FAMILY TAXATION: AN UNFAIR AND INEFFICIENT SYSTEM

Patricia Apps, The University of Sydney and Australian National University

ABSTRACT

This paper presents an analysis of the 2006–2007 family tax system. The results show that most families are now taxed, in effect, on the basis of joint income. Through a succession of reforms the Howard Government has shifted the tax burden to two-earner families to such an extent that many now pay close to the same amount of tax as a family in which only one parent need work to earn the same income while the other works full-time at home. As a consequence, the incomes of second earners in low and average wage families are taxed effectively at the highest *average* rates in the economy. The study explains why the system is unfair and seriously damaging for the economy in its impact on female labour supply in an ageing population. On the basis of the results, the paper argues for a return to a progressive individual income tax system, to improve support for families and to raise female participation and productivity.

Introduction[1]

There are two key criteria for evaluating a family tax system: fairness and efficiency. To assess fairness it is necessary, at the very least, to develop a ranking of households defined on a reliable measure of living standards, and then to examine the correlation between tax burdens and living standards. To estimate efficiency gains or losses, information on behavioural responses to changes in net wage rates or prices is required.

A number of studies assume that fairness can be assessed on the basis of tax burdens as a percentage of family income. A recent example is the OECD's (2006) cross-country comparisons of tax burdens computed as a percentage of the combined gross wage earnings of couples.[2] This is a mistake. Combined earnings do not provide a reliable measure of livings standards. Household survey data show that parents with the same gross wage rates and child care responsibilities make widely different work choices. In a large proportion of families, one parent, typically the mother, works full-time at home providing child care and related services, and in an almost equally large proportion she works full-time in the market using her income to buy in substitute services.[3] To derive of ranking of families defined on a reliable measure of living standards it is therefore necessary to adjust family incomes for differences in home production. A young family in which both parents work full-time to earn, say $80,000 per annum, does not have the same standard of living as another in which one parent alone earns $80,000 while the other works full-time at home producing substitutes for market services. A family tax system that imposes equal burdens on these families is unfair. When the work choices of parents vary in this way, a progressive individual income tax system is required for fairness in the treatment of families with the same standard of living, and of those with varying living standards, that is, for horizontal and vertical equity.

The basic rule for efficiency, established by Frank Ramsey in 1927, requires that effective tax rates be related inversely to (compensated) wage/price elasticities. The international literature on labour supply contains an extensive body of research on wage elasticities. While findings vary, the evidence suggests that male wage elasticities, compensated and uncompensated, are low (and possibly zero) at high income levels, and therefore reducing effective tax rates on the incomes of high wage male earners will have little effect on either efficiency or labour supply. In contrast, low wage earners, and married women in particular, tend to exhibit much more responsive labour supplies. High effective tax rates on their earnings can therefore be expected

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[1]   This is a revised version of an earlier paper that presented results for the 2005–2006 financial year. The present paper updates the results to the 2006–2007 financial year and uses the more recently released ABS Survey of Income and Housing.

[2]   See Tables III.5c, p.92, III.6c, p.95, and III.7c, p.98.

[3]   For a life cycle analysis that shows this using Australian data see Apps and Rees (2003).

to reduce significantly the hours they work and the efficiency of the economy. Thus, it would makes no sense to advocate as a priority a cut in the top tax rate on personal income if there are higher effective rates on the earnings of married women. This is an implication of the well known Boskin and Sheshinski (1983) result on the taxation of couples—an individual tax system at progressive rates is required for efficiency because it implies lower marginal rates on married women as second earners.[4]

The aim of this paper is to evaluate the fairness and efficiency of the 2006–2007 income tax system comprising the personal income tax, the Medicare Levy, Family Tax Benefits Parts A and B and tax offsets. The analysis focuses on families with dependent children and couples without dependents. I begin with an analysis of tax rates on the incomes of parents using unit record data for 'in-work' families. The results show that most Australian families are now taxed, in effect, on the basis of joint income. They are also found to face a marginal rate schedule that is no longer progressive but tends towards an inverted U-shaped profile—families in the middle of the distribution face the highest marginal rates. As a consequence, the incomes of second earners in low and average wages families are taxed at the highest *average* rates in the economy. This new tax rate structure has shifted the tax burden towards two-earner families to such an extent that many now pay close to the same amount of tax as a family in which only one parent need work to earn the same income.

The following section demonstrates that these findings cannot be attributed to heterogeneity, for example, to variation in family responsibilities across single and two-earner families. The section goes on to explain how the shift to joint taxation has been implemented through a succession of changes to family tax benefits and the use of bracket creep to shift the tax burden in real terms towards those on lower pay, and therefore towards the vast majority of working married women. Next, I examine the tax treatment of couples with no dependents, and compare the very different labour supplies of younger married women without children and married women over 40, a group likely to have older children who are no longer dependent or have left home. A more detailed analysis of the life cycle labour supply of families and couples follows, to highlight the large gap between male and female labour supplies and the dangers of a tax system that continues to impose high average tax rates on the second income in an ageing population. I conclude with some directions for reform.

Taxation of 'in-work' families in 2006–2007

An important lesson of modern tax theory, originating with the optimal tax literature of the early 1970s, is that it makes no sense to analyse personal income taxes separately from tax credits, levies or offsets, or from cash transfers such as family tax benefits, as in a number of recent studies.[5] Any such set of policy instruments can

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[4]   See also Feldstein and Feenberg (1996).

[5]   See, for example, Turnbull and Temple (2005) and Davidson (2005).

always be translated into an effective marginal rate schedule and an implicit *lump sum* or non-means tested benefit for a given family or individual. In other words, a change in marginal rates can be introduced either by changing benefit withdrawal rates, tax offsets, etcetera, or simply, and more transparently, by announcing a new set of marginal rates and lump sum transfers.

This section examines the structure of marginal and average tax rates faced by parents, as determined by four key policy instruments of the income tax system: the personal income tax schedule, the low income tax offset, the Medicare Levy, and Family Tax Benefits Part A and Part B (FTB-A and FTB-B).[6] Consistent with international tax literature, cash transfers in the form of FTBs are treated as negative taxes.

The analysis is based on data for a sample of 1,945 'in-work' families selected from the Australian Bureau of Statistics (ABS) 2003–2004 Survey of Income and Housing (SIH) on the criteria that the family is a couple income unit with dependent children and at least one parent is employed. Families in which both parents are unemployed or out of the workforce are excluded in order to focus the analysis on the income tax system, as defined by the above policy instruments, rather than on the wider welfare system. This restriction excludes very few records. While around 2.5 per cent of parents in the full sample of two-parent families are unemployed, only a quarter of one per cent report both parents as unemployed.[7] The sample for the present study is also limited to families in which at least one parent earns above $15,000 per annum, earnings are principally from wages and salaries, and neither parent has a negative income from earnings, investments or unincorporated enterprises. All incomes are indexed to the 2006–2007 financial year.

For the purpose of the present analysis, the parent with the higher private income is defined as the 'primary earner'. Private income, as defined by the ABS (2005), is income from all non-government sources such as wages and salaries, profits, investment income and superannuation. The primary earner is the male partner in over 87 per cent of records in the sample and therefore in the discussion to follow the second earner will be referred to as the female partner. In this sample, 93.4 per cent of primary earners are employed full-time and 6.6 per cent are in part-time work. For partners of primary earners, 66.1 per cent are employed, of whom 44.9 per cent are in full-time work and 55.1 per cent are in part-time work.

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[6]   The analysis does not incorporate Child Care Benefit. This is unlikely to alter the findings of the study. The available evidence suggests that subsidised child care is used extensively by single-earner families. Household expenditure survey data indicate that government expenditure on child care tends to be distributed independently of employment status.

[7]   Of male partners in the full sample of families, 83.6 per cent are in full-time work, 6.7 per cent are in part-time work and 2.5 per cent are unemployed. In contrast, only 27.9 per cent of married mothers are in full-time employment. 37.6 per cent are in part-time work and 2.3 per cent report being unemployed.

Table 1. Weighted data means for 'in-work' families, 2006–2007

Quintile	1	2	3	4	5	All
			Panel 1			
1. Primary earnings $ p.a.	30,739	42,972	53,831	65,677	11,4523	61,663
2. Primary labour supply, hours p.a.	2,094	2,252	2,298	2,373	2,527	2,309
3. Asset income $ p.a.	816	1,786	1,257	3,098	9,412	3,295
4. % employed full-time	84.3	94.0	94.3	97.6	96.9	93.4
5. Tax on primary + asset income $ p.a.	−7,401	−1,669	2,929	8,353	30,760	6,648
6. **ATR** %	**−23.7**	**−3.9**	**5.3**	**12.4**	**24.9**	**10.3**
			Panel 2			
1. Second earnings $ p.a.	11,185	17,809	20,560	23,344	22,978	19,159
2. Second labour supply, hours p.a.	887	1,107	1,105	1,167	1,001	1,053
3. % employed full-time	25.4	34.6	32.2	30.8	25.6	29.7
4. % employed part-time	29.9	34.4	37.4	42.2	38.1	36.4
5. Tax on second earnings $ p.a.	3,871	6,314	6,538	7,197	7,425	6,266
6. **ATR** %	**34.6**	**35.4**	**31.7**	**30.7**	**32.7**	**32.7**

Table 1 reports, in the upper panel, the amount of tax families would pay if all had only one earner, in other words, if the second earner did not go out to work. The results are presented for a quintile ranking of families by primary private income. The first two rows give weighted data means for the primary earner's annual earnings and hours of work and the third row, the annual asset income of the household. The fourth row shows the percentage of primary earners employed full-time in each quintile. The fifth row reports the average amount of tax the family pays when there is only one earner, and the final row, the family's average tax rate (ATR) as a percentage of the income the family would have if there was only one earner, which is the sum of primary earnings and asset income.

The lower panel reports data means for the earnings and labour supply of the second earner and also gives the percentage of families in which she is employed full-time and part-time. The final two rows show the tax on her earnings, calculated as the increment in the family's tax burden due to her participation in the labour market. The ATR reports the result as a percentage of second earnings.

The results are striking. The average tax on family incomes is $12,914, the sum of the amount that would be payable if the second earner worked at home, $6,648, and the additional tax payable when she goes out to work, $6,266. Thus, if all families had only one earner or, equivalently, if all second earners withdrew from work, the average tax per family in the sample would fall from $12,914 per annum to $6,648 per annum, that is, by over 48.5 per cent. This dramatic fall is due to very high

effective ATRs on second earnings. The overall ATR on primary earnings and asset income, which average $64,534 per annum, is only 10.3 per cent. The overall ATR on second earnings, which average only $19,159, is 32.7 per cent. ATRs on single-earner family incomes are not only low on average but also highly progressive. We have a negative income tax up to the second quintile, with those in quintile 1 receiving a net transfer that averages $7,401 per annum. The ATR rises to 5.3 per cent in quintile 3 and then to 24.9 per cent in quintile 5. This progressive taxation of the single earner contrasts with the treatment of the second earner. The profile of ATRs on her earnings tends to be regressive, with the highest rate of 35.4 per cent in the second quintile where average earnings are only $17,809 per annum.

The lower panel of the table reports average tax burdens on all second incomes and therefore conceals the wide variation in burdens associated with the variation in female labour supply that is evident from the profiles of the full-time and part-time employ-ment rates of second earners. The figures are therefore likely to seriously understate the actual burdens on the second income in the full-time two-earner family.

To show how taxes depend on the labour supply of the second earner, Table 2 presents results for the sample partitioned into three family groups: single-earner families, two-earner families with the second earner employed part-time, and two-earner families with both parents in full-time work. The data means indicate that there is relatively little variation in primary earnings, asset incomes and hours of work across these family groups within each quintile, apart from the top quintile where the mean of earnings of the single-earner family is significantly above that of the primary earner in the part-time and full-time two-earner family categories.[8]

The overall data means show that the second earner in the full-time two-earner family contributes almost twice as much to tax revenue as her counterpart in the part-time two-earner family, and so much of the additional revenue from two-earner families comes from those with a full-time second earner. Nevertheless, the highest ATR, of 36.8 per cent, applies to the incomes of part-time second earners in quintile 2, where the average second income is less than $20,000 per annum. What this means is that a married mother in quintile 2 who decides to work part-time in the market rather than full-time at home will, on average, earn a little less $20,000 and lose around 37 per cent in taxes and reduced FTBs. She will also contribute more to GST revenue, because her additional income will be spent at least partly on GST rated goods and services as substitutes for those she could produce herself by working full-time at home.[9]

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[8]   The quintile 5 data means for annual primary earnings are $132,402, $126,591 and $100,254 for the single-earner, part-time two-earner and full-time two-earner family categories, respectively. The corresponding data means for annual hours are 2530, 2533, and 2512, and so the higher earnings of the single-earner family in quintile 5 cannot be attributed to longer average hours of work.

[9]   In addition, she will have to pay the 9 per cent Superannuation Guarantee Charge (SGC).The ongoing debate concerning whether the SGC is a tax misses the point. The central question is

Table 2. Tax burdens and ATRs by employment status

Quintile	1	2	3	4	5	All
Single-earner families						
Family income $ p.a.	34,360	46,454	59,317	72,454	142,406	70,417
Tax on family income $ p.a.	–7,225	–2,188	3,245	8,715	37,807	7,825
ATR on family income %	**–21.0**	**–4.7**	**5.5**	**12.4**	**26.5**	**11.1**
PT two-earner families						
Family income $ p.a.	46,147	64,184	76,065	90,748	143,742	86,621
Tax on family income $ p.a.	–2,425	5,612	9,379	14,599	36,738	13,723
ATR on family income %	**–5.2**	**8.7**	**12.3**	**16.1**	**25.6**	**15.8**
Second earnings $ p.a.	15,121	19,337	20,642	22,995	22,890	20,501
Tax on second earnings $ p.a.	4,956	7,115	6,692	6,602	7,052	6,537
ATR on second earnings %	**32.8**	**36.8**	**32.4**	**28.7**	**30.0**	**30.8**
FT two-earner families						
Family income $ p.a.	53,473	75,351	90,595	111,271	158,030	96,708
Tax on family income $ p.a.	1,673	9,787	15,481	22,858	40,877	17,739
ATR on family income %	**3.1**	**13.0**	**17.0**	**20.5**	**25.9**	**18.3**
Second earnings $ p.a.	20,861	30,771	35,843	41,886	47,441	35,351
Tax on second earnings $ p.a.	7,620	10,509	11,376	13,536	15,186	11,639
ATR on second earnings %	**36.5**	**34.2**	**31.7**	**32.3**	**32.0**	**32.9**

High tax rates on the second earner have the effect of equalizing tax burdens across single and two-earner families with the same joint income. Compare, for example, the ATRs of the full-time two-earner family in quintile 2, the part-time two-earner family in quintile 3 and the single earner family in quintile 4. All three have close to the same incomes, $75,351, $76,065 and $72,454, respectively, and close to the same ATRs, 13.0 per cent, 12.3 per cent and 12.4 per cent, respectively. These figures reflect the Howard Government's shift towards a system of joint taxation, through successive increases in joint and second income targeted family benefits combined with the use of bracket creep to reduce the progressivity of the personal income tax and, thereby, to increase the tax burden on low and average wage workers. The latter include the vast majority of employed married mothers.

whether the reduction in the net wage it causes has significant disincentive effects, and whether its overall distributional impact is fair. For low income earners who would otherwise be recipients of the age pension, it is clearly not a fully contributory levy, especially in an imperfect capital market.

Table 3. Hours worked to pay tax p.a.

Quintile	1	2	3	4	5
Single-earner families	-	-	79	264	586
PT two-earner families	-	310	426	578	841
FT two-earner families	308	637	831	1,002	1,272

The pivotal role of bracket creep, in combination with the FTB system, in the shift towards the joint taxation of families up to around the mean of the fourth quintile, should not be underestimated. The Howard Government has compensated higher income earners by lowering the top marginal tax rates and raising the upper thresholds to which they apply, and it has compensated middle wage single-earner families by increasing family tax benefits. Because FTBs are withdrawn on family income and on the income of the second earner, two-earner families on low to average pay, especially those in which both parents are in full-time work, are largely excluded from both forms of compensation. Low to average wage single individuals have also been heavily penalised, together with couples without children in the same wage categories as I will later show.

Since a defining feature of joint taxation is equal, or near equal, taxation of families with the same combined income, family tax burdens are largely independent of the intra-family distribution of earnings and therefore of total hours worked, at a given level of joint income. Under such a system the full-time two-earner family is required, in effect, to work longer hours to pay tax than the single-earner family able to earn the same income with only one full-time job. Table 3 shows the distribution of 'hours worked to pay tax', or the 'hours of work equivalent' of the family's tax, across single and two-earner families for those quintiles in which average burdens are positive. The average tax burden on the full-time two-earner family in quintile 1 is the equivalent of 308 hours of work to pay tax. This figure is greater than that of 264 hours calculated for the single-earner family in quintile 4. In quintile 2, the average tax burden on the full-time two-earner family, with an average family income of $75,351 per annum, is the equivalent of 637 hours of work, which is greater than the average hours worked to pay tax by the single-earner family in quintile 5, with an average income of $142,406. The figures also show the very dramatic rise in hours worked to pay tax as the second earner's labour supply increases within each quintile of primary income.

Can a tax system, which imposes such unequal burdens on single and two-earner families in the same quintile of primary income, be judged as fair under any set of empirically plausible conditions? The answer to this question depends on how we view home production. If we believe there is no home production, that the stay-at-home mother spends her time entirely on leisure, then it could be viewed as fair to allow couples to split their incomes or, equivalently, to tax families on the basis of joint income. The assumption is, however, contradicted by time use data, as well as

by casual observation. Moreover, there is as at least one further condition required. Husbands must be assumed to share their incomes equally with their wives. In other words, we need a model of the family in which mothers are totally unproductive at home and, motivated by altruism, husbands fund an intra-household lump sum transfer equal to half their incomes to support the consumption of their wives. There is no exchange within the household.[10] This model is rejected by the results of the literature on the intra-household distribution of family resources.[11]

Time use data indicate clearly that, after the arrival of the first child, the lower wage parent, typically the mother, faces the choice between working at home, providing child care and related domestic services, or working in the market and buying-in child care and substitutes for related home produced goods and services. There are gains and losses associated with each option. Mothers who work full-time at home avoid personal income taxes, the GST and the SGC on their implicit income from, and expenditure on, home production, and they gain large FTBs. However, they lose work experience and may therefore face a lower wage later in the life cycle, which has associated risks especially in relation to single parenthood. On the other hand, the mother who goes out to work may find that her after tax income is not sufficient to cover the high cost of child care run for profit in a market with excess demand. The family may actually have to borrow to finance child care in an imperfect capital market with a high borrowing rate.[12] In both cases the family needs to predict the mother's future earning capacity. Under these conditions it is not surprising to observe low average female hours relative to male hours, despite the large fall in fertility over recent decades. Nor is it surprising to observe a high degree of heterogeneity in female hours across seemingly identical families, who are making different assessments of the gains and losses associated with the choice between working at home and in the market.

The system not only distorts female labour supply decisions, it also makes no sense in terms of distributional outcomes. It is clear that in the short run a household in which the primary income parent earns around $80,000 per annum for full-time work while the second parent works at home providing child care and other domestic services has a much higher standard of living than a family in which both parents must work full-time to earn the same income and must buy-in child care. As noted in the Introduction, a system that places the same tax, or close to the same tax, on these two families fails in terms of horizontal equity. It also fails in terms of the progressivity of the overall system, due to the higher tax burdens on lower wage families, as indicated by the 'hours of work to pay tax' profiles in Table 3.

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[10]   For models that recognise household production and intra-family exchange, see Apps and Rees (1999a, 1999b).

[11]   See, for example, Apps and Rees (2002) and Lundberg et al. (1997).

[12]   For an analysis of the effects of these conditions on female labour supply, see Apps and Rees (2003).

Tax rates for representative families

The preceding analysis raises an obvious question: to what extent is the gap between the average tax profiles of single and two-earner families an artifact of demographic variation across the two groups, rather than an outcome of the tax rate structure? If, for example, single-earner families have more children they will receive more in FTBs, and this could account for their lower ATRs. The data show that single-earner families have an average of 2.03 children, part-time two-earner families an average of 1.93 children, and full-time two-earner families an average of 1.70 children.

To demonstrate that the results are driven by the tax rate structure and not by variation in family size, this section presents tax profiles for hypothetical single and two-earner families with identical demographic characteristics and with primary earnings and hours of work given by the data means for each quintile. Asset incomes are set to zero. Taxes are calculated as the sum of personal income taxes and the Medicare levy, less the low income tax offset and FTBs. Government cash benefits outside the FTB system, which are included in the calculation of effective taxes in the preceding section, are excluded. Table 4 reports the tax profiles for a family with 2 children under 13 and at least one under 5, and Table 5, for a family with three children under 13 and at least one under 5.

The profiles confirm the findings of the preceding section. Second earners face high ATRs consistent with a system of joint taxation. Moreover, from a comparison of profiles across the tables we can see that the tax treatment of the second earner tends to get worse as the number of children increases. The highest ATR is 46.5 per cent, and it applies to the income of the second earner in the three-child full-time two-earner family in quintile 2. Excessively high ATRs on second incomes translate into a large 'tax wedge', defined as the ratio of the effective tax on the second income and the tax the second earner would face as a single individual on the same income.[13] As we would expect, second earners in the lower quintiles of primary income and those working part-time face a very high tax wedge. The wedge tends to decline as primary income rises, and as second hours increase, because FTBs become increasingly fully withdrawn as family and second incomes rise.

The tables also show 'hours worked to pay tax'. Consistent with the results in Table 3, we see that a full-time two-earner family in a lower quintile of primary earnings can work longer hours to pay tax than a single-earner family ranked in an upper quintile. For example, in Table 4, the full-time two-earner family in quintile 2 works 720 hours to pay tax while the single-earner family in quintile 4 works only 349 hours to pay tax.

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[13] Jaumotte (2003) ranks OECD countries according to this tax wedge, for female earnings levels of 67 per cent and 100 per cent of Average Production Worker (APW) earnings and the male level held at 100 per cent of APW, in 2000–2001. The study obtains a result for Australia of 1.4. The figures here show that the tax wedge is much higher than this for most families.

Table 4. Families with two children under 12 and one under 5

Quintile	1	2	3	4	5
Single-earner families					
Tax on family earnings $ p.a.	−6,737	−1,735	5,387	10,296	39,329
ATR of family earnings %	**−19.9**	**−3.9**	**9.2**	**14.7**	**29.7**
Hours worked to pay tax	-	-	212	349	751
Two-earner families PT					
Tax on family earnings $ p.a.	−3,424	5,849	10,372	14,270	36,864
ATR on family earnings %	**−7.6**	**9.4**	**13.9**	**16.3**	**27.2**
Tax on second earnings $ p.a.	4,679	8,579	7,399	5,862	5,744
ATR on second earnings %	**30.9**	**44.4**	**35.8**	**25.5**	**25.1**
Tax wedge	6.09	5.07	3.88	2.56	2.52
Hours worked to pay tax	-	343	508	604	963
Two-earner families FT					
Tax on family earnings $ p.a.	528	9,931	15,000	24,693	39,748
ATR on family earnings %	**1.0**	**13.5**	**16.8**	**22.9**	**26.9**
Tax on second earnings $ p.a.	8,196	12,507	12,233	15,669	14,982
ATR on second earnings %	**39.3**	**40.6**	**34.1**	**37.4**	**31.6**
Tax wedge	4.22	2.68	1.89	1.83	1.46
Hours worked to pay tax	375	720	868	1,151	1,364

Table 5. Families with three children under 12 and one under 5

Quintile	1	2	3	4	5
Single-earner families					
Tax on family earnings $ p.a.	−11,182	−6,053	1,070	7,013	39,329
ATR of family earnings %	**−33.1**	**−13.5**	**1.8**	**10.0**	**29.7**
Hours worked to pay tax	-	-	42	238	751
Two-earner families PT					
Tax on family earnings $ p.a.	−7,742	1,531	7,971	12,442	36,864
ATR on family earnings %	**−17.1**	**2.5**	**10.7**	**14.2**	**27.2**
Tax on second earnings $ p.a.	4,679	8,579	9,316	8,351	6,133
ATR on second earnings %	**30.9**	**44.4**	**45.1**	**36.3**	**26.8**
Tax wedge	6.09	5.07	4.89	3.64	2.69
Hours worked to pay tax	-	116	423	570	972
Two-earner families FT					
Tax on family earnings $ p.a.	−3,790	7,401	13,171	22,892	39,748
ATR on family earnings %	**−7.2**	**10.0**	**14.8**	**21.2**	**26.9**
Tax on second earnings $ p.a.	8,196	14,295	14,722	17,959	17,861
ATR on second earnings %	**39.3**	**46.5**	**41.1**	**42.9**	**37.6**
Tax wedge	4.22	3.06	2.27	2.10	1.74
Hours worked to pay tax	88	616	835	1,124	1,433

Both families have close to the same combined earnings, $73,833 and $70,066, respectively. The single earner family in quintile 5 with an income of $132,402 per annum works 751 hours to pay tax, almost the same hours as the full-time two-earner family in quintile 2 with around half that income.

Because the Howard Government's strategy for switching towards joint taxation has been to use a succession of family tax benefit reforms combined with bracket creep, rather than through a transparent change in the tax base from the individual to the family, the system now in place differs from the more conventional joint tax system in two important respects. First, the taxation of incomes at the top of the distribution tends to remain on an individual basis because FTBs are fully withdrawn at high income levels, apart from FTB-B. Second, because the system has been introduced by withdrawing family benefits on joint income and the income of the second earner, the marginal tax rate (MTR) schedule tends to exhibit an inverted U-shaped profile with respect to joint income, instead of the usual progressive profile. Consequently, when combined with the entire welfare system, the overall profile of effective marginal tax rates on income tends to be downward sloping.

It is of interest to see more precisely how family tax benefits, tax offsets, and the Medicare Levy have been used to replace Australia's progressive individual income tax with a system that approximates one of joint taxation with high MTRs across average incomes. For the purpose of illustration we take the case of the family with three children in Table 5, and show how these policy instruments have been used to change dramatically the structure of tax rates on primary and second incomes.

Table 6. Three-child family: 2006–2007 effective MTR schedules

Income tax schedule		Income tax schedule + low income tax offset		Income tax schedule + tax offset + medicare levy	
Taxable Income $ p.a.	MTR	Taxable income $ p.a.	MTR	Taxable Income $ p.a.	MTR
0 – 6,000	0.00	0 – 6,000	0.00	0 – 6,000	0.00
6,001 – 25,000	0.15	6,001 – 10,000	0.00	6,001 – 10,000	0.00
25,001 – 75,000	0.30	10,001 – 25,000	0.15	10,001– 25,000	0.15
75,001 – 150,000	0.40	25,001 – 40,000	0.34	25,001 – 35,047	0.34
150,000 +	0.45	40,001 – 75,000	0.30	35,048 – 40,000	0.44
		75,001 – 150,000	0.40	40,001– 41,231	0.40
		150,000 +	0.45	41,232 – 75,000	0.315
				75,001 – 150,000	0.415
				150,000 +	0.465

Table 6 first lists the 2006–2007 MTR schedule applying to personal incomes and then reports effective MTRs that apply when the low income tax offset is included. The offset, which was increased to $600 in the 2006–2007 Budget, has the effect of raising the tax free threshold to $10,000 and of raising the MTR on incomes from $25,000 to $40,000 to 34 cents in the dollar.[14] This creates a 'hump' in an otherwise progressive MTR profile. The offset is, in fact, entirely redundant as a separate policy instrument. The same MTR schedule could have been announced simply, and more transparently, as that listed in the centre section of the table.

The third section of the table lists the MTR schedule when the Medicare Levy is included, for a single-earner family. Unlike the MTR schedules for the personal income tax and low income tax offset, the MTR schedule with the Medicare Levy included applies to family income because the low-income exemption is withdrawn on family income, not on individual incomes.[15] The number of bands increases to eight and there is a more pronounced hump in the profile, this time on family income. The Medicare Levy is a step towards joint taxation and, again, as a separate policy instrument, it is entirely redundant. It serves only to reduce the transparency of the true marginal rate schedule.

**Table 7. Single-earner three-child family:
2006–2007 effective MTRs and ATRs**

Taxable income $ p.a.	MTR	ATR
0 – 10,000	0.00	–1.64
10,001– 25,000	0.15	–0.57
25,001 – 35,048	0.34	–0.31
35,049 – 40,000	0.44	–0.21
40,001 – 41,232	0.60	–0.19
41,233 – 75,000	0.515	0.13
75,001 – 77,336	0.615	0.14
77,337 – 95,631	0.415	0.19
95,632 – 113,911	0.715	0.28
113,912 – 150,000	0.415	0.31
150,000 +	0.465	-

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[14] The offset is withdrawn at a rate of 4 cents in the dollar on an individual income over $25,000, and is therefore completely withdrawn at $40,000.

[15] For a family with three children, the lower family income limit for the exemption is $35,047. The exemption is withdrawn at a rate of 10 cents in the dollar on income above this limit.

Family tax benefits have a more profound effect of the same kind on the MTR profile. Table 7 shows the income profiles of effective MTRs after adding in FTB-A for the single-earner family. The maximum rate of FTB-A is $4,317.95 for a dependent child under 13.[16] The base rate is $1,828.65 for each child. Benefits up to the base rate are withdrawn at 20 cents in the dollar above the lower family income threshold of $40,000. For the three-child family, the income limit at which the benefit, excluding the base rate, is completely phased out is $77,336. The effect is a much more significant hump in the middle of the distribution, with MTRs of over 50 cents in the dollar on incomes from $40,000 to over $77,000 per annum. At $95,632 the base rate of FTB-A is withdrawn at 30 cent in the dollar and so effective MTRs rise by this amount until the upper income limit of $113,911. The gap between the two humps depends on the number and ages of the children.[17]

The final column of the table lists ATRs, calculated at the upper income thresholds for each MTR. Although the family faces high MTRs across a wide band of income above $40,000, ATRs are low, and in fact negative up to over $56,000, as in the tables of the preceding section. This is because FTBs, including FTB-B of $3,467.50, are large. The system is equivalent to one under which income is taxed at the MTRs shown in the table and the family receives a universal or lump sum transfer equal to its FTBs, which in this case amounts to $16,421.35 per annum. This example serves to illustrate how a change in the withdrawal rates of family benefits, or in tax offsets or credits, can always be translated into a new MTR schedule, while a change in the size of FTBs represents a change in the implicit lump sum. The widely prevalent idea that universal benefits are 'unaffordable' reflects a fundamental misunderstanding of the tax structure and the criteria that are relevant for evaluating a tax change. What matters is the distributional impact of the reform and the efficiency gains/losses induced by the changes in the MTR schedule.

It is an open question as to whether the high MTRs across the middle of the distribution of primary earnings in Table 7 have large work disincentive effects. Empirical estimates tend to indicate that the labour supply of prime age males, especially those in higher paying jobs, tends to be unresponsive to a change in the net wage. Thus, the high MTRs at the middle and upper end of the distribution of primary income may have a relatively small effect on labour supply, and a low efficiency cost. However, the effects on the lower to middle range of the distribution may be significant.

Given that FTB-A and the Medicare Levy are withdrawn on family income, the tax rates faced by the second earner depend on the primary earner's income, as in any joint tax system with varying MTRs. Thus we need to choose a level of that income.

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[16] This includes the $645.05 supplement for 2006–07.

[17] An EITC program, as proposed by the 'Five Economists' for example, eliminates a gap of this kind, by taxing families within the relevant income range at higher rates, as shown in Apps (2002).

Table 8. Three-child family: Effective tax rates on second earnings*

Taxable Income $ p.a.	Second earner			Tax wedge
	Tax $ p.a.	MTR	ATR	
0 – 1,232	370	0.300	0.300	-
1,233 – 4,234	1,015	0.215	0.240	-
4,235 – 10,000	3,408	0.415	0.341	-
10,001 – 21,572	9,946	0.565	0.461	4.83
21,573 – 25,000	13,383	0.365	0.448	4.27
25,001 – 37,337	18,044	0.555	0.483	2.58
37,338 – 40,000	18,990	0.355	0.475	2.39

* Primary earnings = $40,000 p.a.

We select a primary income of $40,000 per annum for full-time work, which is little below average primary earnings of $42,972 in quintile 2 (Table 1). Table 8 lists the effective MTRs and ATRs faced by the second earner. The final column of the table reports the tax wedge she faces.

The second earner's first dollar of income is taxed at a rate of 30 cents in the dollar due to the withdrawal of FTB-A at 20 cents and the Medicare Levy exemption at 10 cents in the dollar. At $1,232, her MTR falls to 21.5 cents because the Medicare Levy exemption is entirely withdrawn at this point. At the lower income limit of $4,088 for FTB-B, her MTR rises by 20 cents, to 41.5 cents. The withdrawal of FTB-B on the second income, together with the withdrawal of FTB-A and the Medicare Levy exemption on joint income, has the effect of denying the second earner a zero MTR on her income up to the individual threshold of $10,000. She is also denied a low MTR of 15 cents in the dollar across the next band of the income tax scale. Instead, she faces an MTR of 56.5 cents in the dollar. On a very narrow band of income, $21,573 to $25,000, she faces an MTR of 36.5 cents in the dollar because FBT-B has been completely phased out at the lower threshold of this band. At $25,001 her MTR rises to 55.5 cent in the dollar. Only when her income reaches $37,338 does her MTR fall substantially because, at this level of income, family income has moved into the income range that is taxed at lower rates under the inverted U-shape schedule applying to family income.

The profile of ATRs indicates the consequences of high MTRs at low levels of second income. As the second earner moves across the second band above the zero rated threshold of the personal income tax, her ATR reaches 46.1 per cent. In other words, the second earner loses almost half her income in taxes and reduced FTBs, well over four times the amount she would lose as a single individual, as indicated by the tax wedge figures. If she earns $36,000 to raise her family income to $76,000, she loses over $17,300, or 48.1 of her income. Had she chosen to work full-time at home, the family would have received a negative tax of $8,576. By going out to work, the

second earner has raised the family's tax burden to $8,726, that is, to 11.5 per cent of family income. The tax paid by a single-earner family able to earn the same income with only one parent in full-time market work and the other working full-time at home, is only $1,443 higher, at $10,169, or 13.4 per cent of family income.

FTB-B is an especially anomalous element of the system. For a two-earner family with a child under 5, it is fully withdrawn on a joint income of $43,144 if earned equally by both parents. If only one parent needs to work to earn the same income, the family receives the full amount of FTB-B, $3,467.50 for a child under 5 years. Thus, the role of FTB-B cannot be said to be that of supporting families, since it fails to support two-earner families in which both parents work long hours for low wages.

A family tax system with such punitive taxes on the income of second earners can be expected to have large and significant effects on female labour supply. Available estimates of female wage elasticities indicate that high tax rates have a strong negative impact when the children are young, and that this effect persists across the life cycle. The result is easy to understand. For families with young children, home production is a close substitute for market output over a range of services, most importantly, child care. If married mothers face ATRs on their earnings in the order of 50 per cent for part-time and full-time work, and quality child care is not available at an affordable price, it is not be surprising to find that many reduce their hours significantly, or switch from working in the market to working at home entirely. And as a consequence, their productivity in the market work declines, which results in a long term negative effect over the life cycle, in addition to the short term impact when the children are young.[18]

Taxation of 'in-work' couples with no dependents

We now turn to couples without children and examine the tax rates they face due to the combined effects of the individual income tax, the low income tax offset, the Medicare Levy, and the dependent spouse tax offset. The analysis is based on a sample of 1,604 couple income unit records selected from the ABS 2003–2004 SIH on the same criteria as the sample for families, but excluding records with dependent children present. Again, the partner with the higher private income is defined as the 'primary earner'.

Following the format of Table 1, Table 9, Panel 1, reports weighted data means for primary incomes and hours, asset incomes, and the amount of tax couples would pay, and their ATR, if all had only one earner. For the purpose of comparison, the results are presented for the same quintile ranking of primary private income as in Table 1. Couples without children make up 45.2 per cent of the full sample of couples selected on the criteria outlined. The last row of the table shows their distribution across the ranking.

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[18]   For an analysis of these effects in the US context, see Attanasio et al. (2003).

Table 9. Weighted data means for 'in-work' couples with no dependents, 2006–2007

Quintile	1	2	3	4	5	All
			Panel 1			
1. Primary earnings $ p.a.	29,518	42,769	52,755	64,341	10,6534	55,669
2. Primary labour supply, hours p.a.	2,000	2,189	2,298	2,346	2,460	2,235
3. Asset income $ p.a.	1,798	1,759	2,461	5,020	13,284	4,379
4. % employed full-time	89.0	91.3	93.6	96.0	95.1	89.0
5. Tax on primary + asset income $ p.a.	–633	5,863	9,694	14,327	32,435	10,839
6. **ATR** %	**–2.2**	**13.2**	**17.6**	**20.7**	**27.1**	**18.1**
			Panel 2			
1. Second earnings $ p.a.	14,168	22,601	26,333	31,196	31,885	24,311
2. Second labour supply, hours p.a.	1,152	1,369	1,352	1,545	1,319	1,338
3. % employed full-time	38.1	46.9	47.9	59.0	46.7	47.0
4. % employed part-time	29.4	28.6	26.7	21.7	25.0	26.6
5. Tax on second earnings $ p.a.	4,743	5,453	6,072	7,095	7,777	6,076
6. **ATR** %	**33.5**	**24.1**	**23.1**	**22.7**	**24.4**	**25.0**
% of couples with no dependents	56.0	50.8	39.1	43.5	36.5	45.2

Table 10. 'In-work' couples with no dependent present: life cycle effects

Quintile	1	2	3	4	5	All
Panel 1: Pre-child phase %	39.2	42.0	42.2	43.9	32.4	40.2
1. Second earnings $ p.a.	17,365	27,348	34,599	37,809	47,460	31,070
2. Second labour supply, hours p.a.	1,513	1,711	1,723	1,864	1,870	1,718
3. % employed full-time	55.9	65.2	71.9	76.4	74.5	67.7
4. % employed part-time	29.3	22.6	14.2	14.7	15.4	20.1
5. Tax on second earnings $ p.a.	5,611	6,437	8,022	8,510	11,402	7,609
6. **ATR** %	**32.3**	**23.5**	**23.2**	**22.5**	**24.0**	**24.5**
Panel 2: Post dependent child phase %	60.8	58.0	57.8	56.1	67.6	59.8
1. Second earnings $ p.a.	12,104	19,168	20,303	26,025	24,419	19,776
2. Second labour supply, hours p.a.	919	1,122	1,081	1,295	1,055	1,083
3. % employed full-time	26.6	33.7	30.4	45.4	31.8	33.2
4. % employed part-time	29.4	32.9	35.8	29.6	29.6	30.9
5. Tax on second earnings $ p.a.	4,182	4,742	4,649	5,989	6,039	5,048
6. **ATR** %	**34.5**	**24.7**	**22.9**	**23.0**	**24.7**	**25.5**

From row 6 of Panel 1 it can be seen that single-earner couples with no dependents pay much higher taxes than single-earner families. This is because they do not receive FTB-A and the dependent spouse tax offset is less than FTB-B. Second earners with no dependents have higher incomes than working married mothers because they have higher full-time employment rates and work longer hours. However, they face lower effective taxes because they lose only the dependent spouse tax offset. The withdrawal of the offset raises their ATR above the rate on primary incomes in the lower four quintiles and, like FTB-B, has the effect of denying the second earner a zero rated threshold of $10,000.

The higher hours and full-time employment rates reported in Table 9 for second earners with no dependents should not be interpreted as evidence of a substantial increase in the labour supply of mothers after the children leave home. In fact, there is relatively little change. This becomes evident when the sample is split into two broad life cycle phases: couples in the early phase who have not yet had children and those in the later phase when the children have left home. Since data on whether the female partner has had children, or plans to have them, are not available, the sample is split according to whether the female partner is aged less than 40 years or 40 years or over. Table 10 reports the results for the former group in Panel 1, and for the latter group, in Panel 2.

Second earners in families in which the female partner is under 40 have a full-time employment rate of 67.7 per cent and they work an average of 1,713 hours per annum, which is close to average primary earner hours. In contrast, second earners in couples in which the female partner is 40 years or more have a full-time employment rate of only 41.3 per cent, and their hours of work, at 1,097 per annum, are much closer to the hours worked by married mothers. This is consistent with US studies that find strong evidence of 'persistence'—mothers who work significant hours after the children have left home are mostly those who worked while the children were present, and conversely.[19]

Note, finally, that younger couples pay, on average, significantly higher taxes than older couples because a higher proportion pays tax on two incomes and almost all lose the dependent spouse tax offset. And since the vast majority has earnings below the upper income tax thresholds, they are hit twice by the lack of compensation for bracket creep. This limits their capacity to save for the purposes of house purchase and for the future costs of children. Singles on low and average incomes are also now more highly taxed due to bracket creep.

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[19]   See, for example, Shaw (1994).

Life cycle labour supplies

The report of the Australian Government (2004) entitled 'Australia's Demographic Challenges' offers the following assessment of the Howard Government's family tax system:

> The Government has already introduced extensive changes to taxes and benefits to assist families. Analysis has shown that the tax and social security system is neutral in its treatment of dual versus single income families. That is, the balance of the system is about right.

No studies showing that 'the balance is about right' are cited.

The report also fails to acknowledge the large and persistent gap between female and male labour supplies that is evident in household survey data. Instead, it cites OECD statistics showing a sharply rising female participation rate from 1960 to recent years. This is a misleading indicator of changes in female labour supply. The steep increase in participation has not been matched by an increase in female hours of work because much of the growth in female employment is in part-time work.[20] Thus, while female and male rates of participation appear to be converging, average female hours are only around half males hours due to a low full-time employment rate for married women.

Table 11 presents female and male labour supply profiles by age, based on weighted data means for the full sample of 6,935 couple income units in the ABS 2003–2004 SIH.[21] Figure 1 plots the profiles to show graphically the large gap between average male and female hours across the entire life cycle. Female hours fall as the percentage of couples with children increases in the early years. They rise slightly in the middle years as the children begin to leave home and then fall sharply as male hours fall in the later years. For those under 65 years, the female employment rate is 68.5 per cent, which is around three quarters the male rate of 91.9 per cent. However, the full-time female employment rate is only 32.7 per cent, compared with a male rate of 79.1 per cent. Consequently, average female hours, at 1,069 per annum, are only 55.1 per cent of male hours, at 1,930 per annum.

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[20] According to ABS 1997 Time Use Survey data (the most recent available) the female employment rate in that year was 61.6 per cent and the male rate, 80.8 per cent, for those under 65 years. The weighted mean of female hours was 883 per annum and of male hours, 1,758 per annum, which gives a ratio of female to male hours of 0.502 for the full sample.

[21] The sample includes all couple income units apart from a small number of hard to classify records in complex households. Note that data obtained by questionnaire, as in the SIH, tends to overstate hours. Time use data collected by diary typically provide more reliable information on hours of work.

Table 11. All couples: Labour supplies by gender

Age	Females			Males		
	Annual hours	% emp. FT	% with children	Annual hours	% emp. FT	% with children
< 30	1,342	50.2	38.7	2,060	88.0	36.4
30 – 34	1,059	34.0	75.7	2,155	89.0	63.8
35 – 39	1,088	30.2	87.1	2,171	87.9	82.3
40 – 44	1,223	33.2	82.9	2,158	88.0	83.0
45 – 49	1,267	38.4	58.2	2,140	86.9	70.2
50 – 54	1,122	32.9	29.2	1,989	79.5	45.3
55 – 59	719	19.5	9.0	1,547	63.7	21.7
60 – 64	315	8.0	3.0	977	37.0	9.3
65 +	61	1.7	0.0	211	6.6	6.6
< 65	1,069	32.7	51.8	1,939	79.1	54.5

Figure 1. All couples: Labour supplies by gender

These profiles, while indicating a significant fall in female hours with the arrival of children in the early years, conceal the full impact of children under present policies because they average across two very different groups: young married women without children and with high market hours, and those with children and low market hours. Table 12 lists separately the data means for female and male hours for those with and without dependent children present. For those without children, average female hours up to age 40 are close to average male hours in same age categories. With the arrival of children, female hours fall to around a third of male hours, and remain below 50 per cent up to age 40. At this point, the profiles of the two groups tend to merge because an increasing proportion of the sample begins to represent couples whose children have left home, as indicated by the decline in the percentage of records in which children are present at around this age.

Figure 2 gives an indication of the life cycle gender gap in hours after the arrival of children, by plotting profiles for a sample that omits records in which there are no children present and the female partner is under 44. The figure depicts a significantly larger gap than that shown in Figure 1, due to a much lower female profile in the early years. The presence of children has little effect on male hours.

These labour supply profiles suggest that family tax policy, together with the failure of successive governments to develop an efficient and affordable public sector child care system, has been effective in discouraging the expansion of female labour supply, especially in the early years.[22] The results support the thesis that family policy has strongly inhibited the reallocation of female time to the market, during a period in which we would expect a fall in demand for domestic labour due to the fall in fertility.

Policies that prevent the efficient reallocation of female time from the home to the market will have negative effects on productivity, GDP and the tax base that will be difficult to reverse for decades to come. US studies find that the growth in female hours in recent years is due primarily to an increase in hours worked by younger cohorts of women, and that the profile for later cohorts is relatively flat at significantly higher hours.[23] In other words, the data indicate strong shifts in the life cycle profile of female hours across successive cohorts, initiated by an increase in the market hours of mothers with young children. Thus policies that prevent mothers with young children from combining work and family are likely to result in low average hours across the entire life cycle, including after the children have left home.

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[22] The negative effects of these kinds of polices on female labour supply are predicted in Apps (1991) using the parameters of a labour supply model estimated on Australian unit record data.

[23] Attanasio et al. (2003) study the life cycle labour supply of three cohorts of American women: those born in the 1930s, 1940s and 1950s. The authors find large shifts in the labour supply behaviour of these cohorts and attribute it to increases in the early part of the life cycle.

Table 12. All couples: Labour supplies by gender and family status

Age	Female hours p.a.		Male hours p.a.	
	With children	Without children	With children	Without children
< 30	732	1,727	1,950	2,123
30 – 34	841	1,739	2,137	2,187
35 – 39	995	1,720	2,216	1,963
40 – 44	1,178	1,443	2,180	2,050
45 – 49	1,261	1,277	2,169	2,072
50 – 54	1,096	1,132	2,014	1,969
55 – 59	*	725	*	1,492
60 – 64	*	308	*	964
65 +	*	61	*	207

Figure 2. Post-children labour supplies by gender

CONCLUSION

Any family tax system that combines a set of policy instruments—a formal schedule of rates on income, tax offsets, credits and family tax benefits—can always be translated into an effective MTR schedule and implicit non-means tested benefit for a given family or individual. The fundamentally flawed feature of the Australian family tax system is not the size of family tax benefits, but the MTR schedule created by the withdrawal of benefits on joint income and the income of the second earner, with the effect of selectively taxing her income at a higher rate from the first dollar earned.

Large family benefits can be justified, on both fairness and efficiency criteria, as a response to market failure. It is well recognised in the literature that, in the absence of a publicly provided system of education and child care, there would be under investment in the next generation due to the failure of capital and insurance markets. [24] Moreover, also for reasons of market failure, the private, for profit provision of such services is known to result in poor quality at a high cost, as is now evident in the long neglected child care sector. [25] The same conditions justify direct benefits for children. However, there is no sensible rationale for withdrawing the benefits on the basis of family income or the income of the second earner, to construct the MTR schedules and distribution of tax burdens described in the preceding analysis. The results of the study highlight the need to return to a system that combines a progressive individual income tax with universal child benefits.

To see why such a system is superior on equity and efficiency criteria, it is useful to consider first the limitations of a flat rate tax. The problem can be illustrated by a simple example. Consider two identical young families in which the male partners face the same wage rate and, as primary earners, work full-time to earn the same incomes. The female partners also face the same wage rate. If, in one family, the mother chooses to work full-time at home and, in the other, she works full-time in the market and uses her income to buy-in child care and substitutes for domestic services, the tax burden of the latter can be up to twice that of the former, yet both families may have the same standard of living. There is a problem of horizontal

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[24] In a perfect capital market, children would be able to borrow to pay for their consumption and investment in their human capital, and they would repay the debt during their working years. Clearly, there are numerous reasons for why capital markets fail in this context. For a discussion of the effects on the costs of children for parents, see Apps and Rees (2002), and for an analysis of the effects of an imperfect capital market on the ability of parents to support their children without working long hours at home and/or in the market, see Apps and Rees (2003).

[25] To appreciate the inefficiencies and consequent high cost of private, for profit, child care, one need only consider what would happen if the government were to sell off all its physical assets associated with the early years of primary school, and allow the education of children in those years to be provided privately and run for profit, without central planning and government support. Many parents would be unable to afford the cost. Female labour supply would fall as well as school attendance.

equity. A progressive income tax reduces this problem by applying a lower rate to the lower income partner, typically the mother. Furthermore, and importantly, the more progressive the MTR schedule the greater the degree of vertical equity. At the same time the system is more efficient because it applies lower MTRs to the incomes of married mothers with more highly responsive labour supplies. Thus the system allows the expansion of the tax base required for funding universal family support. Life cycle studies show that the gains from a higher level of female labour supply also extend quite dramatically to a much higher level of household saving.[26]

A joint tax system has opposite outcomes. It increases the tax burden on the two-earner family, by raising the rate on the second income, and it reduces female labour supply and the efficiency of the economy by imposing selectively higher rates on the income of the partner with the more responsive labour supply. It is essentially a system for introducing discrimination on the basis of marital and employment status, at a high cost to productivity and GDP, and it can expected to lead to a fall in the tax base that will ultimately make the present level of family tax benefits unsustainable.

The results of the study show that Australian families are now subject to a tax system that closely approximates one of joint taxation, and that they face an effective MTR schedule that tends to exhibit an inverted U-shaped profile. As a consequence, second earners in low and average wage families face the highest *average* tax rates in the economy. A tax system of this kind, together with a poorly developed child care sector, offers an explanation for the very low average market hours of work by married mothers, and the resulting large gap between female and male hours that persists over the life cycle despite the sharp decline in fertility in recent decades. These findings suggest that, in an ageing population, Australia's new family tax system could prove to be the most costly legacy of the Howard Government.

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[26]   See Apps and Rees (2003) for a study demonstrating this using Australian data.

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