The Working Nation reforms to the income support system:
A policy simulation using the Melbourne Institute Tax and Transfer Simulator

Rosanna Scutella and Peter Dawkins
Melbourne Institute of Applied Economic and Social Research
The University of Melbourne

Melbourne Institute Working Paper No.

ISSN 1328-4991 (Print)

ISSN 1447-5863 (Online)

ISBN 0 7340

June 2003

*We would like to thank Ken Oliver for providing the information required to undertake this work we would also like to thank Dr. Guyonne Kalb for her helpful advice in the construction of this paper. In particular we would like to thank the Department of Family and Community Services for funding this research. The views expressed in this paper are those of the author and do not represent the views of the Minister for Family and Community Services, the Department of Family and Community Services or the Commonwealth Government.

Melbourne Institute of Applied Economic and Social Research
The University of Melbourne
Victoria 3010 Australia
***Telephone* (03) 8344 3701**
***Fax* (03) 8344 5630**
***Email* melb.inst@iaesr.unimelb.edu.au**
***WWW Address* http://www.melbourneinstitute.com**

Executive Summary

1. Introduction

To bring the social security system into line with emerging labour market trends in female and part-time employment, the Keating Government, in July 1995, implemented various reforms to the income support system, under the "Working Nation" banner.

In particular, some changes were made to the structure of payments available to the unemployed, and partners of the unemployed that were designed to encourage individuals to enter part-time work.

This paper uses the Melbourne Institute Tax and Transfer Simulator (MITTS), a behavioural micro-simulation model, to simulate the effects of the reforms on net government spending, the distribution of income and labour supply behaviour.

2. The Reforms

The changes made, which are analysed in this paper include the following.

1. Abolition of the earnings disregard.
2. Introduction of personal and partner income tests for allowee couples, previously income was tested on a combined basis, as the current income test for pensions.
3. Decrease of the taper rate on allowances for income greater than $140 pf from 100 per cent to 70 per cent.
4. Introduction of Parenting Allowance and Widow Allowance, which had no associated activity test. The previous Home Child Care Allowance payment was subsumed into the basic amount of Parenting Allowance.
5. Replacement of the Job Search Allowance for those aged under 18 years with Youth Training Allowance (this change was more apparent than real).
6. Restriction of Partner Allowance to those born before July 1955 without recent workforce experience.
7. Close new grants of Wife Pension (most of these became eligible for Carer Pension, Parenting Allowance or Partner Allowance).

3. Simulated effects on reforms on government expenditure and the distribution of income, with labour supply assumed to be fixed.

Government Expenditure

The simulated cost of the reforms was $203.6 million a year due to $166.7 million additional government expenditure (mainly on larger allowances – because of the reduced taper rates), and $36.8million less tax revenue due mainly to the abolition of the earnings disregard.

Distributional Effects (still without labour supply responses)

The income deciles most affected by the reforms were income deciles 4 to 6, where the gains considerable outweighed the losses. Couples were the most affected, with over six per cent facing a reduction in net income after the reforms. These were largely single income earner units adversely affected by the changes to the income test arrangements. Only a small proportion of singles were affected by the reforms.

Overall income inequality is estimate to have decreased slightly, using an equivalised household income measure.

4. Effects on Effective Marginal Tax Rates (EMTRs).

The effective marginal tax rate measures the percentage of additional income that would be paid in taxes or withdrawn from benefit payments. Most income units experienced no change on EMTRs for a fixed level of labour supply. However, there were sub-groups that experienced significant changes.

Due to the reduction of the withdrawal rate on allowances a large proportion of the individuals with EMTRs of over 90 per cent before the policy experienced a reduction to around 70-80 per cent. Some couple households experienced reduced EMTRs due to the changed treatment of their income. However, the combination of the abolition of the earnings disregard and the changed treatment of income in couple households did increase EMTRs for many income units.

5. Estimated Labour Supply Responses to Working Nation Reforms

Total Impact of Reforms on Labour Supply

Increased benefits to part-time work for higher ranges of hours were found to lead to a small net increase in workforce participation across all groups apart from single men. Net workforce participation for married males with children is simulated to have increased by 0.34 per cent, or 6,860 persons. The model also simulated that around 0.24 per cent (4842) of married women with children would enter the workforce. A smaller increase of couples without children (2622 married men and 3277 married women), were also simulated to have moved into the labour market.

In terms of aggregate hours, the net labour supply effects are small, with the overall effect on aggregate hours of work only slightly positive. This is partly because there are negative effects on hours for some people. Average weekly hours of work are predicted to increase by 0.1 hours for married men with children, 0.04 hours for married women with children and 0.07 hours for sole parents. A slight reduction in labour supply was found for singles without children.

Total Impact of Labour Supply Effects on Government Spending

The impact of these labour supply effects is to reduce the net effect of the reforms on government spending especially for couples and sole parents. The main saving (allowing for labour supply responses) related to the net cost to government of the reforms as they related to couples was found to be about $40 million, compared with about $112 million.

The Labour Supply Effect of Abolishing the Earnings Disregard

The MITTS simulations found that this policy change, in isolation, had no apparent effect on the average hours worked across the population. This is perhaps, unsurprising as the reform only affected a small group.

The Labour Supply Effect of the Individualisation of Partner income Tests (with abolition of earnings disregard

The MITTS simulations also found little effect from this policy change. A very small reduction in labour supply was found, of about 0.01 hours per person.

The Labour Supply Effect of the Decrease in the 100% Taper Rate

Small effects were also found from this change. Some men and women moved into work, others moved out of work. Some are simulated to choose to work more hours. More are simulated to choose to work less hours. Overall the effect on hours work was found to be slightly negative. This suggests that the income effect of the change, (people taking advantage if the increase in benefit available at lower hours of work), outweigh the substitution effect of a slightly higher return to extra work over the withdrawal range.

1. Introduction

In its efforts to address the persistence of high unemployment in the early to mid 1990's, particularly with regard to long-term unemployment, the ALP released its "Working Nation" white paper (Keating, 1994b). In the white paper the ALP set a goal of an eventual return to full-employment, with a medium to long-term view of reaching a level of unemployment of 5 per cent by the end of the century. In the set of reforms proposed in the white paper were a range of initiatives concerned with employment and training programs, changes to income support measures, industry, science and trade initiatives and regional development programs. The reforms proposed were implemented and in effect by July 1995.

Many of the changes made dealt with reducing the problem of long-term unemployment through active labour market programs, such as the Job Compact. Many studies have evaluated the effects of these programs (see for eg. DEETYA, 1996; Stromback, Dockery and Ying, 1998 and Stromback and Dockery, 1998). In this paper, however, we turn our attention to the specific changes made to the income support system and changes to payment types and structures. These changes had the aim of removing disincentives to work, particularly for couple households (for full details see Keating, 1994a and 1994b).

Warburton, Vuong and Evert (1999), in the only other analysis of these particular aspects of the Working Nation reforms known by the authors, use Departmental administrative data to assess the impact of the reforms to income test arrangements on the earnings behaviour of those on unemployment benefits. The findings are taken to suggest that "the reforms unambiguously encouraged unemployed customers to undertake a more substantial level of part-time work" (p.iii). However, the problem with a straight before and after comparison is that many other factors have played a role besides the changes to the structure of income support apparent in the Working Nation reforms. It is difficult to isolate the explicit effects of the reforms from other changes apparent in the population as there is no *control group,* a group not affected by the reforms but otherwise similar to those affected by the reforms in their other characteristics, to compare the policy affected or *treatment group*. The outcomes from MITTS do not take into account many of the other factors that may have had an impact on behaviour after the reforms, such as for example the wage subsidies and other labour market programs or the more strict application of eligibility requirements. Thus, no meaningful comparison between MITTS outcomes and those from a straight before and after

comparison can be made. It is also important to note is that MITTS estimates the changes in labour supply between two distinct equilibrium points. It is not possible in the model to obtain information on the path of adjustment between the two points. Thus, we cannot make statements about the duration of unemployment, or the take up of temporary part-time jobs based on this model.

The aim of this paper is thus to estimate the likely effects of the changes to the parameters of the social security system designed to impact on the incentive to work using a structural labour supply model. The Melbourne Institute Tax and Transfer Simulator (MITTS), a behavioural microsimulation model of the Australia tax and transfer system, is used, initially to examine the immediate effects of the social security reforms by looking at winners and losers, measures of inequality and poverty and the "morning after" effect on government expenditure. In addition, the behavioural component of MITTS allows us to look at the effects of the changes to incentives made through the reforms to payment structures and determine the likely labour supply responses. This is particularly important when policy reforms are made which are designed to impact on work incentives and hence, labour supply. Thus, the effect on government expenditure taking into account the likely changes in labour supply can be estimated to give a more accurate picture of the medium to longer-term effects of the policy changes.

One of the larger changes made was to that of the incentive structure of working-age-couple households. Prior to the Working Nation reforms, unemployed couples were treated as a single labour force unit and thus only one member of a couple (usually the husband) needed to satisfy an activity test if unemployed with the spouse automatically entitled to payment once their partner was entitled (through Partner Allowance). Also, couples that were in principle entitled to an allowance were subject to an income test on combined income (as the Pension income test is currently structured). Note that prior to the introduction of Partner Allowance in September 1994, only one member of an unemployed couple received payment – there was a joint entitlement (payable to the 'breadwinner'), subject to a joint income test (although with a small additional free area for partner's earnings).

The Working Nation reforms treated each member of a couple individually while both were on payment and introduced withdrawals of benefits due to partner income only at a relatively higher level of income (once that partner's own notional entitlement had been extinguished).

Also, withdrawal rates on allowances were reduced from the incredibly stringent and targeted dollar for dollar withdrawal above a certain level of income, to a lower withdrawal rate. The full set of policy changes that are concentrated on in this paper are outlined in more detail in the following section. The reforms outlined were all fully implemented by July 1995. The reforms consisted mainly of changes to the structure and income test arrangements of allowance payments to couples and thus couples will be the major focus of the analysis.

The structure of the report follows. A description of the major social security policy changes outlined in the Working Nation set of reform are presented in Section 2. Section 3 provides a brief description of the major tool used in this analysis, the MITTS model. The predicted outcomes of the reforms assuming no-behavioural changes are presented in Section 4 while the likely labour supply responses are contained in Section 5. Section 6 examines the robustness of using an estimated base population already subjected to the reforms simulated, the 1995/96 SIHC, and estimating the behavioural effects of working backwards and removing the relevant Working Nation reforms. Concluding comments are made in Section 7.

2. Outline of major Working Nation reforms to income support

Highlighted in the Working Nation white paper was that, by the mid-1990's, the labour market was radically different to that of the time most major social security payments were designed. Part-time employment was much more common; there were growing rates of female participation in the labour market, particularly for married women; and real wages for the less skilled were relatively low and combined with real increases in unemployment benefit payment rates led to high replacement rates for low-skilled married couples. Changes to the structure of the social security system were thus seen as necessary to accommodate for these trends in the labour market.

Due to the growth of the availability of part-time work, it was seen that the dollar for dollar withdrawal of unemployment benefits with earned income was creating a disincentive for the unemployed to enter into part-time employment. Thus, one of the changes to the structure of allowances was the reduction of this 100 per cent taper rate, to 70 per cent.

Prior to the Working Nation reforms, unemployed couples were treated as a single labour force unit and thus only one member of a couple (usually the husband) needed to satisfy an activity test if unemployed, with the spouse automatically entitled to payment once their partner was entitled (through Partner Allowance). Also, couples that were in principle entitled to an allowance were subject to an income test on combined income (as the Pension income test is currently structured). Note that prior to the introduction of Partner Allowance in September 1994, only one member of an unemployed couple received payment – there was a joint entitlement (payable to the 'breadwinner'), subject to a joint income test (although with a small additional free area for partner's earnings). In a traditional world, where social norms see to it that only the male goes out to work, or search for work, and his wife is dependent on him as the "breadwinner" this is not problematic because the female typically does not participate in the labour market regardless of whether her partner works or not. However, in a world with increasing female participation and employment rates, this system imposes a large disincentive for the second person, the female, to enter into low-paid employment.

The Working Nation reforms introduced treated each member of a couple individually while both were on payment and introduced withdrawals of benefits due to partner income only at a relatively higher level of income (once that partner's own notional entitlement had been

extinguished). This was seen to increase the financial incentive associated with entering into low-paid employment.

Alongside this move to individualise allowance payments were changes to the payment type partnered females were notionally entitled to. Partner Allowance was restricted to those born prior to July 1955 and without workforce experience, while other partners of beneficiaries had to satisfy the activity test associated with unemployment benefits in their own right. Women caring for children were also seen as a group in society that should not be required to satisfy the activity test associated with unemployment benefits and thus Parenting Allowance was introduced for eligible families with children, a payment generally paid directly into the bank account of the parent caring for the children. The Home Child Care Allowance was subsumed into Parenting Allowance via a basic payment available to all single income earner families. Widow Allowance was also introduced for individuals who were left widowed or separated/divorced and had no recent workforce experience.

Another policy change likely to effect work incentives was the abolition of the earnings disregard. The earnings disregard had the effect of increasing the amount of earned income that could be received before any reductions in allowance payments were made. Thus its abolition was effectively like a reduction in the free area of allowance payments, which a priori could have an ambiguous effect on labour supply. If the substitution effect dominates, you would expect a negative labour supply response with those working part-time/casual reducing their hours of work, possibly even dropping out of the workforce as their benefit is reduced. If however, the income effect dominates, labour supply will increase as the individual will increase their hours of work to compensate for the loss of income induced by the reduction in their benefit income.

In addition to the above other small changes were made which were not part of the Working Nation reforms and thus are not the emphasis of our analysis, however were introduced at the same time as the Working Nation reforms in July 1995 and thus had an effect on the population. The free area on pensions was increased, as was the level of income at which the Medicare levy begins to be shaded in. The Medicare levy was increased from 1.4% to 1.5% and Mature Age Partner Allowance began to be phased out with no new grants given after 1 July. In this analysis we do not examine the effects of these changes focusing solely on the reforms directly associated with Working Nation.

In summary, the major changes that were implemented in the Working Nation package of reforms on 1 July 1995 were:

8. Abolition of the earnings disregard.

9. Introduction of personal and partner income tests for allowee couples, previously income was tested on a combined basis, as the current income test for pensions.

10. Decrease of the taper rate on allowances for income greater than $140 pf from 100 per cent to 70 per cent.

11. Introduction of Parenting Allowance and Widow Allowance, which had no associated activity test. The previous Home Child Care Allowance payment was subsumed into the basic amount of Parenting Allowance. Although single income earner families with dependent children between 16-18 years where the child is not entitled to an allowance in their own right (i.e. Austudy) were no longer entitled to the basic Parenting Allowance and thus may be worse off after the reform.

12. Replace Job Search Allowance for those aged under 18 years with Youth Training Allowance (this change was more apparent than real).

13. Restrict Partner Allowance to those born before July 1955 without recent workforce experience.

14. Close new grants of Wife Pension (most of these became eligible for Carer Pension, Parenting Allowance or Partner Allowance).

3. The MITTS model

This section provides a brief description of the tool used to analyse the Working Nation reforms in this paper, the MITTS model. MITTS consists of two components called MITTS-A and MITTS-B.[1] MITTS-A provides information about the expected revenue and expenditure before and after the policy reform based on the assumption that individuals do not change their hours of work. This assumption is relaxed in MITTS-B where individuals are allowed to react to a hypothetical policy reform through choosing an optimal level of hours worked. The behavioural changes are predicted through the use of labour supply models.

MITTS calculates net incomes for each household in the 1994/95 Survey of Income and Housing Cost based on the wage rates of individuals (either observed in the data or imputed using the estimated wage equations as described in Kalb and Scutella (2002)), other income, and some individual and household characteristics. The net incomes can be calculated imposing different tax and transfer systems, allowing hypothetical and real policy changes to be analysed. In this paper we compare results using the March 1995 tax and transfer system with results obtained by using the July 1995 system (the Working Nation System). In these calculations several issues need to be addressed. We discuss a few of the more important aspects of MITTS in this section.

These are, first the issue of eligibility and take up of benefits; and secondly the use of labour supply modelling to estimate behavioural responses.

3.1. Eligibility

The information in the Survey of Income and Housing Cost (SIHC) is used to calculate eligibility for the different social security payments. Detailed information on the different sources of income are available that help in determining this eligibility. However, we cannot check all requirements for eligibility with the available data. For example, information on assets is not available and the amount of assets may also influence eligibility. Fortunately, the group of households that would not be eligible based on their level of assets (which excludes

[1] For more detail on MITTS see Creedy et al (2002) and for background on behavioural microsimulation see Creedy and Duncan (1999).

the home), but would be deemed eligible based on their level of income is relatively small. Particularly, because the SIHC records income from investments (like dividends or interest) and superannuation income, which are incorporated in the calculations, this is unlikely to be a major problem. Other requirements for eligibility, which we cannot check, are whether someone has been a resident for at least two years and is actively looking for work.

At the moment, MITTS does not allow for individuals who decide not to take up the benefits for which they are eligible. This is likely to cause overestimation of expenditure on the different payments. Although the current receipt of benefits as recorded in the SIHC could be used to get an amount closer to the actual amount, this cannot help us to decide whether after a reform someone will take up a benefit. To simulate changes, we would need to make assumptions or estimate a model that accounts for take up of benefits. This is part of a project to start in the next quarter where we look at incorporating welfare participation and labour supply in one model. For the moment we assume a 100 per cent take up and argue that when one is interested in the change in expenditure as a result of the reform, this approach is reasonably satisfactory. Both the amounts before and after the reform will be overestimated and because the changes are not expected to expand eligibility to a large extent, the predicted percentage changes are expected to be reasonably informative.

3.2. The labour supply response

The estimation of the expected labour supply changes is based on the labour supply model estimated in Kalb (2002a). The model is neoclassical and based on one common utility function for the household. Although alternative models, incorporating more realistic assumptions on utility maximization in the household or allowing for home production to enter the model independently, are available, these models would introduce new complications[2] and as a result keeping all the current detail of the tax and transfer system

[2] To estimate a model where each household member has their own utility function, information is needed on the private consumption of individuals or on the amount of income allocated to them. No data set combines information on consumption or home production, income sources, and labour supply, so strong assumptions are often needed on how income is shared to allow estimation of collective utility models or on the value and amount of home produced goods to estimate models that explicitly allow for home production, instead of implicitly as in the unitary utility models.

would be impossible. Given the aim of MITTS of simulating policy changes with regard to the tax and transfer system and assessing its effect on labour supply, priority is given to incorporating all possible detail on taxes and transfers.

A discrete model specification is chosen to enable us to deal with the full detail of the tax and transfer system, both for single person households and for couples. A relatively large number of labour supply points is chosen. Households are assumed to choose from 0, 5, 10, 15,…., 50 hours of labour supply. However, fewer points are allowed for married men given the low number of married men working part-time hours (which can be caused by factors on both the supply and the demand side). They are assumed to choose from 0, 10, 20, 30, 40 or 50 hours. However, given the probability approach of simulating changes, small changes in labour supply can still be captured even in a ten-hour interval labour supply specification. A small change in labour supply means they may have a small probability of moving from 30 to 40 hours, for example.

Given the choice for this particular type of labour supply model, simple simulations of a change in all taper rates to 30 per cent show that the model seems quite robust to alternative specifications (Kalb, 2002b). The alternative specifications assessed in this paper included a reduction in the number of labour supply points, an alternative specification of the utility function and an alternative specification of the cost of working. Notwithstanding the reassuring result with regard to alternative specifications, when analysing the results one needs to keep in mind that the behavioural responses are based on a statistical model with the uncertainty that is always associated with modelling complex behaviour. A model is a simplified representation of reality, however, it is based on observed patterns of behaviour and it helps us to think about the possible effects of changes in a structured framework. Further work is planned on improving the model by incorporating welfare participation, an alternative approach to the imputation of wages for non-workers and including childcare costs.

To reduce the impact of prediction errors in the labour supply model on the simulation results, the starting point of the behavioural simulations carried out by the MITTS model is

based on the actual working hours in the data[3]. That is, labour supply before the reform is fixed on observed labour supply. This prevents prediction errors in the model from impacting on the distribution of working hours in the base situation. The labour supply model includes an error term to account for optimisation errors and this error term is used to calibrate the model in such a way that observed labour supply is the starting point. Basically the procedure is that we draw from the possible values for the error term and only use those draws in calculating the expected labour supply that put the individual at their observed labour supply in the pre-reform situation.

In 658 cases starting from March 1995 could the labour supply model not generate 100 draws at the observed labour supply within a total of 5000 draws. This indicates that for these cases the model does not do so well and the predicted level of labour supply is far from the observed level of labour supply. For these households, labour supply after the reform is kept at the same level as before the reform, thus possibly underestimating the total number of changes as a result of the reform.

The approach taken ensures that the results before the reform from MITTS-A (the part of MITTS without behavioural changes) and from MITTS-B (with behavioural changes) are quite similar. The difference between the two is the rounding to quintuples in MITTS-B and the dropping of a few observations, which have wages under $4.00 or over $100 per hour (only 89 observations out of more than 10,000 observations drop out because of this selection).

Labour supply is kept constant for some groups who are expected to be different in their responses compared to the average working-age individuals. These groups are the self-employed (855 cases), those on disability payments (385 cases), full-time students (225 cases) and people over 65 years of age (1509 cases). This leaves us with 7924 income units for whom we simulate the effect of the policy reform on labour supply. This is the group for which we allow a behavioural change to occur.

---

[3] A possible future improvement to MITTS would be to look into providing confidence intervals with predicted changes. This is however not straightforward like in a simple regression model, but would require a simulated approach.

When simulating the effect of a reform, the error terms that are accepted in the base case are used to predict the changed labour supply. This provides us with the probabilities of changing from the observed labour supply point to any of the other labour supply points and the probability of remaining at the same labour supply level. These probabilities can then be used to calculate an expected value of labour supply or percentages of individuals moving from one category to another.

Finally, it is incredibly important to note that MITTS is a partial equilibrium supply side model of the labour market. It does not take into consideration the demand for labour. Thus the model assumes that all individuals who prefer to work more hours after a reform are met by a sufficient demand for labour to enable them to actually do so. It is also assumed institutional constraints do not prevent individuals from reducing their hours of work. Also, the model captures the effects of reform at two distinct equilibrium points; it does not take into account the path of adjustment to the post-reform equilibrium point.

4. Effects of Working Nation reforms on government expenditure and distribution of income: fixed labour supply

As was described in the previous section, MITTS has two components: (i) a static component (which looks at the immediate effects of reform prior to any changes in behaviour) and (ii) a behavioural component (which incorporates labour supply changes). In this section we show the immediate effects of the Working Nation reforms, assuming individuals have had no chance to adjust their labour supply in response to the reforms. Initially we present the total impact of the reforms on: net government expenditure; the distribution of winners and losers; various measures of inequality; and, to give an indication of how incentives to work are being affected, the distribution of effective marginal tax rates (Emtr's) pre and post-reform. Note that all of the results are presented in nominal terms.

4.1. Effect on government expenditure

Table 1 presents the net expenditure effects on government of the complete set of Working Nation reforms outlined in Section 2 before any changes to the supply of labour.

Table 1: Total impact of reforms on government revenue and expenditure

	Cost ($m)		Numbers (thousands)	
	Before Reform	Change	Before Reform	Change
Government Revenue				
Income Tax	59,395.5	-41.2	10,989	22
Medicare	3,168.6	4.3	6,713	31
Total Revenue	62,564.1	-36.8		
Government Expenditure				
Tax Rebates	2,762	-89.2	7,003	22
Family Payment	6,189.2	-1,032	1,829	-61
Allowances	11,948.5	1,539.1	2,096	740
Pensions	19,668.8	-289.2	2,917	-70
Pharm Allowance	305.9	-4.7	3,163	-70
Rent Assistance	1,287	42.9	1,119	22
Total Expenditure	42,161.4	166.7		
Net Expenditure		203.6		

The complete set of WN reforms acted to reduce total revenue, coming about through quite a large decrease in income tax revenue, with a slight increase in revenue from Medicare. The reduction in income tax revenue is largely due to the abolition of the earnings disregard, which reduces the amount of taxable income available to beneficiaries earning a small amount of income. More detail on the effects on government expenditure is presented in Appendix 1. Table A1 presents the detail of the change in expenditure on allowances and rebates while the individual effects of the major changes associated with the Working Nation reforms are presented in Table A2.

The estimated effects of the changes to income support lead to an overall increase in government expenditure. Estimated expenditure on allowances increases with the changes to income test arrangements, which combine a reduction in the withdrawal rate with a more generous partially individualised income test for couples. Expenditure on pensions decreases

as no new grants of Mature Age Partner Allowance (which was structured as a pension and thus was treated as a pension in our pre-reform system) and Wife Pension were granted after 1/7/95. In MITTS this means assigning persons previously on MAPA or WP to another payment typically being Partner Allowance, Parenting Allowance or Carer Payment. This is also the reason why expenditure on Pharmaceutical Allowance is reduced after the reforms. Expenditure on Family Payments decreases as the Home Child Care Allowance expense is transferred to allowances as the payment was subsumed into Parenting Allowance. More detail of the effects on expenditure on allowances, pensions and rebates are presented in the appendices.

4.2. Distributional effects of reforms

If individuals do not change their hours of work in response to the set of Working Nation reforms, certain individuals gain financially after the reforms whilst others lose in financial terms. Table 2 shows the distribution of winners and losers after the full set of reforms by net income decile, marital status and employment status respectively. The columns represent the weekly dollar amount of the gain or loss with the rows representing non-equivalised income deciles. Pre-reform incomes are used to determine deciles and the income unit is used as the base. For instance 98.2 per cent of income units in the bottom decile experience no change in their net financial position after the reforms while 0.5 per cent experience a financial gain of more than $10 a week. From Table 2a we can see that the deciles most affected by the Working Nation reforms are income deciles 4 to 6, with the impact of the partial individualization of the income test for allowees and the reduction in the withdrawal rate impacting on these low to middle income units. Indeed on average the gains of income units outweigh the losses however it is clear that there are a significant number of losers due to the reforms. These consist of the income units losing income due to the abolition of the earnings disregard largely consisting of single income earning families.

Table 2a: Winners and losers by net income decile, total impact of reforms

	<$10	$5-$10	$1-$5	No change	$1-$5	$5-$10	>$10	Avg	Count	
Decile01	0.2	0.2	0.4	98.2	0.1	0.4	0.5	0.16	100	1,643
Decile02	1	1	0.4	89.8	1.2	2	4.5	0.79	100	1,123
Decile03	2	-	2.2	93.3	0.4	0.5	1.6	-0.87	100	1,380
Decile04	3.4	1.3	0.6	78.5	1.2	1.7	13.3	3.48	100	1,383
Decile05	5.9	0.6	0.4	77.8	1	1.9	12.4	1.28	100	1,384
Decile06	4.9	1	1.6	84.5	1.7	0.6	5.6	0.53	100	1,381
Decile07	2.7	1.7	3	89.4	1.4	0.6	1	-0.78	100	1,382
Decile08	1	1.4	4.6	90.9	1.7	0.3	-	-0.38	100	1,382
Decile09	0.3	1.6	3.3	93.9	0.9	-	-	-0.27	100	1,381
Decile10	0.6	0.6	1.2	97	0.7	-	-	-0.23	100	1,381
Total	2.18	0.93	1.78	89.49	1.01	0.77	3.83	0.36	100	-
Count	301	129	246	12,368	140	107	529	-	-	13,820

Table 2b: Winners and losers by marital status, total impact of reforms

	<$10	$5-$10	$1-$5	No change	$1-$5	$5-$10	>$10	Avg	Total	Count
Married/defacto	3.1	1.1	2.2	86.5	1.3	0.7	5.1	0.49	100	9225
Never married	0.7	0.5	0.4	95.6	0.3	0.5	2	0.26	100	2839
Sep/Wid/Div	0.2	0.1	0.1	96.5	0.5	1.2	1.4	0.52	100	1715
Total	2.22	0.86	1.58	89.61	0.98	0.74	4.01	0.45	100	-
Count	306	119	217	12,347	135	102	552	-	-	13,779

Table 2c: Winners and losers by employment status, total impact of reforms

	<$10	$5-$10	$1-$5	No change	$1-$5	$5-$10	>$10	Avg	Total	Count
Employed	1.5	1.2	2.2	88.7	1.1	0.7	4.5	1.11	100	8,148
Unemployed	3.1	0.3	0.6	91.4	0.9	0.7	3	-0.43	100	4,829
Not in labour force	4	0.6	1	87.8	0.8	0.9	4.8	-0.98	100	802
Total	2.22	0.86	1.58	89.61	0.98	0.74	4.01	0.45	100	-
Count	306	119	217	12,347	135	102	552	-	-	13,779

Table 2b presents winners and losers by marital status. Here we see that couples are the most affected by the reforms. Over six per cent of couples face a reduction in net income after the reforms. These are largely single income earner units adversely affected by the changes to income test arrangements. Other reasons for this are the movements of certain spouses off Mature Age Partner Allowance to other allowances and as MAPA at that time reflected the pension payment rates, net incomes after the reform for these individuals would involve a net reduction in income. Note that no *new* grants of MAPA were granted after July 1995 and thus individuals on MAPA prior to this time would remain eligible for MAPA until they transfer to the Age Pension (or become ineligible for the benefit if they or there partner experience a large enough increase in income) and thus in practice would not experience a reduction in income. This only affects a very small proportion of the population however. On the other hand just over seven per cent of couples experience an increase in net income after the reforms, with around five per cent gaining over $10 a week.

Only a small proportion of singles are directly affected by the reforms.

Income units with either an employed reference person or one out of the labour force are affected most by the Working Nation reforms directly (see Table 2c). On average units with an employed reference person gain the most, with changes to income test arrangements of those working largely having a positive effect on net incomes. Income units with a reference person out of work may experience a change in net income after the reform if their partner is not working, or if their partner's payment changes from MAPA to an allowance payment.

How then do the reforms affect inequality? Table 3 presents the change in the Gini coefficients before and after the reforms by marital status. Unlike the previous analysis which used raw income unit incomes, here household income per adult equivalent is used with the unit of analysis being the household. The equivalence scale used is that proposed by Whiteford (1985) and uses the scaling 1 for the first adult, 0.52 for second and subsequent adults and 0.32 for each child.

Overall inequality decreases slightly with the Working Nation reforms with benefits becoming slightly more generous for the low paid on average. Inequality decreases most for singles never having been married.

Table 3: Gini coefficients before and after reforms by marital status

Group	Before	After	Change
Married	0.2727	0.2725	-0.0002
Never married	0.2500	0.2494	-0.0006
Sep/Wid/Div	0.2749	0.2747	-0.0002
Total	0.2759	0.2756	-0.0003

4.3. Work incentives: Effective Marginal Tax Rates (EMTR's)

While this section has concentrated on the immediate effects of the Working Nation reforms assuming individuals have had no time to adjust their hours of work in light of the policy changes, we can look at the effect of the reforms on individuals work incentives. The Effective Marginal Tax Rate (EMTR) measures the percentage of additional income that would be paid in taxes or withdrawn from benefit payments. Thus, for example, an EMTR of 90 per cent means that for one extra dollar of income earned, the individual only keeps 10 cents with the other 90 cents paid out in taxes or through loss of benefits. Examining EMTR's allows us to see the work incentives people face as it represents the amount of income kept by increasing their hours of work.

Table 4 compares the distribution of EMTR's before and after the reforms, with the pre-reform EMTR being represented in the rows and the post-reform EMTR in the columns. EMTR's are calculated using net income unit income under each tax-transfer system as the

base. From the distribution of EMTR's we can see for instance that over 99 per cent of units with an EMTR of zero in the pre-reform system had no change in their EMTR after the full set of Working Nation reforms. This would consist of income units who have levels of non-benefit income below the benefit free area and thus do not face a reduction in their benefit if they were to earn an extra dollar of income.

Table 4: Distribution of EMTR's pre and post-reform

Post-reform Pre-reform	0	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	>100	Total
0	**99.3**	-	0	0.3	0	0	0	0.1	0.2	-	-	-	34.5
0-10	-	**100**	-	-	-	-	-	-	-	-	-	-	0
10-20	-	-	**70.4**	0.1	0.2	0.9	1.4	0.1	15	1.4	10.5	-	3.7
20-30	0.4	-	-	**95.6**	-	0.8	-	0.2	0.7	0.3	2	-	6.5
30-40	-	-	0.1	0.1	**96.4**	-	0.2	0.9	1.3	0.6	0.4	0.2	27.4
40-50	-	-	-	0	-	**99.3**	-	0.2	0.5	-	-	-	17.2
50-60	-	-	-	-	0.8	1.7	**68.1**	4	11.6	4.4	6.9	2.4	0.8
60-70	-	-	-	-	-	0.6	0.2	**90.3**	6.3	1.3	-	1.4	3.7
70-80	-	-	-	-	-	-	13.8	2.4	**82.1**	1.1	-	0.6	1
80-90	-	-	-	-	-	-	-	0.6	0.6	**97.5**	0.9	0.4	1.9
90-100	-	-	-	-	-	-	-	7.3	40.8	1.6	**49.9**	0.5	0.4
>100	12	-	1.4	-	-	-	0.1	1.4	32.4	3.4	0.4	**48.8**	2.8
Total	34.6	0	2.7	6.4	26.5	17.2	0.8	3.8	3.3	2.3	0.9	1.5	100

The vast majority of income units face no change in their EMTR at a given hours level after the Working Nation reforms were implemented, these individuals lie on the diagonal of the above matrix and are highlighted in bold print. Due to the reduction of the withdrawal rate on allowances from 100 per cent to 70 per cent we see that a large proportion of individuals with EMTR's of over 90 per cent before the policy change have a reduction in their EMTR's to around 70-80 per cent. The changed treatment of income for couple households does improve immediate work incentives for certain income units, with these units represented in the

portion lying below the diagonal in Table 4. However the combination of the abolition of the earnings disregard and the changed treatment of income in couple households does increase EMTR's for many income units, shown in the upper diagonal of the table.

Work incentives for hypothetical household types

To examine in closer detail the effect of the Working Nation reforms on work incentives of various household types, net income and EMTR schedules for various hypothetical households are now presented. Figures 1 and 2 present the net incomes and EMTR schedules of a hypothetical couple household with children. Across the horizontal axis hours of work of the reference person varies and we explicitly assume that the spouse is not working in this example. The couple has one dependent child aged under 2 years. The offered wage of the reference person is around $10 an hour. The reference person is, subject to the income test, eligible for Newstart Allowance in both pre and post reform systems while the spouse is initially eligible for Partner Allowance and post-reform moves onto the newly formed Parenting Allowance. If neither member of this couple is working, this household does not see any changes to their net incomes after the reform.

Figure 1: Net income schedule of couple household with children, reference persons hours of work, spouse not working

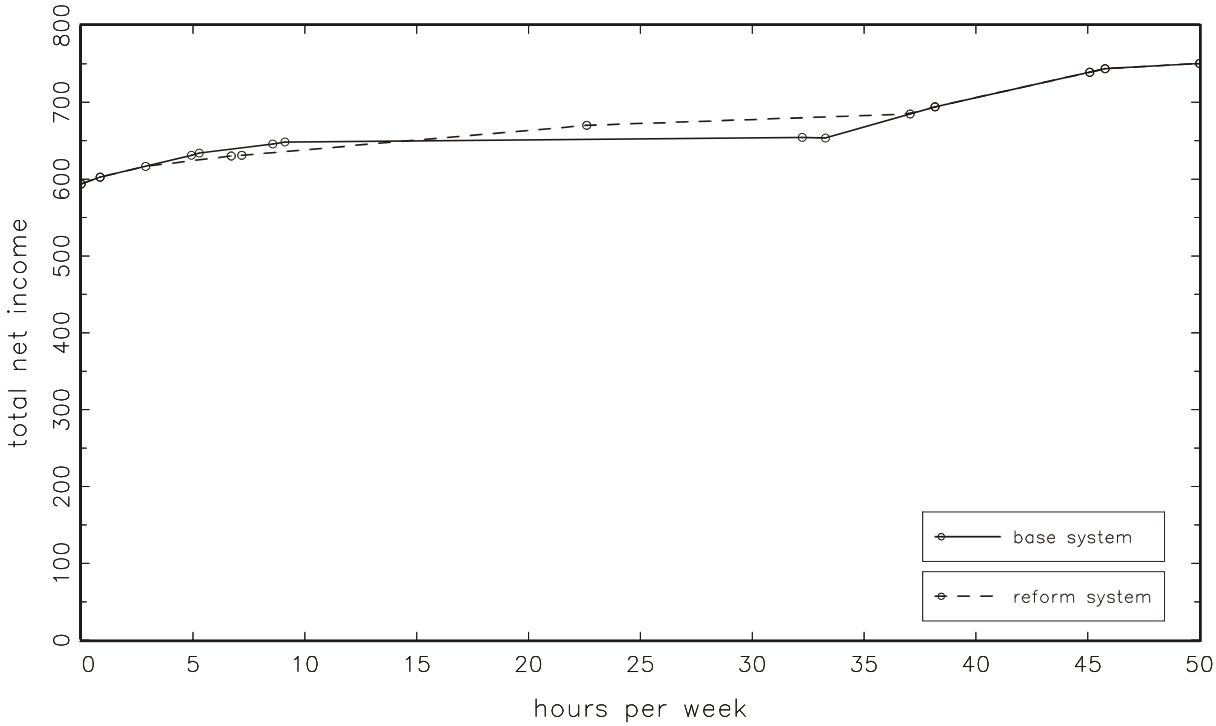
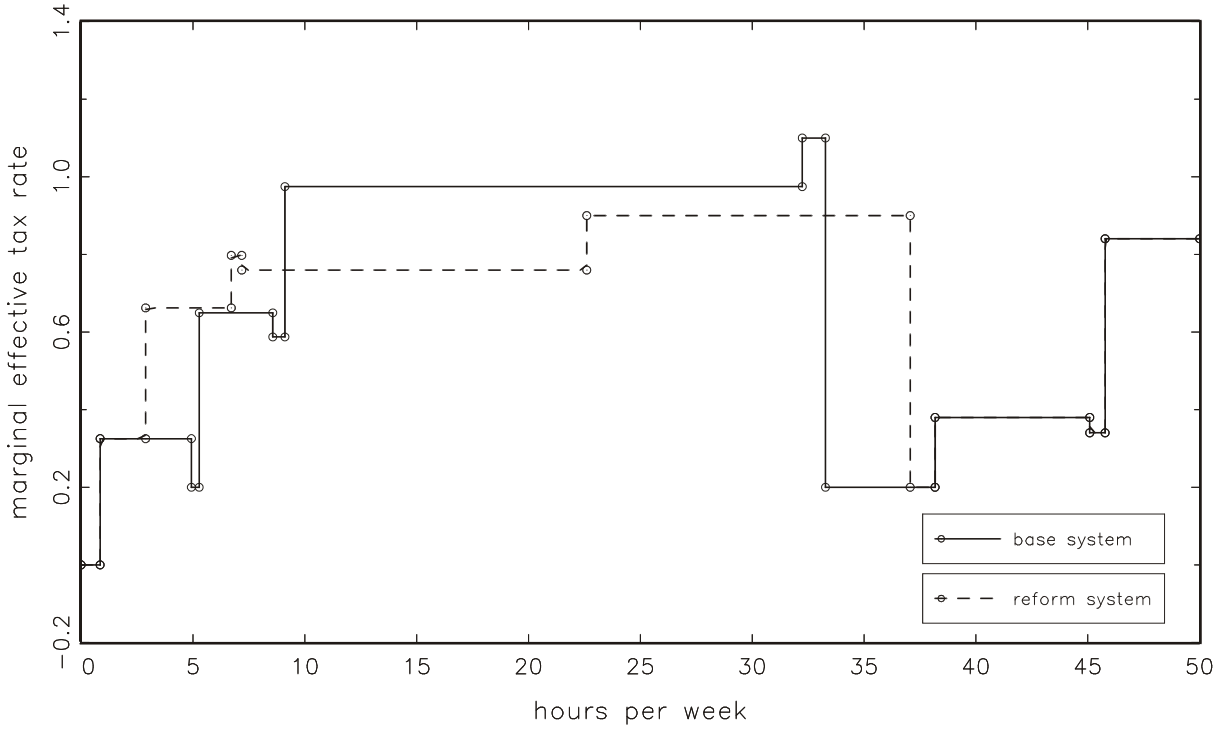


Figure 2: Effective Marginal Tax Rate schedule of couple household with children, reference persons hours of work, spouse not working



Note that the hourly wage rate of the reference person in the above figures is $10.43.

From the diagrams we see that, under the reform system as the reference person begins to work his Newstart Allowance is clawed back at a lower level of income than was the case before the reform due to the abolition of the earnings disregard. Thus, EMTR's are higher under the reform system for very low hours of work as the free area is effectively reduced. At around 11 hours a week, EMTR's are relatively lower post-reform due to the reduction of the withdrawal rate on allowances from 100 per cent to 70 per cent. Both of these reforms, the abolishing of the earnings disregard and the reduction in the taper rate after the second threshold, act to linearise the budget constraint to an extent, removing (or reducing) the effects of various kinks in the budget constraint. This is expected to affect the labour supply of those who are in similar circumstances to this hypothetical household.

Now we turn to the likely effect of the reforms on the same hypothetical household type, where now we fix the reference persons labour supply to working part-time at 25 hours per week and see what happens to the households net income when the spouse varies her hours of work. The associated net income and EMTR diagrams for the same household type with this new work arrangement are presented in Figures 3 and 4 respectively.

Individualisation of the income test increases net incomes after the reform if the reference person does not work or only works few hours, with EMTR's reduced significantly between 5 to 15 hours a week. Between 15 and 25 hours a week, EMTR's are much higher as benefits that had been completely withdrawn in the pre-reform system are available over a larger range of income after the reforms. Once benefits are withdrawn in the reform system, net incomes equivalised under the two systems as no reforms were made to family payments or the direct tax system.

Figure 3: Net income schedule of couple household with children, spouses hours of work, reference working 25 hours

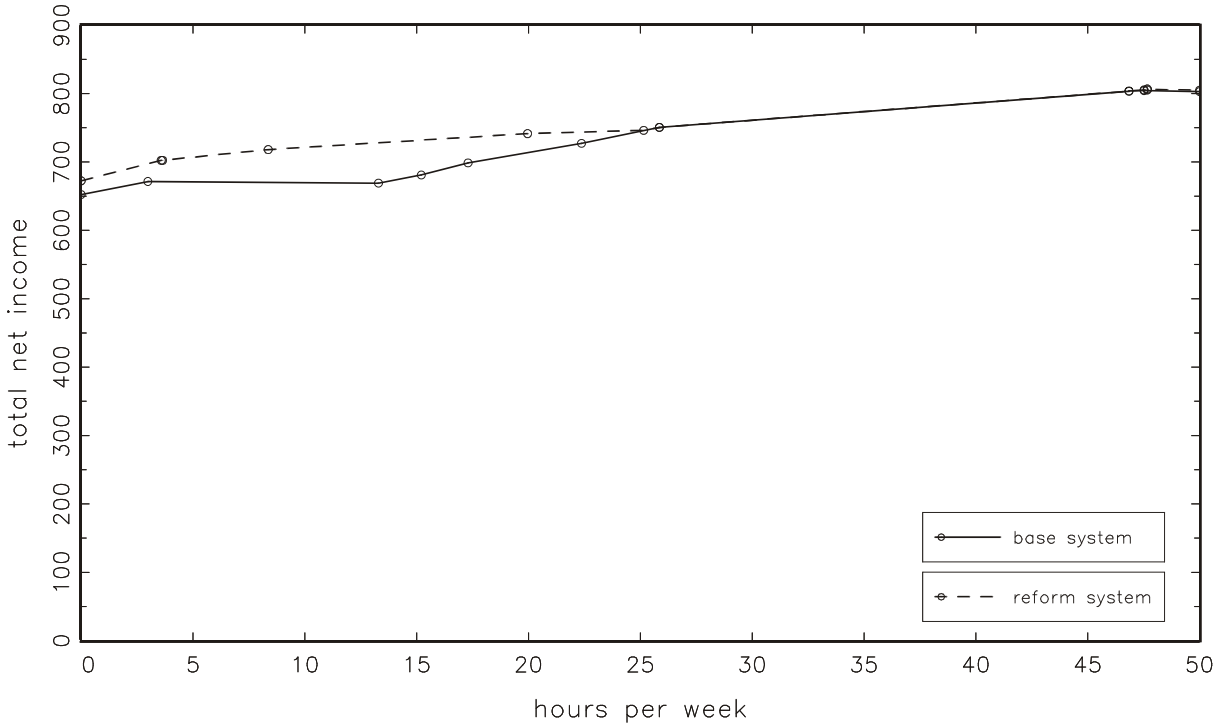
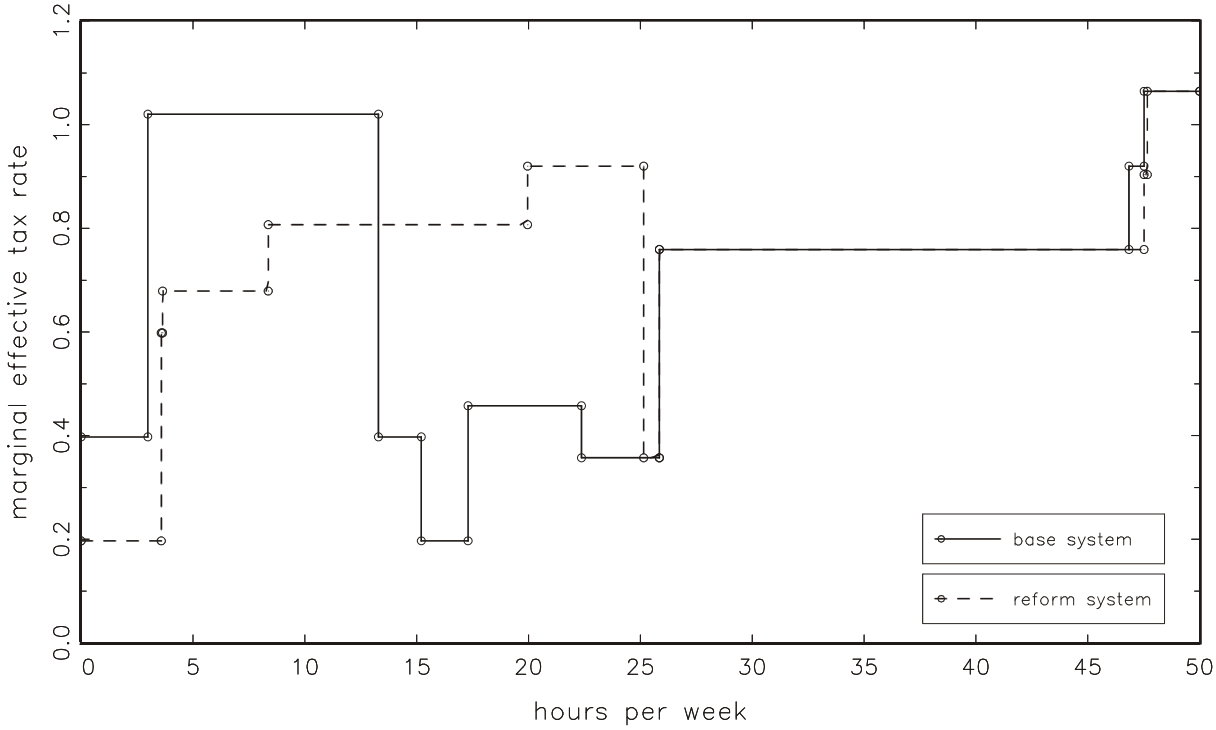


Figure 4: Effective marginal tax rates of couple household with children, spouses hours of work, reference working 25 hours



Note that the hourly wage rates implied by the above figures are a wage rate of $10.43 for the reference person and an associated wage rate of $8.38 for the spouse.

Figures 5 and 6 present net income and EMTR schedules respectively for a hypothetical single adult household. This particular hypothetical individual represents someone paying $100 a week in private rent and offered an hourly wage rate of $13.25.

Figure 5: Net income schedule of single person household

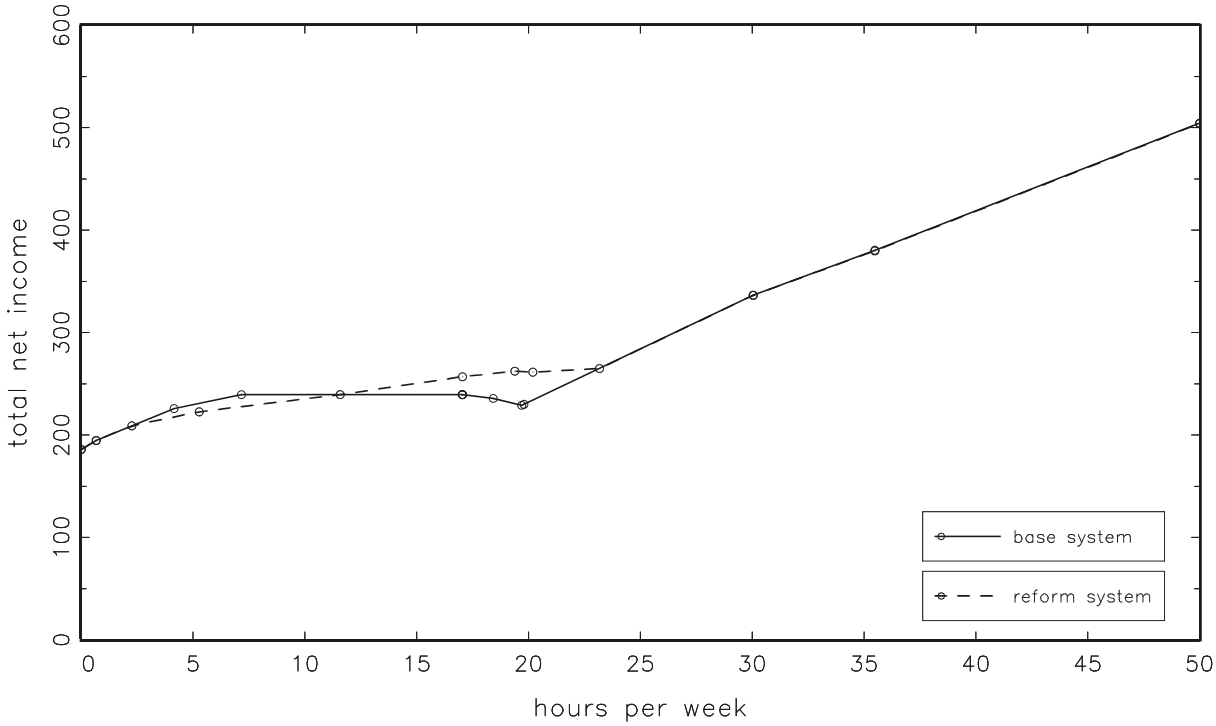
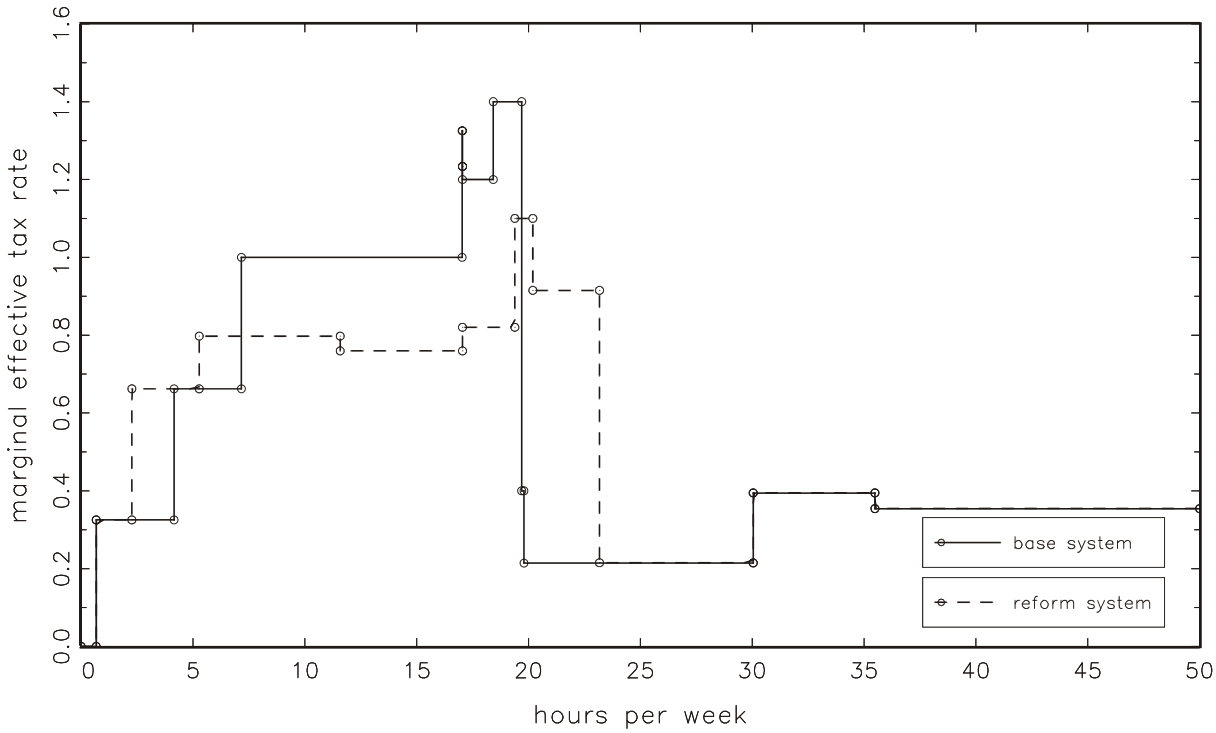


Figure 5 shows the effects of the abolition of the earnings disregard and the lowering of the withdrawal rate on Newstart Allowance on this person. For very few hours of work net incomes are lower in the reform system, however between around 12 and 24 hours of work net incomes are higher under the reform. The Working Nation reforms seem to have the effect of linearising the budget constraint over this range of hours of work where individuals inclined to work part-time would be most sensitive.

Figure 6: Net income schedule of single person household



Turning to the EMTR diagram, we see that EMTR's are increased over the range of hours where the earnings disregard applied prior to its abolition and then decrease quite significantly where the withdrawal rate on Newstart Allowance is reduced. An added effect of the reduction of the withdrawal rate is to impose relatively high EMTR's over a longer range of hours as the allowance is payable at a higher level of income.

So a priori what do we expect the effects on labour supply to be from the changes observed in the budget constraints of hypothetical household types above and the findings of Warburton, Vuong and Evert (1999). Allowees (parents, the unemployed, students, and the sick) are the only groups affected by the reforms, leaving a large section of the benefit population unaffected. For the allowee group work becomes less attractive to those working very few hours due to the abolition of the earnings disregard. For those with strong income effects, a desire to increase labour supply may be present to compensate for the loss of income. For those with strong substitution effects this may cause them to substitute work for leisure and drop out of the labour market. With work more attractive at higher hours levels due to the reduction in the second taper rate on allowances and the individualization of the income test for couples, it is expected that an increase in work effort be more desirable for the majority of those affected rather than a move out of the work force. That being said, the budget constraint

diagrams illustrate how difficult it is to predict the labour supply responses to the Working Nation reforms as there were many conflicting effects of the reforms with effective marginal tax rates reduced over some ranges of income, but increased over others. It is also important to remember that the way individuals/families respond to the reforms depends on individual work-leisure preferences.

Also, the reforms do only affect a very small proportion of the population the hour's distributions within demographic groups not exhibiting any significant differences before and after the reforms were implemented in July 1995. Thus, we expect that the aggregate labour supply responses from the reforms to be very small.

Another concern is that, as Kalb (2001) highlights, the parameter on fixed costs in the labour supply models is very high for married males, and singles without children picking up the observed tendency of these groups to either work full-time or not work at all. This may lead to our modeling leading to an under-prediction of those moving to part-time work. We however feel that our results are quite reliable, as the data shows no significant change in the distribution of hours worked after the reforms were implemented as was noted above.

It is expected that the imposition of the activity test on partners of the unemployed, students and the sick lead to an increase in workforce participation among young (under 40 years) married women. The effect of the activity test cannot be estimated in our model. This may lead to an under-prediction of married women without children moving into the work force and should be noted when examining the results of the modelling.

5. Estimated labour supply responses to Working Nation reforms

In Section 4 the effects of the Working Nation reforms were presented assuming people's work patterns were fixed. As many of the reforms implemented in July 1995 were designed to effect individual incentives to work, particularly in relation to people entering part-time employment, ignoring the likely effects on labour supply could lead to incorrect expected outcomes. This is particularly important in terms of examining the effects on costs to government. Thus, this section looks at the likely labour supply responses of the complete set of Working Nation reforms, and then the individual labour supply effects of the main 3 sets of policy reforms outlined in previous sections. Effects on government revenue and expenditure, which take into account the likely labour supply responses, are also examined.

5.1. Total impact of reforms

What then are the predicted effects of the combined set of Working Nation reforms keeping in mind the limitations of the model? Does the model predict an increase in workforce participation across all groups, leading to an overall increase in average hours of work? Or do some groups take advantage of the increase in income available at certain part-time hours of work and decrease hours of work. Also, does the reduction in the free area available to allowees have a significant effect on those working a small number of part-time hours? A summary of the predicted labour supply responses brought about by the Working Nation reforms implemented in July 1995 is shown in Table 5.

Table 5: Summary of labour supply responses across demographic groups

	Couples (with kids):		Couples (without kids):		Singles:		
	Men	Women	Men	Women	Men	Women	Parents
Workers (% base)	72.49	49.57	46.89	41.22	62.85	45.64	42.73
Workers (% reform)	72.83	49.81	47.01	41.37	62.85	45.68	42.92
Non-work --> work (%)	0.53	0.36	0.31	0.30	0.02	0.07	0.20
Work --> non-work (%)	0.19	0.12	0.19	0.15	0.02	0.03	0.02
Workers working more	0.02	0.02	0.01	0.02	0.01	0.01	0.05
Workers working less	0.17	0.06	0.12	0.08	0.07	0.21	0.05
Average hours change	0.10	0.04	0.03	0.03	-0.02	-0.03	0.07
Weighted population	2,017,619		2,184,989		2,077,816	1,938,256	400,322

In aggregate the labour supply effects are very small, with the overall effect on aggregate hours of work only slightly positive. Average weekly hours of work are predicted to increase by 0.1 hours for married men with children, 0.04 hours for married women with children, 0.03 hours a week for married men and women without children and 0.07 hours for sole parents. A slight reduction in overall labour supply is apparent for singles without children.

Increased benefits to part-time work for higher ranges of hours do lead to a small net increase in workforce participation across all groups apart from single men. Improving work incentives for the second earner in a couple does seem to have an impact on the labour supply of couples, particularly those with children. Net workforce participation by married males with children is predicted to increase by 0.34 per cent. This amounts to an extra 6,860 males participating in the workforce after the reforms. The model also predicts that around 0.24 per cent (4842) of married women with children will enter the work force. Also predicted is that the Working Nation reforms increase workforce participation of couples without children: 0.12 per cent (2622) of married men and 0.15 per cent (3277) of married women. Singles are not affected by the reforms to the same extent as couples and thus we expect the effects on the labour supply of singles to be less apparent. In fact the net effect on workforce participation for single males is neutral, with the proportion of single males dropping out of

the labour market predicted to match the proportion moving into work. Single women are predicted to increase participation slightly. In total, the model estimates that the Working Nation reforms were likely to increase the number of workforce participants by 19,097 individuals.

While workforce participation is predicted to have increased, certain individuals are estimated to reduce their hours of work to take advantage of the increased generosity of benefit income at higher part-time hours of work. This is most apparent for singles without children. This may not be realistic and should be interpreted with caution, as individuals choosing to reduce their working hours are unlikely to be successful in a new claim for benefits and the thirteen week waiting period for unemployment benefits would deter many people from voluntarily leaving their jobs. However, as eligibility in these situations is extremely subjective and generally comes down to the particular Centrelink (or DSS at the time of the reforms) officer assigned to each individual we do not feel that the modeling should restrict any downward labour supply movement. It is important to be aware of this issue and keep in mind that the resulting labour supply responses may be slightly biased downwards.

Sole parents are not the focus of any of the reforms, however certain sole parents may be in receipt of an allowance payment if not eligible for the sole parent pension and thus some movement is apparent in this group.

Table 6 presents the effect of the reform of the various demographic groups on net government expenditure with and without taking into account the labour supply effects. The revenue and expenditure items presented in the previous section and their corresponding estimates in Table 6 assuming fixed labour supply are slightly different, because in the static version of the model (Mitts-A) the exact hours worked are used whereas in the behavioural component (Mitts-B) a discretised labour supply variable is used rounding labour supply to 0, 5, 10, 15 etc. hours. Comparing the LS (accounting for labour supply) column with the Fixed column, it is clear that after accounting for labour supply, net government expenditure is reduced once the labour supply responses of individuals is taken into account. The decrease in the average hours of singles without children increase the required expenditure on singles however the small increase in the labour supply of couples and sole parents outweigh this leading to a reduction in required net government expenditure after labour supply responses.

This highlights the importance of looking at labour supply effects when estimating the net effect on government expenditure of reforms designed to impact on work incentives.

Table 6: Impact of reforms on government revenue and expenditure, with and without labour supply responses

	Pre-Reform	Change after reform			
		With labour supply		Fixed	
	($m)	($m)	%	($m)	%
(a) Couples					
Government Revenue					
Income Tax	40,849.4	-49.8	-0.1	-54.9	-0.1
Medicare	2147.6	0.9	0	3.3	0.2
Total Revenue	42,997	-49	-0.1	-51.5	-0.1
Government Expenditure					
Tax Rebates	1430.3	-96.6	-6.8	-98.7	-6.9
Family Payment	4589.1	-1,014.6	-22.1	-1,014.8	-22.1
Allowances	4440.1	1,400.2	31.5	1,454.8	32.8
Pensions	10,548.3	-305.6	-2.9	-287.1	-2.7
Pharm Allowance	121.3	-4.9	-4	-4.7	-3.9
Rent Assistance	439.7	13	3	11	2.5
Total Expenditure	21,568.9	-8.5	0	60.5	0.3
Net Expenditure		40.5	-0.2	112.1	-0.5

	Pre-Reform	Change after reform			
		With labour supply		Fixed	
	($m)	.($m)	%	.($m)	%
(b) Single men					
Government Revenue					
Income Tax	9,811.4	0.2	0	6.4	0.1
Medicare	570.7	0.4	0.1	0.9	0.2
Total Revenue	10,382.2	0.6	0	7.3	0.1
Government Expenditure					
Tax Rebates	342.6	0.7	0.2	0.7	0.2
Allowances	2,481.4	31	1.2	32.2	1.3
Pensions	2,404.5	0	0	0	0
Pharm Allowance	41.9	0	0	0	0
Rent Assistance	295.6	24.4	8.3	22.8	7.7
Total Expenditure	5,566	56.1	1	55.6	1
Net Expenditure		55.5	-1.2	48.3	-1

	Pre-Reform	Change after reform			
		With labour supply		Fixed	
	($m)	.($m)	%	.($m)	%
(c) Single women					
Government Revenue					
Income Tax	5,707.7	-3.5	-0.1	7.4	0.1
Medicare	335.9	-0.8	-0.3	0.2	0.1
Total Revenue	6,043.7	-4.3	-0.1	7.6	0.1
Government Expenditure					
Tax Rebates	549.1	3.6	0.7	3.7	0.7
Allowances	1,743.8	32	1.8	37	2.1
Pensions	6,267	0	0	0	0
Pharm Allowance	101.4	0	0	0	0
Rent Assistance	267.5	12.6	4.7	8.7	3.2
Total Expenditure	8,928.8	48.2	0.5	49.4	0.6
Net Expenditure		52.5	1.8	41.8	1.4

	Pre-Reform	Change after reform			
		With labour supply		Fixed	
	($m)	.($m)	%	.($m)	%
(d) Sole parents					
Government Revenue					
Income Tax	1,025.8	2.7	0.3	1.6	0.2
Medicare	36	0	-0.1	0	0
Total Revenue	1,061.8	2.7	0.3	1.6	0.2
Government Expenditure					
Tax Rebates	364.9	5.5	1.5	4.8	1.3
Fam Payment	1,509.3	-5.4	-0.4	-5.5	-0.4
Allowances	2,067.5	1.9	0.1	8.1	0.4
Pensions	111.1	0	0	0	0
Pharm Allowance	35.1	0	0	0	0
Rent Assistance	252.5	0	0	0	0
Total Expenditure	4,340.4	1.9	0	7.4	0.2
Net Expenditure		-0.8	0	5.8	0.2

The remainder of this section examines the labour supply effects of the three main reforms implemented in Working Nation. Estimates of outcomes from i) the abolition of the earnings disregard, ii) individualisation of allowance income tests and iii) the decrease in the allowance withdrawal rate are presented individually. This enables us to isolate whether any particular reforms are driving the results and also whether the abolition of the earnings disregard had a significant dampening effect on work incentives.

5.2. Abolishing earnings disregard

Here we look at the likely contribution of the abolition of the earnings disregard had on people's decision to supply hours of work. As we saw earlier the earnings disregard increased

the amount of income an individual/couple could earn before their allowance was withdrawn. Its abolition makes working very few hours less attractive as benefits begin to be withdrawn at lower income levels, decreasing net incomes for those with low earnings. Certain individuals may decide that the small amount of work they do may no longer be worthwhile and drop out of the labour force after the reform. Others however, may increase their hours of work to compensate for their loss of income. The results on the supply of labour are shown in summary in Table 7, shows that this particular policy change in isolation had no apparent effect on average hours worked across the population. This is not surprising as the reform only affected a small group in the population. The model however does estimate that there was some very slight movement in hours worked by individuals. The substitution effect associated with this policy change causes a very small proportion of individuals to withdraw from the labour force, with again only a very small proportion working more hours to compensate for their loss of income. Thus, the effects of the abolition of the earnings disregard on government revenue and expenditure predicted by Mitts-A and presented in Section 4 are quite reliable.

The results show that the abolition of the earnings disregard did not have any significantly adverse effect on individuals work patterns. If we look at this from another angle and think about the likely effects of increasing free areas on payments, it seems that changing free areas for allowance recipients is not a cost effective way of encouraging people to enter the labour market.

Table 7: Summary of labour supply responses to abolition of earnings credit across demographic groups

	Couples (with kids):		Couples (without kids):		Singles:		
	Men	Women	Men	Women	Men	Women	Parents
Workers (% base)	72.49	49.57	46.89	41.22	62.85	45.64	42.73
Workers (% reform)	72.48	49.59	46.88	41.23	62.83	45.61	42.69
Non-work --> work (%)	0.00	0.02	0.00	0.01	0.00	0.00	0.00
Work --> non-work (%)	0.01	0.00	0.00	0.00	0.02	0.03	0.04
Workers working more	0.02	0.00	0.01	0.00	0.01	0.05	0.04
Workers working less	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average hours change	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Weighted population	2,017,619		2,184,989		2,077,816	1,938,256	400,322

5.3. Individualisation of partner income tests on allowances with abolition of earnings disregard

Here the effect of the partial individualization of the treatment of income on couples receiving allowances is examined. The aggregate labour supply responses of this policy change, combined with the abolition of the earnings disregard, on individuals in couple households with and without children are presented in Table 8.

Table 8: Summary of labour supply responses to individualisation of income tests and abolition of earnings disregard across demographic groups

	Couples with kids:		Couples without kids:	
	Men	Women	Men	Women
Workers (% base)	72.49	49.57	46.89	41.22
Workers (% reform)	72.49	49.56	46.87	41.20
Non-work --> work (%)	0.05	0.03	0.03	0.02
Work --> non-work (%)	0.05	0.05	0.04	0.04
Workers working more	0.01	0.00	0.00	0.00
Workers working less	0.06	0.01	0.03	0.02
Average hours change	-0.01	-0.01	-0.01	-0.01
Weighted population	2,017,619		2,184,989	

Changing the treatment of income on allowee couples, from combining income to individualising personal and partner income, in conjunction with the abolition of the earnings disregard has a small but slightly adverse effect on the labour supply of males within couples, whether dependent children are present or not. Individualising income tests in isolation seems to have little aggregate impact on net workforce participation. In fact, the modeling predicts that married females with and without children, and married males without children actually decrease workforce participation very slightly. For those remaining in the workforce a reduction in hours of work is apparent across all demographic groups. This may appear counterintuitive however this result is largely driven by two factors. Firstly, a strong income effect will reduce the labour supply of individuals with an increase in household income. This will mainly affect married women, particularly those with children. Secondly, it is important to note that the changes to the treatment of income for couples may have an adverse effect on the net incomes of certain low-income single income earner families. This effect is intensified when incorporating the effect of the abolition of the earnings disregard.

Examining the hours transitions more carefully it is apparent that married males that exhibit some labour supply movement (of which are very few) are reducing full-time hours to either part-time employment or are moving out of the workforce completely. A reduction in labour

supply to part-time work may perhaps be matched by an increase in the labour supply of the partner, who may move into employment to take advantage of the individualization of the income test. Those moving out of the workforce are those with other forms of income who prefer to not work and receive some benefit income than work full-time and not receive any benefit income and be taxed at a higher rate on their unearned income. Note that the waiting period to claim benefits associated with voluntary termination of employment may deter individuals from actually doing this.

5.4. Decrease in 100% taper rate

Now we turn to isolating the labour supply effects of the decrease in the allowance withdrawal rate. Prior to July 1995, once individuals/couples had income in excess of $70 (plus the associated earnings disregard) a week their allowance payment was withdrawn dollar for dollar with this excess amount of income. This 100 per cent withdrawal rate was decreased to 70 per cent as of 1 July 1995. This is expected to induce more people into part-time employment as they get to keep more of their benefit for a longer range of income. Table 9 shows the estimated aggregate labour supply responses over the six demographic groups; married males with children, married females with children, married males without children, married females without children, single males without children and single females without children.

Table 9: Summary of labour supply responses to decrease in allowance taper rate across demographic groups

	Couples (with kids):		Couples (without kids):		Singles (without kids):	
	Men	Women	Men	Women	Men	Women
Workers (% base)	72.49	49.57	46.89	41.22	62.85	45.64
Workers (% reform)	72.65	49.54	46.74	41.14	62.88	45.78
Non-work --> work (%)	0.34	0.20	0.06	0.11	0.06	0.17
Work --> non-work (%)	0.18	0.24	0.20	0.19	0.02	0.02
Workers working more	0.01	0.01	0.01	0.01	0.00	0.00
Workers working less	0.40	0.07	0.18	0.11	0.20	0.52
Average hours change	-0.03	-0.04	-0.09	-0.06	-0.03	-0.07
Weighted population	2,017,619		2,184,989		2,077,816	1,938,256

The labour supply responses from this reform are very small as the groups targeted by the policy change are those with traditionally low labour supply elasticities. Married women are traditionally more responsive than their male counterparts. However, the reduction in the withdrawal rate in July 1995 did not seem to induce any major changes in behaviour across the female population. It must be noted however that here the effect of the reduction in the withdrawal rate of allowances is modelled in isolation leaving in place the pre-reform treatment of couple incomes. Thus, secondary earners (largely being women) remain with little incentive to enter the workforce. Couples are estimated to experience a decrease in net workforce participation, with married males with children the only married group of individuals predicted to increase net workforce participation[4]. Singles without children increase their participation in the workforce overall, however more than offsetting this is a portion of those remaining in the workforce reducing their hours of work to take advantage of the increased benefit income. The overriding effect across demographic groups is that of a decrease in working hours to take advantage of the increase in benefit income available at lower earnings.

As expected married females respond most to the increase in household income, largely moving out of the labour force from both full-time and part-time work. Of those married men making any labour supply transitions, men are mainly predicted to move from full-time to part-time employment. Some men are predicted to move out of the workforce completely. This may seem like a strange result however certain men may have a strong income effect. Another explanation is that those dropping out of the workforce are those on low wages with other forms of income. Reducing the withdrawal rate means that they keep more of their benefit (or receive a benefit payment they were not initially entitled to) and thus they no longer feel the need to work as their benefit income combined with their investment income optimises their utility. It is important to stress that while the effects on married males are unusual, they are very small and hardly significant in the whole scheme of things. Single men and single women (Table A18 and A19) behave similarly with the majority of those estimated to change their labour supply reducing their full-time hours to part-time hours.

Lone parents are not presented in the above table as they are not typically affected by the reform.

5.5. Summary of results

Using MITTS, a micro-simulation model which estimates labour supply responses to changes in net incomes, this report estimates that the labour supply response to the Working Nation reforms to the income support system had a negligible effect on the distribution of hours worked in Australia. What very small positive labour supply response that was estimated was due to the combination of all of the reforms and not due to any particular change in isolation.

The results here are quite different to those found in Warburton, Vuong and Evert (1999) who, using a before and after comparison of benefit recipients, found that the changes to the income support system in Working Nation did have a significant effect on the incidence of part-time employment. The problem however with a straight before and after comparison is that many other factors have played a role besides the Working Nation reform. Some of these factors cannot be represented in MITTS, such as for example the wage subsidies and other

---

[4] Examining the hours transitions it is clear that this group increase workforce participation by moving mainly into part-time employment

labour market programs associated with the Working Nation reforms or the more strict application of eligibility requirements.

Having noted the problems associated with a straight before and after comparison, we did however examine the distribution of hours for each demographic group used in our labour supply estimation before the reforms (1994/95 SIHC) and after the reforms (1995/96 SIHC) and found no significant change in part-time employment (see Appendix 3). This is consistent with the results of our modelling presented here.

6. An experiment: removing Working Nation reforms from a sample of the 1995/96 population

The previous section looked at the likely impacts of the social security changes implemented in the Working Nation package in July 1995 based on an estimate of the population over the 1994/95 financial year. In this section we turn this analysis on its head. Here we use the 1995/96 Survey of Income and Housing Costs unit record data as our base population and the July 1995 tax and social security system as our pre-reform system and look at the effects on labour supply behaviour of removing the Working Nation reforms[5]. The population base is made up of a different sample of households subject to the Working Nation reforms having had a chance to adjust their labour supply behaviour accordingly. This will help us determine whether the results of the previous section are robust across various data samples.

Table 10a provides a summary of the changes in work patterns across the various demographic groups from our experiment. Comparing this with the results shown earlier in Table 5 (which has been replicated in Table 10b) we see that the aggregate effects are again quite small and of a level that would unlikely be statistically significant. The overall effect on the average hours of work for singles when removing the reforms is roughly the opposite of the estimated results when implementing the reforms. The patterns of change are quite different however with an increase in the participation more likely in either case and no clear pattern in the movements of those remaining in the workforce. It is interesting that removing the reforms tends to lead to very similar results to the implementation of the reforms in couples. These results suggest that the labour supply simulation estimates are quite sensitive to the base data used.

---

[5] Any other aspects of the system that were changed in July 1995 but were not part of the Working Nation changes (such as changes to Medicare and the indexation of the free area for pensions) remain as they were in July 1995.

Table 10a: Summary of labour supply responses moving from Working Nation system back to pre-reform system across demographic groups

	Couples (with kids):		Couples (without kids):		Singles:		
	Men	Women	Men	Women	Men	Women	Parents
Workers (% base)	70.44	50.60	43.92	41.05	60.07	48.55	43.60
Workers (% reform)	70.52	50.83	44.02	41.26	60.14	48.60	43.61
Non-work → work (%)	0.14	0.23	0.20	0.22	0.10	0.11	0.04
Work → non-work (%)	0.05	0.01	0.10	0.01	0.03	0.07	0.03
Workers working more	0.09	0.00	0.04	0.00	0.01	0.09	0.02
Workers working less	0.04	0.03	0.01	0.01	0.03	0.08	0.03
Average hours change	0.05	0.05	0.04	0.06	0.03	0.01	-0.01
Weighted population	2,018,569		2,187,824		2,114,383	2,042,577	422,793

Table 10b (Table 5): Summary of labour supply responses across demographic groups

	Couples (with kids):		Couples (without kids):		Singles:		
	Men	Women	Men	Women	Men	Women	Parents
Workers (% base)	72.49	49.57	46.89	41.22	62.85	45.64	42.73
Workers (% reform)	72.83	49.81	47.01	41.37	62.85	45.68	42.92
Non-work --> work (%)	0.53	0.36	0.31	0.30	0.02	0.07	0.20
Work --> non-work (%)	0.19	0.12	0.19	0.15	0.02	0.03	0.02
Workers working more	0.02	0.02	0.01	0.02	0.01	0.01	0.05
Workers working less	0.17	0.06	0.12	0.08	0.07	0.21	0.05
Average hours change	0.10	0.04	0.03	0.03	-0.02	-0.03	0.07
Weighted population	2,017,619		2,184,989		2,077,816	1,938,256	400,322

7. Concluding comments

In July 1995 a set of reforms were implemented to the design of the social security system. The reforms consist mainly of changes to the structure and income test arrangements of allowance payments to couples. Prior to Working Nation, unemployed couples were treated as a single labour force unit and thus only one member of a couple (usually the husband) needed to satisfy an activity test if unemployed with the spouse automatically entitled to payment once their partner was entitled (through Partner Allowance). Also, couples that were in principle entitled to an allowance were subject to an income test on combined income (as the Pension income test is currently structured).

The Working Nation reforms treated each member of a couple individually while both were on payment and introduced withdrawals of benefits due to partner income only at a relatively higher level of income (once that partner's own notional entitlement had been extinguished). Other reforms were the introduction of a Parenting Allowance and a Widow Allowance (Note: the earnings credit was introduced in March 1994), the restriction of access to Partner Allowance, cessation of new grants of Wife Pension (thus phasing these payments out over time) and a reduction in the taper rate on allowances from 100 cents in the dollar to 70 cents in the dollar for income over $140 per fortnight.

This paper has simulated the effects of the Working Nation reforms to the social security system on net government expenditure, the distribution of net income and labour supply behaviour using the Melbourne Institute Tax and Transfer Simulator (MITTS). In simulations assuming hours of work remain fixed, estimates of the cost effects on government were found with the distributional effects of the reforms also presented.

The Working Nation reforms made changes to the structure of income support payments available to those groups with some form of attachment to the labour market. The changes were designed to align the social security system with the emerging trends in female and part-time employment and thus changed the incentives faced by individuals/families to enter into part-time employment. While the reforms were definitely a step in the right direction, particularly on equity grounds, our modelling shows that minimal behavioural effects were likely to be associated with the reforms to the income support system. Overall an increase in labour supply was estimated however these effects were negligible. When one isolates the

effects of the three major changes implemented: (i) the abolition of the earnings disregard (ii) the individualisation of the treatment of income for couple allowees, and (iii) the reduction in the withdrawal rate on allowances, it is evident that no one change in isolation was responsible for the positive overall effect. The combination of changes was responsible for the slightly positive predicted labour supply response.

It is estimated here that the full set of Working Nation reforms to the income support system led to a slight positive response in the labour supply behaviour of couples, with singles without children predicted to decrease their hours of work slightly to take advantage of the increased generosity of benefits available at part-time hours of work. If one believes that individuals cannot realistically be expected to decrease their labour supply due to the constraints involved in claiming benefits, any positive labour supply responses found in this analysis are understated. The overall impact of the reforms are however likely to remain very small in aggregate.

References

Creedy, J., Duncan, A., Kalb, G., and Kew, H. (2001), "The Melbourne Institute Tax and Transfer Simulator (MITTS)", Melbourne Institute Working Paper No. 16/01, The University of Melbourne.

Creedy, J. and Duncan, A. (1999), "Welfare, Non-Linear Budget Constraints and Behavioural Microsimulation", Melbourne Institute Working Paper No. 9/99, The University of Melbourne.

Department of Employment, Education, Training and Youth Affairs (1996), "Working Nation: Evaluation of the Employment, Education and Training Elements", Evaluation and Monitoring Branch, Economic and Policy Analysis Division, Canberra.

Kalb, G. (2002), "Estimation of Labour Supply Models for Four Separate Groups in the Australian Population", Draft report prepared for the Department of Family and Community Services.

Kalb, G. and Scutella. R. (2002), "Estimation of Wage Equations in Australia: Allowing for Censored Observations of Labour Supply", Melbourne Institute Working Paper No. 8/02, The University of Melbourne.

Keating, P. (1994a), *Working Nation: Policies and Programs*, Presented by the Prime Minister the Honourable P.J. Keating, Australian Government Publishing Service, Canberra.

Keating, P. (1994b), *Working Nation: The White Paper on Employment and Growth*, Presented by the Prime Minister the Honourable P.J. Keating, Australian Government Publishing Service, Canberra.

Stromback, T. Dockery, M. (1998), "The Job Compact Mark 2?", Centre for Labour Market Research Discussion Paper No. 98/4, Curtin University of Technology, WA.

Stromback, T., Dockery, M. and Ying, W. (1998), "Labour Market Programmes and Labour Market Outcomes", Centre for Labour Market Research Discussion Paper No. 98/1, Curtin University of Technology, WA.

Warburton, M., Vuong, L. and Evert, H. (1999), “An Evaluation of the Working Nation Income Test Changes for Unemployed People”, mimeo, Labour Market Analysis Section, Department of Family and Community Services, Canberra.

Whiteford, P. (1985), “A Family’s Needs: Equivalence Scales, Poverty and Social Security”, Research paper no.27, Department of Social Security, Canberra.

Appendices

Appendix 1: Government expenditure effects (no behavioural change)

Table A1a: Total impact of reforms on government expenditure on allowances

Allowances	Cost ($m)		Numbers (thousands)	
	Before Reform	Change	Before Reform	Change
Sole parent pension[1]	1,862.6	0	249	0
Parenting Allowance	0	2,452.1	0	835
Sickness Allowance	317.5	16.7	44	3
Widow Allowance	0	324.3	0	49
AUSTUDY/ABSTUDY	1,909.4	1.7	453	1
NSA/JSA: 18 years and over	4,702.5	501.6	790	147
Youth Training Allowance[2]	106.8	-15.4	34	-1
Special Benefit	731.3	-246.5	109	-41
Partner Allowance	2318.4	-1495.3	417	-252
Total Allowance Cost	11948.5	1539.1		

1) Sole parent pension is included here as an allowance as the payment as it is currently known, Parenting Payment (single), is kept together with its counterpart Parenting Payment (couple) in MITTS. Thus, to not make matters more complicated in MITTS the payment is thus retained in this category of allowances.

2) Pre-reform this includes expenditure on Job Search Allowance for those aged under 18 years.

Table A1b: Total impact of reforms on government expenditure on rebates

	Cost ($m)		Numbers (thousands)	
	Before Reform	Change	Before Reform	Change
Beneficiary Rebate	743.2	-280.1	2,296	-898
Pension Rebate	1,719.3	-44.6	2,126	-62
Single Parent Rebate	463.2	11.4	407	0
SP Pension Rebate	146.5	0	243	0
Low Income Rebate	1,337.3	0	9,418	0
Dep Spouse Rebate	459.1	-7.4	487	-5
Total Rebate Cost	4,868.6	-320.7		

Table A2: Individual impact of major Working Nation reforms on government revenue and expenditure

	Cost ($m)	Change due to policy change:		
	Before Reform	(1)	(1) and (2)	(3)
Government Revenue				
Income Tax	59,395.5	-37.2	-40.3	114.4
Medicare	3,168.6	0	0.2	16.1
Total Revenue	62,564.1	-37.2	-40.2	130.6
Government Expenditure				
Tax Rebates	2,762	9	5.8	-16.6
Family Payment	6,189.2	3.9	-24.9	-7.1
Allowances	11,948.5	-224.7	-20.3	752.1
Pensions	19,668.8	0	0	0
Pharm Allowance	305.9	0	0	0
Rent Assistance	1,287	-11.1	-1.9	81.3
Total Expenditure	42,161.4	-222.9	-41.3	809.7
Net Expenditure		-185.7	-1.1	679.1

(1) Abolition of earnings disregard.

(2) Partial individualisation of allowance income test.

(3) Reduction of 100% withdrawal rate to 70%.

Appendix 2: Before and after comparison of hours distributions

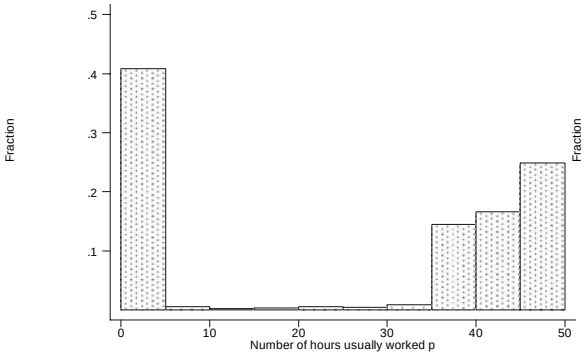
In the diagrams below we compare the hours distributions in the 1994/95 and 1995/96 Surveys of Income and Housing Costs to see if there are any signs of an increase in part-time work over the period that the Working Nation reforms to income support were introduced.

The data are weighted to represent population estimates. Because the Working Nation reforms reduced the incentive to work very few hours (through the decrease of the free area by the removal of the earnings disregard) and increase the incentive to work slightly higher part-time hours (through the reduction in the withdrawal rate once income reaches the second income threshold of $140 a fortnight) we initially expect that individuals may increase their participation into part-time work as for certain ranges of income work is more attractive. However, the figures below show that for all five demographic groups (married males, married females, single males, single females and sole parents) the distribution of hours worked shows a negligible change after the Working Nation reforms were implemented.

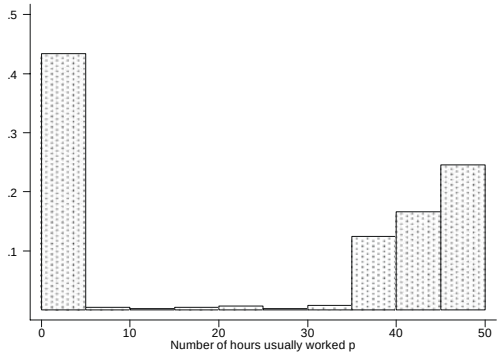
Figure A1: Distribution of hours worked by demographic group before and after Working Nation reforms

Married males

1994/1995 SIHC



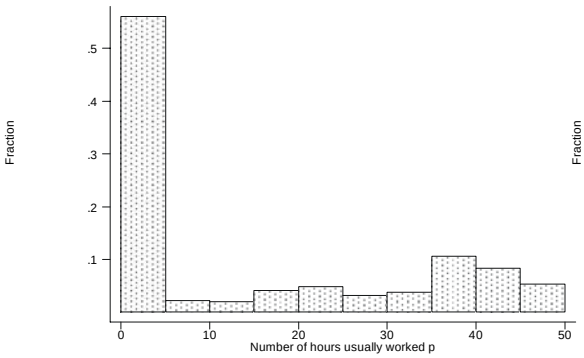
1995/96 SIHC

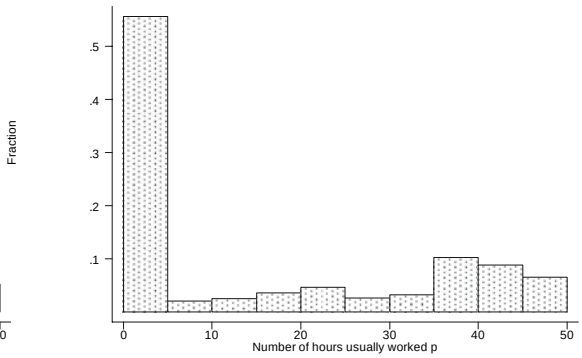


Married females

1994/1995 SIHC

1995/96 SIHC

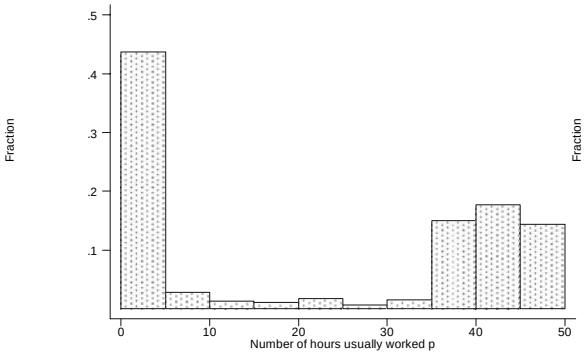


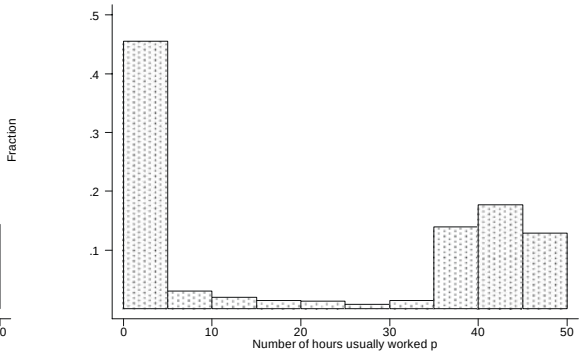


Single males

1994/1995 SIHC

1995/96 SIHC

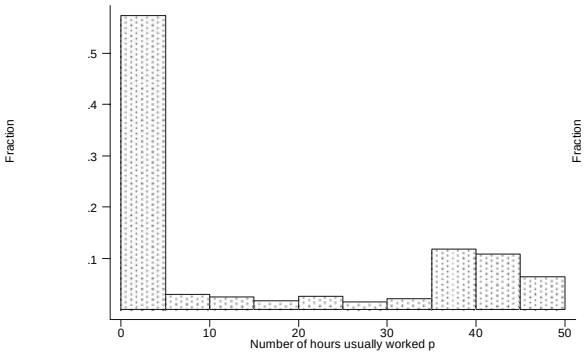


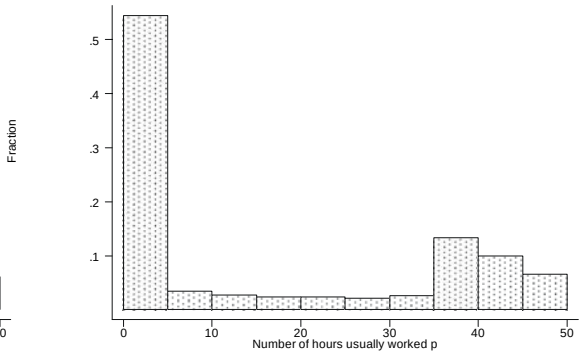


Single females

1994/1995 SIHC

1995/96 SIHC

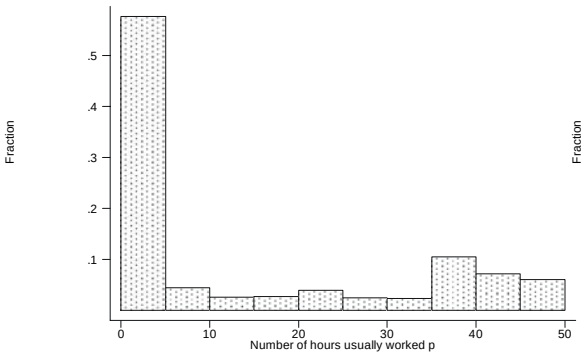




Sole parents

1994/1995 SIHC

1995/96 SIHC


Fraction
.1
.2
.3
.4
.5
0
10
20
30
40
50
Number of hours usually worked p

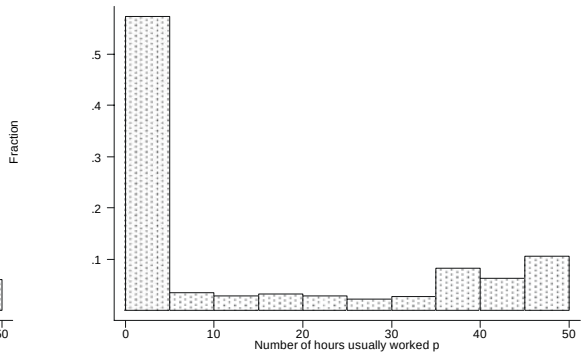

Fraction
.1
.2
.3
.4
.5
0
10
20
30
40
50
Number of hours usually worked p

Table A3a: Distribution of hours worked by demographic group before and after Working Nation reforms

	Married males		Married females		Sole parents	
Weekly hours worked	1994/95	1996/96	1994/95	1996/96	1994/95	1996/96
“0”	40.63	43.11	55.22	54.52	56.94	55.54
“1-5”	0.41	0.42	1.18	1.58	1.72	2.1
"6-10"	0.48	0.43	2.48	2.41	4.7	3.93
"11-15"	0.28	0.44	2.55	2.69	2.16	3.68
"16-20"	0.46	0.54	5.16	4.68	3.6	3.55
"21-25"	0.7	0.44	4.08	3.8	3.09	2.12
"26-30"	0.59	0.73	3.52	3.34	2.92	2.98
"31-35"	2.14	1.95	3.43	3	3.09	2.01
"36-40"	25.76	23.54	15.69	15.92	14.54	11.8
"41-45"	7.87	8.59	2.84	3.61	3.12	3.95
"46-49"	3.05	2.38	0.82	0.81	1.65	1.97
"50 plus"	17.63	17.42	3.03	3.64	2.47	6.38
N	4,253,165	4,270,086	4,237,275	4,245,181	400,326	422,793

Table A3b: Distribution of hours worked by demographic group before and after Working Nation reforms

	Single males		Single females	
Weekly hours worked	1994/95	1996/96	1994/95	1996/96
"0"	42.46	44.29	55.89	52.99
"1-5"	1.61	1.65	1.96	2.16
"6-10"	3.02	3.25	3.53	3.69
"11-15"	1.24	1.75	2.22	2.7
"16-20"	1.33	1.75	2.29	2.9
"21-25"	1.34	0.93	1.95	2.18
"26-30"	1.34	1.35	2.03	2.36
"31-35"	1.98	2.36	2.93	3.07
"36-40"	27.83	26.73	18.52	19.73
"41-45"	5.96	5.86	4.11	3.87
"46-49"	2.48	2.02	1.05	1.22
"50 plus"	9.42	8.06	3.52	3.14
N	2,517,249	2,572,210	2,379,585	2,462,524