DISCUSSION PAPERS

PAPERS PRESENTED TO THE
CONSUMPTION TAX CONFERENCE
24-25 February 1992

GST AND THE INFLATION RATE
Chris Murphy

and

THE CONSUMPTION TAX CONFERENCE
SUMMARY AND ASSESSMENT
John Piggott

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John Piggott
University of New South Wales

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Monday/Tuesday, 24 and 25 February 1992
Convener: Dr. John Quiggin

PROGRAM OUTLINE

Opening Address: Mr Peter Reith
Deputy Leader of the Opposition and Shadow Treasurer

SESSION 1: Paper 1: Consumption Tax: A Solution or New Problems?
Terry Dwyer, Economic Consultant
Paper 2: Economic Arguments for a New Consumption Tax
John Freebairn, Monash University
Discussant (Papers 1 and 2): Fred Gruen, ANU

SESSION 2: Paper 3: Borrowing, Saving and Taxation
John Quiggin, ANU
Discussant: Robert Albon, ANU

PANEL DISCUSSION I:
What Can We Learn From The New Zealand Experience with the GST, Micro-
economic Reform and Macroeconomic Policy?
Speakers: Alan Wood, The Australian
Alan Bollard, NZ Institute of Economic Research

SESSION 3: Paper 4: Tax Reform and the Distribution of Income
Anne Harding, Centre of Economic & Social Modelling
Dept of Health, Housing & Community Services

SESSION 4: Paper 5: National Savings Policy for Australia
Speaker: David Chessell, Access Economics

PANEL DISCUSSION II:
1. GST and the Size of Government
Geoff Brennan, Australian National University
2. GST and the Inflation Rate
Chris Murphy, Access Economics and ANU

SUMMARY SESSION
Opening Speaker: John Piggott
University of New South Wales
Open Discussion
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**GST AND THE INFLATION RATE** - Chris Murphy

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1. **INTRODUCTION**

"It is difficult to see why such an obvious step-increase in certain prices ... should lead to expectations of higher inflation (if, by inflation, we mean the persistent increase of prices year after year)" (Alan Walters, cited in Tait, 1988, p. 198, emphasis in original).

This paper considers whether a revenue-neutral shift in the tax mix from income tax to consumption tax is likely to have a sustained effect on inflation. There is a specific focus on part of the Federal Opposition's GST package.

A revenue-neutral shift in the tax mix from income tax to consumption tax will increase the relative price of consumption. Whether this has any sustained effect on the absolute price of consumption, or its rate of increase, the inflation rate, depends mainly on the responses of wages and monetary policy.

Higher consumption tax will increase the wedge between consumer and producer prices, and lower income tax will reduce the wedge between producer and consumer (after-tax) wages. If the change in the tax mix is revenue-neutral, both producer real wages and consumer (after-tax) real wages will not be directly affected by the tax changes.

If producer real wages are unchanged, and monetary policy targets producer prices, there would be no change in nominal wages, just a once-and-for-all increase in the absolute price of consumption accommodated by an increase in the money supply. This is the outcome envisaged by Alan Walters in the opening quotation. We describe it as the **Base Case**.

The Base Case makes specific assumptions about the responses of wages and monetary policy.

In the Base Case monetary policy targets producer prices. In the **Non-accommodating Monetary Policy Case**, the money supply is held fixed to squeeze out the rise in the absolute price level. This would result in a period of higher short-term interest rates and unemployment.

In the Base Case, employers focus on (producer real wages), and employees focus on (after-tax consumer real wages). Neither real wage concept is directly affected by the change in the tax mix. In the **Wages Blowout Case**, employees or wage fixing authorities instead irrationally focus on (pre-tax consumer real wages). No nominal wages and thereby producer real wages increase in response to higher consumer prices. The increase in nominal wages would lead to a wage-price spiral, the longevity of which will depend on whether it is accommodated by monetary policy. The increase in producer real wages will lead to a period of higher unemployment.
To reiterate, we will consider three cases.

1. **Base Case** (step increase in absolute price level).
   Money supply expands to accommodate step-increase in consumer prices. Nominal wage outcomes are influenced by conventional measures of producer and consumer real wages.

2. **Non-Accommodating Monetary Policy Case** (no effect on absolute price level in long run).
   Same as Base Case except nominal money supply held fixed.

3. **Wages Blowout Case** (step increase in absolute price level followed by increase in rate of inflation).
   Same as Base Case except nominal wages rise because wage outcomes are influenced by pre-tax wages relative to consumer prices.

Our interest in this paper is to take the part of the GST package involving a change in the tax mix and consider two questions. What would be the path of the Australian economy under each of the three cases? Which case is most likely to eventuate?

In the next section of the paper we survey the overseas experience to see which of the three cases predominates.

In the third section, the part of the GST package under consideration in this paper is identified.

In the fourth section "part (2)" of the GST package is simulated under each of the three cases.

The main conclusions are drawn together in the fifth section.

2. **INTERNATIONAL EVIDENCE**

"Therefore in 29 cases ... 83 percent - the introduction of the VAT did not alter the rate of price change" (Tait, 1991, p.8).

The IMF has conducted a survey of the price effects of introducing VAT in 35 countries (Tait, 1991). "In the majority of cases, the VAT introduction was designed to be an equal yield replacement for other taxes" (Tait, 1988, p. 192) as is also the case in the Federal Opposition's proposed GST package.

In 22 cases "no major impact on the CPI could be identified" (Tait, 1991, p.8) although in some of these cases the VAT substituted for existing indirect taxes.

In 7 cases "the introduction of the VAT is associated with a highly defined once-and-for-all shift in the CPI ... there was no acceleration of the rate of change of prices attributable to the VAT" (Tait, 1991, p.8). This Base Case outcome is shown for Denmark and Japan in Charts 1 and 2. Interestingly, Denmark had a "wage regulation index" which differed from its
consumer price index in excluding the net price effect from the VAT.

In the remaining 6 countries, "the VAT could have contributed to an acceleration in the rate of inflation, although this was associated in each case with expansionary wage and credit policies" (Tait, 1991, p.8). The countries concerned are Guatemala, Israel, Italy, Mexico, Peru and Norway. However, in the cases of Israel, Mexico and Peru, the introduction of the VAT was not revenue-neutral but rather was associated with an increase in the overall tax burden.

Overall, the international evidence, summarised by Tait in the opening quotation for this section, suggests that in a typical case there is a fairly low risk of the introduction of a VAT having an ongoing effect on the rate of inflation. The Federal Opposition's GST proposal is probably a typical case in terms of its inflation risk. The GST is in part financing a cut in income tax which is a negative in that income tax does not have a price effect, but a reduction in the overall tax burden is involved (through expenditure cuts) which is a positive.

**Chart 1. Denmark: Price Effects of VAT Introduction, First Quarter 1966–First Quarter 1969**


Source: International Monetary Fund, International Financial Statistics

VAT introduced July 1967

VAT introduced April 1989
3. GST PACKAGE

"... the CPI effect will not be incorporated into wage levels ... the price level increase will be a one-off 4.4 per cent" (Liberal and National Parties, 1991, p. 135).

The Liberal and National Parties (1991) proposed major changes in monetary policy, tariff reform, privatisation, industrial relations, and public sector spending and taxation. We only consider the public sector spending and taxation proposals, which we describe as the GST Package, although the other proposals, considered collectively, may be more important.

For analytical purposes, it is convenient to divide the GST Package into three parts. The approximate CPI and net revenue effects for each part in a full year are shown in the table.

Part (1) is a change in the mix of indirect taxes, in which the abolition of wholesale sales tax, petrol excise and payroll tax is financed by a GST of 11%. This is a revenue neutral change in the indirect tax mix but is nevertheless estimated to increase the CPI by 1.7% (see note (b) to the table for the reasons).

The proposed rate for the GST was 15% rather than 11%, creating room for $4.9b in personal income tax cuts after providing income compensation of $2.6b for the CPI effects of the GST package. Thus part (2) of the package is a shift in the tax mix from income tax to consumption tax.

Part (3) of the package is based around net expenditure savings of $6.5b. These would be used to increase the income tax cuts by another $4.7b to $9.8b and reduce the Budget deficit.

The main element of part (1) of the package is a move to more uniform taxation of the components of consumption. The effects of this cannot be properly demonstrated using the AEM model as it disaggregates consumption into only two components. The AEM model can, however, be used to examine the effects from the abolition of payroll tax.

Part (2) of the package, the shift in the tax mix from income tax to GST, is fairly simple to analyse using the AEM model. It is also more relevant than the other parts of the package for the topic, "GST and the Inflation Rate", as it accounts for 3.0% points of the total CPI effect of 4.7% points.

Part (3) of the package could be analysed using the AEM model, although a good deal of preliminary analysis would be required to map the expenditure measures from the portfolio basis reported in Liberal and National Parties (1991) to a national accounts basis.

Here we use the AEM model to analyse part (2) of the package only. This is a shift in the tax mix from income tax to GST with a CPI effect of 3.0%, plus an income compensation package.
Major Components of GST Package (a)

<table>
<thead>
<tr>
<th></th>
<th>CPI Effect (%)</th>
<th>Expend. Savings $b '89-91</th>
<th>Revenue Gains $b '90-91</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Change in the Mix of Indirect Taxes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abolish:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- wholesale sales tax</td>
<td>-4.3</td>
<td>-9.4</td>
<td></td>
</tr>
<tr>
<td>- petrol excise</td>
<td>-1.3</td>
<td>-5.8</td>
<td></td>
</tr>
<tr>
<td>- payroll tax</td>
<td>-0.9</td>
<td>-4.7</td>
<td></td>
</tr>
<tr>
<td>- other</td>
<td>+0.1</td>
<td>+0.2</td>
<td></td>
</tr>
<tr>
<td>Introduce:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- GST at 11%:</td>
<td>+8.1</td>
<td>+19.7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>+1.7(b)</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>(2) Shift in the Tax Mix from Income Tax to Consumption Tax Increase:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income compensation for</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>CPI effects</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cut:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- personal income tax</td>
<td></td>
<td></td>
<td>-4.9</td>
</tr>
<tr>
<td></td>
<td>+3.0</td>
<td>-2.6</td>
<td>+22.6</td>
</tr>
<tr>
<td>(3) Expenditure Savings</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Net Other</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expenditure Savings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extra Cut:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- personal income tax</td>
<td></td>
<td></td>
<td>-4.7</td>
</tr>
<tr>
<td>Net Other</td>
<td></td>
<td></td>
<td>-0.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>+6.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-4.9</td>
</tr>
<tr>
<td>(4) Total GST Package:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>= (1)+(2)+(3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>+4.7</td>
<td>+3.9</td>
<td>-2.3</td>
</tr>
</tbody>
</table>

Notes to table:
(b) The CPI effect of 1.7% arises even though part (1) of the package is revenue neutral, because: (i) half of the cost saving from the abolition in payroll tax cut is assumed not to be passed on in lower prices (CPI effect of 0.9%); and (ii) the GST impacts more on consumption and less on exports than the taxes it replaces, (CPI effect of 0.8%).
4. AUSTRALIAN MODEL-BASED EVIDENCE

"The short run adjustment costs of the change in the tax mix were shown to be small provided ... " (Murphy, 1991, p. 114).

The effects of a change in the tax mix from income tax to consumption tax under alternative macroeconomic policy assumptions have been analysed previously using an ARM model (Murphy, 1988a, 1988b) in Murphy (1991). The exercise here differs in that the time horizon has been extended from five years to nine years, a newer edition of the model has been used, and a special focus is placed on the price effects. Despite these differences, the overall thrust of the results and discussion is similar.

To represent part (2) of the GST package in terms of model tax rates, we raise the average rate of tax on consumption excluding rental services (POL4) from 13.2% to 17.34%, and reduce the average rate of tax on labour income (POL1) from 22.3% to 19.8%.

The increase in POL4 implies a 3.7% increase in the price of consumption excluding rental services, and a 3.0% increase in the price of total consumption. This last figure lines up with the estimated CPI effect of part (2) of the GST package.

The size of the cut in POL1 is calculated to give what could broadly be described as a deficit-neutral outcome in the long run. More precisely, the steady-state public debt-to-GDP ratio is unaffected. This does not imply a deficit neutral outcome in every year, but does roughly imply a deficit neutral outcome averaged across years. The adjustment in POL1 is not precisely constant throughout because POL1 is an endogenous variable. The simulation actually involved reducing an exogenous shift factor, POL1X, by 2.3% points of income.

With respect to rates of transfer payments, these are set in the model as a proportion of the after-tax nominal wage. This implies that recipients of transfer payments receive the same proportionate compensation in their nominal incomes in the form of an increase in their rate of benefit, that others receive in the form of a cut in the rate of income tax.

Base Case

The money supply \((M)\) is increased by 1.6%. This should have been 1.8%, which would accommodate the 3% increase in the CPI because consumption has a weight of 60% in GNE, on which money demand is assumed (in part) to depend. This small error in adjusting \(M\) would have only a minor effect on the results.

The wage equation is a backward-looking inflation expectations augmented Phillips Curve, in wage movements depend on recent consumer price movements and recent levels and changes for the unemployment rate. The residual of the equation \((\Delta W)\) was adjusted such that the rate of tax on labour income had the
same influence on wage movements as do movements in consumer prices. This involved reducing wages growth by 1.3% in the second quarter and 1.82% in the fourth quarter to allow for the income tax cuts. This lag in income tax cuts affecting wage movements was applied for consistency with the timing effects of the consumption tax increase on wages, which is delayed because of the lagged adjustment of wages to consumer prices.

Non-Accommodating Money Case

This is the same as the Base Case except the money supply was not increased.

Wages Blow-out Case

This is the same as the Base Case except that the adjustment to the wage equation to allow for an effect from the income tax cut was not applied.

A comparison of some of the main results for a nine-year horizon, expressed as deviations from a Baseline Forecast, are reported in the table.

The first point to emphasise is that the long run outcomes for real variables, reported in the last column of the table which is headed "L.R." is the same for all three cases. However, the differences in the adjustment path of the economy between the three cases are nevertheless important: an adjustment path can be so painful that any long run benefits do not justify the short run costs. In comparing the results for the three cases we focus on the adjustment paths. The long run results are then considered.

Base Case

The adjustment path is fairly smooth in the Base Case.

A step-increase in the CPI of around 3% results from the consumption tax increase with no sustained effect on the rate of inflation. The money supply accommodates the increase in money demand from the higher price level so the 90-day bill rate is virtually unaffected. Wage movements take account of both the higher consumer prices and lower income tax. These tax changes have offsetting effects so there is virtually no effect on nominal wages. The real consumer after-tax wage is close to baseline throughout the simulation. The unemployment rate is marginally above baseline in the early part of the simulation, marginally below baseline in the latter part, and equal to baseline in the long run.

Non-Accommodating Money Case

With the nominal money supply held fixed in the face of higher nominal money demand resulting from higher consumer prices, the 90-day bill rate rises to about 1% point p.a. above baseline. This defacto tightening of monetary policy reduces demand, and by quarter 8 real GDP is 1.2% below baseline and
## A Shift from Income Tax to Consumption Tax
### (deviations from baseline)

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>QUARTER SIMULATION</th>
<th>1</th>
<th>4</th>
<th>8</th>
<th>20</th>
<th>36</th>
<th>L.R.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wages (a)</td>
<td>Base Case</td>
<td>0.0</td>
<td>-0.1</td>
<td>-0.4</td>
<td>-1.0</td>
<td>-0.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N-A Money</td>
<td>0.0</td>
<td>-0.1</td>
<td>-0.4</td>
<td>-0.9</td>
<td>-2.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wages Up</td>
<td>0.0</td>
<td>+3.1</td>
<td>+4.9</td>
<td>+7.0</td>
<td>-2.1</td>
<td>-0.5</td>
</tr>
<tr>
<td>CPI (a)</td>
<td>Base Case</td>
<td>+3.1</td>
<td>+3.4</td>
<td>+3.5</td>
<td>+2.7</td>
<td>+2.5</td>
<td>+2.5</td>
</tr>
<tr>
<td></td>
<td>N-A Money</td>
<td>+3.1</td>
<td>+3.2</td>
<td>+2.6</td>
<td>+0.5</td>
<td>+0.9</td>
<td>+0.9</td>
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<tr>
<td></td>
<td>Wages Up</td>
<td>+3.1</td>
<td>+3.9</td>
<td>+2.1</td>
<td>+0.7</td>
<td>+2.8</td>
<td>+2.5</td>
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<tr>
<td>Inc. Tax (b)</td>
<td>Base Case</td>
<td>-2.6</td>
<td>-2.6</td>
<td>-2.5</td>
<td>-2.6</td>
<td>-2.5</td>
<td></td>
</tr>
<tr>
<td>(aver. rate)</td>
<td>N-A Money</td>
<td>-2.5</td>
<td>-2.5</td>
<td>-2.2</td>
<td>-3.1</td>
<td>-2.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wages Up</td>
<td>-2.5</td>
<td>-2.5</td>
<td>-2.4</td>
<td>-2.7</td>
<td>-2.5</td>
<td></td>
</tr>
<tr>
<td>Real Wage (consumer, after-tax)</td>
<td>Base Case</td>
<td>+0.3</td>
<td>-0.1</td>
<td>+0.0</td>
<td>-0.2</td>
<td>+0.2</td>
<td>+0.2</td>
</tr>
<tr>
<td></td>
<td>N-A Money</td>
<td>+0.3</td>
<td>+0.1</td>
<td>+0.3</td>
<td>-0.8</td>
<td>+0.5</td>
<td>+0.2</td>
</tr>
<tr>
<td></td>
<td>Wages Up</td>
<td>+0.3</td>
<td>+4.6</td>
<td>+1.2</td>
<td>-1.8</td>
<td>-4.5</td>
<td>+0.2</td>
</tr>
<tr>
<td>Money (a)</td>
<td>Base Case</td>
<td>+1.6</td>
<td>+1.6</td>
<td>+1.6</td>
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<tr>
<td></td>
<td>N-A Money</td>
<td>0.0</td>
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<td></td>
<td>Wages Up</td>
<td>+1.6</td>
<td>+1.6</td>
<td>+1.6</td>
<td>+1.6</td>
<td>+1.6</td>
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<tr>
<td>90-day bills (c)</td>
<td>Base Case</td>
<td>+0.2</td>
<td>+0.0</td>
<td>-0.2</td>
<td>-0.4</td>
<td>-0.1</td>
<td>0.0</td>
</tr>
<tr>
<td></td>
<td>N-A Money</td>
<td>+1.1</td>
<td>+0.7</td>
<td>-0.2</td>
<td>-0.9</td>
<td>+0.0</td>
<td>0.0</td>
</tr>
<tr>
<td></td>
<td>Wages Up</td>
<td>+0.1</td>
<td>+0.6</td>
<td>+2.3</td>
<td>+1.1</td>
<td>-2.3</td>
<td>0.0</td>
</tr>
<tr>
<td>10-year bonds (c)</td>
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(a) percentage deviation from baseline
(b) deviation from baseline as percentage of income
(c) deviation from baseline in percentage points p.a.
(d) deviation from baseline as percentage of GDP
the unemployment rate is 0.5% points above baseline. This induces price deflation relative to baseline. After four years the rise in consumer prices has been pared back from 3% to 1%, and other prices, including the wage rate, have fallen 2%, implying no net effect on the price of aggregate expenditure. Thus in the long run there is no change in the absolute price level, just a change in relative prices.

The defacto tightening of monetary policy increases the variability of real variables on the adjustment path, compared with the Base Case. Considerably stronger cycles are evident in the unemployment rate, real GDP, the consumer real wage and the 90-day bill rate. However, the long run effects on these variables are the same as in the Base Case. The effects aggregated over time are also similar. For example, while the unemployment rate is higher in the first half of the simulation, it is lower in the second half.

Wages Blow-out Case

With wage movements not been affected by the cut in income tax, the increase in consumer prices pushes up wages. By quarter 4 the nominal wage is 3.1% above baseline, compared with virtually no change in the other two cases. This sets in train a wage-price spiral so there are further increases in prices in the second and third years. However, monetary policy is assumed to only accommodate the original step-increase in prices flowing from the direct effect of the consumption tax increase, so the additional price increases reduce real money balances driving up the 90-day bill rate. Thus a defacto tightening in monetary policy occurs.

Unemployment rises sharply to be 2.1% points above baseline after five years. This is partly due to the increase in real wages: consumer after-tax real wages are up 2.6% by the end of the first year and producer real wages would be up by a similar margin. The other factor is the defacto tightening of monetary policy which sees the 90-day bill rate 2.3% points p.a. above baseline by the end of the second year.

It is possible the monetary authorities limit the rise in unemployment by accommodating the wage-price spiral in which case a permanent increase in the rate of inflation would eventuate.

Thus the only circumstances in which the shift in the tax mix will give rise to a permanent increase in inflation is when wage movements do not take into account the income tax cuts, and monetary policy accommodates the ensuing wage-price spiral.

Long Run Effects

In considering the long run effects, we focus on the Base case because its adjustment path is not complicated by the changes in monetary conditions and real wages seen in the other two cases.
Private consumption is around 1% below baseline in the first five years of the simulation but this effect steadily diminishes to a fall of only 0.2% after nine years. In the long run consumption is actually 0.1% above baseline. The change in the tax mix has induced substitution of future consumption for present consumption.

The initial lift in savings induces a fall in the current account deficit of around 0.5% of GDP, and a fall in the 10-year bond rate of 0.2% points p.a.

Savings rise due to the wealth effect from the change in the tax mix; there is no interest rate/substitution effect on consumption in the AEM model. The increase in the relative price of consumption reduces the claim on future consumption of the initial stock of wealth and this induces higher savings to re-build wealth. To the extent that there is a substitution effect, the model results will understate the savings stimulus from the change in the tax mix.
5. CONCLUSIONS

"While some commentators have associated VAT rate changes with inflation, the weight of evidence seems to be against it" (Tait, 1988, p. 212).

The weight of international evidence seems to indicate that part (2) of the GST package is most likely to have effects similar to the Base Case. There would be a shift-increase in the price level but no ongoing effect on the rate of inflation.

The AEM model analysis for the Base Case also points to some increase in savings due to a wealth effect, producing a fall in the current account deficit of around 0.5% points of GDP. It also points to only minor fluctuations in short-term interest rates and unemployment, and a small fall in long-term interest rates due to higher savings.

The quotation from the fightback documentation which opens section 3 asserts the Base Case assumptions would be realised. It is to be hoped this would be the case. The Non-Accommodating Money Case points to a temporary softening in economic activity if the step-increase in the price level is not accommodated. The Wages Blow-out Case points to a significant downturn if wages rise in response to higher consumer prices, and are not affected by the income tax cut.

Perhaps the bottom line is that Part (2) of the GST package looks attractive provided wage setting arrangements are in place which make it highly unlikely a wages blow-out will occur.

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THE CONSUMPTION TAX CONFERENCE
SUMMARY AND ASSESSMENT

John Piggott
University of New South Wales

1. Introduction

 Held in late February 1992, the two-day ANU conference on the consumption tax had all the qualities for which conferences run by the Centre for Economic Policy Research have become renowned: timing, quality, and coverage running from the analytic to the pragmatic, the theoretical to the policy coalface.

 Although the editing process has somewhat improved the continuity, and occasionally accuracy, of my original summary, it did not and was not intended to transform these remarks into a full paper. What is presented here should be taken for what it is: summary comments on a conference. A more complete paper, also drawing on the conference, is forthcoming in the CEDA journal Growth.

 The title of the conference gave no indication of the extent to which papers and discussion would address the Coalition's GST package. Choice of authors, however, dictated that the emphasis would be towards the policy end of the spectrum. Peter Reith, the Shadow Treasurer, opened proceedings with a spirited advocacy of the GST, and this confirmed that the focus of the conference would be on the Opposition's proposals.

 On day one, the first conference session comprised two papers giving the cases for and against the GST reform. The middle session featured a high quality analytical presentation, and this was followed by the first of two panel discussions: 'The New Zealand Experience'. Day two comprised papers on distributional issues and saving

* This is a slightly revised version of the comments delivered as Summary Speaker at the CEPR Consumption Tax Conference.
policy, both important topics when considering an income-consumption tax substitution. The concluding session included panel discussion on the links between the GST, the size of government, and inflation.

There are a number of ways of organising remarks aimed at summarising such a diverse group of papers and topics. I have chosen to discuss the papers in order, but have added a conclusion which attempt to evaluate the GST as a policy instrument in the long term. This has been developed from my conference summary and is reproduced, with very few changes, from the conclusion of the Growth paper referred to above.

2. Consumption Tax: For and Against

What was surprising about these two papers, by John Freebairn [for] and Terry Dwyer [against] was the number of issues on which they agreed. They agreed that the analytical case for the allocative superiority of a consumption tax was ambiguous; they agreed that a goods and services tax which replaced the wholesale tax was a good idea; they agreed on the value of eliminating the fuel excise; and they agreed that the impact on labour supply incentives would be negligible. Needless to say, there were a few matters on which they disagreed as well. For example, Freebairn was keen on payroll tax abolition, on the grounds that the payroll tax was very narrow in its application to labour income, whereas Terry Dwyer was unsure of the value of this abolition. They agreed that in theory, the payroll tax, interpreted as a tax on labour income, and the consumption tax, were equivalent. And there was a further implicit agreement: neither said much about the redistributive effect of the tax substitution. The lack of attention given to this last

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1 Geoff Brennan did not present any written remarks, and I have therefore not covered his talk.
matter was especially surprising, since more general policy comment on income tax consumption tax substitution focuses heavily on equity issues.

One reason may be that a surprisingly large part (about 80%) of the projected GST revenue simply replaces the revenue currently generated by the wholesale sales tax, the payroll tax, and the petroleum products excise. The income consumption tax substitution component of the reform is, in revenue terms, relatively minor. I will have more to say about this later.

Needless to say, there were a few matters on which they disagreed as well. For example, Freebairn was keen on payroll tax abolition, on the grounds that the payroll tax was very narrow in its application to labour income, whereas Terry Dwyer was unsure of the value of this abolition. Dwyer saw administration cost as a major drawback to the GST; Freebairn did not. Dwyer also mentioned the additional taxes in the package on superannuation and corporate profits, which Freebairn passed over. This last question, on the taxation of capital in the package, I will return to below.

But the most important difference between the two papers came in their conclusions. John Freebairn saw the consumption tax as a good thing whereas Terry Dwyer did not. I think the difference here can be traced to different perceptions about the operation of the new consumption tax. Freebairn saw it as the realization of a pure tax whereas Dwyer envisaged the consumption tax with anomalies, definitional problems, exemptions and so forth. He gave a number of examples of ways in which the consumption tax could be avoided or evaded by various groups. It seems to me that Dwyer definitely has a point here. One of the oldest fallacies in public finance is to compare an existing tax, weather-beaten and eroded by years of lobbying and political interference, and compare it with a pristine idealized replacement. There is no particular
reason to suppose that a goods and services tax would be immune to political pressures which, over time, would see the erosion of the tax base, and the introduction of multiple rates.

Discussion on this session brought out a number of points. Fred Gruen, the discussant, emphasized that while the fuel tax was perhaps not the best tax, its abolition was likely to make things worse rather than better, because of the externality impacts of fuel consumption. The second point raised in general discussion was that the consumption tax would have to carefully designed if it were not to discriminate against Australia’s international trade in services. For example, if a student comes to Australia to undertake tertiary education, it is a simple matter to exempt the tertiary fee from the tax, but more complicated to exempt living expenses. I am not altogether persuaded, however, that this is an impossible administrative task. A statutory exemption of, say, $10,000 a year for such a student would seem to be a sensible administrative measure to overcome this difficulty.

A more analytical point was raised as well. While many applied public finance economists advocate uniform tax rates for consumption taxes, there are theoretical arguments that tax rates should differ by commodity. The basic idea is that market prices allocate resources reasonably well, and that revenue requirements should therefore be met as far as possible by taxing those commodities whose quantities will not vary much as price changes. If a commodity is inelastic in demand, it should be taxed heavily; a commodity that is elastic in demand should be taxed lightly. This so called “Ramsey” result dates back to Frank Ramsey’s famous 1927 paper in the Economic Journal, and has spawned a large and forbidding theoretical literature — the so called optimal tax literature.
In the present context, optimal tax theory can be applied in the following way. What is important is the elasticity of demand for commodities in the market, that is, where they are bought and sold, and can be taxed. For many goods, the market is the only source. But for some services, home production provides an alternative source of supply. For example, it is very difficult to build a television set in the home, but much easier to provide haircuts. Or, as another example, food can be prepared in the home, or at a takeout food outlet. These service commodities would appear, therefore, to be relatively elastic in market demand, and optimal tax theory would therefore dictate that such items be taxed at a lower rate than a television set, or other types of manufactured goods for which home production is not viable. This pattern of taxation is crudely approximated by our current arrangements of a wholesale tax on goods, with services exempted. A good deal of the push for value added taxes, or retail sales taxes, has come from the observation that purchase taxes at the wholesale level, or manufacturers’ sales taxes [as in the Canadian case], allows services, or at least the value added in service provision, to escape tax. This leads to price distortions across consumption goods and services. Yet the Ramsey rule suggests that this might in fact be desirable.

On balance, however, I think the consumption tax cannot be dismissed on these grounds alone. While there may be a good deal to the above argument, it is also true that multiple rates of tax [whether these rates are zero and a single positive number, or zero and range of positive numbers] leads to a set of administrative arrangements which are complex, and which are more vulnerable to lobbying pressure than those associated with a single tax rate. If lobbyists think that they will succeed, they devote more resources to lobbying, and these resources are wasted from a social point of view. This waste is likely to dominate the social waste which might result from uniform tax rates replacing some crude optimal tax rate structure.
3. Borrowing, Saving, and Taxation

The afternoon session opened with a paper by John Quiggin, of the ANU’s Centre for Economic Policy Research. The point he made was a simple, novel, and important one. Our consumption requirements through our life cycle are far more uniform than our income flows. This means that all of us, at one time or another, make use of capital markets to borrow and to lend. The analytical literature on income tax consumption tax substitution assumes that capital market services are costless. In fact they are very costly - according to Quiggin some 12% of Australia’s GDP is taken up with financial services. It is therefore very costly to make income consumption adjustments by reference to capital markets.

Reliance on the income tax, and particularly a progressive income tax, reduces our requirements on the capital market, because such a tax taxes us heavily when our income flows are high and at a very low level when our income flows are low. By contrast, a consumption tax taxes the amount we spend each year, and does not help us to match our disposable income with our consumption requirements. Given the high costs of capital transactions, it may well be that it is more efficient to have an income tax than a consumption tax.

What John Quiggin is really arguing is that the government can smooth our consumption for us more cheaply than we can ourselves. His idea has its echoes in a 1986 paper by Mervyn King in the Scandinavian Journal of Economics. But it has not previously been applied to the income-consumption tax debate and I thought from an analytical point of view, the paper was the most innovative presented at the conference. It enriches the theoretical debate and further research along these lines may well qualify the efficiency arguments which are sometimes brought forward in favour of consumption over income taxes.
At the same time, however, the 12% figure should not be taken too seriously as an indicator of the resources devoted to life cycle smoothing. The major demands of such smoothing through private saving - the purchase of an owners occupied home and superannuation, probably account for only a small fraction of the resources devoted to financial services.

4. The New Zealand Experience

The last part of the first afternoon of the conference was taken up with a discussion of the New Zealand experience of introducing a tax on goods and services there. I was initially dubious about drawing on the New Zealand experience, and thought my doubts fully vindicated when one of the speakers, Alan Wood, commented that New Zealand was like Russia in terms of its allocation problems. But there did seem to be some lessons that we could draw from the New Zealand experience.

First, the tax there appeared simple to implement, with even less exemptions than a proposed GST package here in Australia. Secondly, there was no great inflationary impact resulting from the introduction of the GST in New Zealand, despite inflationary expectations at the time of the introduction being much higher than they are in Australia. This was something that was also brought out by Canadian experience, where a 7% GST was introduced last year. There, the inflationary impact as measured so far is very modest. (Once again, I'll comment further on inflationary impact below). A third point was that, like the proposed GST here, the New Zealand tax was to a large extent an indirect tax consolidation.

5. Distributional Issues

The second day of the conference opened with a session on equity issues. I had hoped that the paper by Ann Harding, would address issues of life cycle redistribution,
since she has become an expert in this area and this is the essential incidence issue which income - consumption tax substitution raises.

The consumption tax is frequently depicted as regressive when compared with the income tax, but this is so only indirectly. The important incidence change is that current workers benefit at the expense of the current retired. This is because current workers are saving, so that their income base is greater than their consumption base, whereas the current retired are, by and large, dissaving, so that their consumption base is greater than their income base. It does happen to be true that when you are retired your income is lower than when you are working, and this means that the consumption tax seems to bear more heavily on those who fall in low income groups in a cross section. But these need not necessarily be the people who are poor in a life cycle context. In fact, the retired who have significant assets to run down, and are thus adversely affected by the GST, are likely to be among the better off in a life cycle comparison.

The above is something of a digression, because when Ann delivered her paper, it became apparent that it was not to be about life cycle redistribution at all, but instead about compensation. I had not thought a great deal about the compensation issue in the GST package, beyond acknowledging that without it the GST proposal was dead in the water. So I found the paper as presented an interesting one.

In answer to the question, “Why is compensation so important?”, she argues that beyond purely political considerations, effective compensation is likely to protect the base of the tax from erosion. If compensation is effective, pressure to exempt food, for example, from the tax base, will be less strident.
Amongst the issues to be raised were whether compensation should be based upon disposable income or upon consumption. Although disposable income was chosen as a basis of compensation by both the 1985 Draft White Paper and by the Fightback package, John Freebairn in discussion made two compelling points in favour of the consumption base. The first was that fiscal neutrality could be achieved in the first year with a consumption base compensation. The second was that because the poor tended to dissave, redistribution in favour of the poor was achieved by choosing the consumption base. On pragmatic grounds, I found these arguments very persuasive.

The general reaction by conference participants to the compensation arrangements envisaged in the paper was that they were extremely elaborate. Whereas there may be debate about the administrative costs of the consumption tax vis à vis income tax, there seemed to be little doubt that the administration costs of the compensation package which would accompany the change would be very considerable.

A final point on the equity issue, raised in discussion, is the following. Let us suppose that the substitution of a consumption tax for an income tax is efficiency improving. This implies that the overall size of the cake is larger. Yet almost all redistribution calculations ignore this increase in cake size. Therefore, the status quo tends to be supported more strongly than it should be by the results of such calculations, an observation that holds whenever an efficiency-improving tax substitution is considered. It is likely that the poor as well as the rich will benefit from the efficiency improvement, and therefore it is more likely that they will be made better off by the change than most statistical calculations would suggest.
6. The Impact on Saving

The second paper of the second morning focused on the question of saving. David Chessell made a good deal of the GST package's "tax free saving" concept. The idea here was that new saving, up to $1000 a year, could be placed in a special account, which would receive a significant tax rebate resulting in zero taxation on the interest earned for most taxpayers.

This is an attractive idea, but is offset by other elements raised in the Fightback package. At the moment, the major channels for saving and for investment funds for Australian capital accumulation are the superannuation funds and foreign investment. While the Fightback package seeks to encourage investment by lowering income tax rates, it has in fact increased the tax on superannuation investment from the current statutory 15% to 25%, and has increased the corporate tax rate, which is the effective rate of tax on foreign equity investment in Australia, from 39% to 42%. While the evening out of the rates of tax applying to various channels of saving may lead to some substitution of individual investment for institutional and foreign investment, the magnitudes involved imply that it is unlikely that a net increase in equity investment funds will result.

In any event, there are separate arguments for giving preferential tax treatment to superannuation saving. The existence of the age pension means that for many Australians, there is a genuine temptation to make inadequate provision for retirement from life cycle saving, and instead to rely on government transfers. Again, intergenerational equity, as well as efficiency and national saving performance, suggests that it is desirable that those with adequate lifetime resources provide for their own retirement. For this, a degree of compulsion is necessary; but compulsion should be accompanied by tax preference, to make it more palatable, and to make the accumulation
of adequate retirement provision feasible within the normal working life span, given customary contribution levels. Increasing the tax rate on superannuation fund earnings militates against these objectives.

The potential sources of efficiency gain in moving from income toward consumption taxation lies in reducing the price distortion between present and future consumption, and in the concommitant increase in investment funds. The resultant capital deepening (or, alternatively, the reduction in our net foreign liabilities) would be likely to make us all better off. But these advantages are not exploited in the Fightback package, because of these accompanying taxation features. (These were referred to by Terry Dwyer in his paper.) I believe this aspect of the Fightback package needs a good deal more attention.

7. **Macroeconomic Effects**

The final paper presented at the conference was by Chris Murphy. It focused on the likely macroeconomic consequences of a transition from an income tax to a consumption tax regime. He found that under plausible assumptions, there would be a one off increase in the price level, but no ongoing inflation, and negligible impacts upon real resource use. This is consistent with overseas experience, which has been summarized in a paper by Alan Tait, cited in the Murphy manuscript. A survey of overseas experience of those countries introducing a GST suggests that in most cases macroeconomic consequences have not been particularly severe.

The outlying case in which serious macroeconomic consequences could result is that in which unions insisted that the pre tax wage that workers receive be indexed by the price level, with no allowance made for the income tax cut which they receive. If such a position were to be adopted and the resulting conflict resolved in favour of the unions,
then continuing inflation could occur, and if this is not accommodated by the monetary authorities, a recession would follow. This is seen as unlikely by Murphy, and it is seen as unlikely by me as well.

On the whole, the Murphy paper gives a green light from macroeconomic analysis to the tax change. But it does not resolve the question of whether the tax change is worthwhile in terms of allocative efficiency and equity.

8. Concluding Comments

To summarize the areas of agreement and disagreement that came out of this conference is relatively easy. There was agreement that what has been discussed was a long-run and structural reform, that the macro effects were not a big worry and that the substitution of a general goods and services tax for the wholesale sales tax was sensible. There was also agreement on the necessity for compensation, though not on its form. There was disagreement on whether significant efficiency gains could be generated by the tax substitution, and also on whether a number of associated tax changes were desirable. These included the fuel excise and the taxation of superannuation and corporations.

In the sense that no country that has introduced the goods and services tax has ever repealed it, it is true to say that the reform being contemplated is long run and structural. If we accept this proposition, then it would be sensible to ask whether the environment within which this new tax regime will operate in the future will be conducive to its effectiveness. Contemplation of public finance systems of the future can never be a certain business. However, it is possible to discern certain changes which are likely to occur.
The first of these is the onset of demographic transition. In 40 years time, the aged dependency ratio is expected to nearly double, from its present value of around 16% to about 30%. The proposition that this will make no difference to saving rates or fiscal burden is difficult to accept. It is likely that in the absence of significant policy change, the future retired generation will place a severe burden on the future working generation, because relative numbers will have moved in favour of the retired. This reinforces the wisdom of requiring the present generation of workers to provide for their own retirement where they have the lifetime resources to do so, and to provide them with tax incentives to encourage such provision. It also suggests that saving rates may decline as the present generation of baby boomers reach retirement. Policies aimed at bolstering saving performance could look very attractive in this context.

The second major change in the public finance environment of the future is that it is likely that further development of information and computer technology will make it far easier for owners of capital to move their assets internationally to avoid or evade taxation. It is therefore probable that less and less revenue will be gained from this source, and it is even possible that eventually capital income taxation will go the way of capital transfer taxation, and be largely abolished because it has become, to all intents and purposes, a "voluntary" tax.

A GST clearly looks attractive in the context. The obverse side of this coin is that investment incentives will be very attractive, because equity funds from the rest of the world will move relatively easy into subsidized uses domestically. This scenario suggests that the corporate profits tax, particularly on overseas equity investment, should be decreased rather than increased. This might be accomplished by allowing some portion of the dividend imputation tax credit to be passed to foreign investors.
The third discernible difference in the public finance context of the future is that environment taxes are likely to become increasingly important, responding to pressure which will be both domestic and international. In this light, the abolition of the petroleum products excise envisaged by the GST package is likely to look unattractive, and will need to be replaced by some, possibly superior, environment tax on fossil fuel.

In the light of these long-term changes in the structure of the economy, the central proposition of the GST package seems attractive, but some of the accompanying changes appear to work against its desirability. It is to be hoped that the package is still sufficiently flexible to be able to address at least the most important of these issues.

Returning now to the consumption tax conference itself, I must conclude by pointing to a few areas which were not treated in the conference papers and which seem to me to be important. The first of these are asset price effects which might result from the tax substitution. For example, real estate prices are likely to be affected because a substantial proportion of the real estate stock is owned by investors who are negatively geared with respect to the current income tax. Will a reduction in the marginal income tax rate lead to a decrease or an increase in real estate prices - that is, will investment real estate increase in demand to afford further tax deductions, or will it decrease in demand because the marginal deduction per dollar of investment will be less than before? These and related issues clearly need further analysis.

The second area which has been neglected is that of federal state financial relations. The payroll tax was initially turned over from the commonwealth to the states more than 20 years ago because the states wished for a "growth" tax - that is, a tax whose base would grow with the economy as a whole. The Fightback package proposes to abolish this tax, and this will remove a major source of tax revenue from the states. In an
environment where there seems to be increasing sympathy to the idea that states should become more fiscally independent, this change requires explicit examination.

Thirdly, the conference largely ignored the impact of inflation. Yet inflation, and tax inflation interactions, have loomed large in the applied public finance problems of the last 20 years. They, too, need explicit attention in the context of tax mix change.

All in all, however, the conference was a success. It was comprehensive, it was constructive, and it resulted in a list of areas of consensus, and areas of disagreement. Little more can be asked of a two day gathering of a collection of academics, bureaucrats, and private sector participants in the policy process.

References
(This reference list does not include the conference papers themselves. They are listed in the conference program, reproduced as an appendix to this paper, and revised versions are available as discussion papers from the Centre for Economic Policy Research, ANU).


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Paper 2: Hughes, Barry, Twin Deficits in the IMP Model. With a Comment by John Perkins, NIEIR.

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