



PRIME MINISTER

The ACTU sought information from Treasury and the EPAC Secretariat on a number of tax reform options, and with the agreement of the ACTU that information is made available to Summit participants.

1. Introduction

This paper provides a preliminary analysis of the broad distributional effects of a series of taxation options formulated by the ACTU. The analysis has been undertaken at the ACTU's request. The options considered include Approaches B and C of the draft White Paper Reform of the Australian Tax System, together with particular proposals put forward by the ACTU.

2. Methodology

Distributional results have been obtained with the aid of the STATAX facility developed at the Office of EPAC. STATAX is designed to provide a statistic called "cash gain" for households of a chosen type and within each of a series of weekly income ranges. The cash gain is simply the number of dollars per week households of the chosen type, within the given income range, would be better off (or worse off if the cash gain figure is negative) on average if a particular proposed package of changes in taxation and benefit arrangements were to be introduced.

The basic data used by STATAX is the individual household record file from the full-year 1984 Household Expenditure Survey (HES) conducted by the Australian Bureau of Statistics (for details see ABS, 1984 Household Expenditure Survey, Australia Preliminary, 6529.0).

Although HES was not designed to support an income-expenditure analysis of the STATAX type, it is the only official data source available which provides integrated up-to-date information on the details of the incomes and expenditures of a broadly representative sample of Australian households. The heavy reliance of STATAX on HES brings with it data problems which have been discussed widely in reports by the Australian Statistician, in the White Paper (see Appendix 22-A) and in the media.

In developing The STATAX methodology the Office of EPAC has explicitly recognised the deficiencies of the HES data for these purposes. These have been dealt with by implementing a set of corrections to the HES data, the effect of which is to calibrate incomes by major source, and expenditures by broad commodity group, to coincide in aggregate with the corresponding National Accounts aggregates. Full details of the basis for these corrections are provided in EPAC Paper 85/3. (Note, however, that the particular correction factors provided there were preliminary, being based on only 6 month data from HES and earlier National Accounts information - current ones are available on request.)

While it is believed that these corrections have dramatically reduced the biases implicit in the raw HES data, it is important to recognise that all such adjustments carry with them implicit distributional assumptions. It must also be recognised that the chances remain high of significant errors in any analyses based on HES data which link the income and expenditure information from the survey as explicitly as does STATAX.

No data source exists that would permit an entirely accurate estimation of the detailed distributional effects of the types of radical tax changes in the options considered here. At best the results presented here, and others of their kind, can provide a broad picture of the distributional effects of changes in taxation and benefit arrangements. Nevertheless, the Office is satisfied that the STATAX methodology does reliably provide such broad distributional information.

STATAX calls on the results of the TAXIO model, developed by the Treasury, to obtain the effects of changes in the Wholesale Sales Tax on the prices of commodities at the factory gate. The TAXIO model is also used to provide estimates of revenues derived from consumption taxes applied to commodities and services outside private final consumption expenditure - taxes on business inputs and on investment goods for instance. This reflects the fact that STATAX itself is concerned primarily with private final consumption expenditure, as reflected in the expenditures of individual households.

Estimates of the distributional impact of base-broadening measures have been formed in a manner consistent with that used in the White Paper (Sections 22A.15 to 22A.32), although the White Paper methodology has been modified to reflect the household orientation of the STATAX facility. (White Paper estimates were based on individuals.) Consistent with the White Paper, the methodology used here includes an assumption that, at higher income levels, some of the incidence of the tax on fringe benefits will be shifted back to the employee.

The estimates of revenue yields from the imposition of a BBCT, of the cost to revenue of modifications to or elimination of the WST, of the cost to revenue of compensation measures and of the revenue yield from the existing personal income tax schedule are consistent with estimates published in the White Paper and in the 1984-85 Budget Papers.

A separate paper prepared by the Treasury in response to the ACTU request provides details of the revenue yields and CPI effects of a range of options. (Note however that the numbering of the ACTU options in the

Treasury paper does not correspond to that used in this paper).

Full details of the STATAX methodology are provided in EPAC Paper 85/3, Quantifying the Distributional Effects of Alternative Tax Options - A report of Progress, March 1985. That paper considers in some detail limitations of the HES data and of the STATAX methodology. This paper should be read in conjunction with that discussion to put the distributional results in their proper context.

It is important to recognise that the results provided below from the STATAX facility do not make any provision for behavioural responses to the proposed tax changes. Thus the possibility that consumers may change their expenditure patterns, that work effort may change or that the balance between consumption and saving may alter is ignored. Such responses may well be significant but the objective of the present analysis (in keeping with that of the White Paper and other analyses available to date) is to concentrate on the immediate impact of the changes.

3. Overview and Interpretation of the Results

Two household types have been chosen for analysis at this stage. In line with figures presented in the White Paper, these are households whose principal source of income is wages and salaries, and households whose principal source of income is the age or wife pension. In most cases, a table is provided which presents, for each of several income ranges, estimates of:

- . the change in the commodity tax applicable to expenditures by households in that income range;
- . the change in the personal income tax payable;
- . the additional personal income tax payable resulting from measures intended to broaden the income tax base;
 - Examples of base-broadening measures include taxing non-cash fringe benefits, taxing capital gains and eliminating negative gearing of rental property investments. Such base-broadening measures form the basis for Approach A of the White Paper.
- . the compensation payable as the result of increased pensions or improvements to other government benefits;
- . the cash gain.

Positive entries in the tables indicate an amount by which households in the given income range would be

better off in cash terms, negative entries an amount by which they would be worse off. Summing the entries across a particular row of the table for commodity tax change (CT change), personal income tax change arising from new tax scales (PIT change), personal income tax change arising from base-broadening measures (PIT BB), compensation payments (compensation) gives, for households on average in that income range, the cash gain arising from the proposed package of changes in commodity taxation, personal income taxation and government benefit arrangements. All figures in the tables are expressed in 1984-85 dollars per week.

Consider the second row of Table 2 for illustrative purposes. Table 2 provides results for the impact of the White Paper Approach C on households whose principal source of income (this will not generally be the only source of income to such households, of course) is wages and salaries. The second row relates to such households whose 1984-85 income fell in the range \$301 to \$350 per week. The results show that, on average, these households will

- . pay an extra \$19.86 per week as the result of the impact of the BBCT included in Approach C on their expenditures on commodities and services
- . receive a personal income tax cut of \$20.60 per week
- . incur additional income tax of \$0.07 per week as the result of the impact of base-broadening measures included in Approach C on their personal income tax liability
- . receive compensation in the form of higher government benefit payments to the tune of \$2.67 per week.

The net result of these changes is that the cash gain for households of this type in the \$301-\$350 per week income range is \$3.33 per week. That is the estimate of the amount by which such households would be made better off by Approach C.

In interpreting the estimates provided in the tables, it is important to recognise that all the figures provided are group averages. That is, they provide an estimate which applies on average within the specified income range and for households of the specified type. Such aggregation is necessary in view of quite significant variation within income classes. Equally, however, it is important not to lose sight of this underlying variation. In particular, household structures will impact significantly on the access to and need for compensation within lower income groups, while the impact of base-broadening measures will vary sharply amongst higher income earners reflecting

individual household access to and exploitation of the underlying income sources and taxation avoidance measures.

In the case of the 3 specific ACTU Options, the precise details of the compensation package, including income tax cuts, have not yet been finalised (being dependent on further analysis of the runs so far conducted). These tables do not therefore include figures relating to changed income tax scales and compensation. The last column "preliminary net gains" refers only to the impact of the changes to indirect taxes and base broadening.

4. Results

4.1 White Paper Approach C

Tables 1 and 2 provide estimates of the distributional impact on age-wife pensioner households and wage and salary earner households respectively of the White Paper approach C options.

Overall, pensioner households are estimated to be \$4.80 per week better off if Approach C were to be implemented, while the corresponding cash gain estimate for all wage and salary earner households is \$6.25.

There is relatively little distributional variation for pensioner households, with those in the \$121-\$150 per week income range experiencing the largest estimated cash gain (\$6.37 per week) while the least (\$2.36 per week) is experienced by those in the \$181-\$210 per week income range.

The distributional pattern of cash gains over pensioner households is influenced to a considerable degree by household composition effects and by the age structure of households. (These factors underlie the variation in expenditure patterns over income ranges.) Since pensioner households are in receipt of relatively low levels of taxable income, they do not benefit to any great degree from the shift to the Approach C income tax schedule. Similarly, the incomes of these households are too low for base-broadening measures to have any impact upon them as a group. Consequently, their cash gains are dominated by compensation payments offsetting the increased cost of their expenditures arising from the imposition of the BBCT.

A more varied distributional pattern is evident for wage and salary earner households under Approach C. Cash gains rise steadily from \$2.43 per week for such households in the \$271-\$300 per week income range to \$12.74 per week for the \$741-\$930 per week range. This mainly reflects the interaction of the increased outlays on expenditure with the benefits of the reduced income tax payments, compensation being relatively

unimportant for all but the lowest income groups amongst these households. Base-broadening measures begin to bite significantly above the \$741-\$930 per week income range. The effect is for the estimated cash gain to fall away rapidly above this level of income, with wage and salary earner households on average experiencing a cash loss of \$34.86 per week in the over \$1250 per week income range. As noted earlier, this reflects the fact that high income households tend to have the greatest access to income sources affected by base-broadening measures.

4.2 White Paper Approach B

Estimates of the distributional impact of the White Paper Approach B are shown for age-wife pensioner households in Table 3, and for wage and salary earner households in Table 4. For both household types, the overall impact of the proposals, as measured by the cash gain, is much smaller than for Approach C.

In the case of pensioner households, the variation in the impact on particular income ranges is similar to that evident in the case of Approach C. Aside from the highest income households, however, wage and salary earner households show much less variation in cash gain over income range under Approach B than was evident for Approach C. This occurs because, with a much lower rate BBCT, after allowing for the removal of the WST, relatively little revenue is available to provide for income tax cuts. The benefits of the new income tax schedule being significantly smaller, the general effect is to compress the variation in cash gain over income ranges. For the highest income ranges, the income tax benefits are not sufficient to offset the impact of base-broadening measures to a significant degree. As a result, these groups suffer cash losses, the magnitude of which (\$59.90 per week) is quite large for the top income range.

4.3 ACTU Options 1 to 3

The remaining options considered are not as fully specified as those examined above, in that no change to the personal income tax schedules or in the rates of government benefits is proposed. Consequently, estimates are provided only of the impact of proposed consumption taxes and base-broadening measures. In each case, the base-broadening measures included are the same as those of the White Paper approaches.

ACTU Option 1 involves the elimination of the WST, the imposition of a 5 per cent BBCT on the same base as in the White Paper, together with base-broadening measures. Estimates of the distributional impact of this option are shown in Tables 5 and 6 for age-wife pensioner households and for wage and salary earner households respectively. The main noteworthy feature

of these results is the extent to which the distributional pattern which emerges is dominated by the impact of the base-broadening measures.

ACTU Option 2, results for which are provided in Tables 7 and 8, involves the elimination of the WST, the imposition of a 7 per cent BBCT on the White Paper base, the imposition of a 12 per cent WST on selected ("luxury") items - predominantly those currently subject to WST at 32 per cent, together with motor vehicles and parts - and the base-broadening measures.

ACTU Option 3 involves a restructuring of the WST to a uniform rate of 5 per cent, with the imposition of a 10 per cent BBCT on the White Paper base and base-broadening measures. Results for this option are provided in Tables 9 and 10.

4.4 Exemptions

Tables 11 and 12 provide estimates of the distributional impact of two types of exemptions from the base for the BBCT. The tables show, for the specified household type and for each of the income ranges, the amount (\$ per week) by which the cash gain shown in Tables 1 or 2, as is appropriate, would be increased by the specified exemption.

In the first case, all food is exempted from the BBCT, while in the second the exempt commodities are food, clothing, electricity and gas.

Exempting food from the BBCT base clearly benefits higher income households more in dollar terms than lower income households. (See pages 119-121 of the White Paper for a discussion of the general issue of exemptions.)

Exempting clothing, electricity and gas in addition to food provides a similar, though accentuated distributional picture by comparison with the exemption of food only. However, examination of the ratio of the columns for the two exemption types reveals the strong regressive element of the wider set of exemptions relative to that of food only. For the lowest wage and salary income range, this ratio is about 1.69. In general, the ratio rises progressively with income to 2.17 for the highest income range. The implication is that the wider set of exemptions confers a cash benefit which is greater than that for the exemption of food only by a factor of 1.69 for the lowest income households. For the highest income households the wider set of exemptions confers a benefit 2.17 times greater than that for food only. In this sense, the wider set of exemptions confers a benefit that rises sharply with increasing income.

5. Concluding Remarks

The paper has provided preliminary estimates of the distributional impact of a range of alternative tax packages put forward for analysis by the ACTU. The options encompassed by the tested packages are far from comprehensive but should usefully provide an overall feel for the distributional consequences of tax-benefit change. The results also serve to illustrate the capabilities of the STATAX facility developed by the Office of EPAC and may therefore assist the ACTU in formulating requests to the Office for further work.

Results have been obtained to date only for two main household types - age-wife pensioner and wage and salary earner households. The STATAX facility has the capability to provide results for a range of other household types, some of which may well be of interest.

It must be emphasised that the figures provided here are estimates and no more than that. Considerable uncertainty is attached to them as with any estimates. No data source is available which will provide a more reliable assessment of the distributional impact of the major taxation changes currently under consideration. Nevertheless, the estimates presented here should not be regarded as providing more than a broad picture of the distributional impact of tax change proposals.

Office of EPAC

30 June, 1985

TABLE 1

**Preliminary Analysis of Tax Options
Option C Age-wife Pensioners
By Household Income Class**

Income Range \$pw	CT change \$pw	PIT change \$pw	PIT BB \$pw	Comp \$pw	Cash Gain \$pw
0-120	-8.28	0.95	0.00	9.79	2.46
121-150	-9.81	6.21	0.00	9.96	6.37
151-180	-12.55	3.47	0.00	13.56	4.48
181-210	-14.57	0.96	0.00	15.97	2.36
211-240	-15.00	3.99	0.00	16.88	5.87
Total	-11.98	3.64	0.00	13.14	4.80

TABLE 2

**Preliminary Analysis of Tax Options
Option C for Wage and Salary Earners
By household income class**

Income Range \$pw	CT change \$pw	PIT change \$pw	PIT BB \$pw	Compensation \$pw	Cash Gain \$pw
271-300	-18.54	16.53	0.00	4.44	2.43
301-350	-19.86	20.60	-0.07	2.67	3.33
351-425	-22.54	24.47	-0.21	3.22	4.95
426-510	-25.34	29.07	-0.43	3.91	7.20
511-615	-28.08	35.00	-0.80	3.30	9.42
616-740	-29.54	41.80	-3.45	3.02	11.83
741-930	-35.91	51.61	-6.14	3.17	12.74
931-1250	-42.44	67.07	-18.76	3.38	9.25
>1250	-54.38	97.65	-81.77	3.64	-34.86
Total	-30.09	40.48	-7.57	3.43	6.25

Notes: Option C as in the White Paper.

CT: net commodity taxes (BBCT, wholesale, and excise).

PIT: Personal income tax on current base.

PIT BB: Personal tax on additional income from base broadening.

TABLE 3

**Preliminary Analysis of Tax Options
Option B Age-Wife Pensioners
By household income class**

Income Range \$pw	CT change \$pw	PIT change \$pw	PIT BB \$pw	Compensation \$pw	Cash Gain \$pw
0-120	-2.58	0.93	0.00	2.12	0.47
121-150	-2.90	3.44	0.00	2.14	2.68
151-180	-2.94	1.31	0.00	2.97	1.34
181-210	-4.24	0.48	0.00	3.47	-0.29
211-240	-4.00	2.87	0.00	3.67	2.54
Total	-3.30	2.05	0.00	2.84	1.59

TABLE 4

**Preliminary Analysis of Tax Options
Option B Wage and Salary Earners
By household income class**

Income Range \$pw	CT change \$pw	PIT change \$pw	PIT BB \$pw	Compensation \$pw	Cash Gain \$pw
271-300	-4.55	5.50	0.00	1.19	2.14
301-350	-5.07	6.65	-0.08	0.93	2.43
351-425	-5.54	7.91	-0.22	1.12	3.27
426-510	-6.00	11.00	-0.46	1.25	5.79
511-615	-6.49	14.15	-0.85	1.10	7.91
616-740	-5.90	15.82	-3.66	1.01	7.27
741-930	-7.67	20.15	-6.50	0.99	6.97
931-1250	-8.77	26.72	-19.86	1.05	-0.86
>1250	-10.86	36.55	-86.58	0.98	-59.90
Total	-6.66	15.40	-8.02	1.06	1.78

Notes: Option B as in White Paper

CT: net commodity taxes (BBCT, wholesale, and excise).

PIT: Personal income tax on current base.

PIT BB: Personal tax on additional income from base broadening.

TABLE 5

**Preliminary Analysis of Tax Options
ACTU Option 1 for Age-wife Pensioners
Current Income Tax Scale
By household income class**

Income Range \$pw	CT change \$pw	PIT BB \$pw	Preliminary Net Gain \$pw
0-120	-1.95	0.00	-1.95
121-150	-1.83	0.00	-1.83
151-180	-1.67	0.00	-1.67
181-210	-2.93	0.00	-2.93
211-240	-2.74	0.00	-2.74
Total	-2.21	0.00	-2.21

TABLE 6

**Preliminary Analysis of Tax Options
ACTU 1 Wage & Salary with Current income tax scales
By household income class**

Income Range \$pw	CT change \$pw	PIT BB \$pw	Preliminary Net Gain \$pw
271-300	-0.48	0.00	-0.48
301-350	-0.99	-0.07	-1.06
351-425	-1.20	-0.21	-1.41
426-510	-0.97	-0.43	-1.40
511-615	-1.22	-0.80	-2.02
616-740	0.39	-3.45	-3.06
741-930	-0.57	-6.14	-6.71
931-1250	0.15	-18.76	-18.61
>1250	-0.99	-81.77	-82.76
Total	-0.68	0.00	-7.57
			0.00
			-8.25

Notes: ACTU Option 1 involves no change in the personal income tax schedule; broadening of the income tax base (no impact estimated for pensioners); 5% BBCT; and no wholesale sales tax.

CT: net commodity taxes (BBCT, wholesale, and excise).

PIT: Personal income tax on current base.

PIT BB: Personal tax on additional income from base broadening.

TABLE 7

**Preliminary Analysis of Tax Options
ACTU 2 with current Income Tax for Age-wife Pensioners
By Household Income Class**

Income Range \$pw	CT change \$pw	PIT BB \$pw	Preliminary Net Gain \$pw
0-120	-4.05	0.00	-4.05
121-150	-4.82	0.00	-4.82
151-180	-5.99	0.00	-5.99
181-210	-7.17	0.00	-7.17
211-240	-7.40	0.00	-7.40
Total	-5.86	0.00	-5.86

TABLE 8

**Preliminary Analysis of Tax Options
ACTU 2 for Wage & Salary Earners with Current Tax Scales**

Income Range \$pw	CT change \$pw	PIT BB \$pw	Preliminary Net Gain \$pw
271-300	-7.92	0.00	-7.92
301-350	-8.68	-0.07	-8.75
351-425	-9.55	-0.21	-9.76
426-510	-10.79	-0.43	-11.22
511-615	-11.75	-0.80	-12.55
616-740	-12.22	-3.45	-15.67
741-930	-15.30	-6.14	-21.44
931-1250	-18.27	-18.76	-37.03
>1250	-22.77	-81.77	-104.54
Total	-12.76	-7.57	-20.33

Notes: ACTU Option 2 involves no change in the personal income tax schedule; broadening of the income tax (no impact estimated for pensioners); 7% BBCT; 12% wholesale sales tax on selected items.

CT: net commodity taxes (BBCT, wholesale, and excise).

PIT: Personal income tax on current base.

PIT BB: Personal tax on additional income from base broadening.

TABLE 9

**Preliminary Analysis of Tax Options
ACTU 3 Age-Wife Pensioners with Current income tax scales**

Income Range \$pw	CT change \$pw	PIT BB \$pw	Preliminary Net Gain \$pw
0-120	-6.25	0.00	-6.25
121-150	-7.51	0.00	-7.51
151-180	-9.53	0.00	-9.53
181-210	-11.26	0.00	-11.26
211-240	-13.06	0.00	-13.06
Total	-9.17	0.00	-9.17

TABLE 10

**Preliminary Analysis of Tax Options
ACTU 3 W&S Current income tax scales**

Income Range \$pw	CT change \$pw	PIT BB \$pw	Preliminary Net Gain \$pw
271-300	-11.92	0.00	-11.92
301-350	-14.01	-0.07	-14.08
351-425	-15.96	-0.21	-16.17
426-510	-18.00	-0.43	-18.43
511-615	-20.12	-0.80	-20.92
616-740	-20.49	-3.45	-23.94
741-930	-24.83	-6.14	-30.97
931-1250	-34.50	-18.76	-53.26
>1250	-30.10	-81.77	-111.87
Total	-12.27	-7.57	-19.84

Notes: ACTU 3 involves a 10% BBCT and a 5% wholesale sale tax

CT: net commodity taxes (BBCT, wholesale, and excise).

PIT: Personal income tax on current base.

PIT BB: Personal tax on additional income from base broadening.

TABLE 11

Preliminary Analysis of Tax Options
Effects of Different Exemption Structures under Option C
Age-Wife Pensioners
Cash Gain by Household Income Class

Income Range	Gain From Food Exemption	Gain from Food/Clothing/Utilities Exemption	Ratio of the two Gains
0-120	2.61	3.91	1.50
121-150	2.53	3.95	1.56
151-180	3.87	6.45	1.67
181-210	4.53	6.94	1.53
211-240	4.93	7.74	1.57
Total	3.66	5.76	1.57

TABLE 12

Preliminary Analysis of Tax Options
Effects of Different Exemption Structures under Option C
Wage and Salary Earners
Cash Gain by Household Income Class

Income Range	Gain from Food Exemption	Gain from Food/Clothing/Utilities Exemption	Ratio of the two Gains
271-300	4.53	7.66	1.69
301-350	4.64	7.61	1.64
351-425	5.41	8.90	1.65
426-510	5.86	10.08	1.72
511-615	6.30	10.85	1.72
616-740	6.30	11.13	1.77
741-930	7.24	14.31	1.85
931-1250	8.19	16.16	1.97
>1250	9.01	19.52	2.17
Total	6.40	11.65	1.82

Notes: These figures relate solely to the exemption of the items specified; as such they would involve significant revenue cost unless accompanied by other revenue items. Figures are presented simply to indicate the incidence of the tax on these items as background to consideration of the possibility of exempting them from the base.