiency of the fiscal system, especially on its implications for labour supply and the incentive to save. Nor do we deal explicitly with the implications of the reforms for the personal distribution of income. We note, however, that the effect of the reforms on the level of employment, if it is significant, is likely to be an important component of the distributional consequences, a component overlooked in most distributional studies.

The rest of the paper is organised as follows. In section II we outline the data about the fiscal system which we used in formulating our model simulations. Full details are included in the appendix. In section III we discuss the main assumptions which underlie our simulations. These are encapsulated in our chosen closure for the model, i.e., our selection of variables to be set exogenously. Results of the simulations are discussed in section IV. There we concentrate on just a few variables. Results for a much wider range of variables are included, without detailed commentary, in the appendix. Section V is a brief conclusion.

II. Specification of Tax Shocks

According to the Fightback documentation, the WST raised \$9.4 billion in 1990/91, the PT \$6.6 billion and the PRT \$5.8 billion. To model the abolition of these taxes, their values are first deflated back to 1986/87 - the year of the input-output table currently incorporated in the ORANI database - using nominal GDP. That is, we assume that the effects of cutting a particular tax in different years will be similar if the size of the cut represents the same proportion of GDP. The deflated totals are then allocated across commodities and uses.

For allocating the WST, we rely on the matrices (for intermediate inputs, investment, household consumption and exports) of commodity taxes less subsidies published with the input-output table, and on some additional matrices that break down the total for all uses into eleven taxation categories (including the WST) and subsidies. This information, all obtained from the Australian Bureau of Statistics, is sufficient to enable about 40 per cent of the WST to be allocated unambiguously. For practical purposes (i.e., apart from a very small subsidy), the allocation for motor vehicles is also unambiguous, and this accounts for a further 32 per cent of the total. For the remainder, the WST is allocated in proportion to the entries in the commodity taxes less subsidies matrix or, when those entries represent a net subsidy, in proportion to sales. For several commodities, the breakdown of commodity taxes into its components suggests an alternative allocation and, in those cases, the general procedure is adjusted. These operations result in about 28 per cent of the WST being allocated to intermediate inputs, 12 per cent to investment, 59 per cent to household consumption and less than one per cent to exports.

The procedure for allocating the PT and PRT is much more straightforward. The PT is assumed to be distributed in proportion to commodity taxes less subsidies levied on the commodity Petroleum and coal products, with about 54 per cent being allocated to intermediate inputs, 46 per cent to consumption and a miniscule amount to exports. The PRT is distributed across industries in proportion to actual payroll tax collections in 1986/87, which form part of the ORANI database.

To model the introduction of the GST, we begin by removing the effects (both direct and indirect) of the WST, PT and PRT on the tax base. Next, a commodity tax of 15 per cent is imposed on the purchasers' price values of all intermediate inputs used in industries producing the so-called "exempt" commodities (i.e., construction, finance and ownership of dwellings). Finally, a similar 15 per cent tax is imposed on household consumption of all commodities except those that are exempt or "zero-rated" (i.e., public administration, health, education and welfare). Assuming no behavioural responses, our database indicates such a tax would have raised \$20.3 billion in 1986/87 or, again using the GDP deflator, \$28.9 billion in 1990/91. Of this about 25 per cent falls on intermediate inputs and 75 per cent on consumption.

In addition to its proposals for changes to indirect taxes, Fightback also promises a \$13 billion reduction in personal income taxes. The version of ORANI which we use identifies two kinds of income for taxation purposes, labour income (or wages, salaries and supplements) and income from profits and self employment. Of the latter category, about 45 per cent is personal income. In our database, the income tax reform (after deflation to 1986/87 in the usual manner) produces a 25 per cent cut in the average rate of tax on labour income and an 11 per cent cut in the average rate on other personal income. These changes, which refer only to the impact effect of the reform, comprise our income tax shocks.

On the expenditure side of the government's budget, Fightback proposes reductions in outlays totalling \$4.042 billion in 1991/92. In our simulations (and again after appropriate deflation), these changes are modelled in three different ways. First, the abolition of the diesel fuel rebate scheme (22 per cent of the total) is modelled as a tax increase. Indeed, it is treated in the same way as the petrol excise shock except that it is much smaller and has the opposite sign. Second, a number of categories (amounting to a net 6 per cent of the total) are modelled as affecting only the government deficit and private sector disposable income. This group includes the large *increase* (50 per cent of the total) in other personal benefits and the large *decrease* (33 per cent of the total) in interest payments attributed to privatisation. The remaining 72 per cent of the reduction in outlays is modelled as reductions in government spending on goods and services, the main commodities affected being public administration and health.

Clearly, then, our approach to modelling the Fightback package is a stylized one. It is not our purpose to describe the package in exhaustive detail, either in terms of the incidence of the proposals or the timing of their introduction. Rather we are concerned with analysing the likely short-run effects of the major components of the package (taken separately and together), were they to be all introduced at the same time.

III. Closures for the Simulations

In the next section we discuss the results of ORANI simulations which project the effects on the economy of the fiscal changes specified in section II. The projections are comparative static, that is, they purport to show differences between two possible states of the economy at some time in the future: the state which would pertain if the fiscal changes are introduced and the state which would pertain in the absence of the policy changes. In setting up the model for the simulations, we must choose a set of *exogenous* variables, that is, variables whose values are determined outside the model. One component of this exogenous set is the tax rates and government-expenditure levels to which we intend to apply the policy shocks. The other component of the set is variables whose values we assume not to be affected by the policy changes.

The second component of the exogenous set includes the following seven variables:

- industry-specific capital stocks;
- the nominal wage rate;
- the propensity to consume out of disposable income;
- the ratio of aggregate real household consumption to real aggregate investment;
- foreign-currency import prices;
- shift variables for the foreign demand schedules for Australian exports; and
- the nominal exchange rate.

The inclusion of these variables as exogenous has major implications for the interpretation of the results.

The short-run focus of our projections is dictated primarily by the exogenous treatment of industries' capital stocks. It suggests that we are evaluating the effects of the fiscal changes at a point in time sufficiently close to their introduction that industries have not had time to readjust their capital stocks to their new desired levels. Following Cooper, McLaren and Powell (1985), a reasonable assumption about the length of the implied short run is about two years.

By setting the nominal wage exogenously we are assuming that the fiscal reform is introduced with the compliance of the labour movement. In particular, we are assuming that no nominal-wage compensation is required for the effects of the reform on the consumer price index (CPI). An implication is that the only effect of the reform on the nominal cost of a unit of labour is the direct effect of the abolition of the payroll tax. With wage rates exogenous, employment is determined by the demand for labour at the going wage rate. In other words, we assume excess supplies of labour of all categories.

The inclusion of the propensity to consume and the ratio of aggregate consumption to aggregate investment in the exogenous set implies that private-sector aggregate demand is determined by disposable income. The level and composition of government spending are exogenous and shocked according to the Fightback proposals.

We assume that Australia is too small a purchaser to be able to influence the foreign-currency prices of its imports but that some of its export prices, especially the price of wool, are sensitive to export volumes. The exogenous setting of import prices and of the positions of foreign demand curves for exports reflects our assumption that conditions in the world economy which underlie these variables are insensitive to changes to the Australian fiscal system.

Our model is concerned mainly with real variables and with relative prices. The exogenous nominal exchange rate performs the role of a *numeraire* in our simulations. Hence domestic prices are measured relative to foreign prices. An increase in the domestic GDP deflator, for example, indicates an appreciation of the real exchange rate, i.e., a loss of international competitiveness for export and import-competing industries.

Note that we have not included in our exogenous set any aggregate indicator of the state of the government budget — aggregate government revenue or the government budget deficit, for example. The Fightback reforms which we have modelled are not budget- or revenue-neutral. Hence, we allow the model to project the budget outcomes with fiscal instruments set according to the Fightback proposals.

Under the assumptions described above, the fiscal reforms affect the economy through two main mechanisms: effects on industries' costs and effects on the level of domestic aggregate demand. In explaining our results, it is convenient to separate these two mechanisms. For this reason, we refer in section IV.1 to results generated under a provisional closure in which real aggregate household spending is exogenous and the propensity to consume is endogenous. Under this provisional closure, the fiscal reforms do not affect domestic aggregate demand and we can isolate their cost-related effects.

IV. Simulation Results

Our main results for a selection of macroeconomic variables and for outputs by industrial sector are listed in columns (1) - (7) of Table 1¹. As well as a total (column (7)) showing the effects of the fiscal package overall, we include columns (1) - (6) showing the separate effects of each of the component fiscal changes. Note first that overall the package generates a small decrease in the government deficit and increases in aggregate employment and the GDP. These changes are the net result of increases in the government deficit, employment and GDP in columns (1) - (3) and (5) which refer to tax cuts, and decreases in the deficit, employment and GDP in columns (4) and (6) which refer to a tax increase and expenditure cuts.

Since the package implies a decrease in the government deficit, it is somewhat surprising that it generates increases in employment and GDP. Our strategy for explaining these results is to split the fiscal package into two parts, the first containing all tax changes which directly effect domestic costs (i.e., the parts of the WST, the PT and the GST which are levied on intermediate inputs, and the whole of the PRT) and the second containing changes which have no direct cost effects (i.e., the parts of the WST, the PT and the GST which are levied on final demands, the income tax changes, and the changes to government outlays)². We begin in section IV.1 by explaining the effects of the two parts of the package in our provisional closure, i.e., with real aggregate household spending, and hence real aggregate investment, held constant. Then, in section IV.2 we return to the main closure, with real aggregate household spending and real aggregate investment moving in line with real disposable income. Section IV.3 examines the sensitivity of the results to the wage assumption.

IV.1. Effects of fiscal changes with real private domestic aggregate demand fixed

IV.1.1 Taxes on inputs

As we shall explain below, columns (3), (5) and (7) of the final row of Table 2 contain the changes in aggregate employment which are generated in the provisional closure by \$1billion changes in the each of the three categories of tax on non-labour inputs. The table shows that the PT has the greatest influence on employment (column (5)), followed closely by the WST (column (3)). Employment is much less sensitive to changes in the GST (column (7)) than it is to changes in either of the other two taxes. Table 3 contains the same information for the case of the PRT. Column (3) of the final row of that table shows that the PRT has a greater effect on aggregate employment than do any of the three taxes on non-labour income. The differences between the aggregate-employment effects of the taxes could, in principle, be attributable to two factors: differences in the effects of imposing the taxes on any specific industry and/or differences in the incidence of the taxes across industries which have differing degrees of sensitivity to cost changes.

¹ Columns (8) and (9) refer to sensitivity analysis of our wage assumption which is described in section IV.3.

² Strictly we should have included part of the changes in government outlays (i.e., the part of the abolition of the diesel fuel subsidy which effects fuel used as an intermediate input, see section II) as a change affecting domestic costs. Because this is a very small item, we have omitted it from Table 2. However, it is included in our aggregate results in Tables 1 and 5.

In our model, the effects on aggregate employment, per dollar of cost change, of imposing taxes on non-labour inputs *within any given industry* do not vary across the three non-labour input taxes (i.e., the WST, the PT and the GST). Because of the nested structure of the model's production functions in which no substitution is allowed between different intermediate inputs and between intermediate and primary inputs, the effects on employment, activity, output price and the structure of demand for inputs in the taxed industry are invariant to which of the three non-labour input taxes is imposed. The effects on other industries depend just on the effects within the taxed industry. Hence, the aggregate effects must be invariant to the choice of the non-labour input-tax instrument. Differences between the aggregate-employment effects of the three taxes are, therefore, attributable only to differences in the incidence of the taxes across industries. Because it falls directly on the labour input, imposing the PRT *on any given industry* has, per dollar of cost change, a greater effect on aggregate employment than do the other three taxes. This, as well as differences in industrial incidence, helps to account for differences between the aggregate-employment effect of the PRT and the effects of the other taxes.

To give an algebraic demonstration of the differential impact on employment of the PRT and the taxes on non-labour inputs imposed at the industry-specific level, we begin with the following relationship between the percentage changes in an industry's level of employment (l), its PRT-inclusive wage rate (w) and the rental price on its capital (r):

$$(1) \quad l = -\sigma(w - r) .$$

Equation (1) is implied by the ORANI production specification for the short run in which the capital stock is held fixed. It is just a definition of the elasticity of substitution (σ). Next we note that in our simulations the net-of-PRT wage rate is held constant. Hence, the relationship between the percentage change in the PRT-inclusive wage rate and the percentage change in the amount of PRT levied on a unit of labour (t_L) is:

$$(2) \quad w = S_{TL} t_L ,$$

where S_{TL} is the share of the tax in the tax-inclusive rate. Another relationship which the algebraic demonstration requires is the "zero-pure-profits" relationship between percentage changes in the industry's output price (p) and its input prices:

$$(3) \quad p = H_L w + H_K r + H_I q ,$$

where q is the percentage change in the tax-inclusive price of intermediate inputs and H_L , H_K and H_I the shares of labour, capital and intermediate inputs in total costs. Holding the tax-exclusive price of intermediate inputs constant, we can write, analogous to (2):

$$(4) \quad q = S_{TI} t_I ,$$

where t_I is the percentage change in the amount of tax levied on a unit of intermediate inputs and S_{TI} is the share of the tax in the tax-inclusive price. For illustration, we consider the case in which the output price is constant³. Then, combining (1) - (4) we see that:

³ The example could be of an exportable commodity facing a perfectly elastic foreign demand curve.

$$(5) \quad l = -\sigma \left[\left(1 + \frac{H_L}{H_K} \right) S_{TL} t_L + \frac{H_I}{H_K} S_{TI} t_I \right].$$

To conclude, we take the case in which the PRT is reduced, the revenue loss being financed by an increase in the tax on intermediate inputs. That is, we set:

$$(6) \quad H_L S_{TL} t_L = -H_I S_{TI} t_I = \Delta T < 0.$$

Substituting (6) into (5) gives:

$$(7) \quad l = -\sigma \frac{1}{H_L} \Delta T > 0,$$

demonstrating that the tax switch leads to a net increase in employment.

In column (1) of Tables 2 and 3 we show the effects, in the provisional closure, on aggregate employment of \$1 billion changes in costs brought about by changes in taxes on non-labour inputs (Table 2) and by changes in the PRT (Table 3), each imposed at the *industry-specific* level. For each industry we see, as expected, that the PRT has a greater effect on employment than does a cost-equivalent change in taxes on non-labour inputs. Looking down each column, we see that there is considerable variation across industry groups in the sensitivity of employment to cost changes. We have ranked the industries in decreasing order of the size of their employment effects in column (1). For reasons of space, we include rows for only the top 15 and bottom 15 industries in the ranking. Note that the two columns provide similar, but not identical, rankings. With domestic aggregate demand held constant, the main opportunity for industries to expand employment is by increasing exports or replacing imports. Hence, it is the economy's export sectors and import-competing sectors⁴ which occupy the high places in the rankings. Low places in the rankings are taken by industries with little or no exposure to international trade.

Columns (2), (4) and (6) of Table 2 and column (2) of Table 3 show the cumulative incidence across industries of the cost-related components of the WST, the PT, the GST and of the PRT. In column (2) of Table 2, for example, we see that, of the WST falling on intermediate inputs, 1.8 per cent falls on inputs to industry 113 (Non-traditional exports), 2.1 per cent falls on inputs to industries 113 and 95 (Water transport), etc. It is clear that the relative sizes of the aggregate-employment effects of the cost-related components of the WST, PT and GST correlate closely with the representation of the taxes at the top and bottom of the ranking. None of the GST falls on inputs to the 15 industries most sensitive to cost changes, whereas 6.9 per cent of the WST and 12.8 per cent of the PT fall there. On the other hand 81.7 per cent of the cost-related component of the GST falls on inputs to the 14 least sensitive industries whereas the corresponding percentages for the WST and the PT are 25.2 and 14.0.

Column (2) of Table 3 shows the cumulative incidence of the PRT. It is rather similar to the incidence of the WST, with about 7 per cent of PRT falling on the 15 most sensitive industries and about 19 per cent falling on the 14 least sensitive industries. Hence, we may conclude that it is the greater sensitivity of employment to the PRT at the industry-specific level, rather than the industrial incidence of the PRT, which is primarily responsible for the greater overall sensitivity of aggregate employment to the PRT.

⁴ In assessing the extent to which an industry is exposed to international trade, it is important to include indirect connections to trade exposed industries as well as direct trade exposure.

Cumulative percentage changes in aggregate employment for each of the three taxes on non-labour inputs are shown in columns (3), (5) and (7) of Table 2. These are calculated from column (1) and columns (2), (4) and (6)⁵. Similarly, columns (1) and (2) of Table 3 are used to calculate the cumulative percentage changes in aggregate employment for the PRT in column (3) of that table.

IV.1.2. Taxes on final demand, income taxes and government outlays

Table 4 contains the projected effects, in our provisional closure, of the Fightback changes in WST, PT and GST levied against final demand, of the income tax changes and of the changes to government outlays. The PRT is wholly an input tax. Hence, it is not relevant to the discussion in this section.

With real aggregate consumption and investment held constant, the only effects of the income tax cuts (column (5)) are to increase the government deficit and disposable income. For purposes of exposition we have assumed in the provisional closure that the propensity to consume falls to insulate real household spending from the change in disposable income. The only component of final demand on which the PT (column (2)) and the GST (column (4)) are levied is household consumption. The effects of changes to these taxes are dominated by changes to the government deficit, the CPI and hence to *real* disposable income, i.e., the effects are rather similar to those of changes in the income tax. Changes to other variables in columns (2) and (4) are triggered by reallocations of household spending in response to changes in the relative prices faced by households. In both columns, these relative-price changes are quite large, the PT being imposed only on petroleum products and the GST omitting a range of services which are input taxed (see section II)⁶. Removal of the PT switches household demand away from commodities other than petroleum products, allowing a diversion of sales to exports. When the input taxing of services is ignored, the imposition of the GST switches domestic demand towards services which are relatively labour intensive, generating an increase in aggregate employment.

The WST (column (1)) is levied on investment goods and exports, as well as on household consumption. Its removal leads to some increase in exports directly and to reallocations of the composition of household spending and the demand for investment goods. The manufacturing sectors (especially Transport equipment) with positive output effects in column (1) are sectors producing goods which are heavily taxed by the WST. Hence, removal of the tax reduces their relative prices, generating reallocations of spending which favour the heavily taxed sectors.

The changes in government outlays (column (6)) have three main components: removal of the diesel fuel rebate, a small net reduction in transfers to persons and cuts in government spending on commodities (see section II). The first two components are strictly analogous to the changes to the PT and income taxes, respectively. Removal of the diesel rebate is equivalent in our simulations to imposing a tax on petroleum products worth about 14 per cent of the PT removed in column (2). The net reduction

⁵ The formulae for calculating the elements, x_{ij} , of column j are:

$$\begin{aligned} x_{ij} &= x_{i1} x_{i(j-1)} && (i = 1; j = 3, 5, 7) \\ &= x_{(i-1)j} + x_{i1} [(x_{i(j-1)} - x_{(i-1)(j-1)})] && (i = 2, \dots, 113; j = 3, 5, 7) \end{aligned}$$

⁶ The effects of the input taxing of these services under the GST are dealt with in section IV.1.1.

in personal benefits is equivalent to a decrease in disposable income worth about 2 per cent of the increase which flows from the income tax cuts. Appropriate scalings of columns (2) and (5) give us the effects of these first two components of the changes in government outlays. They account for only a small share of the overall effects recorded in column (6). Most of the column is accounted for by the effects of the cuts in government spending on commodities. The cuts total more than 1 percent of GDP and are concentrated in very labour-intensive sectors of the economy. Although, by reducing domestic prices, they allow some expansion of export volumes, they still result in significant net falls in employment and GDP.

IV.2. Effects of fiscal changes with real private domestic aggregate demand moving with real disposable income

In section IV.1, we explained aggregate-employment results generated under the provisional closure in which real aggregate private domestic demand is held fixed. Table 5 provides a more complete set of results for that closure. The differences between the results and the results in our final closure (Table 1) are attributable just to changes in aggregate private domestic demand driven by changes in disposable income. That is, the sizes of the differences between the results in Tables 1 and 5 depend just on the sizes of the changes in real disposable income projected in Table 5. These are easily calculated by subtracting, in each column of Table 5, the change in the CPI from the change in nominal disposable income. For example, from column (1) of Table 5 we can calculate that, in the provisional closure, removal of the WST increases real disposable income by 4.28 per cent [0.61 - (-3.67)]. In moving to the final closure which underlies Table 1, this 4.28 per cent increase in real disposable income raises the increase in GDP from 0.33 per cent (first row of column (1) of Table 5) to 2.27 per cent (Table 1), i.e., by 1.94 percentage points. The ratio of the additional change in GDP to the change in real disposable income which triggers it is 0.45 (1.94/4.28). The same ratio applies for all columns of the two tables.

Concentrating on column (7) in Tables 1 and 5, we see that overall the fiscal reforms increase real disposable income in the provisional closure (Table 5). Hence, in moving to the final closure (Table 1), real aggregate private domestic demand increases. This generates increases in employment and real GDP but, because of its inflationary effects, crowds out exports. The additional revenues generated by the additional economic activity reduce the government deficit. Most sectors are net gainers from the expansion in domestic demand, the exceptions being the Rural and Mining sectors for which the contraction of exports dominates⁷.

The results in column (7) of Table 1 show that overall the fiscal reforms are projected to lead to small expansions of employment and GDP in the short run and a significant expansion of exports. The underlying reason is that, because the cost effects of the GST are comparatively small, its imposition discourages less employment and exports than are generated by the decreases in the WST, PT, PRT and income taxes which it largely finances. By comparing the second and fourth rows of the table, we see that, per dollar of change in the government deficit, the effect on employment of the GST is less than that of the WST, the PT or the PRT and only a little higher than the effect of the income tax. The other financing measure, cuts in government spending, is more destructive of employment than the WST, about equally destructive with the PT but less destructive than the PRT. The main reason that cuts in government spending

⁷ For further discussion of the effects of changes in domestic spending in short-run ORANI simulations, see Malakellis and Peter (1991).

are so severe on employment is that they are concentrated on relatively labour-intensive services. This effect could be attenuated if the private sector were to compensate by increasing the share of its spending devoted to the relevant services as the government with drew from their provision. Our simulation has not allowed for this possibility.

The sectoral effects in column (7) of Table 1 show that the Transport equipment sector is projected to be the main beneficiary of the fiscal changes. This is due primarily to the relatively favourable treatment which it would enjoy under the GST relative to its treatment under the existing WST. The other sectors which increase their shares of economic activity are the trade-exposed rural, mining and manufacturing sectors. Community and personal services, which bear the brunt of cuts in government spending, are the main losers.

IV.3. Sensitivity to the wage assumption

In assessing the results in column (7) of Table 1, we should bear in mind that they were generated under the assumption that nominal wage rates are unaffected by the fiscal changes. This is the assumption made, at least implicitly, in Fightback. The projections imply, however, that real disposable income per unit of employment falls by 0.59 per cent $[(6.61 - 5.38) - 1.82]$, suggesting that the take-home real wage rate falls. It is possible that the labour movement might resist this fall. To investigate the implications of such resistance, we calculated the increase in the nominal wage rate that would be necessary to prevent a decline in real disposable income per unit of employment. According to our model the required rise is about 2 per cent. Projections of the effects of such a rise are in column (8) of Table 1. Increases in wages reduce employment and GDP and are particularly harmful to exports. In column (9) we give our projections of the effects of the fiscal package under the assumption that nominal wage rates adjust to keep real disposable income per unit of employment constant. Under this assumption, the package still generates expansions of employment and GDP but they are much smaller than when nominal wages are assumed to be unaffected.

V. Summary and Conclusion

In this paper we report ORANI projections of the short-run effects on the macroeconomy and the industrial structure of the main elements of the Fightback proposals, namely the proposed changes to the wholesale sales tax, petroleum excise, the payroll tax, income taxes and government outlays, and the proposed introduction of the goods and services tax. In making the projections, we assume (with Fightback) that nominal wage rates are unaffected. We also assume that private domestic aggregate demand moves in line with changes in disposable income.

These fiscal changes affect the economy in the short run by changing domestic costs and by changing the level and commodity composition of domestic demand. Changes in domestic costs are particularly important for industries exposed to international competition (exporters and import-competing industries).

The effects of the package overall depend crucially on the relative cost effects of its indirect-tax components. The cost effects of the taxes differ because of differences in the nature of the taxes and because of differences in their incidence across industries. The payroll tax affects the cost of employing labour directly. It therefore has a greater effect in any given industry on employment per dollar of cost change than does the wholesale sales tax, the petroleum excise or the goods and services tax. The only direct cost effects of the goods and services tax are those which arise from the input taxing of industries producing services which would be difficult to tax at the final-demand stage.

Because these cost effects are concentrated on industries not exposed to international competition, they have relatively small implications for output and employment.

Substitution of the goods and services tax for the wholesale sales tax, petroleum excise and the payroll tax is a major feature of the Fightback package. Because employment is less sensitive to the cost effects of the goods and services tax than it is to those of the taxes which are replaced, our model projects that the package would generate increases in employment and GDP in the short run.

However, our projections also imply that, without adjustments to nominal wage rates, the package would lead to a reduction in the real value of the take-home wage rate. When nominal wage rates are adjusted to maintain the real value of disposable income per unit of employment, the expansionary effects of the package on employment and the GDP are substantially reduced, but not entirely eliminated.

References

- Cooper, R., K. McLaren & A. Powell (1985), "Short-Run Macroeconomic Closure in Applied General Equilibrium Modelling: Experience from ORANI and Agenda for Further Research", pp. 411-440 in J. Piggott and J. Whalley (eds), *New Developments in Applied General Equilibrium Analysis*, Cambridge University Press.
- Dixon, P. B., B. R. Parmenter, J. Sutton and D. P. Vincent, (1982), *ORANI: A Multisectoral Model of the Australian Economy*, North Holland Publishing Co., Amsterdam.
- Liberal and National Parties, (1992), *Fightback: Taxation and Expenditure Reforms for Jobs and Growth*, Parliament House, Canberra.
- Malakellis, M and M.W. Peter, (1991), "Demand Management and Employment in Multi-sectoral Neo-classical Models", *IMPACT Preliminary Working Paper*, No. IP-49, University of Melbourne, March, 43 pp.

Table 1
Percentage Effects on Macroeconomic Variables and Output by Sector of Fightback Fiscal Reforms

Variable	Percentage effects of changes in								
	(1) WST	(2) PT	(3) PRT	(4) GST	(5) Inc. Tax	(6) Gvt outlays	(7) Tot. (= $\Sigma(1)-(7)$)	(8) Wage change	(9) Tot. (= $(7)+(8)$)
Real GDP	2.27	1.90	2.22	-6.02	2.28	-0.82	1.82	-1.13	0.69
Aggregate employment	2.91	2.36	3.07	-7.86	3.01	-1.20	2.28	-1.64	0.64
Export volumes	-3.14	-0.30	3.21	18.59	-7.25	1.48	12.58	-5.34	7.24
Government deficit (% of outlays)	4.14	2.09	1.29	-14.72	6.52	-1.10	-1.77	1.33	-0.45
Nominal disposable income	3.76	3.08	3.23	-11.12	8.85	-1.19	6.61	0.34	6.94
CPI	-0.53	-0.01	0.50	2.17	3.69	-0.44	5.38	0.92	6.30
<i>Output by sector</i>									
Rural	0.19	0.99	1.22	0.69	-0.38	-0.06	2.63	-1.76	0.87
Mining	-0.13	0.49	2.00	1.61	-0.71	0.09	3.36	-1.52	1.83
Food products	0.75	1.02	1.93	-0.90	0.13	0.01	2.94	-1.84	1.10
Textiles, clothing & footwear	1.31	1.06	2.64	-4.35	1.41	-0.22	1.85	-1.60	0.25
Wood, paper, etc	2.81	2.05	2.75	-7.21	2.54	-0.75	2.19	-1.46	0.72
Chemicals, petroleum, etc	1.96	2.73	3.04	-2.82	0.94	-0.51	5.35	-2.12	3.23
Non-metallic mineral products	3.16	2.23	2.55	-8.94	3.31	-0.85	1.46	-1.03	0.44
Metal products	1.59	1.42	2.89	-2.27	0.74	-0.15	4.21	-2.01	2.20
Transport equipment	4.74	1.98	4.84	-2.46	0.69	-0.09	9.70	-3.37	6.33
Other equipt & machinery	3.22	2.08	3.34	-6.67	2.35	-0.37	3.96	-1.93	2.03
Other manufacturing	2.96	1.75	3.26	-3.90	1.30	-0.33	5.04	-2.21	2.82
Utilities	1.91	1.64	2.35	-6.93	2.46	-0.76	0.68	-0.99	-0.32
Construction	3.60	2.58	2.24	-11.91	4.49	-0.99	0.01	-0.47	-0.46
Trade, transpt & business servs	2.17	1.74	2.21	-5.57	2.02	-0.61	1.96	-1.16	0.81
Community & personal servs	1.98	1.53	1.73	-6.86	3.04	-1.85	-0.43	-0.67	-1.10

Table 2
Aggregate-employment effects of taxes on non-labour inputs (domestic aggregate demand fixed)

Rank	Ind. code	Industry description	WST			PT		GST	
			(1) Effect of \$1b. cost change	(2) Cumltve incidence	(3) Cumltve change in empl	(4) Cumltve incidence	(5) Cumltve change in empl	(6) Cumltve incidence	(7) Cumltve change in empl
1	113	Non-traditional exports	2.431	0.018	0.044	0.000	0.000	0.000	0.000
2	95	Water transport	1.192	0.021	0.048	0.009	0.011	0.000	0.000
3	97	Services to transport	0.894	0.022	0.049	0.013	0.015	0.000	0.000
4	79	Leather products	0.852	0.022	0.049	0.014	0.015	0.000	0.000
5	71	Aircraft	0.812	0.023	0.050	0.014	0.015	0.000	0.000
6	25	Food products nec	0.744	0.027	0.052	0.019	0.019	0.000	0.000
7	16	Other minerals	0.718	0.029	0.054	0.027	0.024	0.000	0.000
8	68	Motor vehicles and parts	0.709	0.054	0.072	0.029	0.026	0.000	0.000
9	96	Air transport	0.695	0.058	0.074	0.092	0.070	0.000	0.000
10	40	Sawmill products	0.688	0.059	0.075	0.097	0.073	0.000	0.000
11	83	Manufacturing nec	0.687	0.059	0.075	0.098	0.074	0.000	0.000
12	11	Fishing & hunting	0.686	0.068	0.081	0.118	0.088	0.000	0.000
13	32	Cotton yarns & fabrics	0.685	0.068	0.082	0.118	0.088	0.000	0.000
14	31	Man-made fibres, yarns & fabrics	0.680	0.069	0.082	0.118	0.088	0.000	0.000
15	6	Other farming - export oriented	0.636	0.069	0.082	0.128	0.094	0.000	0.000
99	111	Restaurants, hotels, clubs	0.106	0.748	0.258	0.860	0.305	0.183	0.033
100	108	Education, museums, libraries	0.099	0.777	0.261	0.860	0.305	0.183	0.033
101	29	Tobacco products	0.098	0.777	0.261	0.861	0.305	0.183	0.033
102	15	Oil, gas & brown coal	0.083	0.779	0.261	0.861	0.305	0.183	0.033
103	23	Bread, cakes & biscuits	0.078	0.781	0.261	0.865	0.305	0.183	0.033
104	59	Cement	0.069	0.781	0.261	0.866	0.305	0.183	0.033
105	110	Entertainment & rec. services	0.067	0.827	0.264	0.884	0.307	0.183	0.033
106	90	Retail trade	0.054	0.929	0.270	0.949	0.310	0.183	0.033
107	88	Other building construction	0.047	0.971	0.272	0.981	0.312	0.572	0.051
108	105	Public administration	0.046	0.971	0.272	0.981	0.312	0.572	0.051
109	61	Concrete products	0.045	0.972	0.272	0.983	0.312	0.572	0.051
110	60	Ready mixed concrete	0.037	0.973	0.272	0.986	0.312	0.572	0.051
111	106	Defence	0.028	0.978	0.272	0.986	0.312	0.572	0.051
112	87	Residential construction	0.024	0.999	0.273	0.996	0.312	0.803	0.057
113	104	Ownership of dwellings	-0.028*	1.000	0.273	1.000	0.312	1.000	0.051

Footnote

* There is no employment in this industry. The very small negative aggregate-employment effect reflects minor inter-industry cost effects.

Table 3
Aggregate-employment effects of PRT
(domestic aggregate demand fixed)

Rank	Ind. code	Industry description	(1) Effect of \$1b. cost change	PRT	
				(2) Cumltve incidence	(3) Cumltve change in emplt
1	113	Non-traditional exports	2.462	0.000	0.000
2	16	Other minerals	1.829	0.003	0.005
3	95	Water transport	1.534	0.006	0.010
4	96	Air transport	1.454	0.013	0.021
5	11	Fishing & hunting	1.263	0.014	0.021
6	97	Services to transport	1.170	0.030	0.041
7	25	Food products nec	1.111	0.036	0.047
8	50	Other basic chemicals	1.059	0.042	0.053
9	40	Sawmill products	1.037	0.045	0.056
10	79	Leather products	1.026	0.046	0.057
11	4	Northern beef	0.980	0.046	0.057
12	6	Other farming - export oriented	0.962	0.047	0.058
13	14	Black coal	0.953	0.065	0.075
14	31	Man-made fibres, yarns & fabrics	0.890	0.067	0.077
15	71	Aircraft	0.867	0.068	0.078
2	107	Health	0.129	0.806	0.371
100	42	Joinery & wood products	0.126	0.809	0.372
101	111	Restaurants, hotels, clubs	0.123	0.830	0.374
102	109	Welfare & religious institutions	0.122	0.837	0.375
103	108	Education, museums, libraries	0.105	0.849	0.376
104	23	Bread, cakes & biscuits	0.103	0.855	0.377
105	105	Public administration	0.089	0.855	0.377
106	110	Entertainment & rec.services	0.089	0.866	0.378
107	60	Ready mixed concrete	0.068	0.867	0.378
108	61	Concrete products	0.064	0.870	0.378
109	90	Retail trade	0.062	0.952	0.383
110	88	Other building construction	0.059	0.991	0.386
111	106	Defence	0.059	0.991	0.386
112	87	Residential construction	0.031	1.000	0.386
113	104	Ownership of dwellings	0.000	1.000	0.386

Table 4
Percentage effects of Fightback changes in taxes on final demand, changes in income taxes and changes in government outlays (real domestic aggregate demand fixed)

Variable	Percentage effects of changes in						
	(1) WST	(2) PT	(3) PRT	(4) GST	(5) Income tax	(6) Govt outlays	(7) Total (= $\Sigma(1)-(7)$)
Real GDP	0.01	0.02	n.a.	0.09	0.00	-0.53	-0.40
Aggregate employment	-0.12	-0.20	n.a.	0.25	0.00	-0.84	-0.92
Export volumes	0.67	0.30	n.a.	0.10	0.00	1.06	2.13
Government deficit (% of outlays)	6.36	2.79	n.a.	-22.19	11.34	-1.97	-3.67
Nominal disposable income	0.00	-0.19	n.a.	-0.34	5.15	-0.73	3.90
CPI	-3.13	-1.83	n.a.	11.65	0.00	0.02	6.72
<i>Output by sector</i>							
Rural	-0.01	-0.05	n.a.	-0.22	0.00	0.05	-0.24
Mining	0.09	0.13	n.a.	-0.12	0.00	0.11	0.22
Food products	0.01	-0.16	n.a.	-0.45	0.00	0.19	-0.40
Textiles, clothing & footwear	-0.21	-0.24	n.a.	-0.59	0.00	0.04	-0.99
Wood, paper, etc	0.12	-0.20	n.a.	-0.37	0.00	-0.35	-0.79
Chemicals, petroleum, etc	0.29	0.52	n.a.	-0.16	0.00	-0.17	0.47
Non-metallic mineral products	0.08	-0.07	n.a.	-0.07	0.00	-0.36	-0.42
Metal products	0.38	0.01	n.a.	-0.17	0.00	0.08	0.30
Transport equipment	2.27	-0.08	n.a.	-0.42	0.00	0.24	2.02
Other equipt & machinery	0.47	-0.10	n.a.	-0.36	0.00	0.07	0.08
Other manufacturing	1.00	-0.16	n.a.	-0.32	0.00	-0.01	0.51
Utilities	-0.37	-0.25	n.a.	-0.39	0.00	-0.41	-1.42
Construction	-0.17	-0.04	n.a.	0.09	0.00	-0.42	-0.54
Trade, transpt & business servs	0.06	-0.05	n.a.	-0.08	0.00	-0.27	-0.35
Community & personal servs	-0.65	-0.43	n.a.	1.15	0.00	-1.82	-1.75

Table 5
Percentage effects of Fightback changes (real domestic aggregate demand fixed)

Variable	Percentage effects of changes in						
	(1) WST	(2) PT	(3) PRT	(4) GST	(5) Income tax	(6) Govt outlays	(7) Total (= $\Sigma(1)-(7)$)
Real GDP	0.33	0.51	0.99	-0.01	0.00	-0.48	1.34
Aggregate employment	0.35	0.51	1.45	0.09	0.00	-0.76	1.65
Export volumes	3.03	4.14	7.10	-0.57	0.00	0.41	14.12
Government deficit (% of outlays)	8.25	5.05	3.89	-27.47	11.34	-1.81	-0.75
Nominal disposable income	0.61	0.82	1.25	-1.36	5.15	-0.65	5.82
CPI	-3.67	-2.27	-1.47	11.91	0.00	0.11	4.60
<i>Output by sector</i>							
Rural	0.51	1.22	1.42	-0.33	0.00	-0.12	2.71
Mining	0.47	0.92	2.38	-0.25	0.00	-0.01	3.50
Food products	0.64	0.93	1.86	-0.56	0.00	0.03	2.90
Textiles, clothing & footwear	0.11	0.20	1.88	-0.63	0.00	-0.01	1.55
Wood, paper, etc	0.64	0.49	1.38	-0.49	0.00	-0.38	1.65
Chemicals, petroleum, etc	1.16	2.15	2.53	-0.33	0.00	-0.37	5.15
Non-metallic mineral products	0.34	0.21	0.77	-0.19	0.00	-0.36	0.76
Metal products	0.96	0.96	2.49	-0.32	0.00	-0.04	4.05
Transport equipment	4.15	1.56	4.47	-0.64	0.00	0.01	9.56
Other equip & machinery	1.22	0.64	2.07	-0.45	0.00	-0.02	3.46
Other manufacturing	1.85	0.95	2.56	-0.47	0.00	-0.14	4.76
Utilities	-0.18	0.14	1.02	-0.43	0.00	-0.39	0.15
Construction	-0.22	-0.17	-0.17	-0.05	0.00	-0.33	-0.94
Trade, transpt & business servs	0.46	0.51	1.13	-0.25	0.00	-0.31	1.54
Community & personal servs	-0.61	-0.33	0.10	1.17	0.00	-1.41	-1.07

APPENDIX: SOME FURTHER DETAILS OF THE SIMULATIONS

The purpose of this appendix is to provide some additional information on the implementation of the fiscal shocks described in Section II of the text and to provide simulation results for a wider range of endogenous variables than previously reported.

1. Specification of the Shocks

1.1 Abolition of the Wholesale Sales Tax (WST)

The simulations reported in the text were conducted with the ORANI-F model¹ in short-run mode. The model employs an input-output database for 1986/87, supplemented with national accounting and public finance data for 1988/89. Hence, before the proposed changes to taxation and government expenditure can be modelled, they must first be deflated to the year corresponding to the appropriate part of the database. This is achieved via the assumption that the economic effects of a particular fiscal change imposed in different years will be similar if the size of the change represents the same proportion of Gross Domestic Product.

According to Fightback², the wholesale sales tax raised \$9400 million in 1990/91, when GDP was \$377114 million³. To model the removal of the GST, therefore, we impose a reduction of

$$(\$9400 \times 264564 / 377114) \text{ million} = \$6594.55 \text{ million}$$

in 1986/87, when GDP was \$264564 million. This value for the magnitude of the WST is recorded in Table A1.

To allocate the total across different users of commodities, we rely firstly on the data for commodity taxes less subsidies (CTLS) published by the Australian Bureau of Statistics (ABS) with the 1986/87 input-output tables. The data consist of a commodity-by-industry matrix showing the amounts of CTLS imposed on flows of intermediate inputs, and commodity vectors showing the amounts imposed on sales to investment, household consumption, and exports. Secondly, we obtained from the ABS commodity vectors breaking down CTLS across all users into the following categories:

- sales tax (WST)
- liquor, gambling & business taxes
- primary production taxes
- regulatory services fees
- stamp duties
- excise taxes

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- 1 See B.R. Parmenter, "ORANI-F: User's Manual", Working Paper No. 7/1988, Institute of Applied Economic and Social Research, University of Melbourne, August 1988, and G.A. Meagher, "Revisions to the ORANI-F Model", Research Paper No. 1/1990, Institute of Applied Economic and Social Research, University of Melbourne, August 1990.
 - 2 In this appendix, "Fightback" refers to the Liberal and National Parties, Fightback: Taxation and Expenditure Reforms for Jobs and Growth, Parliament House, Canberra, 1992.
 - 3 Australian Bureau of Statistics, Australian National Accounts, National Income and Expenditure 1990-91, Catalogue No. 5204.0, Table 9.

- motor vehicle taxes
- financial institution duties
- customs duties on exports
- duty adjustment
- other Commonwealth taxes
- subsidies.

Of the 115 commodities identified in the ORANI model, 41 attract sales tax. For 22 of these (namely⁴, commodities 24, 25, 37, 38, 44, 45, 50, 55, 56, 57, 60, 68, 69, 74, 76, 77, 79, 81, 82, 83, 84, 85), sales tax is the only component of CTLS, and hence its allocation across users is unambiguously determined by the CTLS matrices. The nominated commodities account for 41.34 per cent of total sales tax. For commodity 70 (*Motor vehicles*), CTLS is almost entirely made up of sales tax, the only other component being a small subsidy equal to 0.14 per cent of the total. Hence the allocation of sales tax on *Motor vehicles* is also effectively unambiguous and this commodity accounts for a further 31.90 per cent of all sales tax.

For most of the remaining commodities (namely, commodities 26, 27, 28, 30, 35, 40, 42, 46, 48, 54, 58, 59, 75, and 80, which account for 23.93 per cent of the total), sales tax is allocated according to the following rules:

- (i) if the CTLS levied on a particular use is zero, sales tax is also assumed to be zero;
- (ii) for uses with CTLS less than zero (i.e., for uses with a net subsidy), sales tax is distributed in proportion to sales;
- (iii) for remaining uses, sales tax is distributed in proportion to CTLS.

In four cases (namely, commodities 21, 22, 52 and 71, which account for 2.83 per cent of all sales tax), these rules are amended to take account of commodity-specific characteristics of the tax structure.

The operations just described result in the wholesale sales tax being allocated across aggregate user categories in the manner set out in Table A2. Table A3 shows how the totals in Table A2 are allocated across commodities. Table A5 shows how the total amount paid by intermediate users (i.e., \$1873.77 million) is allocated across industries.

1.2 Abolition of the Petrol Excise Tax

From Fightback, the petrol excise tax raised \$6600 million in 1990/91, an amount which converts to \$4630.22 million in 1986/87 (see Table A1). This total is allocated across users in proportion to the CTLS imposed on sales of commodity 58 (*Petroleum and coal products*). The resulting allocation across aggregate users is shown in Table A2, across commodities in Table A3, and (for intermediate users) across industries in Table A5.

4 For a description of the ORANI commodities, see Table A3 below.

1.3 Abolition of the Payroll Tax

The payroll tax is worth \$4068.98 million when converted to 1986/87 (see Table A1). It is allocated across industries in proportion to actual payroll tax collections in 1986/87. The result is shown in Table A5.

1.4 Imposition of the Goods and Services Tax (WST)

Apart from the "exempt" and "zero-rated" commodities, the imposition of the GST is modelled as a tax of 15 per cent on household consumption valued at purchasers' prices. However, before calculating the size of the shocks, the tax base is adjusted to take account of the abolition of the WST, the petrol tax and the payroll tax. That is, the impact (both direct and indirect) of these taxes on the basic values of commodities purchased by households and on the cost of associated margins is removed. No GST is imposed on zero-rated commodities (i.e., on commodities 107, 108, 109, 110 and 111). For the exempt commodities (i.e., commodities 89, 90, 101, 102, 103, 104 and 106), the GST is imposed on all intermediate inputs to the corresponding industries (again at a rate of 15 per cent on purchasers' price values after removal of the impact of the indirect taxes being abolished) rather than on inputs to household consumption. Thus, for the GST, the total of \$20298.62 million for 1986/87 recorded in Table A1 is not derived from the Fightback document in the same way as the other indirect tax changes, but is built up from the ORANI database. It converts to \$28934 million in 1990/91, as compared with \$27152 million estimated for that year in Fightback⁵. The allocation of the total over major users, over commodities and (for the input-taxed commodities) over industries is shown in Tables A2, A4, and A5.

1.5 Reduction in Personal Income Tax

The size of the income tax shock to be imposed is problematical. The Fightback documentation states that

"we will slash personal income tax by about 30 per cent - that is, by \$13 billion".⁶

This reform is to be introduced in two phases, the first from 1 October 1994 and the second from 1 January 1996. Hence, if the reform were to be introduced in 1990/91, the corresponding cut would presumably be somewhat less than \$13 billion, the precise figure depending on the growth of GDP in the intervening period. On the other hand, the revenue raised from personal income tax in 1990/91 was \$50045 million⁷, 30 per cent of which is more than \$15 billion. Thus, the intention of the authors of Fightback as to the size of the income tax cut is unclear. In the event, we have chosen to impose an income tax cut of \$13 billion in 1990/91. However, as we shall show, it is possible to reinterpret our results in a straightforward way should some other figure be thought more appropriate. Our choice represents a cut of 25 per cent in the average rate of tax on labour income (i.e., in the average PAYE rate) and an 11 per cent cut in the average rate on other personal income. From Table A1, it is worth \$9120.14 million in 1986/87.

5 Fightback, page 66.

6 Fightback, page 7.

7 Australian Bureau of Statistics, op. cit., Table 16.

1.6 Reduction in Government Outlays

The final component of the Fightback proposal considered in our simulations is the (net) reduction in government outlays of \$4042 million⁸ in 1991/92, or \$2713.59 million in 1986/87 (see Table A1). The allocation of the total across government expenditure categories adopted in the simulations is given in Table A6. The following considerations, all of which refer to the year 1991/92, are relevant.

Fightback estimates the average number of recipients of unemployment benefits (Job Search Allowance (JSA) and New Start Allowance (NSA) schemes) as 785,000, and the average dole payment as \$166.65 per week⁹. This implies a total benefit of \$6821 million. Fightback also promises to increase social security payments to the unemployed by 6 per cent, or \$409 million. On the other hand, Fightback claims savings of \$931 million from changes to the administration of the JSA/NSA schemes. Hence we have modelled a reduction of \$522 million in the category *Unemployment benefits*. As the number of unemployed is an endogenous variable in our model, the change is modelled as a reduction of 7.65 per cent in the benefit per recipient.

Fightback estimates a net increase in outlays in the Social Security portfolio of \$228 million, or \$750 million when the \$522 million reduction in unemployment benefits is excluded. In addition, family assistance is to be increased by \$1060 million and redundancy allowances by \$200 million, giving a total increase of \$2010 million in the category *Other personal benefits*.

The model contains a category for government interest payments so the reduction of \$1328 million estimated by Fightback can be modelled directly.

The estimated reduction of \$195 million in foreign aid is modelled as a change in the category *Other government outlays*.

The abolition of the deisel fuel rebate scheme, worth \$902 million, is modelled as an increase in taxes on usage of the commodity *Petrol and coal products*. That is, this expenditure reduction operates to reverse the effects of the abolition of the petrol excise tax by 13 per cent.

The estimated saving of \$220 million in the Housing portfolio is treated as a reduction in Federal government capital expenditure on the commodity *Residential building construction*.

The reduction in general purpose grants to the States of \$373 million is distributed across commodities in proportion to total current government spending on commodities in 1986/87.

The remaining expenditure reductions of \$2512 million are recorded in Table A6 as reductions in current Federal expenditure on goods and services. They have been allocated to commodities on the basis of their descriptions in the Fightback document.

Note that we have made no attempt to assess whether the savings claimed by Fightback are in fact likely to be realized from the sources identified by the authors.

8 Fightback, page 230.

9 Fightback, page 276.

1.7 Net Impact of the Fiscal Changes

For the components of the package we have considered, and bearing in mind the uncertainty about some of their magnitudes, the net impact on the government's budget is to increase the deficit by about \$1400 million in 1986/87, as indicated in Table A1.

2. Simulation Results

2.1 National Accounting and Public Finance Variables

Tables A6, A7 and A8 provide results for an extended set of endogenous variables for the simulations reported in Table 2 of the text. In particular, the new tables include the projected changes in the components of the *Domestic production account* and the *Government outlay, revenue and deficit account*. They also include subtotal information for the abolition of the three types of indirect taxation (i.e., WST, petrol excise and payroll) in Table A6, and for all the tax components of the package in Table A7.

2.2 Decomposition of Projected Change in Aggregate Employment

As an aid to understanding our results intuitively, the discussion in the text employs a decomposition that separates the effects of changes in real disposable income (RDI) from the effects of changes in cost and demand holding RDI constant. Table A10 sets out this decomposition more fully for the case of aggregate employment. The first column of Table A7 shows that the abolition of the WST, taken by itself, is projected to increase aggregate employment by 2.91 per cent. Part of this increase occurs because RDI increases by 4.29 per cent. In the third column of Table A10, the contribution of the change in RDI is separately identified as 2.56 per cent. Thus, if the abolition were to occur in an environment in which RDI is constant, aggregate employment would increase by only 0.35 per cent. This amount can be further broken down into cost and demand components, as indicated in the first two columns of Table A10.

The cost component should be associated with the abolition of the WST on intermediate inputs which, from Table A2, amounts to \$1873.77 million in 1986/87. The abolition of this tax, with RDI held constant, would increase aggregate employment by 0.47 per cent. The demand component should be associated with the abolition of the remaining GST of \$4720.78 million, which falls on investment, household consumption and exports in the proportions indicated in Table A2. The abolition of this tax, again with RDI held constant, would reduce aggregate employment by 0.12 per cent.

The rows of Table A10 perform this decomposition for all the components of the Fightback package we have considered. When the contributions are summed over the whole table, we obtain the final result for aggregate employment (i.e., an increase of 2.28 per cent) reported in column 7 of Table 1 in the text. Similarly, the second row of Table 4 in the text¹⁰ corresponds to the second column of Table A10, and the second row of Table 5 corresponds to the sum of the first two columns of Table A10.

10 This statement does not apply to the government outlays column, which is incorrect in Table 4. The column should be the same as the corresponding column in Table 5. Even then the government outlays column must be interpreted differently to the others because the cost and demand components have not been separated. (See also footnote 2 in the text.)

2.3 Sensitivity Analysis

As we have remarked earlier, some uncertainty surrounds the size of the shocks that should be imposed in our model to properly reflect the intentions of the authors of Fightback, particularly with regard to the income tax cut. Because the model is linear in the percentage changes of its variables, it is possible to abrogate this uncertainty to a large extent by scaling our results to reflect alternative interpretations of the Fightback document. To illustrate the method, we consider an income tax cut of a size which renders neutral the impact of our package on the government's budget deficit.

From Table A1, an income tax cut of \$9120.14 million in 1986/87, when combined with the other fiscal changes indicated in the table, would increase the government's budget deficit by \$1401.69 million, at least as far as its impact effect is concerned.¹¹ Hence a cut of \$7818.45 million would result in a neutral impact on the deficit. Tables A11 and A12 are revised versions of Tables A8 and A9, respectively, which incorporate this reduced income tax cut. The columns for the indirect tax reductions and for the GST in Table A11 are the same as in Table A8. The income tax column in Table A11 is obtained by multiplying the corresponding column of Table A8 by

$$7818.45 / 9120.14 = 0.8463.$$

The final column of Table A11 is obtained by addition, and is carried over into the first column of Table A12. The second column of the latter is identical to the corresponding column of Table A9, while the third is again obtained by addition.

In the wage inflation column, the nominal wage rate is allowed to adjust so as to offset any change in real disposable income per employed worker due to the Fightback package. Thus, in the third column of Table A12 (which represents the effects of the package when the nominal wage rate is constant), RDI per employed worker falls by $(0.43 - 1.82) = 1.39$ per cent. In the final column it rises by $(-0.76 + 2.15) = 1.39$ per cent. In Table A9, wage inflation results in a fall in RDI per employed worker of 1.05 per cent. Hence the final column of Table A12 is obtained by multiplying the corresponding column of Table A9 by

$$1.39 / 1.05 = 1.32.$$

Note that, with the smaller income tax cut and with RDI per employed worker constant, the package has the effect of reducing aggregate employment by $-(1.82 - 2.15) = 0.33$ per cent.

¹¹ Note that, because the tax base expands, the final effect of the package is to reduce the government deficit (see Table A9).

Table A1.
Changes in Taxation and Expenditure, \$million

Fiscal Category	1990/91*	1991/92*	1986/87
Wholesale sales tax (WST) (reduction)	-9400.00		-6594.55
Petrol tax (reduction)	-6600.00		-4630.22
Payroll tax (reduction)	-5800.00		-4068.98
Goods and services tax (GST) (increase)			20298.62
Income tax (reduction)	-13000.00		-9120.14
Expenditure (reduction)		4042.00	2713.59
Net impact on government surplus (reduction)			-1401.69

* Source: Fightback! Taxation and Expenditure - Reform for Jobs and Growth, pp. 7, 47, 230.

Table A2
Changes in Commodity Taxes by Demand Category, 1986/87, \$million

Type of Tax	Inter- mediate Inputs	Capital Inputs	Consum- ption	Exports	Total
Wholesale sales tax	1873.77	805.54	3880.18	35.06	6594.55
Petrol tax	2504.68	0.00	2125.54	0.00	4630.22
Goods and services tax	5013.94	0.00	15284.68	0.00	20298.62

Table A3
Reductions in Wholesale Sales Tax by Commodity, 1986/87, \$million

Commodity	Inter- mediate Inputs	Capital Inputs	Consum- ption	Exports	Total
1 Wool	0.00	0.00	0.00	0.00	0.00
2 Sheep	0.00	0.00	0.00	0.00	0.00
3 Wheat	0.00	0.00	0.00	0.00	0.00
4 Barley	0.00	0.00	0.00	0.00	0.00
5 Other grains	0.00	0.00	0.00	0.00	0.00
6 Meat cattle	0.00	0.00	0.00	0.00	0.00
7 Milk cattle and pigs	0.00	0.00	0.00	0.00	0.00
8 Other farming - export oriented	0.00	0.00	0.00	0.00	0.00
9 Other farming - import competing	0.00	0.00	0.00	0.00	0.00
10 Poultry	0.00	0.00	0.00	0.00	0.00
11 Services to agriculture	0.00	0.00	0.00	0.00	0.00
12 Forestry and logging	0.00	0.00	0.00	0.00	0.00
13 Fishing and hunting	0.00	0.00	0.00	0.00	0.00
14 Ferrous metal ores	0.00	0.00	0.00	0.00	0.00
15 Non-ferrous metal ores	0.00	0.00	0.00	0.00	0.00
16 Black coal	0.00	0.00	0.00	0.00	0.00
17 Oil, gas and brown coal	0.00	0.00	0.00	0.00	0.00
18 Other minerals	0.00	0.00	0.00	0.00	0.00
19 Services to mining	0.00	0.00	0.00	0.00	0.00
20 Meat products	0.00	0.00	0.00	0.00	0.00
21 Milk products	0.00	0.00	53.36	0.00	53.36
22 Fruit and vegetable products	5.69	0.00	12.90	0.00	18.59
23 Margarine, oils and fats	0.00	0.00	0.00	0.00	0.00
24 Flour and cereal products	0.00	0.00	1.61	0.00	1.61
25 Bread, cakes and biscuits	6.18	0.00	42.43	0.00	48.61
26 Confectionary and cocoa products	2.27	0.00	89.46	0.00	91.73
27 Food products nec	70.99	0.00	66.56	0.22	137.77
28 Soft drinks, cordials and syrups	0.00	0.00	174.90	0.00	174.90
29 Beer and malt	0.00	0.00	0.00	0.00	0.00
30 Other alcoholic drinks	4.73	0.00	78.65	0.00	83.37
31 Tobacco products	0.00	0.00	0.00	0.00	0.00
32 Cotton ginning, wool scouring, top making	0.00	0.00	0.00	0.00	0.00
33 Man-made fibres, yarns and broadwoven fabrics	0.00	0.00	0.00	0.00	0.00
34 Cotton yarns and broadwoven fabrics	0.00	0.00	0.00	0.00	0.00
35 Worsted and woolen yarns and broadwoven fabrics	2.61	0.00	0.72	0.00	3.33
36 Textile finishing	0.00	0.00	0.00	0.00	0.00
37 Textile floor coverings and felt	0.00	0.00	15.96	0.00	15.96
38 Other textile products	0.00	0.00	9.28	0.00	9.28
39 Knitting mills	0.00	0.00	0.00	0.00	0.00
40 Clothing	0.07	0.00	2.86	0.00	2.93

... continued

Table A3. (continued)

	Commodity	Inter- mediate Inputs	Capital Inputs	Consum- ption	Exports	Total
41	Footwear	0.00	0.00	0.00	0.00	0.00
42	Sawmill products	7.80	0.00	0.18	0.00	7.97
43	Veneers and boards	0.00	0.00	0.00	0.00	0.00
44	Joinery and wood products	13.40	0.00	18.82	0.00	32.22
45	Furniture and mattresses	1.83	0.00	41.56	0.00	43.39
46	Pulp, paper and paperboard	60.54	0.00	58.73	0.00	119.27
47	Paper bags and fibreboard containers	0.00	0.00	0.00	0.00	0.00
48	Paper products nec	3.08	0.00	45.07	0.00	48.14
49	Newspapers and books	0.00	0.00	0.00	0.00	0.00
50	Commercial printing	469.94	0.00	140.30	0.00	610.24
51	Chemical fertilizers	0.00	0.00	0.00	0.00	0.00
52	Other basic chemicals	53.38	0.17	0.89	0.00	54.45
53	Paints and varnishes	0.00	0.00	0.00	0.00	0.00
54	Pharmaceutical products	20.48	0.00	22.96	0.00	43.44
55	Soap and detergents	0.00	0.00	126.85	0.00	126.85
56	Cosmetics and toiletries	0.00	0.00	162.41	0.00	162.41
57	Other chemical products	41.34	0.00	53.86	0.00	95.20
58	Petroleum and coal products	85.52	0.00	72.57	0.00	158.09
59	Glass and glass products	23.30	0.00	32.53	0.00	55.83
60	Clay products and refractories	5.67	0.00	13.44	0.00	19.11
61	Cement	0.00	0.00	0.00	0.00	0.00
62	Ready mixed concrete	0.00	0.00	0.00	0.00	0.00
63	Concrete products	0.00	0.00	0.00	0.00	0.00
64	Other non-metallic mineral products	0.00	0.00	0.00	0.00	0.00
65	Basic iron and steel products	0.00	0.00	0.00	0.00	0.00
66	Basic non-ferrous metal products	0.00	0.00	0.00	0.00	0.00
67	Structural metal products	0.00	0.00	0.00	0.00	0.00
68	Sheet metal products	0.00	0.00	2.54	0.00	2.54
69	Other fabricated metal products	53.86	0.29	199.66	0.00	253.81
70	Motor vehicles and parts	342.66	641.99	1115.84	0.00	2100.49
71	Ships and boats	14.38	6.37	36.32	0.00	57.07
72	Locomotives and rolling stock	0.00	0.00	0.00	0.00	0.00
73	Aircraft	0.00	0.00	0.00	0.00	0.00
74	Scientific equipment	78.29	104.84	195.40	0.00	378.53
75	Electronic equipment	220.83	27.99	349.30	0.00	598.12
76	Household appliances	35.32	0.65	95.99	0.00	131.95
77	Other electrical equipment	19.54	10.79	16.65	0.00	46.98
78	Agricultural machinery	0.00	0.00	0.00	0.00	0.00
79	Construction machinery	0.14	1.45	0.00	0.00	1.58
80	Other plant and machinery	12.28	10.74	5.65	0.00	28.67

... continued

Table A3. (continued)

Commodity	Inter- mediate Inputs	Capital Inputs	Consum- ption	Exports	Total
81 Leather products	0.00	0.00	20.61	0.00	20.61
82 Rubber products	121.32	0.00	152.78	0.00	274.10
83 Plastic and related products	16.45	0.27	54.51	0.00	71.24
84 Signs, writing and marking equipment	79.89	0.00	19.06	0.00	98.96
85 Manufacturing nec	0.00	0.00	277.01	0.00	277.01
86 Electricity	0.00	0.00	0.00	0.00	0.00
87 Gas	0.00	0.00	0.00	0.00	0.00
88 Water, sewerage and drainage	0.00	0.00	0.00	0.00	0.00
89 Residential building construction	0.00	0.00	0.00	0.00	0.00
90 Other building construction	0.00	0.00	0.00	0.00	0.00
91 Wholesale trade	0.00	0.00	0.00	0.00	0.00
92 Retail trade	0.00	0.00	0.00	0.00	0.00
93 Mechanical repairs	0.00	0.00	0.00	0.00	0.00
94 Other repairs	0.00	0.00	0.00	0.00	0.00
95 Road transport	0.00	0.00	0.00	0.00	0.00
96 Rail and other transport	0.00	0.00	0.00	0.00	0.00
97 Water transport	0.00	0.00	0.00	0.00	0.00
98 Air transport	0.00	0.00	0.00	0.00	0.00
99 Services to transport	0.00	0.00	0.00	0.00	0.00
100 Communication	0.00	0.00	0.00	0.00	0.00
101 Banking	0.00	0.00	0.00	0.00	0.00
102 Non-bank finance	0.00	0.00	0.00	0.00	0.00
103 Investment and services to finance	0.00	0.00	0.00	0.00	0.00
104 Insurance	0.00	0.00	0.00	0.00	0.00
105 Other business services	0.00	0.00	0.00	0.00	0.00
106 Ownership of dwellings	0.00	0.00	0.00	0.00	0.00
107 Public administration	0.00	0.00	0.00	0.00	0.00
108 Defence	0.00	0.00	0.00	0.00	0.00
109 Health	0.00	0.00	0.00	0.00	0.00
110 Education, museums, libraries	0.00	0.00	0.00	0.00	0.00
111 Welfare and religious institutions	0.00	0.00	0.00	0.00	0.00
112 Entertainment and recreational services	0.00	0.00	0.00	0.00	0.00
113 Restaurants, hotels, clubs	0.00	0.00	0.00	0.00	0.00
114 Personal services	0.00	0.00	0.00	0.00	0.00
115 Non-traditional exports	0.00	0.00	0.00	34.84	34.84
All commodities	1873.77	805.54	3880.18	35.06	6594.55

Table A4
Increases in Goods and Services Tax by Commodity, 1986/87 (\$ million)

	Commodity	Inter- mediate Inputs	Capital Inputs	Consum- ption	Exports	Total
1	Wool	0.00	0.00	0.00	0.00	0.00
2	Sheep	0.00	0.00	36.11	0.00	36.11
3	Wheat	0.00	0.00	0.00	0.00	0.00
4	Barley	0.00	0.00	0.00	0.00	0.00
5	Other grains	0.00	0.00	4.84	0.00	4.85
6	Meat cattle	0.00	0.00	91.04	0.00	91.04
7	Milk cattle and pigs	0.00	0.00	0.84	0.00	0.84
8	Other farming - export oriented	0.10	0.00	110.15	0.00	110.26
9	Other farming - import competing	1.31	0.00	173.60	0.00	174.90
10	Poultry	0.00	0.00	71.30	0.00	71.30
11	Services to agriculture	0.00	0.00	4.21	0.00	4.21
12	Forestry and logging	2.53	0.00	3.68	0.00	6.21
13	Fishing and hunting	0.23	0.00	75.57	0.00	75.81
14	Ferrous metal ores	0.00	0.00	0.00	0.00	0.00
15	Non-ferrous metal ores	0.03	0.00	0.00	0.00	0.03
16	Black coal	0.45	0.00	0.67	0.00	1.11
17	Oil, gas and brown coal	4.60	0.00	16.56	0.00	21.16
18	Other minerals	100.57	0.00	0.63	0.00	101.20
19	Services to mining	0.00	0.00	0.00	0.00	0.00
20	Meat products	2.69	0.00	673.97	0.00	676.66
21	Milk products	2.19	0.00	453.05	0.00	455.24
22	Fruit and vegetable products	0.13	0.00	253.36	0.00	253.48
23	Margarine, oils and fats	0.14	0.00	67.33	0.00	67.47
24	Flour and cereal products	0.18	0.00	114.52	0.00	114.70
25	Bread, cakes and biscuits	4.96	0.00	375.85	0.00	380.81
26	Confectionary and cocoa products	0.30	0.00	217.74	0.00	218.04
27	Food products nec	1.13	0.00	518.17	0.00	519.30
28	Soft drinks, cordials and syrups	2.84	0.00	223.22	0.00	226.06
29	Beer and malt	0.84	0.00	711.78	0.00	712.62
30	Other alcoholic drinks	4.92	0.00	421.61	0.00	426.53
31	Tobacco products	0.52	0.00	365.10	0.00	365.62
32	Cotton ginning, wool scouring, top making	0.00	0.00	0.00	0.00	0.00
33	Man-made fibres, yarns and broadwoven fabrics	0.06	0.00	24.86	0.00	24.92
34	Cotton yarns and broadwoven fabrics	0.17	0.00	108.13	0.00	108.30
35	Worsted and woolen yarns and broadwoven fabrics	0.01	0.00	21.80	0.00	21.81
36	Textile finishing	0.03	0.00	2.07	0.00	2.10
37	Textile floor coverings and felt	6.89	0.00	102.21	0.00	109.10
38	Other textile products	3.28	0.00	42.24	0.00	45.52
39	Knitting mills	0.48	0.00	279.33	0.00	279.81
40	Clothing	1.88	0.00	855.05	0.00	856.94

... continued

Table A4. (continued)

	Commodity	Inter- mediate Inputs	Capital Inputs	Consum- ption	Exports	Total
41	Footwear	1.31	0.00	289.68	0.00	290.99
42	Sawmill products	155.21	0.00	7.93	0.00	163.14
43	Veneers and boards	22.66	0.00	10.40	0.00	33.06
44	Joinery and wood products	203.80	0.00	45.09	0.00	248.89
45	Furniture and mattresses	0.58	0.00	358.94	0.00	359.52
46	Pulp, paper and paperboard	11.02	0.00	7.02	0.00	18.04
47	Paper bags and fibreboard containers	0.25	0.00	0.23	0.00	0.49
48	Paper products nec	7.97	0.00	55.99	0.00	63.95
49	Newspapers and books	24.09	0.00	347.58	0.00	371.67
50	Commercial printing	66.12	0.00	67.00	0.00	133.12
51	Chemical fertilizers	0.93	0.00	10.16	0.00	11.09
52	Other basic chemicals	24.33	0.00	1.31	0.00	25.64
53	Paints and varnishes	69.22	0.00	5.71	0.00	74.93
54	Pharmaceutical products	0.20	0.00	260.59	0.00	260.79
55	Soap and detergents	1.17	0.00	161.57	0.00	162.74
56	Cosmetics and toiletries	0.00	0.00	161.40	0.00	161.40
57	Other chemical products	9.72	0.00	23.82	0.00	33.54
58	Petroleum and coal products	83.21	0.00	710.85	0.00	794.06
59	Glass and glass products	20.75	0.00	26.14	0.00	46.89
60	Clay products and refractories	156.93	0.00	44.92	0.00	201.86
61	Cement	31.52	0.00	0.54	0.00	32.06
62	Ready mixed concrete	180.47	0.00	0.00	0.00	180.47
63	Concrete products	163.44	0.00	0.59	0.00	164.03
64	Other non-metallic mineral products	87.60	0.00	5.18	0.00	92.78
65	Basic iron and steel products	175.04	0.00	1.64	0.00	176.68
66	Basic non-ferrous metal products	58.87	0.00	6.84	0.00	65.71
67	Structural metal products	289.32	0.00	25.87	0.00	315.20
68	Sheet metal products	103.82	0.00	25.61	0.00	129.44
69	Other fabricated metal products	167.44	0.00	74.92	0.00	242.36
70	Motor vehicles and parts	3.16	0.00	538.72	0.00	541.89
71	Ships and boats	0.03	0.00	31.62	0.00	31.64
72	Locomotives and rolling stock	0.10	0.00	0.00	0.00	0.10
73	Aircraft	0.12	0.00	3.75	0.00	3.88
74	Scientific equipment	2.09	0.00	145.05	0.00	147.14
75	Electronic equipment	163.39	0.00	331.03	0.00	494.42
76	Household appliances	72.56	0.00	269.10	0.00	341.67
77	Other electrical equipment	189.16	0.00	76.07	0.00	265.23
78	Agricultural machinery	0.49	0.00	0.15	0.00	0.64
79	Construction machinery	1.86	0.00	0.37	0.00	2.22
80	Other plant and machinery	108.61	0.00	35.21	0.00	143.82

... continued

Table A4. (continued)

	Commodity	Inter- mediate Inputs	Capital Inputs	Consum- ption	Exports	Total
81	Leather products	0.00	0.00	73.14	0.00	73.14
82	Rubber products	16.26	0.00	59.67	0.00	75.92
83	Plastic and related products	122.11	0.00	115.88	0.00	237.99
84	Signs, writing and marking equipment	9.15	0.00	22.85	0.00	31.99
85	Manufacturing nec	1.58	0.00	240.13	0.00	241.72
86	Electricity	41.26	0.00	415.10	0.00	456.37
87	Gas	2.58	0.00	81.36	0.00	83.94
88	Water, sewerage and drainage	186.27	0.00	22.35	0.00	208.62
89	Residential building construction	245.16	0.00	0.00	0.00	245.16
90	Other building construction	1.67	0.00	0.00	0.00	1.67
91	Wholesale trade	12.09	0.00	2.87	0.00	14.97
92	Retail trade	10.88	0.00	90.50	0.00	101.38
93	Mechanical repairs	20.47	0.00	382.60	0.00	403.06
94	Other repairs	31.03	0.00	66.40	0.00	97.43
95	Road transport	23.83	0.00	190.61	0.00	214.44
96	Rail and other transport	0.52	0.00	77.44	0.00	77.96
97	Water transport	0.22	0.00	21.62	0.00	21.84
98	Air transport	24.50	0.00	386.34	0.00	410.84
99	Services to transport	15.19	0.00	39.43	0.00	54.62
100	Communication	76.11	0.00	382.70	0.00	458.80
101	Banking	385.21	0.00	0.00	0.00	385.21
102	Non-bank finance	235.43	0.00	0.00	0.00	235.43
103	Investment and services to finance	74.90	0.00	0.00	0.00	74.90
104	Insurance	157.23	0.00	0.00	0.00	157.23
105	Other business services	389.54	0.00	150.94	0.00	540.47
106	Ownership of dwellings	0.00	0.00	0.00	0.00	0.00
107	Public administration	35.37	0.00	0.00	0.00	35.37
108	Defence	0.00	0.00	0.00	0.00	0.00
109	Health	1.69	0.00	0.00	0.00	1.69
110	Education, museums, libraries	1.95	0.00	0.00	0.00	1.95
111	Welfare and religious institutions	27.25	0.00	0.00	0.00	27.25
112	Entertainment and recreational services	29.58	0.00	739.03	0.00	768.62
113	Restaurants, hotels, clubs	16.10	0.00	765.74	0.00	781.84
114	Personal services	2.76	0.00	276.05	0.00	278.82
115	Non-traditional exports	14.04	0.00	92.70	0.00	106.74
	All commodities	5013.94	0.00	15284.68	0.00	20298.62

Table A5
Changes in Input Taxes by Industry, 1986/87, \$million

	Industry	WST	Petrol Tax	Payroll Tax	GST
1	Pastoral zone	1.10	12.54	0.63	0.00
2	Wheat-sheep zone	8.51	120.88	5.43	0.00
3	High rainfall zone	4.13	39.88	2.00	0.00
4	Northern beef	1.78	13.97	0.00	0.00
5	Milk cattle and pigs	15.18	18.27	1.80	0.00
6	Other farming - export oriented	1.38	25.17	4.42	0.00
7	Other farming - import competing	1.45	26.55	4.65	0.00
8	Poultry	34.60	0.28	7.34	0.00
9	Services to agriculture	1.31	11.54	5.67	0.00
10	Forestry and logging	6.28	46.75	9.15	0.00
11	Fishing and hunting	17.32	50.40	1.35	0.00
12	Ferrous metal ores	7.78	8.60	18.95	0.00
13	Non-ferrous metal ores	9.74	30.96	41.27	0.00
14	Black coal	18.06	24.57	74.03	0.00
15	Oil, gas and brown coal	4.75	1.78	21.81	0.00
16	Other minerals	4.53	19.45	12.09	0.00
17	Services to mining	1.96	11.58	13.60	0.00
18	Meat products	3.44	5.37	48.92	0.00
19	Milk products	3.59	6.04	13.78	0.00
20	Fruit and vegetable products	7.79	3.24	8.12	0.00
21	Margarine, oils and fats	2.16	0.94	2.38	0.00
22	Flour and cereal products	1.39	1.37	8.44	0.00
23	Bread, cakes and biscuits	2.95	8.74	22.49	0.00
24	Confectionary and cocoa products	4.57	1.51	6.54	0.00
25	Food products nec	5.82	13.11	22.52	0.00
26	Soft drinks, cordials and syrups	10.59	9.73	6.55	0.00
27	Beer and malt	5.22	1.94	12.03	0.00
28	Other alcoholic drinks	3.76	1.88	2.72	0.00
29	Tobacco products	0.86	0.39	5.47	0.00
30	Cotton ginning, wool scouring, top making	0.03	0.40	3.35	0.00
31	Man-made fibres, yarns and broadwoven fabrics	0.90	0.25	7.03	0.00
32	Cotton yarns and broadwoven fabrics	0.46	0.14	5.57	0.00
33	Worsted and woolen yarns and broadwoven fabrics	0.04	0.13	3.45	0.00
34	Textile finishing	2.35	0.18	3.22	0.00
35	Textile floor coverings and felt	2.34	0.50	5.37	0.00
36	Other textile products	0.95	1.14	5.22	0.00
37	Knitting mills	1.22	0.56	12.58	0.00
38	Clothing	1.80	2.76	28.30	0.00
39	Footwear	0.45	0.33	9.91	0.00
40	Sawmill products	1.79	12.34	12.92	0.00

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Table A5. (continued)

	Industry	WST	Petrol Tax	Payroll Tax	GST
41	Veneers and boards	0.60	2.08	3.85	0.00
42	Joinery and wood products	4.72	7.02	12.11	0.00
43	Furniture and mattresses	8.49	5.24	18.68	0.00
44	Pulp, paper and paperboard	1.70	2.13	6.62	0.00
45	Paper bags and fibreboard containers	29.32	3.58	10.85	0.00
46	Paper products nec	2.79	1.94	5.10	0.00
47	Newspapers and books	46.19	15.89	38.87	0.00
48	Commercial printing	25.69	13.84	39.73	0.00
49	Chemical fertilizers	4.68	0.48	3.12	0.00
50	Other basic chemicals	7.80	67.71	23.62	0.00
51	Paints and varnishes	18.42	13.50	7.54	0.00
52	Pharmaceutical products	5.35	2.97	15.07	0.00
53	Soap and detergents	3.12	5.02	7.96	0.00
54	Cosmetics and toiletries	3.60	2.80	5.13	0.00
55	Other chemical products	7.27	10.94	5.05	0.00
56	Petroleum and coal products	13.67	0.00	9.63	0.00
57	Glass and glass products	3.36	2.19	8.06	0.00
58	Clay products and refractories	3.68	2.50	11.76	0.00
59	Cement	0.74	2.48	5.56	0.00
60	Ready mixed concrete	1.75	7.59	3.49	0.00
61	Concrete products	1.94	4.95	11.60	0.00
62	Other non-metallic mineral products	0.37	0.84	5.49	0.00
63	Basic iron and steel products	4.15	7.34	59.17	0.00
64	Basic non-ferrous metal products	2.28	27.92	40.57	0.00
65	Structural metal products	2.80	8.78	25.13	0.00
66	Sheet metal products	3.61	7.44	20.69	0.00
67	Other fabricated metal products	6.44	7.92	29.86	0.00
68	Motor vehicles and parts	47.98	4.88	72.26	0.00
69	Ships and boats	2.91	1.43	7.91	0.00
70	Locomotives and rolling stock	0.81	0.77	4.26	0.00
71	Aircraft	2.42	0.26	5.64	0.00
72	Scientific equipment	3.46	1.02	9.13	0.00
73	Electronic equipment	8.56	1.82	18.12	0.00
74	Household appliances	10.26	1.01	15.45	0.00
75	Other electrical equipment	17.83	4.54	26.40	0.00
76	Agricultural machinery	2.44	0.71	3.70	0.00
77	Construction machinery	3.40	1.41	4.96	0.00
78	Other plant and machinery	25.16	8.42	41.46	0.00
79	Leather products	0.11	0.69	3.27	0.00
80	Rubber products	3.67	5.13	8.04	0.00

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Table A5. (continued)

	Industry	WST	Petrol Tax	Payroll Tax	GST
81	Plastic and related products	13.93	8.67	30.89	0.00
82	Signs, writing and marking equipment	2.30	1.34	3.49	0.00
83	Manufacturing nec	0.74	1.12	5.86	0.00
84	Electricity	8.77	62.78	128.70	0.00
85	Gas	2.04	5.93	17.91	0.00
86	Water, sewerage and drainage	1.92	3.83	77.73	0.00
87	Residential building construction	39.78	23.37	38.32	1160.64
88	Other building construction	80.20	80.21	158.65	1952.13
89	Wholesale trade	159.96	266.15	359.34	0.00
90	Retail trade	195.75	164.34	333.07	0.00
91	Mechanical repairs	226.23	0.66	75.54	0.00
92	Other repairs	10.06	10.06	28.78	0.00
93	Road transport	70.54	273.96	92.32	0.00
94	Rail and other transport	8.36	121.88	57.38	0.00
95	Water transport	6.15	22.76	11.33	0.00
96	Air transport	6.90	159.65	31.02	0.00
98	Services to transport	1.28	10.51	67.16	0.00
98	Communication	58.92	63.28	79.69	0.00
99	Banking	46.38	1.86	249.57	459.84
100	Non-bank finance	10.95	2.60	103.92	235.54
101	Investment and services to finance	3.99	3.57	54.91	39.88
102	Insurance	9.95	4.11	123.19	180.63
103	Other business services	101.71	97.20	514.14	0.00
104	Ownership of dwellings	2.65	11.22	0.00	985.29
105	Public administration	0.00	0.00	0.00	0.00
106	Defence	8.66	0.00	0.00	0.00
107	Health	31.33	41.38	50.20	0.00
108	Education, museums, libraries	54.34	0.65	52.02	0.00
109	Welfare and religious institutions	55.97	187.87	25.54	0.00
110	Entertainment and recreational services	86.47	44.49	44.89	0.00
111	Restaurants, hotels, clubs	16.60	5.16	87.91	0.00
112	Personal services	3.09	20.70	29.53	0.00
113	Non-traditional exports	0.00	0.00	0.00	0.00
	All industries	1873.77	2504.68	4068.98	5013.94

Table A6
 Reductions in Government Expenditure, 1990/91, \$million

	Commodity/Expenditure Category	Goods and Services			Other	Total
		Federal Current	Federal Capital	States Current		
1	Wool	0.00	0.00	0.00	0.00	0.00
2	Sheep	0.00	0.00	0.00	0.00	0.00
3	Wheat	0.00	0.00	0.00	0.00	0.00
4	Barley	0.00	0.00	0.00	0.00	0.00
5	Other grains	0.00	0.00	0.00	0.00	0.00
6	Meat cattle	0.00	0.00	0.00	0.00	0.00
7	Milk cattle and pigs	0.00	0.00	0.00	0.00	0.00
8	Other farming-export oriented	0.00	0.00	0.00	0.00	0.00
9	Other farming-import competing	0.00	0.00	0.00	0.00	0.00
10	Poultry	0.00	0.00	0.00	0.00	0.00
11	Services to agriculture	20.00	0.00	3.26	0.00	23.26
12	Forestry and logging	0.00	0.00	2.57	0.00	2.57
13	Fishing and hunting	0.00	0.00	0.26	0.00	0.26
14	Ferrous metal ores	0.00	0.00	0.00	0.00	0.00
15	Non-ferrous metal ores	0.00	0.00	0.00	0.00	0.00
16	Black coal	0.00	0.00	0.00	0.00	0.00
17	Oil, gas and brown coal	0.00	0.00	0.00	0.00	0.00
18	Other minerals	0.00	0.00	0.00	0.00	0.00
19	Services to mining	0.00	0.00	0.38	0.00	0.38
20	Meat products	0.00	0.00	0.00	0.00	0.00
21	Milk products	0.00	0.00	0.00	0.00	0.00
22	Fruit and vegetable products	0.00	0.00	0.00	0.00	0.00
23	Margarine, oils and fats	0.00	0.00	0.00	0.00	0.00
24	Flour and cereal products	0.00	0.00	0.00	0.00	0.00
25	Bread, cakes and biscuits	0.00	0.00	0.00	0.00	0.00
26	Confectionary and cocoa products	0.00	0.00	0.00	0.00	0.00
27	Food products nec	0.00	0.00	0.00	0.00	0.00
28	Soft drinks, cordials & syrups	0.00	0.00	0.00	0.00	0.00
29	Beer and malt	0.00	0.00	0.00	0.00	0.00
30	Other alcoholic drinks	0.00	0.00	0.00	0.00	0.00
31	Tobacco products	0.00	0.00	0.00	0.00	0.00
32	Cotton ginning, wool scouring, top making	0.00	0.00	0.00	0.00	0.00
33	Man-made fibres, yarns and broadwoven fabrics	0.00	0.00	0.00	0.00	0.00
34	Cotton yarns and broadwoven fabrics	0.00	0.00	0.00	0.00	0.00
35	Worsted and woolen yarns and broadwoven fabrics	0.00	0.00	0.00	0.00	0.00
36	Textile finishing	0.00	0.00	0.00	0.00	0.00
37	Textile floor coverings and felt	0.00	0.00	0.00	0.00	0.00
38	Other textile products	0.00	0.00	0.00	0.00	0.00
39	Knitting mills	0.00	0.00	0.00	0.00	0.00
40	Clothing	0.00	0.00	0.00	0.00	0.00

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Table A6. (continued)

Commodity/Expenditure Category	Goods and Services			Other	Total
	Federal Current	Federal Capital	States Current		
41 Footwear	0.00	0.00	0.00	0.00	0.00
42 Sawmill products	0.00	0.00	0.00	0.00	0.00
43 Veneers and boards	0.00	0.00	0.00	0.00	0.00
44 Joinery and wood products	0.00	0.00	0.00	0.00	0.00
45 Furniture and mattresses	0.00	0.00	0.00	0.00	0.00
46 Pulp, paper and paperboard	0.00	0.00	0.00	0.00	0.00
47 Paper bags and fibreboard containers	0.00	0.00	0.00	0.00	0.00
48 Paper products nec	0.00	0.00	0.00	0.00	0.00
49 Newspapers and books	0.00	0.00	0.00	0.00	0.00
50 Commercial printing	0.00	0.00	0.42	0.00	0.42
51 Chemical fertilizers	0.00	0.00	0.00	0.00	0.00
52 Other basic chemicals	0.00	0.00	0.00	0.00	0.00
53 Paints and varnishes	0.00	0.00	0.00	0.00	0.00
54 Pharmaceutical products	0.00	0.00	0.00	0.00	0.00
55 Soap and detergents	0.00	0.00	0.00	0.00	0.00
56 Cosmetics and toiletries	0.00	0.00	0.00	0.00	0.00
57 Other chemical products	0.00	0.00	0.00	0.00	0.00
58 Petroleum and coal products	0.00	0.00	0.00	0.00	0.00
59 Glass and glass products	0.00	0.00	0.00	0.00	0.00
60 Clay products and refractories	0.00	0.00	0.00	0.00	0.00
61 Cement	0.00	0.00	0.00	0.00	0.00
62 Ready mixed concrete	0.00	0.00	0.00	0.00	0.00
63 Concrete products	0.00	0.00	0.00	0.00	0.00
64 Other non-metallic mineral products	0.00	0.00	0.00	0.00	0.00
65 Basic iron and steel products	0.00	0.00	0.00	0.00	0.00
66 Basic non-ferrous metal products	0.00	0.00	0.00	0.00	0.00
67 Structural metal products	0.00	0.00	0.00	0.00	0.00
68 Sheet metal products	0.00	0.00	0.00	0.00	0.00
69 Other fabricated metal products	0.00	0.00	0.00	0.00	0.00
70 Motor vehicles and parts	0.00	0.00	0.00	0.00	0.00
71 Ships and boats	0.00	0.00	0.00	0.00	0.00
72 Locomotives and rolling stock	0.00	0.00	0.00	0.00	0.00
73 Aircraft	0.00	0.00	0.00	0.00	0.00
74 Scientific equipment	0.00	0.00	0.00	0.00	0.00
75 Electronic equipment	0.00	0.00	0.00	0.00	0.00
76 Household appliances	0.00	0.00	0.00	0.00	0.00
77 Other electrical equipment	0.00	0.00	0.00	0.00	0.00
78 Agricultural machinery	0.00	0.00	0.11	0.00	0.11
79 Construction machinery	0.00	0.00	0.00	0.00	0.00
80 Other plant and machinery	0.00	0.00	0.00	0.00	0.00

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Table A6 (continued)

Commodity/Expenditure Category	Goods and Services			Other	Total	
	Federal Current	Federal Capital	States Current			
81	Leather products	0.00	0.00	0.00	0.00	0.00
82	Rubber products	0.00	0.00	0.00	0.00	0.00
83	Plastic and related products	0.00	0.00	0.00	0.00	0.00
84	Signs, writing and marking equipment	0.00	0.00	0.00	0.00	0.00
85	Manufacturing nec	0.00	0.00	0.00	0.00	0.00
86	Electricity	0.00	0.00	0.00	0.00	0.00
87	Gas	0.00	0.00	0.00	0.00	0.00
88	Water, sewerage and drainage	0.00	0.00	1.37	0.00	1.37
89	Residential building construction	0.00	220.00	0.00	0.00	220.00
90	Other building construction	0.00	0.00	33.36	0.00	33.36
91	Wholesale trade	0.00	0.00	0.04	0.00	0.04
92	Retail trade	0.00	0.00	0.00	0.00	0.00
93	Mechanical repairs	0.00	0.00	0.00	0.00	0.00
94	Other repairs	0.00	0.00	0.00	0.00	0.00
95	Road transport	21.00	0.00	1.11	0.00	22.11
96	Rail and other transport	0.00	0.00	0.00	0.00	0.00
97	Water transport	0.00	0.00	0.00	0.00	0.00
98	Air transport	0.00	0.00	0.05	0.00	0.05
99	Services to transport	66.00	0.00	3.76	0.00	69.76
100	Communication	273.00	0.00	0.62	0.00	273.62
101	Banking	0.00	0.00	0.15	0.00	0.15
102	Non-bank finance	0.00	0.00	0.00	0.00	0.00
103	Investment & services to finance	0.00	0.00	0.00	0.00	0.00
104	Insurance	0.00	0.00	9.60	0.00	9.60
105	Other business services	0.00	0.00	0.91	0.00	0.91
106	Ownership of dwellings	0.00	0.00	0.46	0.00	0.46
107	Public administration	1156.00	0.00	0.00	0.00	1156.00
108	Defence	200.00	0.00	62.84	0.00	262.84
109	Health	811.00	0.00	82.80	0.00	893.80
110	Education, museums, libraries	-240.00	0.00	104.43	0.00	-135.57
111	Welfare and religious institutions	81.00	0.00	52.47	0.00	133.47
112	Entertainment and recreational services	116.00	0.00	11.65	0.00	127.65
113	Restaurants, hotels, clubs	0.00	0.00	0.00	0.00	0.00
114	Personal services	8.00	0.00	0.38	0.00	8.38
115	Non-traditional exports	0.00	0.00	0.00	0.00	0.00
	All commodities	2512.00	220.00	373.00	0.00	3105.00
	Unemployment benefits	0.00	0.00	0.00	522.00	522.00
	Other personal benefits	0.00	0.00	0.00	-2010.00	-2010.00
	Interest payments	0.00	0.00	0.00	1328.00	1328.00
	Transfers to overseas	0.00	0.00	0.00	195.00	195.00
	Deisel fuel rebate scheme	0.00	0.00	0.00	902.00	902.00
	Total	2512.00	220.00	373.00	937.00	4042.00

Table A7
Effects of Reductions in Indirect Taxation

Variable	1988/89 (\$m)	Projections			
		Wholesale	Petrol	Payroll	Total
Domestic production account -					
GDP at market prices (income side)	330912	1.85	1.96	2.23	6.04
Wages, salaries and supplements	164957	2.78	2.27	3.03	8.08
Disposable labour income	126947	2.78	2.27	3.03	8.08
PAYE taxes	38010	2.78	2.27	3.03	8.08
Gross operating surplus	125950	6.11	5.26	4.98	16.36
Disposable non-labour income	104507	6.11	5.26	4.98	16.36
Taxes on non-labour income	21443	6.11	5.26	4.98	16.36
Indirect taxes	40005	-15.47	-9.71	-9.69	-34.87
Commodity taxes less subsidies	26577	-25.79	-16.58	2.51	-39.85
Production taxes	13428	4.96	3.87	-33.85	-25.02
GDP at market prices (expenditure side)	330912	1.85	1.96	2.23	6.04
Domestic absorption	337976	2.94	2.49	2.19	7.62
Private consumption	191553	3.76	3.08	3.23	10.07
Private investment	69948	2.92	2.72	1.50	7.14
Government consumption	57807	0.28	0.03	-0.47	-0.16
Government investment	18668	2.84	3.26	2.29	8.39
Exports of goods and services	51479	-2.88	-0.32	2.92	-0.28
Imports of goods and services	57721	4.03	3.05	2.58	9.66
Sales by final buyers	822	1.73	1.83	2.93	6.50
Government outlay, revenue and deficit account -					
Income side total	122506	-3.36	-1.59	-1.39	-6.35
Government revenue	117853	-3.53	-1.69	-1.46	-6.67
Direct taxes	60063	3.96	3.33	3.72	11.02
Income taxes	59453	3.99	3.35	3.73	11.07
Other direct taxes	610	1.85	1.96	2.23	6.04
Indirect taxes	43919	-15.47	-9.71	-9.69	-34.87
Other revenue	13871	1.85	1.96	2.23	6.04
Increase in provisions	4653	0.90	0.82	0.21	1.93
Expenditure side total	117869	0.65	0.44	-0.15	0.94
Expenditure on goods & services	75390	0.90	0.82	0.21	1.93
Personal benefit payments	29311	-1.68	-1.36	-1.77	-4.80
Unemployment benefits	2933	-16.76	-13.55	-17.64	-47.94
Other personal benefits	26378	0.00	0.00	0.00	0.00
Interest payments (net)	13435	4.33	2.18	1.35	7.86
Other outlays	-267	0.65	0.44	-0.15	0.94

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Table A7 (continued)

Variable	Projections			
	Wholesale	Petrol	Payroll	Total
Other selected macro variables -				
Consumer price index	-0.53	-0.01	0.50	-0.04
Factor cost GDP deflator	1.96	1.66	1.66	5.27
Real disposable income	4.29	3.09	2.73	10.11
Balance of trade surplus (percentage of GDP)	-1.15	-0.58	0.00	-1.73
Government deficit (percentage of total outlays)	4.14	2.09	1.29	7.53
Real GDP	2.27	1.90	2.22	6.39
Aggregate employment	2.91	2.36	3.07	8.34
Industry outputs -				
1 Rural	0.19	0.99	1.22	2.39
2 Mining	-0.13	0.49	2.00	2.35
3 Food products	0.75	1.02	1.93	3.70
4 Textiles, clothing, footwear	1.31	1.06	2.64	5.01
5 Wood, paper and related products	2.81	2.05	2.75	7.60
6 Chemicals, petroleum and related products	1.96	2.73	3.04	7.73
7 Non-metallic mineral products	3.16	2.23	2.55	7.94
8 Metal products	1.59	1.42	2.89	5.90
9 Transport equipment	4.74	1.98	4.84	11.56
10 Other equipment and machinery	3.22	2.08	3.34	8.64
11 Other manufacturing	2.96	1.75	3.26	7.97
12 Utilities	1.91	1.64	2.35	5.90
13 Construction	3.60	2.58	2.24	8.42
14 Trade, transport and business services	2.17	1.74	2.21	6.13
15 Community and personal services	1.98	1.53	1.73	5.24

Table A8
Effects of Changes in Taxation

Variable	1988/89 (\$m)	Projections			
		Indirect Reductions	GST	Income Tax	Total
Domestic production account -					
GDP at market prices (income side)	330912	6.04	-4.82	4.97	6.19
Wages, salaries and supplements	164957	8.08	-7.47	2.88	3.49
Disposable labour income	126947	8.08	-7.47	10.29	10.90
PAYE taxes	38010	8.08	-7.47	-21.87	-21.26
Gross operating surplus	125950	16.36	-18.49	7.50	5.37
Disposable non-labour income	104507	16.36	-18.49	9.77	7.64
Taxes on non-labour income	21443	16.36	-18.49	-3.58	-5.70
Indirect taxes	40005	-34.87	49.13	5.66	19.92
Commodity taxes less subsidies	26577	-39.85	81.71	5.31	47.17
Production taxes	13428	-25.02	-15.34	6.36	-34.00
GDP at market prices (expenditure side)	330912	6.04	-4.82	4.97	6.19
Domestic absorption	337976	7.62	-9.15	6.55	5.02
Private consumption	191553	10.07	-11.12	8.85	7.80
Private investment	69948	7.14	-9.84	5.24	2.54
Government consumption	57807	-0.16	-1.41	0.94	-0.62
Government investment	18668	8.39	-10.40	5.23	3.22
Exports of goods and services	51479	-0.28	17.08	-6.66	10.13
Imports of goods and services	57721	9.66	-10.66	3.86	2.87
Sales by final buyers	822	6.50	-3.87	1.55	4.17
Government outlay, revenue and deficit account -					
Income side total	122506	-6.35	11.35	-4.72	0.29
Government revenue	117853	-6.67	11.94	-4.98	0.29
Direct taxes	60063	11.02	-11.38	-15.07	-15.43
Income taxes	59453	11.07	-11.45	-15.27	-15.65
Other direct taxes	610	6.04	-4.82	4.97	6.19
Indirect taxes	43919	-34.87	49.13	5.66	19.92
Other revenue	13871	6.04	-4.82	4.97	6.19
Increase in provisions	4653	1.93	-3.60	1.99	0.32
Expenditure side total	117869	0.94	-2.92	1.61	-0.38
Expenditure on goods and services	75390	1.93	-3.60	1.99	0.32
Personal benefit payments	29311	-4.80	4.52	-1.73	-2.01
Unemployment benefits	2933	-47.94	45.20	-17.31	-20.05
Other personal benefits	26378	0.00	0.00	0.00	0.00
Interest payments (net)	13435	7.86	-15.37	6.80	-0.71
Other outlays	-267	0.94	-2.92	1.61	-0.38

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Table A8 (continued)

Variable	Projections			
	Indirect Reductions	GST	Income Tax	Total
Other selected macro variables -				
Consumer price index	-0.04	2.17	3.69	5.82
Factor cost GDP deflator	5.27	-6.22	2.60	1.66
Real disposable income	10.11	-13.29	5.16	1.99
Balance of trade surplus (percentage of GDP)	-1.73	4.52	-1.71	1.08
Government deficit (percentage of total outlays)	7.53	-14.72	6.52	-0.68
Real GDP	6.39	-6.02	2.28	2.64
Aggregate employment	8.34	-7.86	3.01	3.49
Industry outputs -				
1 Rural	2.39	0.69	-0.38	2.69
2 Mining	2.35	1.61	-0.71	3.26
3 Food products	3.70	-0.90	0.13	2.93
4 Textiles, clothing, footwear	5.01	-4.35	1.41	2.07
5 Wood, paper and related products	7.60	-7.21	2.54	2.94
6 Chemicals, petroleum and related products	7.73	-2.82	0.94	5.86
7 Non-metallic mineral products	7.94	-8.94	3.31	2.31
8 Metal products	5.90	-2.27	0.74	4.36
9 Transport equipment	11.56	-2.46	0.69	9.79
10 Other equipment and machinery	8.64	-6.67	2.35	4.32
11 Other manufacturing	7.97	-3.90	1.30	5.37
12 Utilities	5.90	-6.93	2.46	1.43
13 Construction	8.42	-11.91	4.49	1.00
14 Trade, transport and business services	6.13	-5.57	2.02	2.57
15 Community and personal services	5.24	-6.86	3.04	1.42

Table A9
Effects of Changes in Taxation, Government Outlays and Wages

Variable	1988/89 (\$m)	Projections			
		Taxation	Govt Outlays	Total	Wage Inflation
Domestic production account -					
GDP at market prices (income side)	330912	6.19	-1.24	4.95	0.16
Wages, salaries and supplements	164957	3.49	-1.21	2.28	1.11
Disposable labour income	126947	10.90	-1.21	9.69	1.11
PAYE taxes	38010	-21.26	-1.21	-22.47	1.11
Gross operating surplus	125950	5.37	-1.91	3.46	-0.93
Disposable non-labour income	104507	7.64	-1.91	5.73	-0.93
Taxes on non-labour income	21443	-5.70	-1.91	-7.62	-0.93
Indirect taxes	40005	19.92	0.75	20.67	-0.31
Commodity taxes less subsidies	26577	47.17	1.76	48.93	-0.46
Production taxes	13428	-34.00	-1.25	-35.25	0.00
GDP at market prices (expenditure side)	330912	6.19	-1.24	4.95	0.16
Domestic absorption	337976	5.02	-1.57	3.45	0.73
Private consumption	191553	7.80	-1.19	6.61	0.34
Private investment	69948	2.54	-0.82	1.72	0.73
Government consumption	57807	-0.62	-3.61	-4.23	2.23
Government investment	18668	3.22	-1.92	1.30	0.13
Exports of goods and services	51479	10.13	1.37	11.50	-4.84
Imports of goods and services	57721	2.87	-0.87	2.01	-0.95
Sales by final buyers	822	4.17	-0.41	3.76	-0.49
Government outlay, revenue and deficit account -					
Income side total	122506	0.29	-0.71	-0.42	0.16
Government revenue	117853	0.29	-0.61	-0.32	0.09
Direct taxes	60063	-15.43	-1.46	-16.89	0.37
Income taxes	59453	-15.65	-1.46	-17.11	0.37
Other direct taxes	610	6.19	-1.24	4.95	0.16
Indirect taxes	43919	19.92	0.75	20.67	-0.31
Other revenue	13871	6.19	-1.24	4.95	0.16
Increase in provisions	4653	0.32	-3.20	-2.88	1.72
Expenditure side total	117869	-0.38	-1.83	-2.21	1.49
Expenditure on goods and services	75390	0.32	-3.20	-2.88	1.72
Personal benefit payments	29311	-2.01	5.85	3.84	0.94
Unemployment benefits	2933	-20.05	-0.74	-20.79	9.43
Other personal benefits	26378	0.00	6.58	6.58	0.00
Interest payments (net)	13435	-0.71	-9.68	-10.39	1.39
Other outlays	-267	-0.38	61.26	60.88	1.49

... continued

Table A9 (continued)

Variable	1988/89 (\$m)	Projections			
		Taxation	Govt. Outlays	Total	Wage Inflation
Other selected macro variables -					
Consumer price index		5.82	-0.44	5.38	0.92
Factor cost GDP deflator		1.66	-0.69	0.97	1.36
Real disposable income		1.99	-0.76	1.23	-0.58
Balance of trade surplus (percentage of GDP)		1.08	0.36	1.44	-0.59
Government deficit (percentage of total outlays)		-0.68	-1.10	-1.77	1.33
Real GDP		2.64	-0.82	1.82	-1.13
Aggregate employment		3.49	-1.20	2.28	-1.64
Industry outputs -					
1 Rural		2.69	-0.06	2.63	-1.76
2 Mining		3.26	0.09	3.36	-1.52
3 Food products		2.93	0.01	2.94	-1.84
4 Textiles, clothing, footwear		2.07	-0.22	1.85	-1.60
5 Wood, paper and related products		2.94	-0.75	2.19	-1.46
6 Chemicals, petroleum and related products		5.86	-0.51	5.35	-2.12
7 Non-metallic mineral products		2.31	-0.85	1.46	-1.03
8 Metal products		4.36	-0.15	4.21	-2.01
9 Transport equipment		9.79	-0.09	9.70	-3.37
10 Other equipment and machinery		4.32	-0.37	3.96	-1.93
11 Other manufacturing		5.37	-0.33	5.04	-2.21
12 Utilities		1.43	-0.76	0.68	-0.99
13 Construction		1.00	-0.99	0.01	-0.47
14 Trade, transport and business services		2.57	-0.61	1.96	-1.16
15 Community and personal services		1.42	-1.85	-0.43	-0.67

Table A10
Projected Changes in Aggregate Employment

	Shock	Components of Shock			
		Cost	Demand	Real Disposable Income	Total
1	Reduction in wholesale sales tax	0.47	-0.12	2.56	2.91
2	Reduction in petrol tax	0.72	-0.20	1.84	2.36
3	Reduction in payroll tax	1.45	0.00	1.62	3.07
4	Indirect tax reductions (1+2+3)	2.64	-0.32	6.02	8.34
5	Increase in goods and services tax	-0.16	0.25	-7.95	-7.86
6	Reduction in income tax	0.00	0.00	3.01	3.01
7	Changes in taxation (4+5+6)	2.48	-0.08	1.08	3.49
8	Reduction in government outlays	-0.10	-0.66	-0.44	-1.20
9	Changes in taxation and outlays (7+8)	2.38	-0.74	0.64	2.28

Table A11
Effects of Changes in Taxation (revised)

Variable	1988/89 (\$m)	Projections			
		Indirect Reductions	GST	Income Tax	Total
Domestic production account -					
GDP at market prices (income side)	330912	6.04	-4.82	4.21	5.43
Wages, salaries and supplements	164957	8.08	-7.47	2.44	3.04
Disposable labour income	126947	8.08	-7.47	8.71	9.31
PAYE taxes	38010	8.08	-7.47	-18.51	-17.90
Gross operating surplus	125950	16.36	-18.49	6.35	4.22
Disposable non-labour income	104507	16.36	-18.49	8.27	6.14
Taxes on non-labour income	21443	16.36	-18.49	-3.03	-5.15
Indirect taxes	40005	-34.87	49.13	4.79	19.05
Commodity taxes less subsidies	26577	-39.85	81.71	4.50	46.35
Production taxes	13428	-25.02	-15.34	5.38	-34.98
GDP at market prices (expenditure side)	330912	6.04	-4.82	4.21	5.43
Domestic absorption	337976	7.62	-9.15	5.54	4.01
Private consumption	191553	10.07	-11.12	7.49	6.44
Private investment	69948	7.14	-9.84	4.43	1.73
Government consumption	57807	-0.16	-1.41	0.80	-0.77
Government investment	18668	8.39	-10.40	4.43	2.42
Exports of goods and services	51479	-0.28	17.08	-5.64	11.16
Imports of goods and services	57721	9.66	-10.66	3.27	2.28
Sales by final buyers	822	6.50	-3.87	1.31	3.93
Government outlay, revenue and deficit account -					
Income side total	122506	-6.35	11.35	-3.99	1.02
Government revenue	117853	-6.67	11.94	-4.22	1.05
Direct taxes	60063	11.02	-11.38	-12.75	-13.11
Income taxes	59453	11.07	-11.45	-12.93	-13.30
Other direct taxes	610	6.04	-4.82	4.21	5.43
Indirect taxes	43919	-34.87	49.13	4.79	19.05
Other revenue	13871	6.04	-4.82	4.21	5.43
Increase in provisions	4653	1.93	-3.60	1.68	0.01
Expenditure side total	117869	0.94	-2.92	1.36	-0.62
Expenditure on goods and services	75390	1.93	-3.60	1.68	0.01
Personal benefit payments	29311	-4.80	4.52	-1.47	-1.74
Unemployment benefits	2933	-47.94	45.20	-14.65	-17.39
Other personal benefits	26378	0.00	0.00	0.00	0.00
Interest payments (net)	13435	7.86	-15.37	5.76	-1.75
Other outlays	-267	0.94	-2.92	1.36	-0.62

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Table A11 (continued)

Variable	Projections			
	Indirect Reductions	GST	Income Tax	Total
Other selected macro variables -				
Consumer price index	-0.04	2.17	3.12	5.25
Factor cost GDP deflator	5.27	-6.22	2.20	1.26
Real disposable income	10.11	-13.29	4.37	1.19
Balance of trade surplus (percentage of GDP)	-1.73	4.52	-1.45	1.34
Government deficit (percentage of total outlays)	7.53	-14.72	5.51	-1.68
Real GDP	6.39	-6.02	1.93	2.29
Aggregate employment	8.34	-7.86	2.55	3.02
Industry outputs -				
1 Rural	2.39	0.69	-0.33	2.75
2 Mining	2.35	1.61	-0.60	3.37
3 Food products	3.70	-0.90	0.11	2.91
4 Textiles, clothing, footwear	5.01	-4.35	1.19	1.85
5 Wood, paper and related products	7.60	-7.21	2.15	2.55
6 Chemicals, petroleum and related products	7.73	-2.82	0.80	5.71
7 Non-metallic mineral products	7.94	-8.94	2.80	1.81
8 Metal products	5.90	-2.27	0.63	4.25
9 Transport equipment	11.56	-2.46	0.58	9.69
10 Other equipment and machinery	8.64	-6.67	1.99	3.96
11 Other manufacturing	7.97	-3.90	1.10	5.17
12 Utilities	5.90	-6.93	2.08	1.05
13 Construction	8.42	-11.91	3.80	0.31
14 Trade, transport and business services	6.13	-5.57	1.71	2.26
15 Community and personal services	5.24	-6.86	2.57	0.96

Table A12
Effects of Changes in Taxation, Government Outlays and Wages (revised)

Variable	1988/89 (\$m)	Projections			
		Taxation	Govt. Outlays	Total	Wage Inflation
Domestic production account -					
GDP at market prices (income side)	330912	5.43	-1.24	4.19	0.21
Wages, salaries and supplements	164957	3.04	-1.21	1.84	1.46
Disposable labour income	126947	9.31	-1.21	8.11	1.46
PAYE taxes	38010	-17.90	-1.21	-19.11	1.46
Gross operating surplus	125950	4.22	-1.91	2.31	-1.22
Disposable non-labour income	104507	6.14	-1.91	4.23	-1.22
Taxes on non-labour income	21443	-5.15	-1.91	-7.07	-1.22
Indirect taxes	40005	19.05	0.75	19.80	-0.40
Commodity taxes less subsidies	26577	46.35	1.76	48.11	-0.60
Production taxes	13428	-34.98	-1.25	-36.23	0.00
GDP at market prices (expenditure side)	330912	5.43	-1.24	4.19	0.21
Domestic absorption	337976	4.01	-1.57	2.44	0.96
Private consumption	191553	6.44	-1.19	5.25	0.44
Private investment	69948	1.73	-0.82	0.91	0.96
Government consumption	57807	-0.77	-3.61	-4.37	2.93
Government investment	18668	2.42	-1.92	0.49	0.17
Exports of goods and services	51479	11.16	1.37	12.52	-6.35
Imports of goods and services	57721	2.28	-0.87	1.41	-1.25
Sales by final buyers	822	3.93	-0.41	3.52	-0.64
Government outlay, revenue and deficit account -					
Income side total	122506	1.02	-0.71	0.31	0.21
Government revenue	117853	1.05	-0.61	0.45	0.12
Direct taxes	60063	-13.11	-1.46	-14.57	0.49
Income taxes	59453	-13.30	-1.46	-14.76	0.49
Other direct taxes	610	5.43	-1.24	4.19	0.21
Indirect taxes	43919	19.05	0.75	19.80	-0.40
Other revenue	13871	5.43	-1.24	4.19	0.21
Increase in provisions	4653	0.01	-3.20	-3.18	2.26
Expenditure side total	117869	-0.62	-1.83	-2.46	1.95
Expenditure on goods and services	75390	0.01	-3.20	-3.18	2.26
Personal benefit payments	29311	-1.74	5.85	4.11	1.24
Unemployment benefits	2933	-17.39	-0.74	-18.13	12.37
Other personal benefits	26378	0.00	6.58	6.58	0.00
Interest payments (net)	13435	-1.75	-9.68	-11.44	1.82
Other outlays	-267	-0.62	61.26	60.64	1.95

... continued

Table A12 (continued)

Variable	1988/89 (\$m)	Projections			
		Taxation	Govt. Outlays	Total	Wage Inflation
Other selected macro variables -					
Consumer price index		5.25	-0.44	4.81	1.20
Factor cost GDP deflator		1.26	-0.69	0.57	1.78
Real disposable income		1.19	-0.76	0.43	-0.76
Balance of trade surplus (percentage of GDP)		1.34	0.36	1.70	-0.77
Government deficit (percentage of total outlays)		-1.68	-1.10	-2.78	1.74
Real GDP		2.29	-0.82	1.47	-1.49
Aggregate employment		3.02	-1.20	1.82	-2.15
Industry outputs -					
1 Rural		2.75	-0.06	2.69	-2.31
2 Mining		3.37	0.09	3.46	-2.00
3 Food products		2.91	0.01	2.92	-2.41
4 Textiles, clothing, footwear		1.85	-0.22	1.64	-2.10
5 Wood, paper and related products		2.55	-0.75	1.79	-1.92
6 Chemicals, petroleum and related products		5.71	-0.51	5.20	-2.78
7 Non-metallic mineral products		1.81	-0.85	0.95	-1.35
8 Metal products		4.25	-0.15	4.10	-2.64
9 Transport equipment		9.69	-0.09	9.60	-4.42
10 Other equipment and machinery		3.96	-0.37	3.60	-2.53
11 Other manufacturing		5.17	-0.33	4.84	-2.90
12 Utilities		1.05	-0.76	0.30	-1.30
13 Construction		0.31	-0.99	-0.68	-0.61
14 Trade, transport and business services		2.26	-0.61	1.65	-1.52
15 Community and personal services		0.96	-1.85	-0.90	-0.87