



# Tax Cuts for Growth

The impact of marginal tax rates  
on Australia's labour supply

**Lateral Economics**

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## About this paper

### CEDA Information Paper 84

#### Tax Cuts for Growth: The impact of marginal tax rates on Australia's labour supply

ISSN 1832-8814

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## Acknowledgements

Mark Bahnisch and Cliff Smith provided research assistance, and Mark Bahnisch provided some initial drafting. Thanks go to Chris Richardson, John Freebairn, Geoff Kingston, Stephen Gray, Andrew Leigh, Matt Benge and Hielke Buddelmeyer for assistance of various kinds and/or helpful comments on earlier drafts. Errors of fact or interpretation remaining should be attributed to the author alone.

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# Foreword

Over the past 18 months, many of Australia's leading tax experts have been telling CEDA audiences of the need for tax reform. At the same time, a debate has been growing in the broader community about the need for changes to the tax system. In particular, it is commonly asserted that changes to the tax system will encourage more people to work, and encourage those in the workforce to work more. However, CEDA noticed last year that there was a substantial gap between the balance of tax experts' opinion and the views most commonly expressed in the news media.

The broader debate concentrated more on potential changes to the tax rates paid by high income earners. Tax experts spent more time focused on the need to lower effective marginal tax rates for Australians earning lower incomes.

This study aims to gather together what we know about the effect of tax cuts on labour supply in Australia. It aims to provoke a better-informed debate about Australia's tax system.

CEDA has been guided by our members' interest in the issue, and by the thinking of some of Australia's best public policy minds. Our approach has been informed by speeches to CEDA from, and informal conversations with, the Melbourne Institute of Applied Economics and Social Research's Professor John Freebairn, Allen Consulting's Dr Vince FitzGerald, former CEDA research director and University of NSW Associate Professor Neil Warren, long-time CEDA contributor Fred Argy, and members of the CEDA research committee including Saul Eslake and committee chair Phil Ruthven.

We are indebted to the Melbourne Institute for its provision of previously unpublished analysis from its invaluable HILDA study. And we owe special thanks to Lateral Economics chief executive Nicholas Gruen, both for his own work in pointing us towards this issue and for his energy and rigour in authoring this report.



Catherine Baldwin  
Chief Executive, CEDA

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# Summary

The Australians facing the strongest disincentives to work are mostly on middle and lower incomes. These people are also the ones most likely to respond to the incentive provided by tax cuts.

By contrast, tax cuts for Australia's high-income earners will probably do far less to increase the amount of work done in Australia.

To encourage more work, tax cutting should focus on lowering the bottom (15 per cent) income tax rate, raising the tax-free threshold, and/or introducing a tax device called an "Earned Income Tax Credit" (EITC) for low-income households.

Where tax cuts are focused on those on higher incomes, very large savings can be made by lifting thresholds rather than cutting rates.

For instance, based on 2002–03 tax statistics and the old tax scales, approximately three quarters of the cost of eliminating the top marginal tax rate would have been able to have been saved by lifting the top threshold from \$125,000 to \$200,000.

# The context for personal tax reduction

Australia is currently debating the issue of whether and how to cut personal income tax. The purpose of this paper is to explore what income tax reductions would do most to encourage economic growth. The paper does this by assessing the existing literature on tax and tax cuts in Australia and overseas, as well as examining recent Australian economic modelling work.

The paper assumes that a substantial amount of revenue from the Federal Government's projected surplus and/or base broadening will be foregone to fund reductions in personal tax. It does not examine the question of whether that revenue could be applied to other purposes – to new government spending or debt reduction. And it does not explore which base-broadening measures – such as cutting work-related deduction or reducing or abolishing negative gearing – should be pursued to raise additional revenue to be applied to tax cuts. It focuses on a single question:

## How and where should tax cuts be targeted to maximise economic growth?

Most advocates of personal tax reform suggest much of the efficiency gains from tax reform will come from improving labour supply.<sup>1</sup> For illustration's sake considering a single worker, labour supply responses to tax reductions are the sum of two effects. Tax cuts will increase the income available to the worker. Other things being equal, we would expect part of this “income effect” to go to funding more leisure. If there is a reduction in the marginal tax rate this will increase the relative incentive to choose labour over leisure, leading to a “substitution effect” at the margin away from leisure towards work.

Generally, cuts to marginal rates of taxation produce labour supply increases. But to properly determine tax cutting priorities, we need good information about these effects throughout the workforce – about where changed incentives might bring people into the labour force and where effective marginal tax rates facing existing workers are preventing them working longer hours and/or more intensively. Tax changes can also affect economic growth in other ways – for instance, by changing people's preparedness to save and/or to take risks. The most important and least speculative of these sources of increased economic output relates to labour supply, and this is the main focus of this paper.

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<sup>1</sup> See for example Jonson 2006.

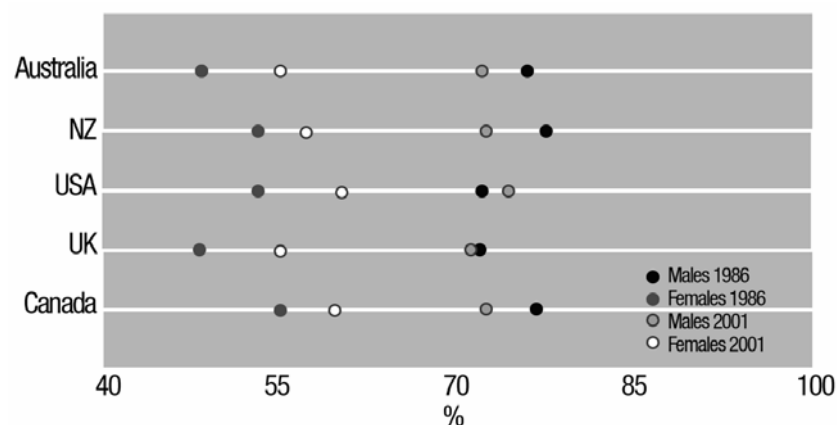
It is generally accepted that the changes in marginal tax rates will increase labour supply most by bringing people into the labour force. As James Heckman puts it in a survey article, “A major lesson of the last 20 years is that the strongest empirical effects of wages and non-labour income on labour supply are to be found at ... the margin of entry and exit” (Heckman 1993, p. 117). The incentive that a marginal tax rate change provides for people already in work to increase their hours and/or level of effort, by contrast, is somewhat smaller. Nevertheless, far more people are in work than are available to work but not working. So changes on the intensive margin are still a major contributor to the supply of labour in the economy.

# Australia's supply of labour

Compared with other English-speaking countries, Australia has relatively low labour market participation – that is, a relatively low fraction of the population is working or looking for work. In particular, a relatively low proportion of women work. An important reason for this has been the structure of the welfare (and tax) systems, which provide comparatively greater incentives to women to remain outside or leave the labour market after child birth.<sup>2</sup>

Figure 1 shows that Australian male labour force participation is broadly in line with that of other so-called “Anglo” economies, but that female participation lags notably behind that of the US, New Zealand and Canada.

FIGURE 1: LABOUR FORCE PARTICIPATION RATES – SELECTED COUNTRIES



Source: ILO LABORSTA Database from ABS 2004

In addition, as Table 1 shows, part-time workers make up more of the workforce in Australia than in other countries.

The mere fact that Australia's workers behave differently to those overseas does not show that Australia must change. If, for example, Australia has made a conscious decision to encourage women with children to stay out of the labour force, then we would expect to see the patterns described in Figure 1.

Nevertheless, precisely because of the heavily targeted support to families with children provided by government, we should ensure that it is provided in a way that minimises any distortion to their choice of whether or not and how much to seek paid employment.

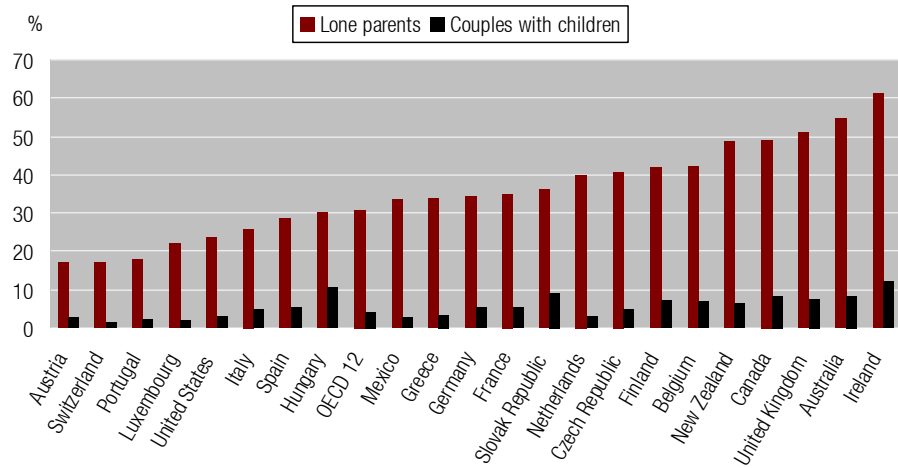
<sup>2</sup> This is now coming under scrutiny with regard to welfare to work programs for sole parents. The low participation rate for older men is similarly being addressed through changes to disability benefits, and the inclusion of many recipients in labour market programs.

**TABLE 1: PROPORTION OF MALE AND FEMALE LABOUR MARKET PARTICIPATION THAT IS PART TIME**

Occupation	Males		Females		Persons	
	1986	2002	1986	2002	1986	2002
Australia	9.7	15.9	35.4	40.3	20.2	27.1
US	4.5	8.3	11.8	18.8	7.9	13.4
UK	4.3	8.2	41.3	39.2	20.8	22.9
New Zealand	5.7	11.8	31.0	35.2	16.8	23.2
Canada	8.5	10.4	26.3	26.4	16.5	18.2

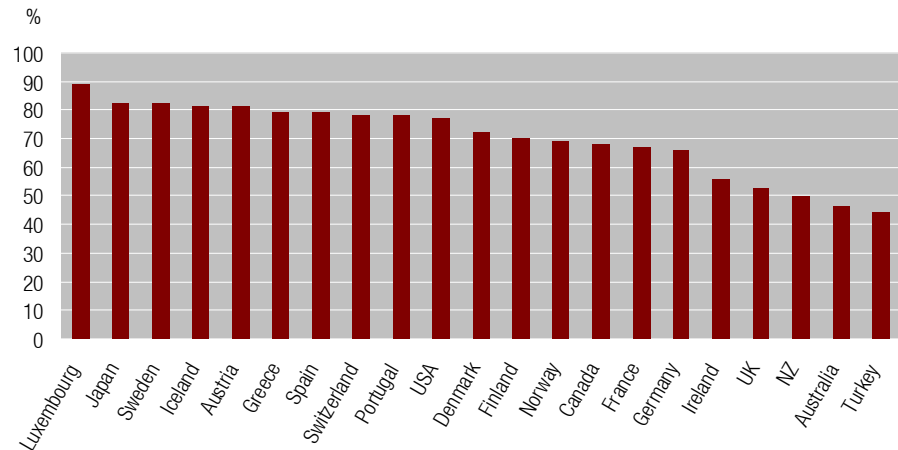
Source: OECD from ABS 2004

**FIGURE 2: NON-EMPLOYMENT AMONG FAMILIES WITH CHILDREN, 1996 TO 2001**



Source: Whiteford 2005b

**FIGURE 3: EMPLOYMENT TO POPULATION RATIOS, LONE PARENTS, AROUND 2000**



Source: Whiteford 2005b

# Understanding effective marginal tax rates

Where people receive family payments and face tax on their earnings, the incentives they face are a function not just of the tax they pay but also of the rate at which family payments are “clawed back” from them as their earnings rise. The “effective marginal tax rate” is the sum of these effects. It measures the extent to which people benefit from additional exertion at work. Where a tax rate of 15 per cent is combined with a reduction in their family payments of 50 cents in the dollar, their effective marginal tax rate is not 15 per cent but 15 plus 50 per cent or 65 per cent).

High income earners – that is, those with incomes of over \$150,000 – face a marginal tax rate of 46.5 per cent from 1 July 2006. However, a substantial number of families on lower and middle incomes face higher effective marginal tax rates (EMTRs) than 46.5 per cent. Because of the highly targeted nature of our welfare system, benefits are clawed back from families as means tests cut in. Once earnings rise over the tax free threshold the combined effect of tax and the withdrawal of benefits often produces EMTRs of 60 per cent and more. Most advocates of tax reform from both business and community sectors regard such high EMTRs as important constraints on labour supply.<sup>3</sup>

Broad conclusions from Melbourne Institute modelling from 2004 (Budelmeyer et al, 2004) lead to the following conclusions (see Table 2). EMTRs approximating the top two marginal rates of personal tax – that is between 40 and 50 per cent – comprise a relatively small minority of households below deciles 7. In deciles 7–9, around 45 per cent of households face them and in the top decile 84 per cent of households face them. Households facing high EMTRs – of 60 per cent and over – are concentrated in the bottom seven deciles with households facing very high EMTRs of over 70 per cent concentrated in low and middle income deciles (though not in decile 3).<sup>4</sup>

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<sup>3</sup> See for instance Business Council of Australia 2005 and Brotherhood of St Laurence 2005.

<sup>4</sup> Note these figures would be somewhat different from July 1 2006 with substantial increases in the thresholds at which the top two marginal tax rates cut in, a reduction in the bottom marginal tax rate and some targeted reductions in taper rates.

**TABLE 2: DISTRIBUTION OF EMTRs FACING HEADS OF HOUSEHOLDS BY DECILE IN 2004**

Household decile	EMTRs (%)												>40	>50	>60
	0	0+	10+	20+	30+	40+	50+	60+	70+	80+	90+	100+			
1	69	0	9	0	0	1	1	1	4	0	15	0	22	21	20
2	40	0	25	1	2	2	2	2	8	14	5	0	33	31	29
3	47	0	6	1	40	1	1	2	1	1	0	0	6	5	4
4	20	0	1	2	61	2	3	4	6	2	0	0	17	15	12
5	10	0	3	1	62	3	4	9	5	2	1	1	25	22	18
6	6	0	2	1	59	4	4	18	1	2	0	0	67	22	21
7	2	0	4	1	28	45	1	18	1	2	0	0	67	22	21
8	2	0	2	0	46	44	0	3	1	0	0	0	48	4	4
9	0	0	2	0	43	45	0	3	6	0	0	0	54	9	9
10	0	0	0	0	14	84	0	0	0	0	0	0	84	0	0
% of total	20	0	5	1	35	23	2	6	4	2	2	0			

Source: Buddelmeyer et al 2004, Table 70 and further calculations

# Responses to rates

Once we have established who faces what effective tax rates, the second step in analysing the effect of tax cuts is to answer the question: how do people react to changes in rates?

Again, breaking the population into income groups shows clear differences in behaviour. Not only do many more people face high and very high EMTRs in lower and middle-income households than in higher-income households, but so too, the labour supply of higher income earners (who are disproportionately men) is generally less responsive to changes in take home pay – and therefore to tax cuts.

James Heckman summarises one of the “stylised facts” of what economists learned in the 1970s and 1980s:

At higher wages and for greater hours worked, male labour supply shows little wage and income responsiveness. Virtually all of the wage and income responsiveness found from this group is at or near the zero-hours point (1993, p. 117).

That is, labour supply and incomes rise mostly because of increased participation, not because those already in work decide to work more.

There are two reasons for this phenomenon. Firstly, other things being equal, as income rises it becomes easier and more attractive to spend some of one’s income on leisure. Secondly, higher income earners have typically higher levels of employment – and the labour supply elasticity of heads of high income households is low.

In general, it should be noted, the supply of women’s labour is more responsive than the supply of men’s labour. This is true for both lower-income households and for high-income households where men are generally primary earners. Across the income spectrum, fewer women are in the labour force than men. So more of them are making decisions at the “extensive margin” – that is, more of them are considering whether or not to participate at all.

The conclusion above – that Australian high-income earners are less responsive to tax cuts – is not without some controversy. This is partly because several important US studies have suggested that labour elasticities for high income earners may be large.

In an influential paper, Gruber and Saez's (2002) analysis of US data finds substantial responsiveness of taxable income to lower tax rates. This is a related parameter to labour supply. The authors find that:

The overall elasticity of taxable income is approximately 0.4 ... We estimate that this overall elasticity is primarily due to a very elastic response of taxable income for taxpayers who have incomes above \$100 000 per year, who have an elasticity of 0.57.

Gruber and Saez find the elasticity much lower for those on lower incomes. Their reasoning is described by Balls (2000) as follows:

For lower income groups, labor income accounts for most of their income. Since labor income tax is withheld, the only way to manipulate income is to work more, or less. For higher income groups, capital income is more important, and this is more readily manipulated for tax purposes through asset allocation decisions. The researchers show that taxpayers with itemized returns have particularly high elasticity.

However, it seems likely that a large part of the increased responsiveness of taxable income to tax rates of high income earners is the greater freedom they have to present their taxable income in different ways. For instance, Gruber and Saez observe that their methodology overstates “the total cost to the tax system from rising tax rates, since some of the reduced individual income that we estimate will show up in rising corporate sector income.”

In another paper, however, Saez investigates “bunching” around increases in marginal tax rates hypothesising that, if taxpayers are responsive to taxes they will “bunch” just below the point at which marginal tax rates rise. He finds evidence of this at the bottom of the tax scale, particularly where tax credits are introduced, but no evidence of bunching further up the scale. As he concludes “behavioural elasticities consistent with the empirical results are small” (2002).

Edward C Prescott, a Nobel Prize-winning economist, has published an important challenge to the economic orthodoxy that labour supply elasticities are generally low. Issues within his paper are explored in Appendix 2.

### **Box 1: Tax churn: Australia leads the world**

Taxing people only to pay them back does not seem very sensible. Yet all countries “churn” tax revenue in this way to a substantial degree – and for good reason. Whereas the tax system raises revenue according to individual’s incomes, welfare systems target need by means testing benefits according to household income.

Australia’s tax and transfer system involves less churn than all other OECD countries. This is because our welfare system operates as a safety net rather than a social insurance system. Benefits are generally the same for those who have earned high or low income in the past. And our targeting is much more effective.

According to Whiteford (2005a, 2005b) in 1998–99 in most OECD countries the richest fifth of households received more than a half the benefits the poorest fifth did. In the second best performer, New Zealand, the rich got a fifth as much. In Australia the figure was less than a twelfth.

Though we spent less than the OECD average on welfare benefits (which kept our taxes below OECD averages), our own targeting was so tight that we redistributed more to the poor than any other OECD country. And disposable income for Australian families with children on social assistance was among the highest in the OECD (Whiteford, 2005a).

(Note that to some extent these matters are a matter of definition. Tax credits reduce churn, because they reduce tax collected. Direct transfer payments to the same value and even based on similar eligibility criteria would increase churn by increasing outlays.)

Where we, like other countries, seek to tilt tax and transfer systems to benefit families with children and those otherwise in need, this will generally increase tax churn. Our primary objective should be to deliver benefits cost-effectively while minimising the distortion of incentives away from productive activity. If we can reduce tax churn as a secondary objective while delivering on the primary objective – so much the better.

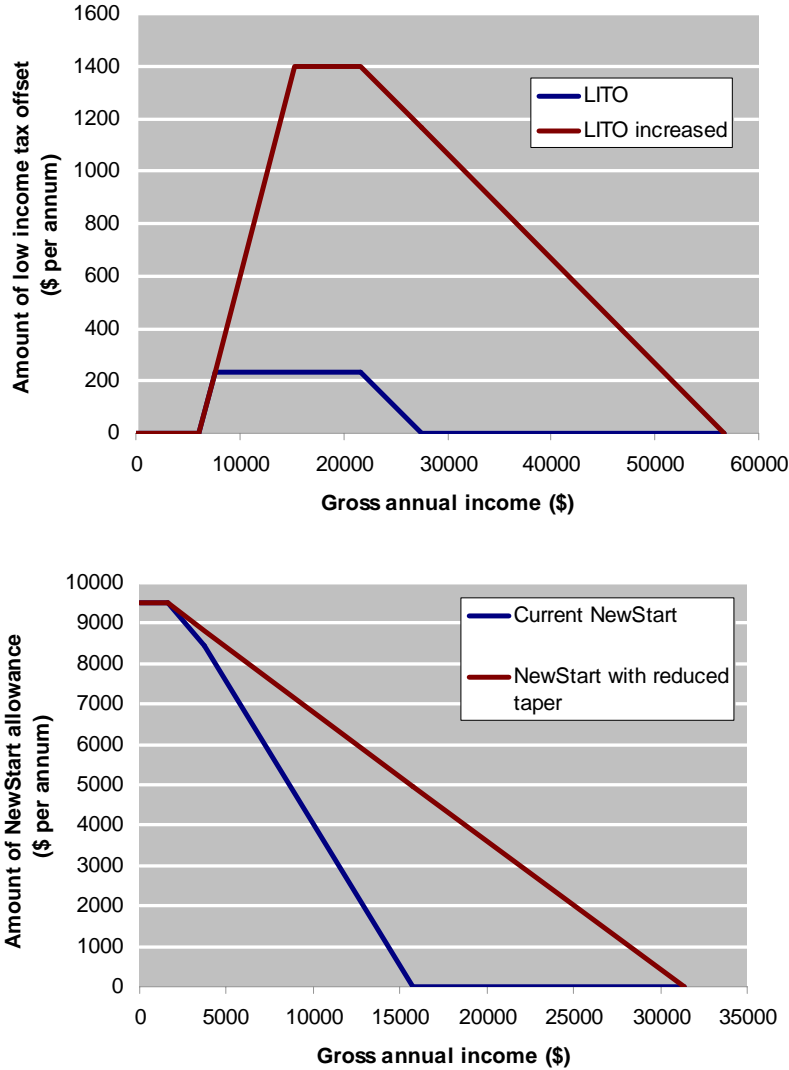
# Tax and welfare interactions

An appreciation of the location of EMTRs and the areas of greater sensitivity to work incentive (elasticity of labour supply) within the workforce suggests that reducing tax in middle and lower income households will maximise increases in labour supply per dollar of revenue foregone. But it's not that simple.

Most importantly, a reduction in taper rates (the rate at which benefits are clawed back as non-benefit sources of income rise) or an increase in the value or range over which a tax credit is paid has two opposing effects. It reduces EMTRs for existing beneficiaries. But families which were previously above the income threshold where benefits had ceased now become eligible for benefits. This increases their income (which some families will take as more leisure) and also increases the family's EMTR as the new benefit is clawed back from them with rising income. Both phenomena induce further reductions in labour supply.

Figure 4 illustrates two approaches. The first increases the Low Income Tax Offset; the second reduces tapers on New Start. It is evident that each policy provides more money for those it affects. Yet in doing so the income range over which benefits is clawed back rises substantially. In both examples, the region over which the credit is taxed back approximately doubles. (Though the graphs are based on real data, they are indicative only.)

**FIGURE 4: REDUCING EMTRs LOWER DOWN THE INCOME SCALE CAN RAISE THEM HIGHER UP**



Source: Melbourne Institute of Applied Economic and Social Research

Further, those most likely to vary the family’s labour supply in these higher income families are second earners – mostly women – whose elasticity of supply is high. Given these complications, it is very hard to determine the right priorities for tax reductions and reducing EMTRs without some attempt to specifically model all the likely effects.

For this reason we turn to the only model with the detail about the location of EMTRs within the community and the ability to simulate labour supply response at any reasonable degree of disaggregation – the Melbourne Institute Tax and Transfer Simulator (MITTS). The MITTS micro-simulation model is described in detail in Appendix 3.

# Identifying the most effective tax cuts

In 2004 MITTS was used to model a range of tax reform scenarios, each costing around \$4 billion in revenue foregone. Further scenarios have been run since then. Although the model's specifications have changed since the earlier scenarios, the policy background has changed (reflecting policy changes since then), and the cost of the policy changes was slightly different in each case (approximately \$4 billion in the first and \$5 billion in the second), considering all scenarios offers useful insights providing due caution is used in drawing conclusions.

As summarised in Appendix 1, the ten measures explored in the earlier work implement three basic policy themes. Those themes are:

- lifting higher income tax thresholds
- introducing an Earned Income Tax Credit (EITC)
- reducing the taper rate at which benefits are phased out with rising income.

Subsequent modelling explored two other policy themes:

- Reducing EMTRs in low income households by increasing the tax free threshold and by reducing the bottom rate of tax from 15 to 11 per cent.
- Extending the Low Income Tax Offset (LITO). This is a tax credit but it is clawed back against the individual income of the beneficiary, not household income.

Lessons from the various policy experiments run through micro-simulation may be summarised as follows.

1. All changes that increase EMTRs for middle and higher income families – which includes EITC and reducing taper rates – lead to reduced labour supply where EMTRs rise.
2. Nevertheless, earned income tax credits (EITCs) dominate other scenarios in stimulating increased labour participation. This is because, being a large tax cut conditional on labour income, EITCs generate substantial greater participation in lower income families. These are households where labour supply is most responsive.<sup>5</sup>
3. The net increase in participation is higher from the increased LITO because the EITC discourages secondary earners while the LITO encourages them.

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<sup>5</sup> The relatively strong labour supply response is consistent with empirical estimation based on the “natural experiments” involved in introducing EITCs in the US and England. See for instance the review literature on the US tax credit in Ingles 2001 and of the UK tax credit in Leigh 2005a.

4. But the EITC is much more effective than all other policy options at inducing labour supply from currently jobless households. This may generate greater social benefits than other options,<sup>6</sup> and by keeping more households in touch with the labour market may attract economic benefits by reducing “hysteresis” in the job market.<sup>7</sup>
5. However if one simply cares about the aggregate labour supply measured in hours then reducing the lowest tax rate or lifting the tax free threshold (in that order) dominate the tax credit options. They induce less new participation but, as they do not increase anyone’s EMTR, they induce enough additional work effort from those already in work to more than compensate – producing higher aggregate labour supply response.
6. Lowering all thresholds (by indexing) generates less labour supply than concentrating tax reductions at lower levels of the income scale and than tax credit options (though this requires some judgement in comparing earlier and later simulations).
7. The option of reducing tapers performs worst, with gains being outweighed by losses as taper rates fall. The net effects of higher labour supply in lower income households and lower labour supply in higher incomes reduces both total participation and total work effort, though the increased participation in lower income households does reduce the number of jobless households (though not by as much as the tax credit options). This provides some support for Dilnot and McCrae’s observation: “The apparently common-sense assumption that lowering tapers must be good is far from obviously true; it may be better to have higher taper rates affecting a smaller group” (1999, p. 15).

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<sup>6</sup> Leigh’s investigation of UK tax credits (2005b, p. 1) finds “a reduction in the probability that those eligible for the credit will say that they have a serious health problem”.

<sup>7</sup> Hysteresis is the term economists have borrowed from the natural sciences to denote the process by which unemployed people become less employable as the length of their unemployment increases. The idea is that they lose motivation and touch with networks which could assist them in gaining employment. Employers may also discriminate against those who have been unemployed assuming that they may be unemployed because they are not very desirable employees.

## **Box 2: A wage–tax tradeoff?**

A wage–tax tradeoff was proposed in 1980 by Max Corden and Peter Dixon but was not pursued not least because, compensating all workers for reductions in wages, it took a heavy toll on government revenue.

More recently, in 1998 five prominent economists proposed a more targeted wage–tax tradeoff in which nominal minimum wages were frozen and so allowed to fall against inflation with tax credits being introduced to compensate low income families for the effects of lower wages. This had the economic advantage of being cost effective. But, it achieved its low revenue cost because the tax credit was targeted to families, rather than lower wage earners from less needy households – for instance single workers with no dependents.

Subsequent econometric modelling suggested that the wage–tax tradeoff proposed in 1998 would have made a substantial contribution to Australian growth and employment. Dixon and Rimmer concluded as follows: “To us, the policy seems very cheap: \$3 billion of annual tax credits buys an increase in economic activity which delivers extra tax revenues well in excess of \$3 billion” (2001, p. 79).

As Mark Wooden (2005, p. 10) has pointed out, “effective incomes policy requires decisions about minimum wages be made in conjunction with income support and tax policy.” In this case the merits of coordinating wages and tax policy are demonstrated by the contrast between the payback ratios of tax credits on their own compared integrating them with falling minimum wages. (Recent MITTS modelling suggests the benefits of tax cuts on their own recoup around 10 per cent of their cost in higher labour supply whereas the Dixon and Rimmer’s modelling of integrating tax cuts with reduced minimum wages has a payback ratio of well over 100 per cent. It raises substantially more revenue than it costs).

At the time the wage–tax tradeoff was proposed in 1998, the Government was concerned not to jeopardise the move into budget surplus and did not implement the proposal. Today its budget is in a far stronger position – more so if it broadens the tax base.

If it does not wish to proceed with an explicit wage–tax tradeoff, there is an intriguing prospect of it occurring de facto. The new Fair Pay Commission is charged with the task of setting the minimum wage “to promote the economic prosperity of the people of Australia” and is cognisant of the possible cost of setting minimum wages too high. However, as Wooden has argued, in the absence of changes to the safety net, falling minimum wages would undermine the incentive to move from welfare to work.

Tax credits or tax cuts for low income families could change this situation sufficiently to permit lower minimum wage rises. Two arms of government policy would in fact work together with each taking the other into account even without being explicitly tied together.

If, for instance, we cut the bottom rate of tax from 15 per cent to 11 per cent this would provide a \$624 tax cut for all earners over \$21,600 per year at a revenue cost of approximately \$5 billion per annum. For a worker on the adult median wage of \$26,000, this would provide the equivalent in after tax income to a 3.4 per cent pay rise (and a far bigger pay rise for those subject to high EMTRs).

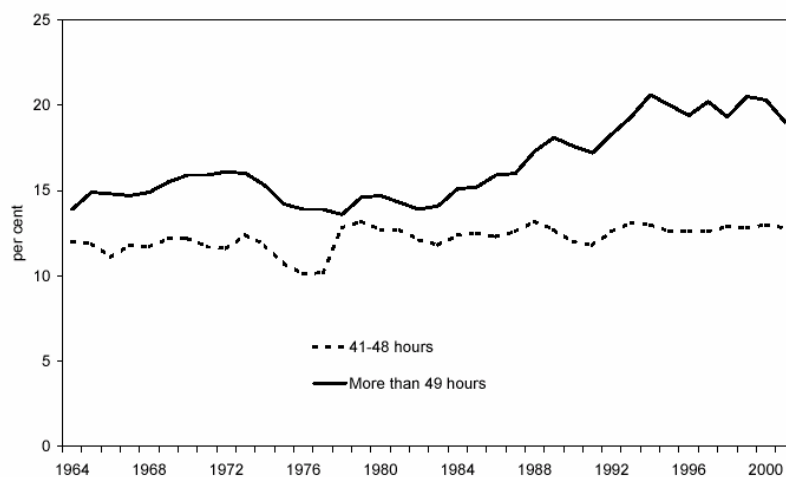
This would maintain the relativities between welfare and the minimum wage such that the Fair Pay Commission may be prepared to take the tax cut into account in allowing the minimum wage to fall by not indexing it – at least for a period – against inflation. Such an outcome would produce far fewer losers than the wage–tax tradeoff proposed in 1998 (where compensation was focused mainly on low income families with children). Yet if Dixon and Rimmer’s modelling of the 1998 proposal is any guide, it would pay for itself from increased supply by and demand for the labour of those around the minimum wage.

# Cutting tax for higher income earners

It seems that, with the possible exception of second income earners, tax cuts for higher income earners will produce less additional labour supply than applying the same quantity of revenue foregone to cutting tax lower down the income scale.<sup>8</sup> This is hardly surprising given that unemployment rates are so much lower among those able to earn high incomes and that a disproportionate number of them already work relatively long hours.

ABS figures disclose that 30 per cent of full time employees work 50 hours a week or more, with 56 per cent of managers working very long hours, and 11 per cent working more than 70 per cent a week (ABS 2003). The incidence of long hours has risen from a low point in the early 1980s though the debate in Australia has generally focused on the role of changing institutional arrangements and the bargaining power between workers and managers in explaining these movements.<sup>9</sup>

**FIGURE 5: THE INCIDENCE OF LONG-HOURS WORKING, 1964 TO 2001  
(% OF ALL EMPLOYED PERSONS)**



- Notes:
1. All figures are for August of each year.
  2. Due to a change in survey methodology, data collected prior to 1978 are not strictly comparable to data collected in later years. This change, however, appears to have had very little impact on the estimated share of employed persons working more than 48 hours each week.

Sources: ABS, *Labour Force, Australia*, Cat. Nos. 6203.0 and 6204.0, various issues.

Source: Wooden and Loundes 2001

<sup>8</sup> The principles set out in previous sections suggest that if we did want to maximise participation of second income earners, a second income earners tax credit may be the most cost effective way of doing so.

<sup>9</sup> Although tax should not be ignored in considering labour supply, there are often more important influences. Those who otherwise differ in their interpretation of the empirical evidence nevertheless agree on finding explanations for increased work effort which are unrelated to taxation. See for example Wooden and Loundes 2001 and Campbell 2002.

There are other arguments for cutting tax for higher income earners. Firstly, if tax cuts recirculate revenue raised from base broadening then some argue that, because most base broadening will remove tax concessions enjoyed disproportionately by high income earners, that either for reasons of fairness or political pragmatism, this money should in large measure be re-circulated to them in the form of tax reductions.<sup>10</sup>

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<sup>10</sup> See for example Allen Consulting 2005. This was one argument used when reducing the top marginal rate in the mid 1980s.

# Tax competitiveness

There is also the issue of “tax competitiveness” – the effect of our tax system on our retention of skilled employees to Australia (BCA 2005a, p. 44). There are clear attractions for those with highly marketable skills to leave Australia – because larger centres of skill tend to offer higher rewards not just financially, but also in terms of stimulation, job satisfaction and career opportunities that deeper markets can provide.

Australia’s location and the size of its economy will always put us at a disadvantage to really large centres of skill which are centres for huge markets – like New York and London. Emigration from Australia is heavily biased towards those with higher skills and the number of skilled emigrants from Australia is rising.

**TABLE 3: OCCUPATION OF AUSTRALIAN RESIDENTS DEPARTING PERMANENTLY OR LONG TERM**

Occupation	1999-2000		2003-04	
	Number	%	Number	%
Managers and administrators	13,244	15.7	15,389	15.7
Professionals	35,326	41.7	44,122	45.0
Associate professionals	8,207	9.7	8,977	9.2
Tradespersons	5,602	6.6	6,342	6.5
Other occupations	22,255	26.3	23,232	23.7
Total	84,639	100.0	98,062	100

Note: Includes only persons stating an occupation on their passenger card when departing Australia. Totals might not add as a result of rounding.

Source: Passenger card data in Birrell et al 2005a, PC 2006, p. 66

However, we attract substantially more skilled workers to our shores than we lose (DIMA 2001; PC 2006).<sup>11</sup> None of this means that there would be no tax competitiveness effect from reducing tax on higher income earners, though the extent of the gain seems unclear and probably small.

The discussion so far allows us to arrive at an important conclusion. An important source of any additional labour supply from those capable of earning high incomes will come from greater participation – from those not working and/or those attracted to or retained in Australia because of lower tax burdens.

<sup>11</sup> Further the departure of Australian graduates to work overseas can often benefit Australia upon their return to work with Australian-based Australian businesses (CEDA 2001, p. 105).

For these people, in so far as the tax system is relevant to their decision, the most important question for them is, “How much tax will I pay on any given income?”. In other words, Australia’s tax competitiveness at any income level is determined by its average tax rate at that level, not by its marginal rate.

Given this, lifting thresholds will generally give us a more powerful (ie revenue cost effective) means of improving our tax competitiveness (by lowering average tax) than cutting top marginal rates. Calibrated before the recent budget against tax rates from July 2006, the following table compares lifting the top threshold with cutting the top marginal rate. A one percentage point reduction in the top marginal rate would cost \$340 million in the first year rising to \$490 four years later. The cost of lifting the top threshold rises more slowly over time. Lifting the top threshold from \$125,000 to \$140,000 costs about the same in the first year but, (because of rising real incomes and bracket creep) much less in the out years. Lifting it to \$145,000 costs more in the early years but its annual cost has fallen below the rate cut after four years.

**TABLE 4: THE COST OF LIFTING THRESHOLDS VERSUS LOWERING RATES**

<b>Cost (\$m)</b>	<b>Year 06/07</b>	<b>Year 07/08</b>	<b>Year 08/09</b>	<b>Year 09/10</b>
1% off top rate	\$460	\$528	\$595	\$663
Top threshold to \$145,000	\$595	\$622	\$636	\$649
Top threshold to \$140,000	\$446	\$467	\$480	\$494

Source: Access Economics Budget Monitor

It might be imagined that those people over the point to which the threshold has been lifted are relative losers from lifting thresholds rather than raising rates. However, lifting thresholds provides everyone over the new threshold with a tax cut of a specific dollar amount. Thus the tax benefit of lifting thresholds will extend beyond the point to which the new threshold is lifted when compared with spending a similar amount cutting top marginal rates.

In the first example for instance, lifting the top tax threshold to just \$140,000, benefits all taxpayers earning under \$200,000 more than a cut in the top rate of the same cost. Raising the top threshold from \$125,000 to \$145,000 provides higher after-tax income than a one percentage point cut in the top marginal rate for all taxpayers earning under \$225,000.

**TABLE 5: AFTER TAX BENEFITS FROM LIFTING THRESHOLDS AND CUTTING RATES**

<b>Income</b>	<b>Tax 06-07</b>	<b>Lift threshold</b>	<b>Tax cut</b>	<b>Cut top rate</b>	<b>Tax cut</b>	<b>Difference</b>
\$120,000	\$39,660	\$39,660	\$0	\$39,660	\$0	\$0
\$125,000	\$41,835	\$41,835	\$0	\$41,835	\$0	\$0
\$130,000	\$44,260	\$44,010	\$250	\$44,210	\$50	(\$200)
\$135,000	\$46,685	\$46,185	\$500	\$46,585	\$100	(\$400)
\$140,000	\$49,110	\$48,360	\$750	\$48,960	\$150	(\$600)
\$145,000	\$51,535	\$50,785	\$750	\$51,335	\$200	(\$550)
\$150,000	\$53,960	\$53,210	\$750	\$53,710	\$250	(\$500)
\$160,000	\$58,810	\$58,060	\$750	\$58,460	\$350	(\$400)
\$170,000	\$63,660	\$62,910	\$750	\$63,210	\$450	(\$300)
\$180,000	\$68,510	\$67,760	\$750	\$67,960	\$550	(\$200)
\$190,000	\$73,360	\$72,610	\$750	\$72,710	\$650	(\$100)
\$200,000	\$78,210	\$77,460	\$750	\$77,460	\$750	(\$0)
\$210,000	\$83,060	\$82,310	\$750	\$82,210	\$850	\$100
\$220,000	\$87,910	\$87,160	\$750	\$86,960	\$950	\$200
\$230,000	\$92,760	\$92,010	\$750	\$91,710	\$1,050	\$300
\$240,000	\$97,610	\$96,860	\$750	\$96,460	\$1,150	\$400
\$250,000	\$102,460	\$101,710	\$750	\$101,210	\$1,250	\$500
\$260,000	\$107,310	\$106,560	\$750	\$105,960	\$1,350	\$600
\$270,000	\$112,160	\$111,410	\$750	\$110,710	\$1,450	\$700
\$280,000	\$117,010	\$116,260	\$750	\$115,460	\$1,550	\$800
\$290,000	\$121,860	\$121,110	\$750	\$120,210	\$1,650	\$900
\$300,000	\$126,710	\$125,960	\$750	\$124,960	\$1,750	\$1,000

Source: Calculations based on the July 2006 tax schedules

In fact substantial revenue can be saved (from those on very high incomes) by confining their gains to the maximum amount given to those at or below some appropriately increased threshold at which the top rate cuts in. As indicated in Table 6 (based on thresholds and tax rates prior to the recent Budget), the cost of reducing the top marginal rate was cut by nearly three quarters by constraining that reduction to the large majority of taxpayers over the \$125,000 top threshold that would be affected by eliminating the top rate, by lifting the top threshold to \$200,000. Even bringing all those earning less than \$1,000,000 under the lower marginal tax rate by raising the top threshold to that point would save one-third of the cost of cutting the rate for all tax payers. This would have all but approximately two in 10,000 taxpayers paying the second top marginal tax rate while \$600 million of revenue per year available for tax cuts for those on lower incomes.

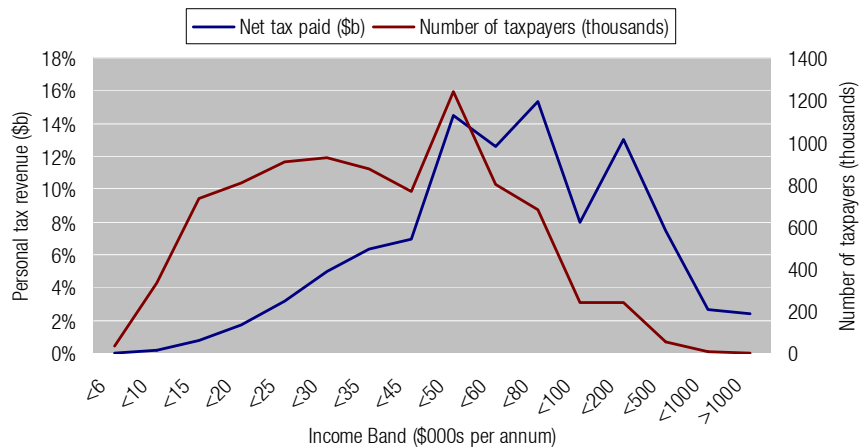
**TABLE 6: THE COSTS OF LOWERING THE TOP RATE COMPARED WITH LIFTING THE SECOND TOP THRESHOLD**

Measure	Cost (\$b)	Proportion of total (%)
Cut top rate	2.3	100
Lift top threshold to \$200,000	0.6	26
Lift top threshold to \$500,000	1.3	57
Lift top threshold to \$1,000,000	1.5	65

Source: Access Economics Monitors

The relative efficiency of lifting the top thresholds, compared with lowering the top rate is a function of the very large amount of revenue foregone for the very highest tax payers. According to the latest available tax statistics, over 5 per cent of all personal tax paid was paid by those on annual incomes of over \$500,000 in 2002–03, a figure which would have risen substantially today (see Figure 6).

**FIGURE 6: PERCENTAGE OF TAXES PAID BY TAXABLE INCOME**



Source: Tax Statistics 2002–03, available at:  
[http://www.ato.gov.au/taxprofessionals/content.asp?doc=/content/54378.htm&page=12#P343\\_15248](http://www.ato.gov.au/taxprofessionals/content.asp?doc=/content/54378.htm&page=12#P343_15248)

# Company tax and the top marginal rate: should they be aligned?

The idea of aligning the company and top marginal tax rate has appealed to politicians and tax commentators for many years. However, what little correlation there is between alignment and prosperity in OECD economies appears to be negative.<sup>12</sup>

The argument for alignment was put in its starkest form recently by Alex Sanchez.<sup>13</sup>

In today's world, paying more than the company tax rate of 30 per cent is optional. After you've gone beyond that threshold, you merely incorporate and be done with it.

However, we cannot be “done with it”. In the first instance, whether someone controls their own private company or owns just a tiny fraction of the shares in a large public company, money earned within the company cannot be spent by its owner until that company pays them money, which is then subject to personal tax. It is true that where the company tax is below the marginal tax rate of its owner, there are tax advantages in deferring the payment of dividends to defer the payment of tax.

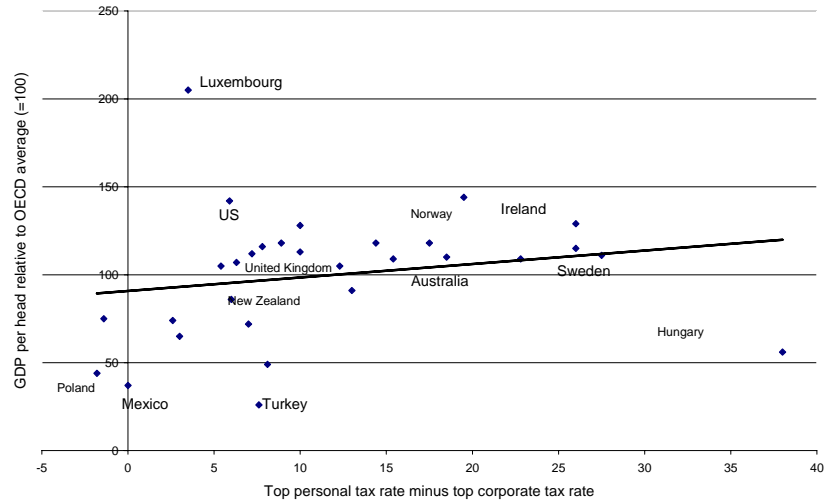
Given the extent to which Australia now relies on corporate saving in the face of its recently very low level of household saving, incentives to leave money within companies may be no bad thing. If they were a problem however, specific anti-avoidance arrangements such as undistributed profits taxation could address the problem – as they did before their abolition in the mid 1980s when company and personal rates were briefly aligned. (The additional revenue thus generated could be used to lower company tax further and/or offset any additional tax burden that an undistributed profits tax could impose on new investment by smaller companies).

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<sup>12</sup> Kingston (2006, p. 3) produces the following scatter diagram suggesting little relationship between “alignment” and economic prosperity, though what relationship there is appears to be negative.

<sup>13</sup> *The Australian* on March 8, 2005, reprinted as “Re-visiting the Hawke–Keating legacy” and available at <http://www.onlineopinion.com.au/view.asp?article=3227>.

**FIGURE 7: GDP PER HEAD VERSUS GAP BETWEEN TOP PERSONAL AND CORPORATE TAX RATES, 2002**



Sources: OECD in Figures-2005 edition; OECD Purchasing Power Parities 2005

Of course other things being equal, aligning the company and top marginal rates would be desirable, but they are far from equal. In particular as will be seen in a subsequent paper, there are strong reasons in economic theory and in practice for believing that there are growth dividends from reducing taxes on capital – particularly within a small country – while the growth dividends of reducing top marginal tax rates seem less clear.

As Allen Consulting (2005, p. 27) has put it:

...[T]here are no very strong arguments for alignment, and some strong arguments against. These include the very high budget cost and the fact that, unlike our approach which aims to broadly maintain progressivity, it would be significantly regressive.

# Conclusion

No single “best” reform is proposed here. That is something which would require specific modelling and a choice between competing values. But if the objective is to maximise the contribution of tax cuts to Australian economic growth, it is suggested that the following principles could rightly guide policy.

The growth contribution of tax reduction will be maximised by focusing tax reduction where:

- effective disincentives to work are highest
- labour supply is most responsive to incentives.

In this regard, cutting low marginal tax rates or targeting tax credits on relatively low income workers appears to be the most effective use of revenue forgone in tax reduction. As the OECD observes, they “appear to achieve both employment and distributional objectives at the same time, unlike some other alternative policies” – something that has underpinned their attractiveness for many countries such as the US, England, Ireland, Belgium, New Zealand and Finland (2005b, p. 12–13).

A third (probably subsidiary) option which may also stimulate labour supply would be an earned income tax credit (EITC) for second income earners means tested against that worker’s, rather than household income. However, such options would need to be modelled before their effects could be judged with certainty.

Cuts to marginal tax rates for high-income earners are unlikely to have as substantial an effect on labour supply. So cuts for these workers will probably stimulate little economic growth. However, higher income taxpayers are currently disproportionate users of tax concessions and so will be disproportionately hurt by removal of those concessions in base broadening. For this reason policy makers may wish to target lower tax payments to higher income earners. If they do, larger tax cuts can be afforded for most high income earners by lifting thresholds rather than by cutting the top marginal rate.

# Appendix 1

## Overview of different tax reforms, upfront costs, ex-post costs and employment effects

TABLE A1.1: THE COST OF LIFTING THRESHOLDS VERSUS LOWERING RATES (TABLE 4 WITH ADDITIONAL CALCULATIONS)

	Tax Bracket					Measures taken			Analysis					
	1	2	3	4	5	EITC	Lower Tapers	Restrict Newstart eligibility	Upfront costs \$ Bil	Ex-post costs \$ Bill	Add'l labour supply (jobs) base	Upfront revenue cost per job	Ex-post revenue cost per job	Self-funding ratio (%)
<b>Reform I (Current System)</b>														
Upper Tax Th	\$6,000	\$21,500	\$52,000	\$62,500	-									
Tax rate	0	17c	30c	42c	47c									
<b>Reform II (CPI indexing)</b>														
Upper Tax Th	\$6,818	\$22,727	\$56,819	\$68,183					3.85	2.9	\$43,997	\$87,506	\$65,914	25%
Tax rate	0	17c	30c	42c	47c									
<b>Reform III</b>														
Upper Tax Th	\$6,000	\$21,500	\$52,000	\$77,500	-	yes	no	no	3.94	2.69	\$79,942	\$49,286	\$33,649	32%
Tax rate	0	17c	30c	40c	47c									
<b>Reform IV</b>														
Upper Tax Th	\$6,000	\$21,500	\$57,000	\$68,000	-	yes	no	no	3.99	2.68	\$85,737	\$46,538	\$31,258	33%
Tax rate	0	17c	30c	42c	47c									
<b>Reform V</b>														
Upper Tax Th	\$6,000	\$21,500	\$52,000	\$77,500	-	no	yes	no	3.71	3.44	\$20,135	\$184,256	\$170,847	7%
Tax rate	0	17c	30c	40c	47c									
<b>Reform VI</b>														
Upper Tax Th	\$6,000	\$21,500	\$57,000	\$68,000	-	no	yes	no	3.76	3.43	\$25,667	\$146,492	\$133,635	9%
Tax rate	0	17c	30c	42c	47c									
<b>Reform VII</b>														
Upper Tax Th	\$6,000	\$21,500	\$52,000	\$77,500	-	no	yes	yes	3.39	3.09	\$19,730	\$171,820	\$156,614	9%
Tax rate	0	17c	30c	40c	47c									
<b>Reform VIII</b>														
Upper Tax Th	\$6,000	\$21,500	\$57,000	\$68,000	-	no	yes	yes	3.44	3.08	\$25,113	\$136,981	\$122,646	10%
Tax rate	0	17c	30c	42c	47c									
<b>Reform IX</b>														
Upper Tax Th	\$6,000	\$21,500	\$52,000	\$62,500	-	yes	no	no	2.33	1.48	\$72,447	\$32,161	\$20,429	36%
Tax rate	0	17c	30c	42c	47c									
<b>Reform X</b>														
Upper Tax Th	\$6,000	\$21,500	\$52,000	\$62,500	-	no	yes	no	1.41	1.34	\$17,549	\$80,346	\$76,358	5%
Tax rate	0	17c	30c	42c	47c									
<b>Reform XI</b>														
Upper Tax Th	\$6,000	\$21,500	\$52,000	\$62,500	-	no	yes	yes	1.2	1.1	\$16,995	\$70,609	\$64,725	8%
Tax rate	0	17c	30c	42c	47c									

Source: Buddelmeyer et al 2004

Notes: Modelling carried out prior to 2006-07 Budget.

Responsiveness is overstated in these simulations owing to a software error in MITTS in 2004, which has since been corrected. When the error is corrected the responsiveness of labour supply is reduced but relative supply responses between scenarios remain similar.

Accordingly the table is a useful guide for comparing responses to the relative policy scenarios, but not for measuring the magnitude of those responses.

## Appendix 2

### Edward C Prescott's challenge on work effort and tax cuts

Edward C Prescott, a Nobel Prize-winning economist, recently published an important challenge to the economic orthodoxy that labour supply elasticities are generally low. Asking why Americans worked so many more hours per year than Europeans, Prescott (2004) reported as follows:

The surprising finding is that [the] marginal tax rate [on personal income] accounts for the predominance of differences at points in time and the large change in relative labor supply over time.

If this is so, then Prescott's cross-country analysis of whole economies vitiates decades of micro-economic work. Though micro-econometric estimates vary substantially, they have typically found aggregate labour supply elasticities of between zero and one.<sup>14</sup> Prescott's explanation of differences in labour supply between countries requires labour supply elasticities to be around 3; incidentally the kind of supply elasticities that enable Prescott's theory of "real business cycles" to explain economic downturns as the product of voluntary unemployment by workers.<sup>15</sup>

The best scientific response to Prescott's novelty is to note that there can be many explanations of the phenomena he has noted that preserve the lower elasticities that underpin the current consensus. In addition to different institutional arrangements – including for instance greater unionisation and regulatory support for longer holidays – Prescott's sample of seven countries is small. That sample does not contain a range of countries with substantially higher marginal tax rates on labour income than the US but with higher labour participation than the US – such as Denmark and Iceland, Luxembourg and Norway (for both men and women), Sweden (for women) and the Netherlands (for men) (OECD 2005a).

A second line of defence against Prescott's challenge is this. Even if micro-economists have been wrong for decades, we have nothing better to go on regarding the relative priorities in cutting taxes than the analyses we have – suggesting still for instance that the labour supply elasticities of partnered women are higher than that of partnered men and that, as a general rule, the elasticity of labour supply is higher for those on lower incomes. This is the basis on which this survey proceeds in its attempt to isolate where lower tax rates will have the greatest effect in stimulating labour supply.

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<sup>14</sup> See for instance Creedy and Kalb 2005, p. 84.

## Appendix 3

# Modelling the interactions: The MITTS model

The Melbourne Institute Tax and Transfer Simulator (MITTS) is a microsimulation model of the Australian economy with detailed information about Australia's tax and transfer system and a rich description of household behaviour in response to changes in that system.

Labour supply responses within MITTS are derived differently from the most common approach taken in the literature, where hours worked would be regressed on wages and other personal and/or socioeconomic variables. Rather, the same type of microdata (in this case the ABS Survey of Income and Housing Cost) is used to estimate a discrete labour supply model where individuals chose from a limited set of possible hours, including 0 (ie not participating in the labour market).

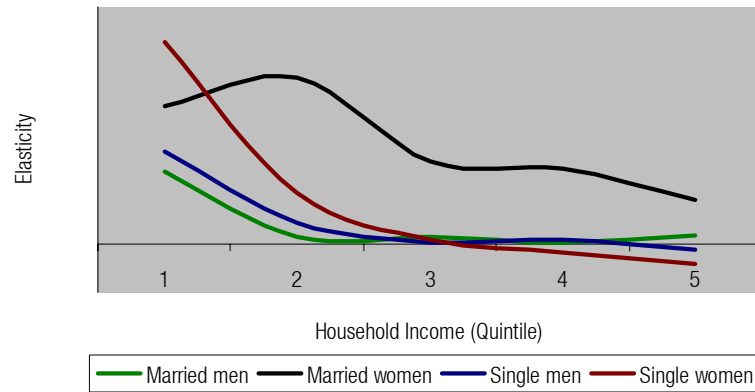
Once the model has been estimated, implicit elasticities of supply are then derived for each individual by simply increasing their wages by 1 per cent and comparing the resulting labour supply with the base case. Direct estimation of labour supply elasticities in linear regressions of hours worked on wages has generated a wide range of published estimates using different approaches (Creedy and Kalb, p. 84). While labour supply elasticities are derived differently in the MITTS model, the discrete labour supply model from which the implicit labour supply elasticities are obtained is econometrically estimated using individual microdata and the implicit labour supply elasticities that emerge seem plausible in the light of the econometric investigation that has been done.

Figure A3.1 summarises yet to be published Institute research which breaks down implicit labour supply elasticities within their own micro-simulation model according to gender, partnership status and household income.

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<sup>15</sup> Prescott 2004, p. 11.

**FIGURE A3.1: LABOUR SUPPLY ELASTICITIES: GENDER AND MARITAL STATUS**



Source: Buddelmeyer et al 2006

The broad generalisations of earlier literature are broken down in this graph showing married women with substantially higher labour supply elasticities than their partners throughout the income distribution. Elasticities generally fall with income but turn slightly negative for single men and women in the highest income households.<sup>16</sup> Lone parents (not captured in the graph but a relatively small demographic group) have much higher labour supply elasticities.<sup>17</sup>

<sup>16</sup> The explanation for this is that the ‘income effect’ from increased after tax incomes – some of which will enable more leisure to be taken – dominates the ‘substitution’ effect from higher returns to additional work.

<sup>17</sup> As Creedy and Kalb (2005) put it “This is perhaps not surprising given the low participation rate of lone parents and the tendency to work low part-time hours. An increase in labour supply by one hour is a larger percentage increase compared with the same increase for a married man ...” (p. 85). The phenomenon is consistent with empirical estimations of lone parents’ labour supply responsiveness.

# Appendix 4

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