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To: Office of the Minister of Finance

From: Tax Strategy, Treasury

MARGINAL AND AVERAGE TAX RATES OVER TIME

The Minister has recently indicated that by Budget 2008 he wishes to set out a tax strategy agenda that will shape where the NZ tax system is heading over the medium term.

With this medium-term focus in mind, one part of the picture is to consider how the income tax system in NZ has affected taxpayers historically and how the current system, **if left unchanged**, would affect taxpayers over the next 10 years.

This note focuses on income taxes and projects marginal and average rates over time in the absence of policy changes. It also incorporates examples illustrating the impact of working for families tax credits in a number of circumstances.

Summary

Wage growth unwinds the effect of significant tax policy changes over a short period of time.

With respect to **marginal tax rates**:

- Changes in the late 90s did not benefit higher income workers;
- For average wage earners, the effect of the changes was wiped out within 5 years;
- At the time the 39% rate was introduced, it only applied at 1.78 times the average wage; and
- Average wage earners will have a marginal tax rate of 39% by 2017.

With respect to **average tax rates**:

- Changes in the late 90s mostly benefited those on average wages;
- For average wage earners, fiscal drag really kicked in from 2003;
- Rates for those at the 1 2/3 of average wage are now at 1990 pre-tax change levels; and
- Average wage earners will surpass their pre 1990 tax change level over the next 5-7 years.

With respect to **working for families** and other tax credits:

- Working for families tax credits deliver proportionally more to lower earners;
- Abatement means that average tax rates rise more sharply for families than individuals; and
- Working for Families tax credits are eroded very quickly over time if not inflation indexed and indexing by inflation is not enough to stem all the erosion.

Analysis

For the purpose of the analysis in this report, four illustrative groups of individuals are modelled. These being:

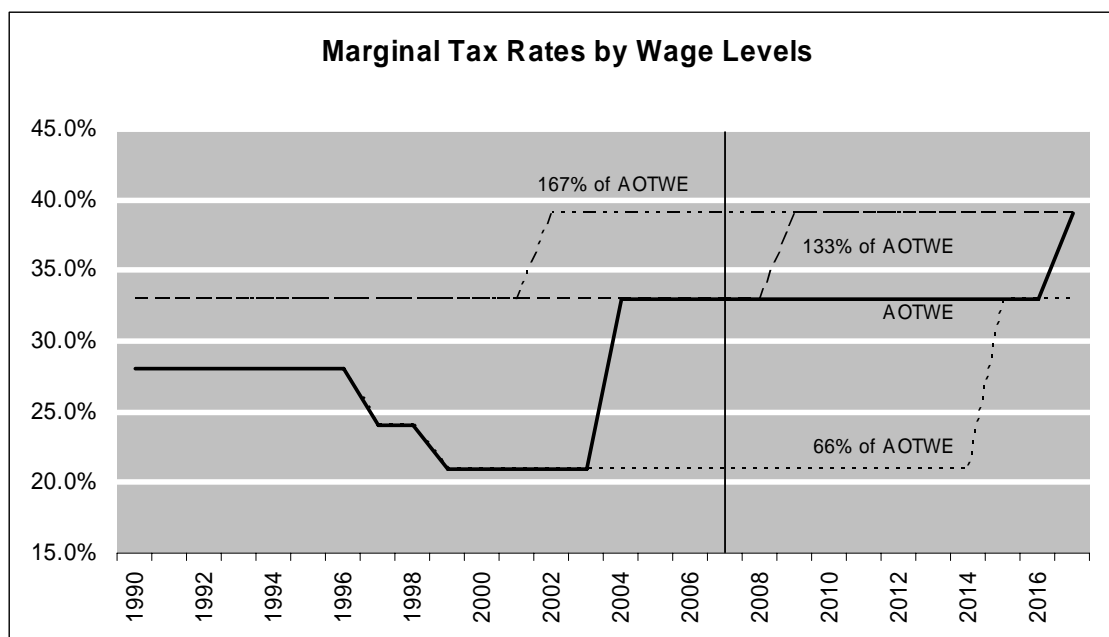
- Those on the average wage¹ in each year
- Those on 2/3 of the average wage in each year (2/3AW)
- Those on 1 1/3 of the average wage in each year (1 1/3AW)
- Those on 1 2/3 of the average wage in each year (1 2/3AW)

The Treasury's Budget 2007 macroeconomic forecast is used for average wages in the years 2008-2011.

Average wages are projected over the years 2012-2017 using the growth rate assumed in Treasury's Long-Term Fiscal Model (LTFM). This is currently 3.53%².

Marginal tax rates

The marginal rates for the four groups over the period 1990 – 2007 and forecast and projected out to 2017 are presented in the chart below.



The first point to note is that the two tax changes in the late 1990's³ only affected the marginal tax rates for those on the average wage and those on 2/3 of the average

¹ Defined as the Average Ordinary Time Weekly Earnings (AOTWE) as reported in the June Quarterly Employment Survey (QES) by Statistics New Zealand for the relevant year.

² LTFM assumption, which is annual growth = nominal wage growth = (1+ inflation)(1+ labour productivity growth)-1.

Assume middle of the Policy Targets Agreement (i.e. 2%), and 1.5% for post-forecast labour productivity projection growth.

So the gross AOTWE is grown at $1.02 \times 1.015 - 1 = 3.53\%$

wage (although all four groups did experience a reduction in their average taxes – more on this in the average rate section).

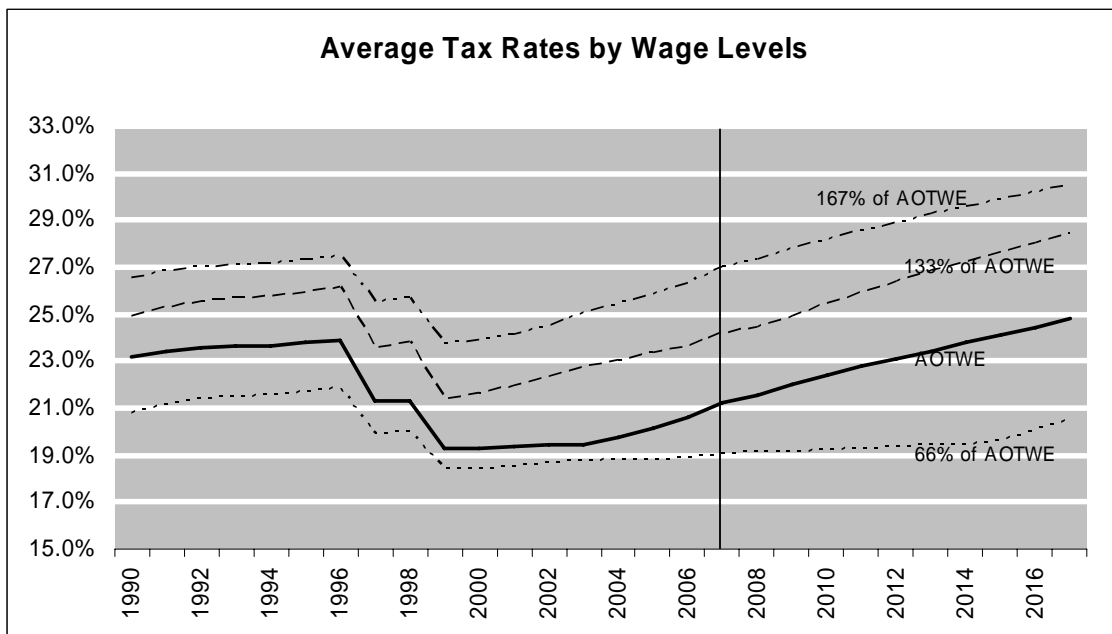
For those on the average wage, this reduction was short-lived as, within five years, wage growth was such that their marginal rates rose 12% from 21% to 33% - more than undoing the fall in marginal rates this group experienced in the late 90's. Though again, on an average rate sense, they were still better off at this point.

The tax rate changes introduced in 2000⁴ were designed to increase taxes for those on high incomes. The change didn't affect those on 1 2/3 of the average wage immediately. Instead, they passed the \$60,000 threshold two years later in 2002. At the time of introducing the 39% tax rate an individual's income needed to be at least 1.78 times the average wage for them to immediately face an increase in their marginal tax rate.

Looking forward, those on 1 1/3 of the average wage will move into the top tax bracket within the next few years and those on the average wage will move into this bracket by 2017. In fact, under current tax thresholds, by 2017, three of the four groups modelled will be at the top tax rate and the lowest income group will face a marginal tax rate of 33%.

Average tax rates

The average tax rates for the four groups over the period 1990 – 2007 and forecast and projected out to 2017 are presented in the chart below.



³ From 1 July 1996 the top tax (33%) threshold was raised from \$30,875 to \$34,200 and the middle tax rate was reduced from 28% to 24%. From 1 July 1998 the top tax (33%) threshold was raised from \$34,200 to \$38,000 and the middle tax rate was reduced from 24% to 21%.

⁴ From 1 April 2000 a new tax rate of 39% was introduced for those earning more than \$60,000.

In an average tax sense, all four groups benefited from the two tax changes in the late 90's. Those on the average wage experienced the largest percentage point fall in their average tax rate over these two changes.

After the two tax changes in the late 90's, the average tax rate for the two lowest income groups modelled grew very little over the period 2000-2003 compared to those groups whose incomes were above the average wage. This is because, for those on the two lower income groups, a greater proportion of their income was taxed at a lower rate than the two higher income groups.

The slope of the average rate curve, for those on the average wage, increases significantly from 2004 onwards as this is the point at which this group's marginal tax rate jumps 12% from 21% to 33%. This slope is not expected to abate through the forecast and projection periods.

The average tax rates for those at the 1 2/3 of average wage have already climbed back to the 1990 pre-tax change levels. The levels for the average wage group and the 1 1/3 of the average wage group have not reached their pre 1990 tax change level but will surpass this level over the next 5-7 years.

Effect of tax credits

The payment of tax credits alters both the marginal tax (due to abatement schedules) and average tax rates, as these directly offset the amount of tax paid to the government. Given that tax credits in New Zealand are paid to families, the analysis up to this point is only strictly applicable for individuals with no children.

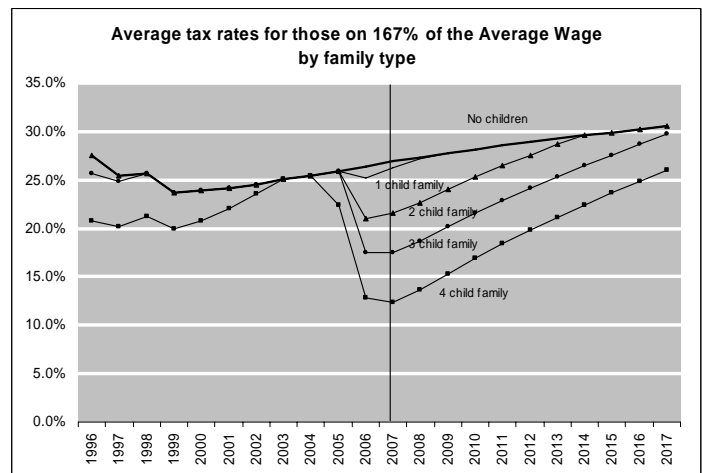
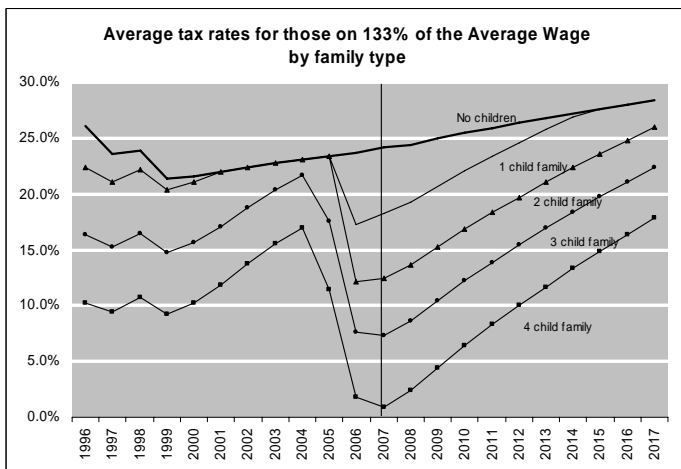
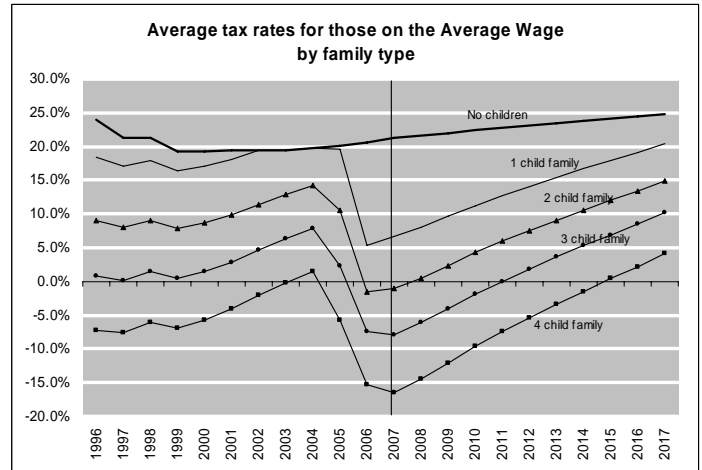
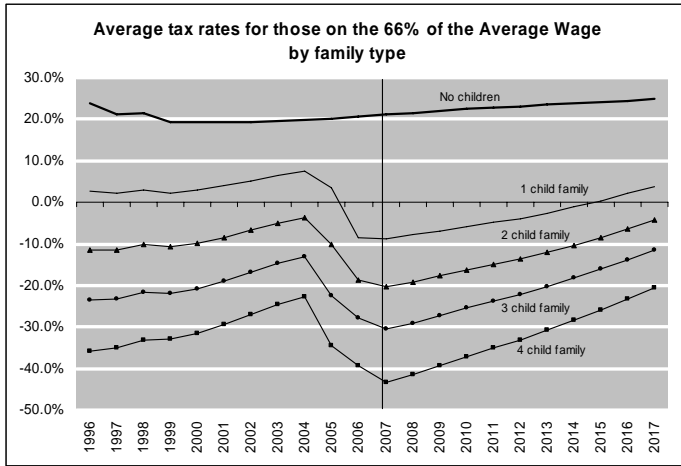
The analysis is therefore extended to consider the average tax rates faced by families with dependant children. Given the complexities of the tax credit system, the analysis has been simplified and, in particular, it assumes family income is earned by one individual⁵.

Four families⁶ are modelled – 1 child, 2 children, 3 children and 4 children. Where possible, consistent ages are used for the children as the level of Family Support is dependant upon the age of children. It is assumed that families take up their full family support entitlement and that they qualify and receive the Child Tax Credit (pre Working for Families) and the In Work Payment (post Working for Families). The tax credits are abated away on the basis of the annual earnings and using the appropriate abatement schedule for each year.

Each of the four average rate groups is presented in four separate charts below, along with the 4 illustrative families receiving such a wage. In each case you can consider the bold line at the top represents an individual.

⁵ While not modelled, a two income family would in most cases face lower average and marginal tax rates due to the progressive income tax scale.

⁶ For the purpose of this analysis these families could either be two-parent or sole parent families as the level of tax credits depend on the number of children rather than the marital status of the parent. The only difference arises with the In Work Payment where the hours test is 30 hours for a couple and 20 hours for a sole parent. For the purpose of this paper, it is assumed that the hours test is met by the families modelled.

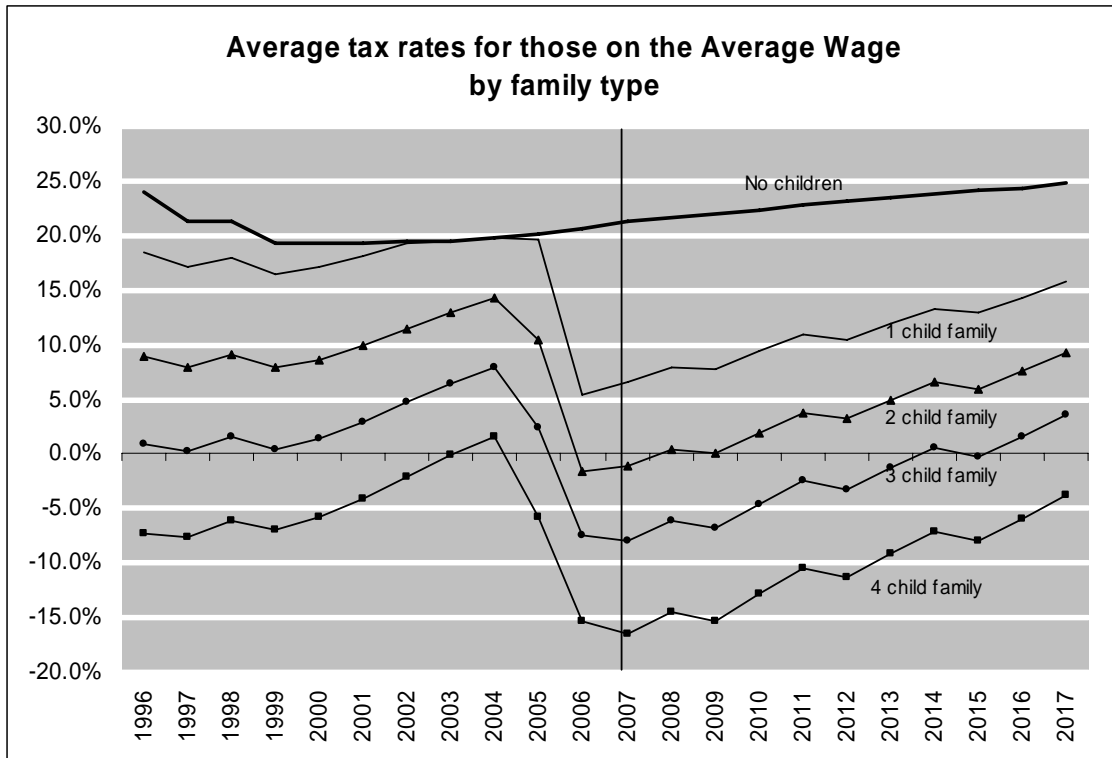


Unsurprisingly, due to the targeted nature of the abatement regime, tax credits have a far greater impact for those on lower wage rates. For those on only two thirds of the average wage, it typically pushes the average tax rates into negative (i.e. they are receiving more in tax credits than they are paying in tax).

In each of the charts you can see the impact of Working for Families tax credits, which delivered proportionally more assistance to low income earners than high income earners. You can also see how far up the income distribution Working for Families tax credits is reaching. Looking at those on 1 2/3 of the average wage, prior to Working for Families tax credits these families were receiving no assistance (at these income levels it had abated away). However, even at these high levels of income (\$72,615 in 2007), Working for Families tax credits deliver a significant reduction in average tax rates. For example, the 4 child family in 2007 will pay \$19,590 tax on their income of \$72,615 but would receive \$10,625 in tax credits (after abatement).

Note that the slopes of the average tax rates for families over the forecast and projection period are all steeper than the average tax rate slope for individuals. This is because these families face a double hit with fiscal drag. Their average tax on wages and salaries increase as wages increase and they *also* suffer increased abatement on their tax credits as wages rise. This will be partially offset by the Government's decision to future index Family Tax Credit rates and abatement thresholds when CPI increases reach a total of 5 percent. The In Work Payment rates will also be reviewed every three years.

To give a sense of how this would affect the average rates, this has been modelled⁷ for those on the average wage and is presented in the chart below. This has the effect of reducing the slope of the average tax rate over the forecast and projection period though the slope is still slightly steeper than the average rate curve for the individual. This is because the tax credit rates and thresholds are only being adjusted for inflation rather than nominal wage growth



⁷ To approximate this, the FTC, IWTC and the abatement threshold are all increased by 6% each 3 years.