

Application of Efficiency to Child Support

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Recently we published an article in this journal (Farr and Buurman, 2003) applying the economist's concepts of equity to the Australian Child Support legislation. Part of the intent of that article was to show that an analytic approach, originally established in the study of taxation, could be usefully applied to Child Support. In this paper, we submit that the concept of efficiency can also be taken from the study of taxation and usefully applied to Child Support.

Subsequent sections of the paper deal with the background; the Poverty Trap and Effective Marginal Tax Rates (EMTRs); the level of EMTRs for those subject to Child Support and a brief discussion of implications. Some comments on policy options conclude the paper.

Background

The Child Support Scheme, in its current Australian form, came into operation on 1 October, 1989. The Scheme provides for the transfer of income from a parent (normally the Non-Resident Parent or NRP) to a person caring for the children (normally the Resident Parent or RP). The amount of this transfer is determined by administrative assessment using calculations legislated in the Child Support (Assessment) Act 1989 (Cth). These calculations are generally referred to as the 'Child Support formula' — though assessment is, in reality, more complex than applying a single formula. The formula considers a number of inputs including the taxable income of parents, the number of children, and the amount of time the parents care for the children.

A key aspect of the formula is that the amount transferred from the NRP to the RP increases as the NRP's income increases. Increasing RP income is also considered and will decrease the amount of Child Support received by the RP, at least over some income ranges. This relatively simple situation is complicated significantly by interactions between Child Support payments, taxation and social security.

Given that the intent of Child Support is to provide for children, it may appear that efficiency — a basically technical concept — should be a relatively unimportant consideration. However efficiency issues have a direct impact on the children's standard of living. To explain, it is necessary to consider the concept of efficiency and its application in respect to Child Support.

Here we use the term efficiency in the same sense that it is used in the study of taxation, particularly income taxation. A number of quite distinct but equivalent formulations of the term are possible (see McGuire, Henderson and

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Mooney, 1995:ch. 5, for an example in health care). However, in this context we can (loosely) define inefficiency as the extent to which it causes parents to reduce their taxation and child support burden by reducing their income. The main mechanism by which this occurs is by a reduction in their labour supply, and hence overall production levels. The main determinants of the extent to which this occurs are the elasticity of labour supply and EMTRs, which affect take-home pay. (For our purposes, elasticity measures the rate of change in the quantity of labour supplied due to a change in the rate of take-home pay.)

The Effective Marginal Tax Rate (EMTR) is defined as the percentage of an extra dollar of income which is lost through either income taxation or withdrawal of government payment (particularly Social Security).

When social security benefits are considered as well, a particular instance of inefficiency, termed the 'Poverty Trap' is often seen. This occurs because social security benefits often phase out at quite low incomes and their phasing out can cause high EMTRs. The consequence is that when social security recipients take up work they are likely to end up with incomes very near to, or below, the point at which the benefits are withdrawn. In effect, the EMTRs that they face mean that there is little incentive to seek a job and the opportunity to escape poverty through on-the-job training, seniority, and other factors, is missed.

In any case, the result of efficiency problems is that income is reduced. For parents subject to Child Support, the result is less money available to invest in their children. The issue is particularly crucial because of the often poor financial circumstances of children in single-parent households (Harding *et al*, 2001). The obvious impact is upon the immediate welfare of the children. However, there is also ample evidence of long-term detrimental impacts caused by financial need (Duncan, 1994).

Historically, there has been some consideration of issues with Child Support that we can recognise as efficiency problems. The current formula was based on the recommendations contained in the May 1988 report from the Child Support Consultative Group. The Group stated that in arriving at the formula, they had considered a number of factors including, 'retention of appropriate incentives to earn for noncustodial parents' (CSCG, 1998). These considerations were echoed by the then Minister in his Second Reading speech (Blewitt, 1989).

In the formative years of the Child Support scheme, to the knowledge of the authors, there are no clear references to efficiency as applied to RPs. However in 1992, the Child Support Evaluation Advisory Group devoted considerable attention to the issue (CSEAG, 1992). Subsequently, one of the key recommendations of the Joint Select Committee was that the recognised objectives of the Child Support scheme be modified to include that 'work incentives for *both* parents to participate in the labour force are not impaired' (JSC, 1994).

These issues have, to some extent, been reflected in the (often vigorous) public debate on Child Support. In particular it is often claimed that NRPs choose unemployment in order to avoid their Child Support liabilities. For example, a recent Parliamentary Enquiry concluded (HRSC, 2003) that 'It is apparent from

the evidence heard by the committee that there is a proportion of paying parents leaving paid employment to avoid child support’.

This paper deals with separated parents who invoke the Child Support formula and each has time with the children. To simplify the discussion, they are assumed to have not re-partnered and to have no children from other relationships. Basically the model considers a single scenario in terms of the circumstances of the two parents. The model is then iterated to determine different outcomes in response to changing the important inputs such as the number of children, the percentage of nights spent with each parent and the parent’s earnings from paid employment. Parameters include the cost of children data, tax rates and tables of social security benefits.

All income related parameters were inflated to May, 2002 in proportion to movements of the Average Weekly Earnings — All employees (ABS, 2002a). All cost of living data were inflated to 31 March, 2002 in proportion to movements of the All Groups Consumer Price Index (ABS, 2002b). Social security entitlements, taxation and Child Support transfers are at the level of 1 April, 2002. The interested reader can find more information on the model in our previous paper (Farr and Buurman, 2003).

For practical reasons including computational tractability and ease of graphical presentation, the EMTR results generated by the model are averaged over a \$1,000 income range. That is, results are generated for the average of the band from \$0 to \$999 annual income; for the band from \$1,000 to \$1,999 annual income; and so on. This approach has been referred to as Effective Average Tax Rate rather than EMTR (Toohey and Beer, 2003). However in this paper we retain EMTR as the preferred terminology.

As we have shown earlier (Farr and Buurman, 2003), involuntary Child Support payments have the effect of reducing the disposable income of the liable parent (usually the NRP). Our purpose is to examine the effect of these involuntary payments on EMTRs and hence the incentive to work.

The effect of Child Support on the work incentives of NRPs has been widely recognized in public debate. However high EMTRs also act as a disincentive to work for RPs. This occurs because as RP earnings increase, the amount of Child Support received by the RP can be reduced, thus increasing their EMTR.

Results

Before considering the results of our modelling of EMTRs, it is important to clarify some limits. We first define the following three variables with reference to a particular pair of separated parents:

- CS — the amount of transfer mandated by the Child Support formula.
- RP_{\min} — the minimum amount which the Child Support recipient is prepared to accept.
- NRP_{\max} — the maximum amount which the Child Support payer is prepared to transfer voluntarily.

Note that all things being equal, NRP_{\max} will necessarily be less than the corresponding amount the NRP previously chose to spend on children in the intact family (Weiss and Willis, 1985). This is because, once a family separates, the RP controls the spending of any transfers from the NRP. Since some of the NRP's transfer may be spent by, or on, the RP, the NRP's price of investing in the children has increased, resulting in a lower (than when living together) level of investment from the NRP.

There are six potential rankings or permutations of these three variables. However, we can exclude half of these since they involve $RP_{\min} < CS$, that is, the Child Support recipient is prepared to accept less than the amount mandated by the Child Support formula. On one level, we can exclude these cases because they could not be acceptable to a rational Child Support recipient. In addition, the general principle has particular force in respect to Child Support. This is because the social security rules mean that the Child Support recipient is likely to be penalised by a reduction in social security benefits should they agree to less than the formula amount. This leaves three rankings of these variables which we consider in turn below.

- $NRP_{\max} > RP_{\min} > CS$
- $RP_{\min} > NRP_{\max} > CS$
- $RP_{\min} > CS > NRP_{\max}$

In the first scenario, separated parents will reach a cooperative agreement without invoking the Child Support formula. This situation can be termed 'loosely beneficial' for the children in terms of investment, since expenditure on them may remain very close to the pre-separation level. High EMTRs would have little effect on efficiency (in terms of reducing parental income and production), since the Child Support formula does not apply and the agreed amount of support is fixed cooperatively. Any extra work effort put in by a parent would result in extra net parental income. The parent can then choose to spend it, invest it in the children or split it between the two.

In the second scenario, the separated parents cannot reach a cooperative agreement since the amount the RP will receive is less than RP_{\min} — despite the fact that the NRP is willing to make voluntary transfers in excess of the amount required under the formula. Under these circumstances, the increased EMTRs resulting from the Child Support formula would not reduce the NRP's labour supply since that parent is prepared to contribute in excess of the formula amount voluntarily. However, the RP may be affected by the EMTR in this scenario.

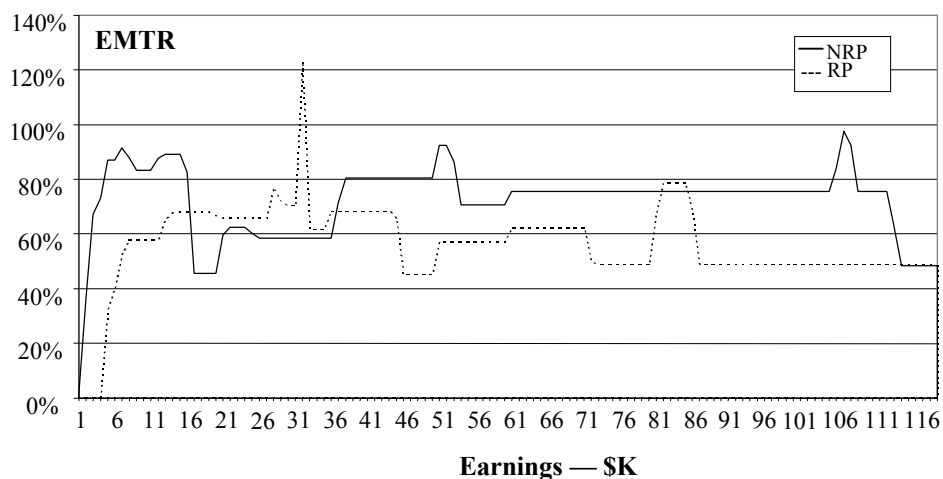
The third scenario would be the most damaging to children. This concerns acrimonious separations when the Child Support formula is invoked and a classic 'prisoner's dilemma' situation results. That is, the parents feel that it is in their best interests not to cooperate. The formula is viewed by each parent as the maximum that each has to do. The NRP, affected again by high EMTRs, may try to hide extra income or work fewer hours, substituting leisure time for income so as to pay less in Child Support. There is also the possibility of avoiding Child

Support. Here we would expect a large drop in the amount invested in the children. The RP also may be affected by EMTRs.

Surveys of parents subject to the CS formula give some insight into how common these three scenarios are. Only 2 per cent of NRPs believe that the Child Support formula amount is too low, while 80 per cent believe it is too high and 18 per cent believe it is fair (CSEAG, 1992). It can be inferred from this that in 98 per cent of cases, $CS = NRP_{\max}$ and the third scenario applies. This would mean that efficiency is relevant in the vast majority of cases. It is this scenario on which we focus in the remainder of this section.

Figure 1 shows the EMTRs faced by parents subject to Child Support. Two sets of data points are shown on each graph. One line shows the EMTR experienced by the RP as their earnings vary from \$0 to \$120,000 per annum. A second line shows the EMTR experienced by the NRP as their earnings vary from \$0 to \$120,000 per annum. In the case of the graph of the RP EMTR, it is assumed that the NRP earns the Average Weekly Earnings (AWE) as it was at May 2002 (ABS, 2002a). Similarly, the graph for the NRP assumes that the RP earns the AWE. (The significance of this assumption is examined later.)

Figure 1: EMTRs: Parents with 2 Children, Both Apply for FTB



The particular circumstance shown is one where there are two children whose time is split according to the standard Family Court orders; where the NRP has access every second weekend and half of the school holidays. Further, it is assumed that the NRP applies for the Family Tax Benefit (FTB) where they are so entitled. The same assumptions are used in all graphs in this section except where explicitly described.

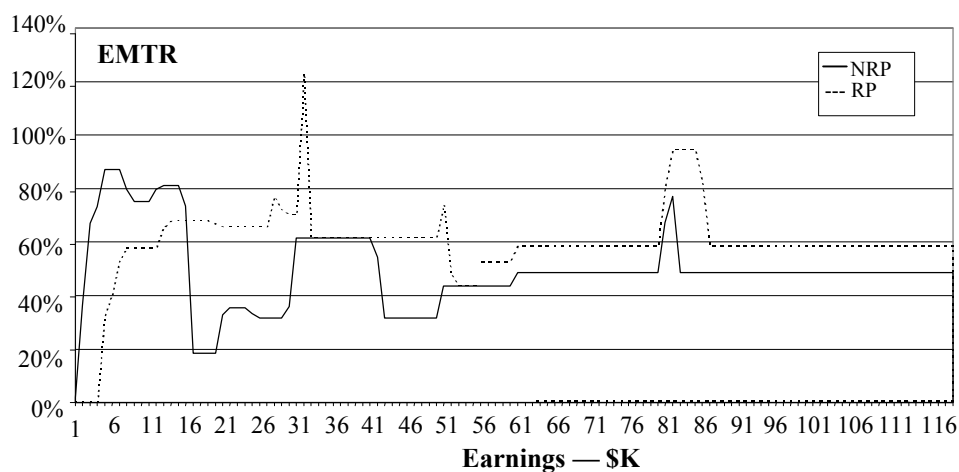
It is apparent that both parents face very high EMTRs. The EMTRs faced by the NRP are typically greater than 70 per cent and those for the RP are typically almost 60 per cent. The broad difference between the two percentages is mainly due to Child Support; while the NRP pays 27 per cent of income as Child Support, as RP earnings increase, Child Support is only withdrawn at 13.5 per cent.

Importantly, there are high EMTRs even at quite modest earnings. The reader will note a couple of spikes in the EMTRs for both the RP and the NRP. The most significant are described below:

- The NRP EMTR is high from approximately \$5,000 to \$15,000 due mainly to the withdrawal of Newstart allowance – though taxation and Child Support also contribute.
- At earnings from \$36,000 to \$52,000 the NRP EMTR is again around 80 per cent. At this point, FTB is withdrawn and this, in combination with taxation and Child Support, causes elevated EMTRs.
- The narrow ‘spike’ in NRP EMTR around \$105,000 is also due to the withdrawal of FTB.
- The spike in RP EMTR around \$85,000 is also due to the withdrawal of FTB and is equivalent to the feature just described on the NRP graph.

The spike in the RP EMTR at earnings around \$32,000 is particularly notable — exceeding 100 per cent. It occurs at the point at which the Parenting Payment is completely withdrawn. Once this happens, the FTB is calculated differently and paid at a lower rate. This ‘cliff effect’ reduction in the FTB (combined with taxation and Parenting Payment withdrawal) explains the spike. Such effects are sometimes known as ‘sudden death’ income tests.¹

Figure 2: EMTRs: Parents in the Absence of Child Support



¹ More precisely, the spike is due to an abrupt reduction in FTB – Part A. This, in turn, is due to the treatment of ‘Income Excess’ (one of the variables used to calculate FTB – Part A). Where the FTB recipient also receives pension type payments, Income Excess is not considered. For those other than pensioners, every dollar of adjusted taxable income over \$29,857 constitutes Income Excess (using figures for April 2002 as described earlier). However the Parenting Payment phases out at a higher income level — \$31,986. At this point the Income Excess jumps from (effectively) \$0 to \$2,129 = \$31,986 – \$29,857.

For comparison, Figure 2 shows the EMTRs the same parents would face in the absence of Child Support. All other parameters are the same as for Figure 1. The most obvious difference is that EMTRs for NRPs are now much lower because the additional burden of Child Support payments has been removed.

In the case of the RP, EMTRs are generally lower in the absence of Child Support and particularly so at incomes around \$60,000. This occurs because, without Child Support, there is no reduction in Child Support at these income levels. However, careful comparison reveals that in a small range, between \$45,000 and \$49,000, EMTRs are actually lower in the presence of Child Support. Briefly, the difference occurs because, without Child Support, the FTB is being withdrawn in this income range. The effect is due to the quite complex interactions between taxation, Child Support and Social Security benefits.

Another difference between this and the previous figure is in the overall shape of the EMTR faced by the RP. The RP EMTRs shown in Figure 2 reveal quite high EMTRs at low and middle incomes — giving rise to an inverted U-shape in the graph. This effect has been noted previously (Apps, 2004). However, this effect largely disappears in the presence of Child Support payments. Notwithstanding the fact that EMTRs are lower in the absence of Child Support, separated parents still face high EMTRs compared with other demographic groups (Beer, 2002). We have examined the sensitivity of the general increase in EMTRs to a number of factors. Some, such as the amount of time children spend with each parent, have only a marginal impact. Others are noted later in this section.

Our analysis has shown that the EMTR of a parent changes very little with changes in the other parent's income. The (important) exception occurs when the NRP is totally dependent on welfare. In this case, the RP receives virtually no Child Support and the RP EMTR is almost identical to that shown in Figure 2. The major impact, then, is that the RP EMTR is significantly lower for earnings between \$35,000 and \$70,000. (As noted previously, there is an exception at income levels in the middle of this band.)

Figure 3 shows the effect if the NRP does not apply for the FTB. While the overall levels of EMTR remain quite high, it is apparent that the highs and lows are less pronounced. We speculate that (because when the FTB was introduced it was unclear whether it was available to NRPs), the withdrawal rates may have been instituted on the assumption that the NRP would not have access to the FTB.

Figure 5 shows results for the same scenario as Figure 1 except that there are now three children. EMTRs are higher for both the RP and, especially, the NRP.

Not surprisingly, given the magnitude of Child Support transfers, EMTRs are quite sensitive to the number of children. Figure 4 shows results for the same scenario as Figure 1, except that there is only one child. EMTRs are lower for both the RP and, especially, the NRP.

Figure 3: EMTRs: Parents with 2 Children, Only RP Applies for FTB

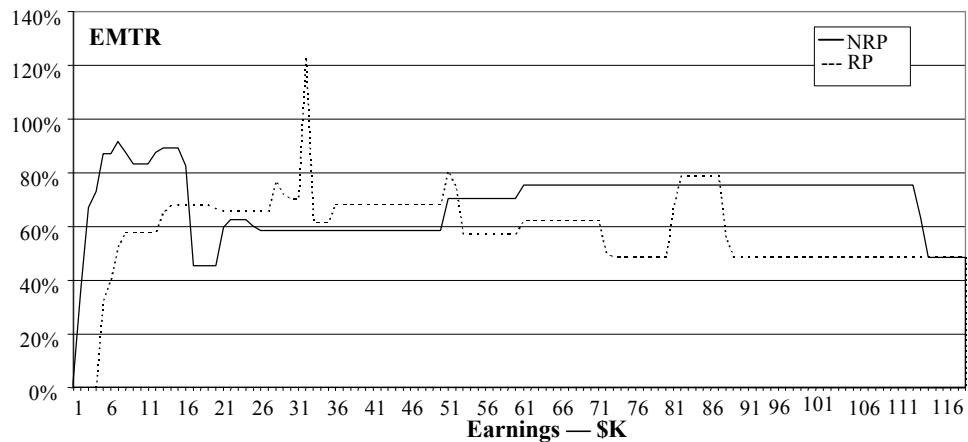
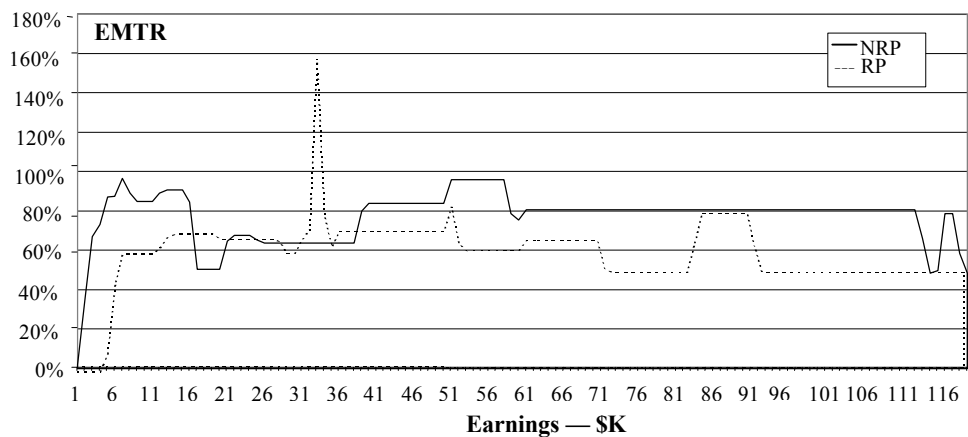


Figure 4: EMTRs: Parents with 1 Child: Both Apply for FTB



Figure 5: EMTRs: Parents with 3 Children, Both Apply for FTB



Discussion

It is often considered that EMTRs significantly greater than the highest marginal tax rate (48.5 per cent) should be judged high (Polette, 1994). On this basis, the EMTRs revealed by the preceding analysis are high indeed. Figure one shows EMTRs of 80 per cent or above for the NRP in the approximate income ranges of \$5,000 to \$17,000, \$37,000 to \$53,000 and just under 80 per cent from \$53,000 to \$110,000. The EMTR is either above or very near 60 per cent in the \$20,000 to \$36,000 income range. In this situation, one would expect many NRPs to look for alternatives to earning additional income in the normal economy. These might fall under the general headings of leisure, earnings in kind or cash jobs in the underground economy. In these cases, the level of investment on the children would be adversely affected. The same reasoning can be applied to RP earnings.

While, on this basis, we can state that EMTRs are high, moving beyond this to a quantitative formulation of efficiency losses is challenging. Any quantitative analysis requires an estimate of the elasticity of labour supply. Unfortunately available data is severely limited. Most data is from the United States where both income tax and Child Support are significantly lower, welfare withdrawal rates are much higher and the interaction between the two leads to quite different EMTRs. Of the Australian data, most is for married couples and hence not relevant here (for example, see Scutella, 2000).

In the absence of such evidence, it is tempting to accept the popular wisdom that it is common for parents to leave paid employment because of the impact of Child Support. However caution is required:

- In the case of NRPs, there is clear evidence that incomes are low and unemployment rates are very high. However, causality is unclear since incomes of males who subsequently become divorced are also lower than the general population. (Silvey and Birrell, 2004) Moreover there is evidence suggesting that divorce may reduce the work performance of males and so cause their subsequent unemployment.
- In the case of RPs, time series data are available (Funder, 1993) showing that it is common for them to leave paid employment after divorce. However, as with NRPs, this may be driven by the burden of being sole carer for children, rather than high EMTRs and the elasticity of labour supply.

Thus, while we can do little more than speculate here, the graphs would certainly lend support to the HRSC finding above, of parents leaving paid employment to avoid Child Support.

Recent developments

In December 2003, the House of Representatives Standing Committee on Family and Community Affairs presented its report (HRSC, 2003) on child custody. Among its recommendations was the establishment of a taskforce to examine the child support formula. That taskforce has recently handed in its own report

(MTCS, 2005). Many of the recommendations in that report would, if implemented, impact efficiency issues.

Two of the key themes of the report are a more equitable sharing of the costs of children and recognition of the costs of contact for NRPs. As a consequence of these considerations, their recommendations would decrease the child support amount and the EMTR faced by NRPs in *most* circumstances. (The exception is that EMTRs will increase in the income range from \$18,000 to \$65,000 where the children are teenagers.) The size of the changes in EMTRs is fairly modest (around 5 per cent) save at high incomes where the proposals would reduce EMTR by as much as 10 per cent. Consequently while EMTRs for NRPs would improve, they would still remain high by the criteria used in the preceding subsection.

Another key theme of the report is that the costs of children should be shared between parents using an approach known as the income-shares method. This approach results in child support reducing much more slowly as the RP's income rises than is the case under the current formula. In combination with the changes already referred to, this results in reduced EMTRs for the RP over the income range \$40,000 to \$75,000. The extent of the improvement in EMTRs approaches 10 per cent and so, at some points in this range, the proposed formula would reduce EMTRs to less than the highest marginal tax rate.

As mentioned earlier, those subject to high EMTRs may elect to reduce their income either by reducing their work effort or by subterfuge. The Child Support (Assessment) Act 1989 (Cth) contains provision to address this in the courts – particularly s 117(2)(c)(i). The report recommends increased resourcing for the Child Support Agency to investigate and pursue those who engage in subterfuge – especially those who are self-employed. However, the report also suggests that the court's use of the existing provision has resulted in decisions which have been overly onerous on NRPs – for example ordering that the NRP work 80 hour weeks. The report recommends changes to the legislation that would restrict the circumstances in which the court could assess Child Support based upon an income greater than that actually enjoyed by the parent.

Conclusion

In the subsection on applicability, we feel that we have established efficiency is relevant in the vast majority of separations involving children. The results and discussion suggest that policy changes designed to raise the level of investment in children should be in two broad directions: either to prevent family break-up in the first place; or when this fails, to encourage cooperation (which would probably involve bargaining) between the parents. These policy directions are not new. Steps to help prevent family break-up are well known and include education, counselling, raising the cost of separation for both parents, and raising the cost of non-compliance with court orders. A well-known move to encourage cooperation and bargaining between separated parents involves various forms of shared parenting arrangements as practiced in many states in the USA. In New Zealand,

there is now a move to make deliberations of the Family Court more open, partly to promote cooperation.

Policies leading to more cooperative agreements have the potential to lower the effect that high EMTRs have on disincentives to invest in these children. These types of solutions could result in situations very similar to the first scenario discussed earlier, where expenditure on the children would remain at, or near, the pre-separation level.

In terms of efficiency, commonsense tells us that a separation implies that there will be less money available for the children. This is because, when parents separate, in most cases something near the pre-separation income level now has to support two households which is much more expensive (Valenzuela, 1999; Henman, 2001). Given that the level of investment in children is crucial, two of the possible options to retain an acceptable level are:

- One or both of the separated parents could reduce their level of household expenditure (spending on themselves, food, petrol, and other personal consumption) in favour of extra spending on the children.
- The State could make up any shortfall through welfare payments.

Another obvious option, and the preferred one from a societal viewpoint, is for at least one of the parents to raise their income above the pre-separation level. However, with this option the part that Child Support plays in increasing EMTR levels stands in the way of an efficient level of spending on the children.

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