

Economic Arguments for a New Consumption Tax*

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Abstract

The revenue, efficiency, distributional and simplicity effects of using a GST to replace some existing indirect taxes and to reduce income taxation are assessed. Replacing the wholesale sales tax (WST), the general revenue raising portion of petroleum excise and payroll tax with a goods and services tax (GST) promises efficiency gains and negligible net redistribution. The principal case for using a GST to fund reductions in Australia's hybrid income tax system is to increase the productivity of saving and investment.

1. Introduction

Taxation reform is about longer term structural change affecting incentives and rewards. This paper considers the implications of introducing a broad based consumption tax to replace revenue now collected by some existing indirect taxes and a part of the revenue now collected by personal income taxation. The specific example of a multistage goods and services tax (GST) levied at a single rate on a broad base of final private consumption expenditure is analysed. Effects of changes in the composition of Australian taxation associated with the introduction of a GST are assessed in terms of the conventional public finance criteria of revenue collected, efficiency, equity and simplicity. Most focus is given to longer term effects, with some comments on transitional adjustment effects.

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Pressures and proposals for the introduction of a broad based consumption tax in Australia over recent years have come from several sources. The Asprey Committee (1975) proposed a value added tax and the Draft White Paper (1985) a retail sales tax in its Option C, however, neither of these proposals was adopted. The topic has been important in academic debate, see for example the conference volume by Head (1986), and some, including Mathews (1984) and Groenewegen (1984), have been strong advocates of introducing a broad based consumption tax. In recent years a number of business organisations have advocated the introduction of a New Zealand type GST and they have commissioned the analysis of specific proposals (see Victorian Employer's Federation, 1990, Freebairn and Chisholm, 1991, for Business Council, and Warren, 1990, for National Farmers Federation). As part of their *Fightback* proposals the Coalition Parties in November 1991 proposed the introduction of a 15% GST, replacement of the existing wholesale sales tax, petroleum product excise and payroll tax (to absorb about 80% of the revenue collected by the GST), and significant reductions in personal income taxation funded roughly half and half by the GST and by net reductions in government expenditure.

Economic arguments for and against the introduction of a GST will be considered in three contexts: the, replacement of some existing indirect taxes, especially the wholesale sales tax (WST); the relative merits of consumption base taxes and income base taxes in a general context; and reduction of a part of the present hybrid income tax burden. Before this assessment, the paper provides a brief overview of current taxation in Australia and of proposals for an Australian GST.

2. Australian Taxation

A summary of the current pattern of taxation in Australia is shown in Table 1. About 80% of all revenue is collected by the Commonwealth and the rest by the State/Local sector. Income taxes collected by the Commonwealth account for 58% of all taxes, and income taxes on individuals for 45% of revenue (although much of the enterprise tax revenue is in the form of a withholding tax on dividends to be received by individuals). About 33% of all revenue comes in the form of a variety of indirect taxes levied by the Commonwealth and State governments.

The last half of the 1980s saw significant changes, generally for the better, to the Commonwealth income taxation system. As summarised by Head (1991), while the system for labour income is close to a comprehensive base, the taxation of capital income can be best described

Table 1. Level and Composition of Taxes Collected by Australian Governments, 1989-90

Tax Category	Commonwealth	State/Local	Total
<i>Income taxes:</i>			
Individuals	50019		50019
Enterprises	14512		14512
Non-residents	915		915
Total	65446		65446
<i>Indirect taxes:</i>			
Taxes on goods and services	10132		10132
•wholesale sales tax			
•excise	1232		1232
- crude oil and LPG	5623		5623
- petroleum products	2239		2239
- other		2395	2395
•franchise fees	21	2390	2411
•motor vehicles	387	4234	4261
•financial taxes		1755	1755
•gambling		929	929
•insurance			
•taxes on imports and exports	3977		3977
Payroll tax	24377	13120	37497
<i>Property Taxes</i>		9489	9489
Total Taxes	89823	22609	112432

Sources: ABS, Taxation Revenue, Australia 1989-90, Catalogue No. 5506.0, and Treasurer, *Budget Statements 1991*, Budget Paper No.1.

as a hybrid or mongrel system. As shown in more detail by Albon, Findlay and Jones (1983), Harper (1989), Freebairn (1991) and others, different saving and investment options are subject to different tax bases, to measurement errors and to different tax rates. The tax base ranges from a consumption base (for owner occupied homes and a large part of household and business investment in human capital), to a real income tax base (for capital gains) to a nominal income tax base (for most business investment and for financial savings). Inflation, even at rates as low as 5% per annum, significantly alters measured taxable income, and various forms of accelerated depreciation result in mismeasurement of income for taxation assessment. Tax rates vary between corporate and non-corporate firms, between domestic and overseas investments, and superannuation fund investment receives a relatively low fixed tax rate. As a result, the effective tax rate on different saving and investment options vary, and in some cases

by tens of percentage points. Australia's system of indirect taxation is notable for the absence of a broad based consumption tax. A variety of Commonwealth and State indirect taxes are imposed. Each of these taxes is characterised by narrow tax bases, different tax rates, and a high incidence on business inputs. For example, the WST is levied on a narrow range of goods, of which motor vehicles represent 30% and household and office equipment and furniture another 24%, three rates of tax are levied, and over two-thirds of the initial incidence is on business inputs (see Draft White Paper, 1985, and Chisholm, Freebairn and Porter, 1990). Even the payroll tax falls on little over a half of all employees, non-wage forms of remuneration are exempt, and marginal tax rates are variable (see Collins Report, 1988). Even where there is some market failure justification for different taxation levels on different goods and services (for example health and other externalities in the case of tobacco and alcohol, and for road construction and maintenance in the case of motor vehicles and petroleum products), there has been no formal assessment of the required tax rate and several studies find marked deficiencies with the present excise, franchise fees and motor vehicle taxes (see IAC, 1985, and Edwards, 1989). These types of arguments underlie criticisms by the Draft White Paper (1985), Head (1991), Coalition Parties (1991) and others of significant inefficiencies, inequities and complexity of the present system of indirect taxes.

Overall, serious deficiencies of the present taxation system, especially as they concern distortions to economic choices and a resulting inefficient mix of production and consumption, indicate that further taxation reform should be part of the wider agenda of microeconomic reform directed at raising national productivity. The introduction of a GST is just one of many potential reform options for reducing the distorting effects of the current taxation system.

3. The GST Option

In reality there are a number of potential practical variants of the broad based consumption tax. I will focus on the multistage VAT or GST system characterised by a broad base of final consumption expenditure and a single tax rate. But even here there are variants in terms of the precise tax base, the rate chosen, taxes to be replaced, and other complementary policy changes.

The ideal tax base for a GST is private final consumption expenditure. Since in practice it is not feasible to tax imputed rent on owner occupied dwellings for the same reason that this item is not included in the income

tax base, equity suggests that other residential rent also should be omitted, and so far it has not proved practicable to tax the value added component of most financial services because of fungibility of interest differentials and service charges; but these housing and financial services can be input taxed, or technically treated as tax exempt items. This base is the New Zealand model. Other suggested items for exclusion, either as tax exempt or zero rated, are health and education services on the grounds that the present price gap between highly subsidised government supply and private provision would be increased even further, and sales by welfare, charitable and religious institutions. These items are zero rated in the Coalition Parties *Fightback* proposals. In another variant, Chisholm, Freebairn and Porter (1990) do not increase the overall indirect tax burden on the already heavily taxed tobacco, alcohol and petroleum products.

Some have argued for exclusion of the necessities of food and clothing for vertical redistribution reasons, and such exclusions, or concessional tax rates, are found in many of the European countries and Canada. While this proposition has some merit, it is a very blunt and inefficient redistributive mechanism relative to the policy instruments of increasing social security payments and adjusting the income tax schedule to be even more progressive (see Stiglitz, 1988). Also, the more comprehensive base simplifies the GST and offers greater potential efficiency gains. For these reasons this paper includes food and clothing in the GST base.

A guide to the tax rates required to replace different existing indirect taxes with a GST is provided by the Coalition Parties *Fightback* proposals. For the chosen base, a rate of 5.2% replaces the present wholesale sales tax, 3.7% is needed to replace the Commonwealth petroleum products excise and 3.2% to replace the State payroll taxes. These indirect tax replacements require an aggregate rate of 12%, or 80% of the revenue to be collected by the proposed 15% GST. A more comprehensive base, *a la* New Zealand, would involve slightly lower rates; and similarly, narrower bases would require higher tax rates.

It turns out that using a GST to replace many of the existing indirect taxes in a revenue neutral way has negligible net redistributive effects, inflationary effects, and other effects requiring complementary policy changes.

Proposals to use a GST to change the tax mix away from income to consumption taxes which also minimise vertical redistribution of the aggregate tax burden and are approximately revenue neutral are constrained in several ways, especially in the initial period context of a static zero-sum game. The associated one-off price increase requires compensating payments for social security recipients, and the consequent use of a portion of

the revenue collected. Because a GST by definition collects revenue proportional to consumption and hence is regressive in terms of income, whereas the present personal income tax system is a progressive tax, an approximately vertical distribution neutral tax mix change requires that the new lower revenue collecting income tax be even more progressive. In practice this means an increase in the tax-free threshold and smaller cuts in marginal income tax rates at the upper thresholds than at the lower and middle thresholds.

To illustrate, with a broad base, a consumption tax rate of 6% to 8% generates enough GST revenue to fund about a 20% (or \$10 billion) reduction in personal income taxation and maintenance of the real purchasing power of social security pensions and benefits. If the same income tax base is retained, changes in the income tax schedule of the order of increases in the tax-free threshold from \$5400 to \$7000 or \$8000, and reductions in marginal tax rates at low and middle income levels of 5 to 6 percentage points and at high income levels of no more than 3 percentage points can be funded. Naturally, the particular numbers are sensitive to the choice of the tax base and the extent of the tax mix change.

A minimum of 12 months, and more likely 18 months, from the time of policy announcement to implementation of a GST will be required to register businesses, to enable the Australian Tax Office to respond, and to educate the nation about the new tax. Tax reform of this type is a form of longer term structural reform. It does not offer a quick fix and nor should it be considered as a key component of short term macroeconomic policy manipulation. This longer term focus provides a strong case for restricting the assessment to an approximately revenue neutral package of changes in the composition of Australian taxes.

4. Rationalising Indirect Taxes

This section considers the efficiency, distributional and simplicity effects of replacing some of the existing indirect taxes with an equal revenue yielding GST. Initial consideration is given to the GST for WST replacement.

4.1 Wholesale sales tax (WST)

The WST, introduced as a temporary revenue raising measure in 1930, has been criticised by Groenewegen (1983), Draft White Paper (1985), Chisholm, Freebairn and Porter (1990) and many others. A GST of between 5% and 6%, depending on the specific base chosen, will collect the \$9.2 billion estimated to be collected by the WST in 1991-92.

Table 2 provides a comparison of the WST and GST options. Sections 1 and 2 describe the statutory impact of the taxes in terms of tax base and rates. The WST is levied on some goods only at the wholesale level, with clothing, food and all services being notable omissions. Only about 40% of these goods are actually purchased by consumers, the majority are used as business inputs. By contrast, the GST is applied to a broad base, but because of practical reasons not a fully comprehensive base, of consumer outlays on goods and services. The tax exempt treatment of housing and financial services results in some business input taxing, but less than 10% of the base. With the WST there are three statutory rates of 10%, 20% and 30%, compared to a single rate for the GST.

Table 2. Comparison of WST and GST

WST	GST
<p>1. Tax Base Narrow:some wholesale goods 60% on business inputs</p>	<p>Broad:final consumption of goods and services</p>
<p>2. Statutory Tax Rates Multiple:10%, 20%, 30%</p>	<p>Single:between 5% and 6%</p>
<p>3. Economic Tax Rates Business inputs:many Consumer goods:millions Exports:many</p>	<p>Business inputs:mostly zero Consumer goods:most at statutory rate Exports:mostly zero</p>
<p>4. Tax Neutrality Distortions:methods of production, and mix of goods and services produced and consumed.</p>	<p>Many fewer distortions</p>
<p>5. Tax Equity Vertical:proportional to consumption Horizontal: inequitable</p>	<p>Vertical:proportional to consumption Horizontal:equitable</p>
<p>6. Simplicity Complex Litigation</p>	<p>Simple More taxpayers</p>

Of more interest than the statutory tax rates is the economic tax rates once markets have adjusted. In this paper I follow the conventional assumption that in the long run product taxes are fully passed forward to buyers. Implicitly this outcome requires perfectly elastic supply curves. Experience with New Zealand, Canada and other countries suggest that this long run price pass-forward outcome occurred also in the short run as a result of competitive forces and political jaw-boning. Because of the extensive business input taxing component of the WST, including of motor transport and of office equipment and furniture, almost every business input, final consumer item and export bears some WST, but at literally millions of different rates. By contrast, the GST results in negligible tax burdens on business inputs and exports, and close to a constant rate on domestic consumption purchases.

Table 3. Comparison of Effective Tax Rates Levied on Final Consumption by Revenue Equal WST and GST for Eleven Broad Categories of Expenditure, 1990-91

Household Expenditure Survey Commodity Category	Effective Tax Rate on Final WST	Consumption Purchases (%) GST
Housing	6.1	1.6
Fuel	3.9	5.4
Food	2.7	5.5
Clothing	1.6	5.5
Furnishings and appliances	8.7	5.5
Household services	4.7	5.5
Medical	1.2	5.5
Transport	7.6	5.5
Recreation	4.9	5.5
Personal care	4.9	5.5
Miscellaneous	4.3	4.4
All categories	5.0	5.0
Standard deviation	2.2	1.2

Source: From Chisholm, Freebairn and Porter (1990, Table 5). Computed using data from 1983-84 Household Expenditure Survey and 1982-83 Input-Output Tables assuming both WST and GST are fully passed forward. The WST refers only to that component (about 90%) passed on to domestic consumers, and the GST rate is chosen to be revenue neutral.

Table 3 provides a comparison of the effective tax rate on eleven broad categories of final consumption for the WST and a revenue neutral GST. The column for WST indicates the dominance of the burden on furnishings and appliances, transport equipment and to a lesser extent housing (which

is a heavy user of transport and furniture and appliances), and also it indicates how the heavy reliance on input taxing flows through to food, clothing and other items. A finer level of disaggregation would indicate a more marked pattern of variable tax rates. By contrast, the GST generates a much more level playing field, with housing and financial services (in miscellaneous) being relatively lightly taxed. The standard deviation of tax rates at this high level of product aggregation for the GST is a half of that for the WST.

In terms of tax neutrality and economic efficiency, a GST for WST swap offers gains at two levels. First, it removes tax distortions to the choice of methods of production. Whereas the GST has negligible effects on relative business input costs, the WST has significant distortions on relative input costs for reasons which have no market failure or other rational basis. For example, the WST falls heavily on road transport but not on air and rail transport. This adversely affects the choice of the form of transport, and also it alters location decisions. Distorting input taxes provide a set of incentives resulting in the economy operating within its production possibility set.

Second, the more level tax playing field of the GST on prices of final goods and services, both for domestic consumption and for export, results in less distortions to the mix of goods and services produced and consumed than occurs with the WST. There is no evidence that the WST pattern is supported by market failure arguments - and remember that the excise taxes and franchise fees on tobacco, alcohol and petroleum products remain - or that the relatively heavily WST items are more highly correlated with non-taxed leisure and home produced items. By removing many of the distortions to production and consumption decisions a GST for WST swap would enable Australia to achieve a higher level of well being.

Unfortunately there are no compelling available estimates of the magnitude of the efficiency gains of replacing the WST with a revenue neutral GST for Australia. Piggott (1983) simulates the use of a uniform consumption tax, such as a GST, to replace all Australian taxes using a computable general equilibrium model. Only a portion of the estimated efficiency gain equivalent to 3.9% of GDP can be attributed to the replacement of the WST. Dixon and Meagher (1990) and Meagher (1991) have used the ORANI model to estimate the effects of a GST for WST swap on macroeconomic variables and on industry outputs. While of much interest, these studies have limitations in assessing the efficiency gains; welfare gains are not measured, and changes in measured GDP are a poor indicator of such gains; and the short run setting in which changes in returns to investment and the associated aggregate investment response dominate the results is at variance

with a long run full employment scenario in which tax changes are fully passed forward as output price changes. Even so, the changes in industry outputs, with 29 out of 112 changing by more than 2% and for 5 by more than 5% indicates significant resource reallocations would follow.

In general terms, the efficiency gain of a less distorting tax system is the product of differences in effective tax rates on choice options, and typically the tax rate differential squared, and the quantitative response of activity levels to changes in tax incentives. We know that the tax rate differentials are of the order of 10% to 30% in the case of business inputs and much smaller, probably less than 5% in the majority of cases, for final goods and services, and that industry outputs will alter with replacement of the WST with a GST. Together, these numbers suggest considerable efficiency gains, with the larger gains coming from reduction of distortions to the choice of business inputs.

Assessment of the redistributive effects of a GST for WST swap can be made in two steps. For the 81% of the WST which ultimately is passed on to domestic consumers the assessment is straightforward. For the 10% passed on to exporters and their customers the assessment requires consideration of further second round adjustments. In the longer run, a GST for WST swap, by reducing business input taxing, will increase the profitability of export and import substitution production. Other things equal, perhaps a strong assumption, the increase in net exports will initiate a currency appreciation and fall in the real price of domestic goods and services. In the case of the 9% of the WST estimated to be passed on to government, but which will not happen with the GST, again second round reactions (with lower taxation, increased outlays or a smaller deficit) will benefit domestic consumers. To simplify the assessment the next few paragraphs restrict the redistributive assessment to that part of the WST now passed on to consumers and a revenue neutral GST.

In terms of a broad measure of vertical equity using income deciles, a GST for WST swap is approximately distributionally neutral. Table 4 shows estimates of the relative burdens of the two taxes in terms of income and expenditure. Both are regressive in terms of income and proportional in terms of expenditure. The latter result is almost true as a consequence of a broad based consumption tax for the GST, and in the case of the WST the result is simply a coincidence. In the swap, what low income earners lose in higher prices for the 'necessities' of food and clothing, they gain in lower prices for the 'necessities' of housing and transport, and the GST levies higher tax burdens on services which are relatively more important components of expenditure of the higher income earners.

Table 4. Comparative Incidence of the WST and GST on Families Classified by Private Income Decile, 1990-91

Income Decile	Indirect Tax/Gross Income		Indirect Tax/Expenditure	
	WST%	GST%	WST%	GST%
1 (lowest)	7.8	7.6	4.7	4.6
2	6.3	6.5	4.6	4.8
3	6.7	6.4	4.8	4.7
4	5.2	5.0	4.8	4.7
5	4.5	4.3	4.8	4.7
6	4.0	4.0	4.8	4.8
7	3.7	3.7	4.8	4.8
8	3.5	3.5	4.8	4.9
9	3.31	3.2	4.8	4.9
10 (highest)	2.4	2.5	4.8	5.0

Source: From Chisholm, Freebairn and Porter (1990, Table 6).

From the perspective of horizontal equity, the GST is superior to the WST. Households with the same aggregate expenditure, but with different mixes of goods and services purchased, pay the same indirect tax burden with a GST. By contrast, with the WST the aggregate tax burden is altered by the composition of expenditure.

A number of opposing considerations have a bearing on the relative simplicity properties and on the relative costs to taxpayer and tax collector of the WST and GST options. The WST already is in place and involves less taxpayers - about 70,000 relative to estimates of 700,000 to one million taxpayers with a GST. However, other businesses as buyers of goods are involved in assessing their status with reference to the WST. The vast majority of new businesses to become involved in the GST already are registered income taxpayers, or they should be, and income tax records provide the information necessary to compute GST returns.

The WST is a more complex and litigation-ridden tax system with many key uncertainties (see, for example, Williams and Guthleben, 1990, for a damning indictment). By contrast, the simplicity of the GST with its broad base and a single rate is a clear advantage.

There is only sparse data of questionable relevance on the comparative costs of the two indirect taxes. The Australian Tax Office reports administrative costs for the WST of 0.46% of revenue collected. This is below the 1% reported by Sandford, Godwin and Hardwick (1989) for the UK's VAT, but that system involves multiple rates and a narrower base than the

proposed GST. Administration costs of the New Zealand GST, which is closer to the Australian proposal, are below 1%. Sandford, Godwin and Hardwick estimate net compliance costs for the UK VAT at about 1% of revenue collected. Available cost estimate numbers are small, and differences between the WST and GST will be smaller again. Such small cost differences suggest that differences in administration and compliance costs are not an important area of distinction.

Overall, the GST for WST swap promises gains in economic efficiency, some gain in horizontal equity, and very small changes if any in vertical equity and in costs of administration and compliance.

4.2 *Other indirect taxes*

Of the other indirect taxes in Table 1, there have been proposals to use a GST to replace payroll tax (Coalition Parties and Australian Chamber of Manufacturers), part or all of the petroleum products excise (Coalition Parties and National Farmers Federation) and import tariffs (National Farmers Federation). Of the other indirect taxes, the excise tax on crude oil and LPG is really a resource rent tax, excise on alcohol and tobacco is a de facto tax on the externalities of these products, albeit a contentious and debateable one, special taxes on gambling often receive a similar externality argument, and so far it has not proved practicable to use a GST to replace existing indirect taxes on financial services, although these taxes have been criticised.

In the context of a long run full employment equilibrium, the economic effects of a broad based payroll tax and a broad based consumption tax are identical (Samuelson, 1961, Bascand, 1989). In effect, payroll tax does not tax capital income in the same way that a consumption tax does not tax income earned on savings and investment. The fact that existing Australian payroll taxes have narrow bases - with little more than a half of employees taxable due to small firm and other exemptions, and with non-wage and salary components of labour remuneration exempt - and have multiple marginal rates, there is a potential efficiency case for either reforming them or replacing them with a more neutral GST.

Another set of arguments for a GST for payroll tax swap might be mounted in the context of the short run starting from a disequilibrium level of high unemployment. If too high real labour costs are part of the cause of unemployment, then, dollar for dollar, a reduction in payroll tax initially will stimulate employment more than would a reduction in consumption taxation which falls on the capital input as well as the labour input. Given the lag of 18 months in introducing a GST, inherent failures in economic

forecasting this far ahead, the longer term nature of tax reform, and the rather indirect way of addressing a labour market disequilibrium problem, the proposal to substitute a GST for payroll tax to stimulate employment becomes a dubious proposition.

Consider next using a GST to replace some or all of the revenue collected by the current excise tax on petroleum products. While initially levied as a means of funding road construction and maintenance, subsequent increases in the excise rate, especially after the sharp fall in oil prices in 1986, mean that the petroleum products excise is largely a form of general revenue raising. The excise, plus state franchise fees on petroleum products and motor vehicle taxes, collect much more revenue than annual government expenditure on roads - perhaps in excess of \$3 billion a year. In addition, as noted by the IAC (1986), fuel usage is poorly correlated with road usage. Again, fuel use is not highly correlated with congestion. While concerns about green house gas emissions may indicate externality reasons for taxing fossil fuels, to tax petroleum products for this purpose but not coal and gas fired electricity risks failure of the second best. Then, while the precise fraction is debateable, perhaps more than a half of the present petroleum products excise cannot be justified on the grounds of market failure.

That part of petroleum products excise collected as a general form of revenue raising incurs efficiency costs, and these costs could be reduced by substituting a broad based consumption tax. About 55% of the excise falls on intermediate business inputs and distorts the choice of production methods towards less petroleum product intensive techniques than is socially desirable. In addition, the mix of products produced and consumed is distorted away from those which directly and indirectly are relatively intensive users of petroleum products. A GST for petroleum products excise swap would generate national welfare gains in the same ways as argued earlier for the GST for WST swap. Analysis of such a swap by the IAC (1986, Table 9.3) indicate resource reallocations between industries and hence efficiency gains.

Estimates of the vertical distributional implications of various taxes for households classified by income decile by Warren (1991) indicate similar patterns for the WST, payroll tax and petroleum products excise. Then, extrapolating these results with those of Chisholm, Freebairn and Porter (1990) for similarity of the incidence of the GST and WST suggest that a revenue neutral GST for payroll tax and GST for petroleum products excise swaps will have negligible redistributive effects at the broad vertical equity context.

Since a GST already would be in place for the GST for WST swap, extending the rationalisation of indirect taxes to payroll and excise taxes

would reduce administrative and compliance costs now incurred with the payroll and petroleum products excise tax and negligible extra costs would come with a higher GST rate.

Overall, using a GST to fund replacement of the present payroll tax system and reduction of the general revenue raising portion of petroleum products excise will lead to efficiency gains, some saving of administration and compliance costs, and minor changes to distribution of the tax burden.

5. Tax Mix Change

This section considers efficiency, distributional and transitional macroeconomic effects of using some of the funds collected by a GST to reduce personal income taxation in a way which approximately is revenue neutral and which minimises vertical redistribution from the status quo. Much of the assessment can be derived from the economic and national income accounts income and expenditure identity:

$$Y=C+S=C+I$$

where Y is income, C is consumption, S is saving and I is investment.

A tax mix change envisages lower taxation of Y, and hence of C + S and of C + I, and heavier taxation of C. In effect, the proposal envisages a net increase in taxation of consumption, C, and a net decrease in the taxation of saving and investment, S and I, or of capital income. Of course, when savings and the income earned is spent in the future that part of income becomes subject to a deferred form of taxation.

The introduction of a GST as part of a tax mix change proposal results in only a reduction of the tax rate on saving and investment and not its elimination. For example, in Chisholm, Freebairn and Porter (1990), the marginal tax rate on saving and investment is reduced by 3 percentage points for high income earners and by 5 percentage points for middle income earners; and in the Coalition Parties (1991) proposal the reductions are 5 and 8 percentage points, respectively, for high income and middle income taxpayers.

It is convenient to consider the economic arguments pro and con a tax mix change in two contexts: first, at the more abstract level of the relative merits of a comprehensive consumption base versus a comprehensive income base; and then in the context of Australia's present hybrid income tax system.

5.1 Comparison of tax bases

There is an extensive and in general inconclusive literature on the relative efficiency and horizontal equity implications of a comprehensive income base versus a comprehensive consumption base. These arguments provide a perspective on the direction of effects of changing the tax mix towards greater emphasis on a consumption base.

The principal conceptual appeal of the consumption base is the avoidance of double taxation of saving which occurs with an income base. Using a simple life cycle optimisation model with two periods, certainty, perfect capital markets and no labour supply response, the consumption base unambiguously dominates the income base in terms of minimising distortions to intertemporal consumption and saving decisions and in achieving horizontal equity for households with different consumption preference patterns. The actual magnitude of the gains and of the saving response are subjects of a wide range of controversial estimates.

However, the strong result of the superiority of the consumption base derived for the simple theoretical model is not robust in the face of more complex and potentially more realistic extensions of the model. For example, introducing labour-leisure choices and complementarities of leisure with consumption, imperfect capital markets, bequests, multiple time periods with some complementarities in intertemporal consumption, and so forth can result in superiority of the income tax base over the consumption tax base. Again, transitional adjustment problems and costs can favour maintenance of the status quo. Ultimately, estimates of key substitution elasticities and other parameters are required to resolve the various conflicting effects. Unfortunately, consensus estimates of the key parameters are not yet available, and they may not be available for the foreseeable future.

It, therefore, is difficult to conclude with confidence one way or the other on the general merits of changing the tax mix towards greater reliance on consumption taxation. However, because Australia's income tax system is not a pure income base, but rather a hybrid base system, these conceptual arguments tell only a part of the story.

5.2 Reducing reliance on Australia's hybrid income tax system

Assessment of the effects of introducing a GST as part of a tax mix change on the aggregate level and on the composition of saving and investment must be cognizant of the present hybrid tax treatment of different options. The lower marginal income tax rate will have no effect on much saving and investment in housing which already receives a consumption tax treatment,

and similarly in the case of much investment in human capital, and on other business investment outlays such as R & D and repairs which are immediately expensed as occurs with a consumption tax. None of the proposals to date have suggested lowering the 15% tax rate on income earned by superannuation fund investments. Household saving in financial instruments and most business investments in plant, equipment, buildings and inventories, all of which are subject to a nominal income tax base, will face lower income tax burdens under a tax mix change.

The net effect of proposed taxation reform packages involving a tax mix change on the aggregate level of private saving is likely to be small; the assumption of a revenue neutral package means no change in net public saving. First, the income tax rate reduction is relatively small. Second, because of the hybrid income tax system, the reduction will apply to less than a third of household saving given the dominance of saving via owner occupied homes and superannuation. For those households whose saving behaviour follows the life cycle model and who are not liquidity restrained, the lower tax rate on the income earned on part of their saving portfolio will lead to additional saving because the substitution effect dominates any income effect (which must be negligible because of approximate revenue and distributional neutrality of the package). Also, such households will gain additional utility from a reduction in distortions to intertemporal choices. Third, many households who find themselves liquidity constrained or on corner point solutions, and those whose saving is dominated by habit, rather than by intertemporal optimisation motives, will not respond to changes in the tax mix.

On the other hand, a tax mix change is likely to have important effects on the composition of saving and investment and its productivity. The pattern of very different effective tax rates on different saving and investment options will be reduced significantly (see, for example, Freebairn, 1991). Further, there seems no strong market failure or other logical argument for the present distorting pattern of effective tax rates. Because the efficiency costs of distorting taxes are proportional to the square of differences in tax rates on different investment options, even small reductions from the present highly distorted pattern yield large benefits. Crude indicative estimates by Freebairn (1991) suggest efficiency gains equivalent to several percentage points of capital income.

Claimed benefits for a tax mix change on lower distortions to work versus leisure and non-market production activities almost certainly are illusory. What a worker gains in lower income tax approximately is lost in extra consumption tax because of the distributional neutrality constraint. That is, an hour of work will command about the same basket of market

goods and services before and after a tax mix change. Reliance on a money illusion argument that workers understand and see income taxes (most taken out as PAYE by their employers) but not GST taxes (which also are taken out by sellers) as argued by Morgan (1990) seems unrealistic, especially in a long run context.

The potential effect of a tax mix change in combating tax avoidance and evasion, and of yielding a fiscal dividend, of the magnitude claimed in the Draft White Paper (1985) and the Coalition Parties (1991) seems exaggerated, especially with reference to the black economy. The incentives and procedures used to avoid and evade income tax are similar to those for the GST since the Australian Tax Office, common taxpayers and common records are involved. For example, just as most drug dealing and backyard repairs escape income tax, so will they escape the GST. Certainly when black economy income is spent on the white economy the expenditure will attract a low GST not now paid, and in this sense black economy members will make a greater contribution to public revenue, and hence there will be some gain in general equity. However, from the perspective of aggregate revenue collected, the extra GST revenue will closely correspond to a fall in income tax revenue paid by white economy suppliers of goods and services to the black economy buyers. Tax evasion and avoidance should be attacked not by changes in the tax mix but by improved design and administration of the different taxes.

A tax mix change will generate a one-off increase in general indexes of consumer prices. This one-off increase may or may not generate subsequent inflation. Opponents of a tax mix change, such as Dwyer (1991), are concerned with the inflation risk, and this line of reasoning was an important one in the government's decision in 1985 not to proceed with Option C.

The optimistic no-inflation outcome is associated with the following behaviour. Forces of competition, political jaw-boning, and media and public outrage ensure that businesses do not increase initial prices by more than the net increase in indirect taxes. Because of the tax rebate provisions for GST paid on business inputs, the effective cost of business purchases of materials, services, equipment, etc. would not rise. If workers are given a distributionally neutral package such that increased costs of buying goods and services with the GST are offset by increased disposable income financed by lower income tax rates, then the tax mix change provides no reason for an extra increase in pre-tax wage rates. Then, with no net increase in business costs or wages, the initial consumer price increase can be contained to be a one-off increase with no effect on the underlying inflation rate. This is roughly the story of what happened in New Zealand in 1986 as analysed by Stephens (1989).

Clearly achievement of a no inflation increase outcome is a difficult task. It places constraints on the tax mix design, it requires an extensive education program, it places a premium on competitive markets and in the effectiveness of politically imposed restraints on non-competitive markets, and it requires responsible behaviour by business and labour. Failure, and the associated wage/price/inflation spiral, would bring significant social costs.

Specification of a distributionally neutral package of changes in consumption taxes, income taxes, special rebates and social security rates is important if potential efficiency gains are to become sustained benefits. Because a tax mix change causes a change in the time profile of taxes paid and collected, with those on savings being deferred, the base for compensation (disposable income, consumption, wealth) and the period of assessment (current year, future years) require careful delineation.

Compensation for the net increase in indirect taxes was assessed with reference to disposable income in the Draft White Paper (1985), to consumption expenditure in Victorian Employers' Federation (1990), Chisholm, Freebairn and Porter (1990) and Freebairn and Chisholm (1991), and to disposable income and financial wealth for the elderly in Coalition Parties (1991). Because disposable income exceeds consumption by savings, the income option requires a short term budgetary deficit, but this is recaptured in the future such that the present value fiscal outcome remains in balance (Benge and Albon, 1991). By contrast, the consumption base for compensation is consistent with short-period as well as longer run fiscal neutrality. The Draft White Paper financed the extra compensation with income base broadening measures and a fiscal dividend, and the Coalition Parties use expenditure reductions and some fiscal dividend from taxation of the black economy.

Inevitably compensation can be approximate only, and then across broad categories, with a tax mix change. Taxpayers and families with relatively high consumption to income ratios will be losers and those with relatively high saving ratios will be winners. To the extent that units can be categorised by income level and demographic type with systematic differences in savings ratios, rough justice can be done. This philosophy has been behind the strategy of giving relatively larger compensation for those at lower income levels, for families, and for those in retirement. Even so, in any one year there will be a wide dispersion of saving ratios and of over-and-under-compensation for individual households within each category average. Because saving ratios tend to be less variable when averaged over a number of years as good and bad years balance and as people move through career and life cycles, any tax mix redistribution will be much less when viewed over several years than when evaluated over the more traditional first year

snapshot picture. Finally, there is only poor data for Australia on savings ratios at the individual or household level. Thus, inevitably a tax mix change will involve some redistribution, although this can be minimised for broad categories of households, and limitations with available data caution interpretation of estimates reported.

One of the concerns of a tax mix discussed around the time of the 1985 National Tax Summit was the likelihood of a short term sharp drop in economic activity during the transition period. Formal rationalisation of this type of outcome by Argy and Hooke (1986) and Nevile (1986) argued for a sharp increase in savings and a reduction in aggregate demand. As discussed above, the net savings response nowadays is considered to be small. In addition, these models did not allow for positive responses of investment and net exports to an increase in domestic saving. Early reaction to the *Fightback* proposal by the Coalition Parties, of which a tax mix change is just one component, indicate that the package will have a positive influence on animal spirits which drive aggregate demand.

As an overall assessment, using revenue from a GST to fund reductions in Australia's present hybrid income tax system seem likely to offer most benefits in terms of a more productive mix of saving and investment. Contributions to the aggregate level of savings, to greater work effort, and to combating tax evasion and avoidance are doubtful and in any event they are likely to be small at best. Some redistribution, especially in the short run, seems inevitable, although it can be minimised. While the risks of a tax mix change initiating a burst of inflation cannot be completely discounted, in logic inflation can be avoided as has happened with other countries.

6. Some Concluding Observations

The introduction of a broad based consumption tax to replace some of Australia's existing distorting indirect taxes offers considerable national productivity gains with few and small downside risks. The case is clear cut with reference to the WST. In the case of existing payroll taxes, a GST swap is a comparable option to broadening the base of the existing tax to cover all employees, the labour income component of the self employed and all forms of labour remuneration. National efficiency gains would be achieved by using a GST to replace the general revenue raising component of excise taxes and franchise fees on petroleum products and motor vehicle taxes. There is legitimate argument about the extent of general revenue raising and about the appropriate user pay system for road construction and maintenance, pollution and congestion. While existing taxes on financial

services have serious economic deficiencies, the GST is not at present a practicable substitute option.

The case to further increase the GST rate to fund reductions in income taxation as part of a tax mix change package is more debateable. Given the hybrid treatment of different saving and investment options, lower income tax rates will lead to a more productive mix of saving and investment. Such efficiency gains, and potentially larger gains, could be achieved by comprehensive reform of the income tax system, something that Head (1991) and others question as a feasible option, or by a direct expenditure tax, which, despite its conceptual appeal and strong professional support, has not been implemented in full form in any country to date. The relative merits of these three options is more a case of political will and feasibility than of economic assessment. A tax mix change offers little in the way of efficiency gains in work versus leisure decisions and in intertemporal consumption choice decisions, to the aggregate level of savings and work effort, and to countering tax evasion and avoidance.

Potential downside risks of a tax mix change include a stimulus to inflation and undesired redistribution of the tax burden. Careful design of the package and community education can drive these risks very close to zero.

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