Canada's Child Support Guidelines: The Effect on Divorce of Legislated Net-Wealth Transfers

July 2004

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In 1997 the federal government of Canada enacted its Child Support Guidelines, which replaced a previous system of court appointed awards. This paper argues the guidelines created an opportunity for a net-wealth transfer in excess of the costs of children, and therefore created an incentive to divorce for some classes of married individuals. The prediction is tested using data from the Survey of Labour Income Dynamics, and I find separation rates increasing after increases in income of $25,000 per year. The results are used to comment on the ongoing no-fault divorce debate.

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1. Introduction

In Canada, prior to 1997, child support arising from family breakdown was determined at the discretion of a judge in a family law court. This system was replaced by a set of tables commonly referred to in Canada as *the Guidelines*. These tables determine the amount of child support based on only two parameters: the number of children in the custodial home, and the non-custodial parent's income.[1] Unlike in the U.S. where state child support guidelines tend to come into play when private negotiations break down, in Canada courts are very reluctant to depart from the legislated amounts.[2] Also unlike the U.S., in Canada the *Guidelines* are federal legislation, and so the entire country changed at one time.[3]

On paper the *Guidelines* were designed for the best interests of children in an attempt to reduce child poverty. Perhaps as a result of this their actual construction over-compensates for the cost of raising children for families with higher incomes. I argue this provides an inefficient incentive to divorce for many families, and this prediction is tested using data from a panel of individuals from 1993 to 2002. The results show that the guidelines made marriages less stable as certain incomes within the family increase.

By introducing a law which allows for a significant transfer of wealth, the *Guidelines* are a departure from the series of family property and custody law changes which have taken place both in Canada and the U.S. since the adoption of no-fault divorce. Since the early 1970s virtually all changes to the legal definitions of marital

[1] The *Guidelines* are a little more complicated than this. The amount paid depends on whether custody is shared or not, and there is an allowance for judges to depart from the *Guidelines* for high incomes or extraordinary expenses. Still, there is a legal presumption that the *Guidelines* will be followed, and in practice this almost always means they are adhered to.

[2] Argys and Peters (2003) report that substantial numbers of child support arrangements in the U.S. are cooperatively agreed upon, without resort to guidelines. They also find the amount agreed to and received is higher in the case of cooperative settlements, than in court imposed settlements.

[3] The federal act only applied to married individuals. However, the provinces immediately adopted the legislation to apply to other quasi-marital arrangements. Most important for the purposes of this paper, the law does apply to common-law couples.

property, custody, and support have been done to prevent incentives for inefficient divorces. Failure to recognize the interaction of property and custody laws with no-fault divorce laws has led to a misinterpretation of changes in divorce rates over time. I return to this point at the end of the paper.

2. Three Issues Leading to Over-Compensation

Canada's Department of Justice (DOJ) began designing the *Guidelines* in 1990. In arriving at the tables they made three critical decisions with respect to the costs of children, the sharing rule, and the value of children. These decisions systematically increased the net-wealth transferred to the custodial household, and thus induced inefficient divorces. This section briefly identifies the three sources of over-compensation.

2.1. **Estimating The Costs of Children**

Canada's child support guidelines are based on a linear equivalence scale of the form: $a + b(n-2)$, where n is the total number in the household, a is the number necessary to make a two member household equivalent in terms of goods and services to a single member household, and b is the "marginal cost" of extra members in the household.[4] At the time, the DOJ had a choice of 15 scales to choose from, with values of a ranging from 1.09 to 1.46.[5] In the end, it was decided to use the Statistics Canada 40/30 rule which set the value of $a = 1.4$ and the value of $b = .3$, for an equivalence formula of $1.4 + .3(n-2)$. Thus choosing to pick the highest value for a and one of the highest values for b from their choice set.

The chosen equivalence scale depends on just two parameters: the number of children; and income. When a linear rule is used to estimate a non-linear relationship, errors are inevitable. In terms of estimating costs based on the number

[4] An equivalence scale is a ratio of two expenditure functions.

[5] See Finnie, *et al* (1995), p. 11. The 1.46 value came from a study of low income data, and according to their table is "higher than a true 'equivalence,' due to an important aspect of social assistance policy." The next highest is the Statistics Canada value of 1.4. The ranges for the value of b were between .15 and .4.

of children, however, the 40/30 rule does a reasonable job.[6] Consider Figure 1 where the number of individuals living within a household is listed on the horizontal axis. Along the vertical axis is the equivalent income ratio necessary to make these households have the same equivalent income as a household of one individual.

As we can see, the 40/30 rule assumes a linear relationship between the two, up to six children. After six children the guidelines assume the marginal cost is zero. Economists often assume the cost function in terms of numbers in the household are approximately equal to $\sqrt{n}$ in order to capture economies of scale. Figure 1 plots this function as well. For four members in the household, the 40/30 rule provides exactly the same equivalent income as the $\sqrt{n}$ cost function. For fewer members there is a trivial difference, and even though this difference grows with increases in the household, at seven members the maximum difference is only 9.8% (.26/2.64). Clearly no significant wealth transfer results over the number of children.

The net-wealth transfer is potentially much different in terms of income because there is more variation in income than family size, the chance for extremely high income levels is not uncommon, no cap similar to "more than 6 children" is available for income, and the 40/30 rule was designed for expenditures around Canada's low-income cut off. This last point needs emphasis. The 40/30 rule was devised to help Statistics Canada determine its "low-income cutoff," which is Canada's unofficial "poverty line." In calculating expenditures at these levels Statistics Canada uses the 40/30 rule. Thus the irony of choosing the linear 40/30 rule is that even though it was devised by Statistics Canada to study expenditures around the low income cut off levels, the *Guidelines* apply to *all* levels of income. Thus the 40/30 rule can lead to serious errors in estimating the costs of children when incomes are not at the cut-off levels. Using the linear 40/30 rule in the neighborhood of the low income cut off will tend to yield small errors, but as you move away from the level

[6] The *Guidelines* have a built-in limit placed on six children. That is, there is no increase adjustment in payments made for more than 6 children.

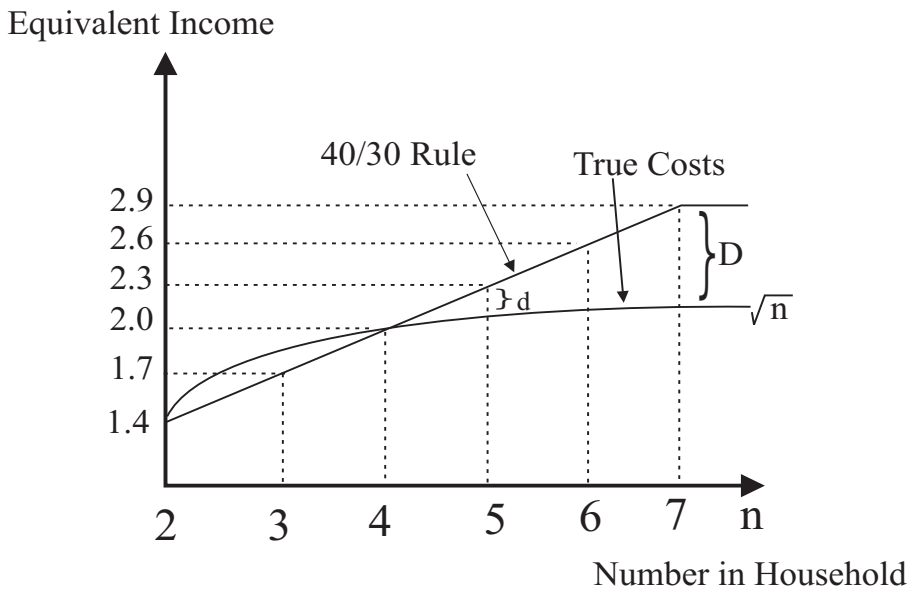

Figure 1

Equivalent Expenditures For Different Sized Households

of income used to arrive at them the magnitude of the errors increase if the 40/30 rule is inappropriate.

Consider Figure 2 where the income of a single individual is given along the horizontal axis and the equivalent income for a household of three is given along the vertical axis. The 40/30 rule generates an equivalence income function which is linear through the origin and has a slope of 1.7 (=1.4+.3). This means if a single household has an income of $10,000, a three member household would require $17,000 to be equally well off; if the single income is $100,000, then the triple household would require $170,000, etc. The most recent empirical estimates of this relationship show that this type of linear relationship is false. Figure 2 shows an estimated equivalence income function based on Donaldson and Pendakur (2002).[7]

[7] The estimates made by Donaldson and Pendakur (2002) are complicated, but they find:

> ... that equivalence scales for households with children decrease significantly with

It shows that as we move away from moderate levels of income, the difference between the equivalent income generated by the 40/30 rule and the true equivalence relation starts to grow. At an income of $1,000,000 the 40/30 rule states a three member household needs $1.7 million, but using the Donaldson/Pendakur results suggest the estimated costs of the triple household would be $1.2 million. The 40/30 rule, therefore, over-estimates the equivalent income by $500,000.[8]

By its construction the 40/30 is likely to over-estimate costs for large families where the income is high. Because the *Guidelines* only create tables based on income and family size, there is another major reason why costs could be over-estimated: families are not completely defined by size and income. Costs based on the ages of the children, family location (urban v. rural), mental or physical needs of the parents, local market conditions, and the like are not considered. The *Guidelines* also ignore that savings increase with income. Expenditures on children could be linear with the total expenditures of the household. However, as income increases, savings increase and total expenditures fall as a percentage of total income. Thus the 40/30 rule built into the *Guidelines*, is very likely to over-estimate costs for most households.[9]

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expenditure. For example, the GESE-restricted equivalence scale for dual parents with one child is 1.93 at low expenditure and 1.62 at high expenditure.

[p. 4, 2002]

What this means is the equivalence income function *does not* go through the origin and *may not* be linear. They find that for two children living in a single parent household the equivalence scale falls dramatically (their estimated point elasticity is -0.40 (Table 4, p.22)). They go on to estimate many scales under a number of different assumptions. They also estimate these scales for average and low incomes, which means little confidence can be placed in extrapolating their numbers to large incomes. In Figure 2 I do the extrapolation for the purpose of demonstration only, the true equivalence scale at large incomes is likely much smaller than what they estimate. I also use the scale of 1.2, which is an interpolation of one of their scales (p. 24, 2002) which comes closest to the example of $n = 3$ I use here.

[8] For incomes over $150,000 the guidelines do allow the courts the discretion to set the amount of child support. If we take the Donaldson and Pendakur estimates seriously, however, the 40/30 rule over-estimates costs at very low incomes as the number of children increases.

[9] Added to this is the "extra-expense" clause in the *Guidelines*. Extra-expenses are shared between the parents in proportion to their relative incomes. What constitutes an extra-expense

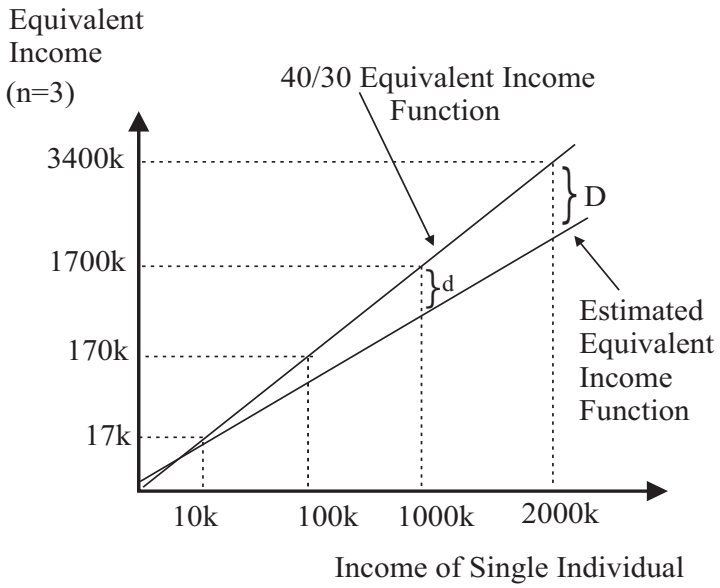

Figure 2

Equivalent Expenditures For Households of Different Incomes

2.2. **The Choice of Apportions**

The second feature of Canada's *Guidelines* is its particular sharing rule called the Revised Fixed Percentage. The Revised Fixed Percentage rule is constructed as follows:

1. Assuming both parents have the same level of income, what award of child support would result in an equal sharing of the costs of raising a child (based on the 40/30 rule), adjusting for taxes.

2. Changes in the custodial parent's income are to have no impact on the level of the child support. Changes in the non-custodial parent's income result in changes to the award of support regardless of the custodial parent's income.

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has become a major source of litigation, thus defeating one of the goals of the *Guidelines*. The extra-expense provision amounts to double-counting since the *Guidelines* were created based on all expenses.

3. The calculations are repeated for all levels of income, and the awards were converted to percentages of the non-custodial parent's income.

4. The percentages results are "smoothed," and adjustments were made for low income parents.

The general idea of the adopted rule was to share the post-separation costs of the child when the parent's incomes are equal, and use this as the basis of a fixed percentage approach. It is useful to examine the actual formula for doing this.[10] Suppose the income of the non-custodial parent (NC) is \$60,000, and the income of the custodial parent (C) is also \$60,000, and that this couple has two children. The Revised Fixed Percentage rule assumes the income relative to the needs of the household should be the same. This means the following equation should hold:

$$\frac{\text{Disposable Income of NC}}{\text{Expenditures of NC}} = \frac{\text{Disposable Income of C}}{\text{Expenditures of C and Children}} \quad (1)$$

The relative expenditures are simply given by the equivalence scales, so this equation is rewritten as:

$$\frac{\text{Disposable Income of NC}}{1} = \frac{\text{Disposable Income of C}}{1.4 + .3(n-2)} \quad (2)$$

where n is the number of people living in the custodial household (this holds for families with up to 6 children). For the given incomes above this would give:

$$\frac{\$60,000 - T - C}{1} = \frac{\$60,000 - T + C}{1.7} \quad (3)$$

where T are the taxes paid and CS is the amount of child support. In this case, if we solve for CS we get $\$15,555 - .26T$. If we assume an average tax rate of 25% the amount of the child support award is \$11,655.

Seeing the explicit way in which the tables are calculated demonstrates a key assumption which leads to an over-compensation to the custodial parent. In equation (2), the non-custodial parent's disposable income is deflated by 1. This assumes

[10] This is found in a technical report of the Department of Justice, (Canada, 1997).

that a single parent has expenses identical to a single individual who is not a parent. Non-custodial parents, however, have to maintain a home where the children can stay over for weekends and vacations without having to camp out on the living room floor. This extra housing stock remains unused for much of the year, but must be maintained. Likewise, whereas a single individual living in an urban setting may be able to get by without a car, the non-custodial parent may have to maintain a mini-van for the children, their friends, and sporting outings. In short, it seems plausible that the non-custodial parent should have their disposable income deflated by some amount closer to the custodial parent's deflator.[11] Thus we see the sharing rule itself, with its non-custodial deflator, generates a transfer to the custodial household.[12]

2.3. **The Value of Children**

The third major assumption that causes problems in the *Guidelines* relates to their treatment of children. The theoretically correct way to account for the cost of children is to begin by recognizing children enter the utility function of their parents, and then construct an expenditure function. In practice, however, this requires the comparison of unobservable utilities across individuals ... an intractable task. Interestingly, the expenditure techniques to deal with this *technical* problem amount to excluding children as a valuable marital good (ie. they assume children are of no value to their parents). This assumption is also built into the *Guidelines*. In equation 1 only the disposable income of the custodial parent enters the right side numerator. If children generate utility then an inclusion for the dollar value of net utility generated should also be added, which reduces the transfer CS.

[11] Ironically the *Guidelines* contain a 40% rule, whereby there is an adjustment to the payment if custody is shared and the children spend at least 40% of their time with the non-custodial parent. Why 40% is another one of the arbitrary rules contained in the *Guidelines*. Finnie, (p. 385, 1996) notes that ignoring the direct expenses of the custodial parent leads to inconsistent awards across households.

[12] This sharing rule also assumes that all non-custodial parents who earn the same income have the capacity to pay the same award. Consideration is not given to non-custodial parents who have started a new family.

It just seems too obvious to say that children are valuable, and are valued by both parents. In fact, children are often the *most* valuable "asset" in a marriage or domestic relationship.[13] Not only do the *Guidelines* ignore this fact, they consider time spent with children in the custodial home a cost. Furthermore, they consider time spent by the non-custodial parent is not a cost, since no adjustment is made in support payments for time the children spend with the non-custodial parent — unless there is shared custody. Most parents recognize that utility is mostly generated from children by actually spending time with them. Thus the custodial parent generates more utility from children than the non-custodial parent. The *Guidelines* make no adjustment for this, and as a result the effective net-wealth transfer to custodial parents is increased.

3. Incentives to Divorce

The effect of Canada's child support guidelines on the incentive to divorce is rather straight forward. Let M_i, $i = c, nc$ be the discounted stream of utility generated through marriage to a given individual.[14] M will depend on the family sentiments between all the household members, relations with extended family, household production, and all the other family miscellany marriage generates. Let S_i be the discounted stream of utility generated by the next best living arrangement. This may be living single or living in some other household formation. Let $\theta_i = M_i - S_i$ be the net value of a given marriage between c and nc. If $\theta_i < 0$ for both, then both partners would prefer a divorce, and if $\theta_i = 0$ for both, then both partners consider the marriage to be marginal.

[13] Brinig and Allen (2000) point out that the number-one factor in predicting who files for divorce (by a wide margin) is who can expect custody of the children. In a low wealth marriage, the children may be the only marital good of any significant value.

[14] Let c be the spouse most likely to gain custody if divorced, and nc be the spouse most likely to be non-custodial. M_i would account for the share an individual receives of the marital goods and the separate goods consumed while married. This paper implicitly assumes an efficient marriage involves shares of 50–50. See Allen (1992) for why.

Clearly the value of the next best living arrangement, S, depends on the income available in that state, which is heavily influenced by the *Guidelines*. The *Guidelines*, through their use of the 40/30 rule, sharing formula, and disregard for the value of children, effectively over-compensate the custodial household when non-custodial income is above the low income cut-off.[15] In creating a net wealth transfer through divorce, the *Guidelines* increase S_c, lower θ_c, and create an incentive to inefficiently divorce for the potential custodial parent with $\theta_c \simeq 0$. Such a divorce is likely to be inefficient because it involves an involuntary wealth transfer through the use of the *Guidelines*.[16] If the custodial parent gets custody of the children *and* receives a payment which over-compensates for the dollar expenditures of the children, then that individual may end up with a share of the joint wealth much higher than when together.[17] Because it is virtually impossible to fight the *Guidelines* in court, bargaining often fails to save the marriage.[18] Given the prob-

[15] This statement depends on part on what the child support payment was *before* the law change. Unfortunately, we know very little about this. However, what we do know strongly confirms a regime change. During the research stage, the DOJ sampled court child support awards and then compared them to the proposed *Guidelines* amounts. They found that differences in awards started to appear for incomes as low as $30,000. They stated: "when the non-custodial parent earns a high income (over $30,000), the awards are much higher than the court awards, especially for large families." (Canada, 1995, p. 10). The corollary to this is that the *Guidelines* may provide too little income for the very poorest families. From this DOJ data it would appear the courts were following something like the estimated cost function in Figure 2.

[16] An inefficient divorce is one where a divorce takes place, even though the joint gains from marriage are higher than the joint gains from separation. An efficient marriage is where $M_c + M_{nc} > S_c + S_{nc}$. However, the *Guidelines* may create a situation where although the marriage is efficient, S_c may become greater than M_c. This creates the incentive for an inefficient divorce. See Allen (1998) for a detailed discussion of inefficient divorces. Note this does not imply $S_c > S_{nc}$. Even after the Guideline transfer the non-custodial parent may have more income or utility.

[17] This raises the question: why does the non-custodial parent not seek shared custody? There are at least three answers. First, the non-custodial parent (usually the father) may be less able to maintain shared custody given their larger market-place human capital and job market restrictions. Most male occupations are not flexible enough for shared custody. Second, the mother may not want shared custody, perhaps because she would lose the implied spousal support. A costly legal dispute, and low expectation of success may prevent the father from pursuing shared custody. Third, perhaps the non-custodial parent places a lower value on the children than the custodial parent. In all cases, the *Guidelines* still create an incentive on the part of the custodial parent to leave inefficiently.

[18] Using the *Guidelines* as a threat point within marriage to increase one's share of the marital wealth is likely to cause breakdown. For reasons discussed in Allen (1992) changing shares within a

lems of the 40/30 rule in over-compensation when incomes and family size increase, this becomes a serious problem for high income families since the actual transfer of wealth to the custodial parent increases after separation.[19] Thus we have the following testable predictions:

Prediction 1. *Separation rates should increase after 1997 when the income of the potential non-custodial parent increases.*

Prediction 2. *Separation rates should not be a function of the potential custodial parent income after 1997.*

Prediction 3. *There should be no relationship between separation rates and income for couples without children after 1997.*

4. Testing the Predictions

Testing predictions about divorce rates in Canada is made difficult by the scarcity of data specifically related to family formation and dissolution. This paper uses the Survey of Labour Income Dynamics (SLID), a Statistics Canada Panel data set used to track labor force and income details for the provincial and federal governments. The SLID is made up of three overlapping six year panels starting in 1993, 1996 and 1999, with 2002 being the most recently available data year.[20] A great advantage of the SLID is it accurately measures the exact income measure used to determine the child support payment: before tax income.[21] This detailed

marriage is likely to be infeasible or very costly. Renegotiation based on divorce threats and property transfer is also likely to create bad-will between the spouses.

[19] Since the *Guidelines* generate a small net transfer with respect to the number of children, there should be no significant change in separation rates regarding the number of children.

[20] Data from the fourth panel, which began in 2002, is not yet available.

[21] The SLID also computes an hourly wage for every respondent, but not for the spouse of the respondent. Running the regressions reported in Table 2 using this measure of income (and not including a measure of spouse income) yields results which are larger in terms of the test variables and statistically significant. These regressions are available from the author.

income data, often comes directly from the tax records of the individuals.[22] Fortunately, the SLID contains the minimum necessary information on family structure and marital status, but it does not, unfortunately, contain data on custody arrangements.[23]

For this paper, individuals were selected year by year from the panel (starting with the most recent year) if they were married or living common-law on January 1 of that year and remained married throughout the year, or if they were married or living common law on January 1 of that year but became separated during the year. Individuals were selected only if they were married one time.[24] The yearly data files were then merged, creating a survival panel where individuals enter in at the beginning of their panel married, and either drop out when they separate or stay in if they remain married. No single individual is in the data set for longer than six years.[25]

When married, both parents are "custodial" and the SLID does not contain direct information on which parent becomes the custodial parent once there is a separation. However, after separation the custodial parent can be identified as the one living with the children. I use this information in a two-step procedure to identify the potential custodial and non-custodial parents when married. Specifically a logit regression on separated respondents is estimated where the dependent

[22] Individuals are interviewed in January, and then again in the middle of the year for their income information. An individual may waive the second interview and allow Statistics Canada access to their tax records. I have no information on how many chose this option.

[23] The SLID is not a public use data set. To use the data, a proposal is screened by the Social Sciences Research Council of Canada, an RCMP criminal check is conducted, an oath to the Queen is sworn, and the researcher becomes a deemed employee of Statistics Canada subject to the penalties of the Statistics Act. Results are screened by Statistics Canada, and as a result, no maximums or minimums for variables are reported in this paper, and the data is not available from the author.

[24] Where I count a never married individual living common-law as married once. For the remainder of the paper I use "married" to describe both types of relationships.

[25] In such a panel there are two types of censoring: left and right side. The classic right side censoring results from individuals still remaining married when they leave the panel. Left side censoring results from individuals entering the panel at different stages of their marriage. The former issue is dealt with by using a discrete time logistic model, the latter with duration variables on the right hands side. See Guo (1993) for a discussion.

variable is 1 if they have custody. The logit coefficients are then use to estimate the probability a married individual will be custodial if a separation occurs. If this probability is greater than .5, the respondent is considered the "potential custodial parent." If lower than .5, the respondent is considered the "potential non-custodial parent."[26] For every respondent, I can determine their spouses income from the SLID. To test the predictions in this paper, I use four samples: the non-custodial parents; the custodial parents; all parents; and couples without children.

Variable definitions are reported in Table 1.[27] Table 2 shows the results of three discrete time logistic regressions using three samples of parents.[28] The dependent variable equals 1 if the parent separated in the reference year, and is zero if married. Table 2 shows some standard and consistent results across all three samples. Duration effects are captured by the length of marriage variables, and show that the probability of separation increases with the length of marriage, but at a slow decreasing rate. Evaluated at the mean of the dependent variable, an increase of 1 year in the length of marriage increases the probability of separation by .33% when using regression (3)'s coefficient. A number of controls were used, and a number

[26] The actual regression results for the custody regression are (t-statistics in parentheses):

Length Marriage	.015	(1.29)
Age	−0.022	(−1.79)
Education	−0.018	(−1.05)
Major Income Earner	2.471	(5.08)
Before Tax Income	.008	(2.90)
Spouse's Before Tax Income	.056	(6.37)
Male	−1.439	(−14.97)

The SLID does contain information on whether child support payments are received. I used this variable, rather than the presence of children, as a second proxy for custody, and reran the above identifying regression. I also used samples of "major income earner" and "secondary earners" to proxy custody. In bot cases the qualitative results in both economic and statistical significance did not change.

[27] Because the SLID is not a public use data file, Statistics Canada does not allow the reporting of most summary statistics. The mean of the dependent variable is reported in Table 2.

[28] The SLID is not a random sample of the Canadian population. All regressions were run using weights with insignificant changes in the coefficient estimates. The t-statistics, however, were much larger. The reported regressions use the unweighted data.

of consistent results show up across the three regressions: immigrants consistently have lower separation rates, as do couples with more children; respondents living in urban centers or Quebec have higher separation rates. Most notable is the large impact an unemployed spouse has on separation rates.[29]

The variables relevant for this paper are under the heading *Test Variables*. Prediction 1 states that the child support guidelines made higher non-custodial income marriages less stable after 1997. In other words, the predicted sign on the variables NC INCOME $\times$ POST 97 and (NC INCOME $\times$ POST 97)^2 are positive. Prediction 2 states that the guidelines should have no impact on the stability of marriages when custodial income changes. Thus the variables CUSTODIAL INCOME $\times$ POST 97 and (CUSTODIAL INCOME $\times$ POST 97)^2 are predicted to be insignificant. These two predictions hold up across all three regressions.

The results from Table 2 are quite striking. Regression (3) contains all respondents to the SLID which satisfy the selection criteria, and I will focus my discussion on this regression. Across the three samples income is stabilizing to a marriage, and this is shown by the negative coefficients on both NON-CUSTODIAL INCOME and CUSTODIAL INCOME. The marginal effect of the guidelines through income, however, are destabilizing. Consistent with prediction 1 separation probabilities increase with non-custodial income after 1997. Consistent with prediction 2 the separation probabilities are unaffected by changes to custodial income after 1997. At first glance the coefficients appear not to be large, however, for large changes in income, the squared income term starts to dominate. For example, evaluating at the mean of the dependent variable in regression (3), the *total* effect on the probability of separation for a change in income of \$10,000, \$30,000, \$50,000, and \$100,000, is -0.24%, 0.22%, 1.95%, and 11.80%, respectively.[30] For the full sample, changes in income stabilize the marriage in total until just over \$25,000, after which the

[29] I ran these regressions with a number of control variables, but dropped those which were economically and statistically zero. Notable among these variables was "empty nester." I could find no effect of children leaving on the separation probability.

[30] On the other hand, using the estimates from the custodial sample for changes in the total

marginal destabilization caused by the guidelines starts to dominate. Changes of income over $100,000 per year start to have very large impacts on the probability of separation. Thus the apparently small coefficients have significant impacts at income differences that are very common.

Prediction 3 noted that the guidelines should have no impact on couples without children. Table 3 uses a sample of respondents who do not have children, and who therefore, should have separation rates independent of the *Guidelines*. As the results show, separation rates are not a function of post 1997 income in this sample. Thus all of the regressions from the two tables provide evidence that the guidelines increased the separation rates for a particular type of family: those families with children and high primary income earners.[31]

5. No-Fault Divorce and Property Rules

The results from Tables 2–3 are interesting in their own right, however, they have an implication for divorce rate studies. Twenty to thirty years after the first moves to no-fault, unilateral divorce, economists are still not agreed over whether or not they contributed to the increase in divorce rates over this period. Since 1990 the consensus is that these laws did contribute to a rise in divorce rates, but the legal change explains between 8-17% of the increase. More recently, work is showing that the effect of no-fault laws is not permanent. Wolfers (2003), shows that there was an increase in divorce rates for about a decade following the legal changes, but after this time the divorce rates return to trend. Recent studies like

probability of separation when income of the non-custodial parent changes by these amounts leads to −1.03%, −2.01%, −2.15%, and 3.20%. In this sample the marginal effect caused by the guidelines doesn't wash out the direct effect until approximately a change of income around $78,000.

[31] As mentioned above, the *Guidelines* are also a function of the number of children in the custodial household. As mentioned in section 2, the table amounts were adjusted such that they mimic fairly well a cost function which demonstrates economies of scale within the household. As a result, it is unlikely net wealth transfers arise over the number of children. Table 2, indicates that though children tend to stabilize marriages, the marginal effect measured by the coefficient "Number × Post 97" is usually insignificant, consistent with the view that no net-wealth transfer takes place on this margin.

this make econometric contributions, but they ignore the economics of unilateral divorce. It is the interaction of property/custody laws with the unilateral provision that matters, not just the existence of no-fault legislation.

Economic studies on divorce rates and unilateral provisions goes back to th Landes *et. al* application of the Coase theorem. Efficient marriages stay together no matter what the legal regime, inefficient ones break up. Any rise in divorce rates, therefore, must result from transaction costs that break down the bargaining process between spouses. One source of these costs are the property, custody, and support laws in existence. When no-fault laws began to be passed in the late 1960s, they didn't come into existence in a vacuum. Each state (or province) had laws regulating how assets would be split. In the U.S. three basic property laws existed: title, community, and equitable, each with its own implication under no-fault.[32] The very definition of what constituted marital property caused all sorts of bargaining problems.[33] Child custody is a major factor in explaining who petitions for divorce.[34] These child custody laws, therefore, interact with the unilateral provisions in the decision to divorce. The no-fault laws, especially over time, start to influence the timing of marriage.[35]

Over the past twenty years there has been a major movement in the definition of marital property, the implications of title, custody innovations (joint, shared, etc), and other general marital property provisions. Generally speaking, these changes have been a matter of patching up those margins where one spouse may take advantage of the other through divorce. The general point regarding unilateral divorce is that you can't study the effect of no-fault divorce laws unless you look at the entire

[32] See Allen (1990) for a discussion of these property laws.

[33] It is almost ancient history, but at one time academic degrees were not considered property, and therefore no subject to division at divorce. The result was, many walked away from marriages with a considerable share of the marital pie.

[34] See Brinig and Allen (2000).

[35] See studies, like Gruber (2000), examine how growing up in a no-fault state influences future decisions over education, marriage, and separation.

legal regime the divorce decision is made under. Unilateral divorce, by itself, is unlikely to have a significant effect on its own. It only allows the opportunity to leave without a mutual agreement. Unilateral divorce in a jurisdiction with exploitable property/support laws, on the other hand, should have a large bearing on divorce rates. Thus, movements back to trend may simply be the result of the patching which occured over time. Part of what makes Canada's child support guidelines academically interesting is that they are a move in the opposite direction. They *create* a situation where one party is able to exploit the other. To the extent wealthier marriages are at risk, this increases the chance of inefficient divorce.

6. Conclusion

Quite often when it comes to empirical work on family issues the variables of interest are ambiguous (*e.g.,* what constitutes "no-fault" divorce), are unobservable (*e.g.,* who actually instigated a divorce), or there is tremendous measurement error in the data (*e.g.,* contributions to the marriage). Canada's Child Support Guidelines offer a case where most of these problems are minimized. The enormous discrete change in a federal law over the actual dollars transferred is unambiguous. The actual separation and the level of income are observable. And the SLID contains the exact income tax variables used to generate the payments. In this particular example of the effect of legal regimes on family behavior we can have more confidence than is often the case.

Marriage and divorce behavior is, obviously, influenced by hundreds of factors, most unobservable to third parties, and certainly out of the control of policy makers. To the extent legal regimes have been found to influence divorce decisions, these effects are generally on the small side, but comparable to the size of any other single effect. Having said this, it does not follow that the law is irrelevant. Marriage and divorce laws do have some impact, and there's no reason they should make matters worse. The child support guidelines in Canada were officially intended to make divorce better. In doing so, they would appear to have increased the instability

of marriages where family income is higher. Thus also demonstrating it is the interaction of property and custody laws with no-fault divorce laws on separation rates that matter, not just the no-fault provision alone.

Table 1: Variable Definitions

Duration Effect

Length Marriage	=	length of marriage in years.
Length Squared	=	the square of length of marriage.

Controls

Age	=	Age of respondent in reference year.
$(\text{Age})^2$	=	the square of individual's age.
Immigrant	=	1 if respondent was an immigrant.
Education	=	total years of schooling.
Urban	=	1 if respondent lived in urban area.
Quebec	=	1 if respondent lived in Quebec.
Major Income Earner	=	1 if respondent was the major income earner in the family.
Spouse Unemployed	=	1 if the respondent's spouse earned no income.
Year	=	reference year. Range: 1993-2002.
Post 97	=	1 if reference year was 1997 or later.
Panel 1	=	1 if respondent was in the first SLID panel: 1993-1998.
Panel 2	=	1 if respondent was in the second SLID panel: 1996-2001.
Death of Child	=	1 if respondent's child died in reference year.
Birth of Child	=	1 if respondent became parent in reference year.
Number Children	=	total number of children in reference year.
Number × Post 97	=	number of children in reference years after 1996.
	=	1 if respondent was in the second SLID panel: 1996-2001.

Test Variables

Non-Custodial Income	=	Non-Custodial respondent's before tax income (in 1,000's).
NC Income × Post 97	=	Non-Custodial respondent's before tax income after 1996.
$(\text{NC Income} \times \text{Post 97})^2$	=	Non-Custodial respondent's before tax income after 1996 squared.
Custodial Income	=	Custodial respondent's spouse's before tax income (in 1,000's).
Custodial Income × Post 97	=	Custodial respondent's spouse's before tax income after 1996.
$(\text{Custodial Income} \times \text{Post 97})^2$	=	Custodial respondent's spouse's before tax income after 1996 squared.

Table 2: Discrete Time Logistic Regressions

Dependent Variable = 1 if separated in reference year

Variable	Non-Custodial Sample (1)	Custodial Sample (2)	All-Parent Sample (3)
Constant	−43.68 (−0.57)	−184.74 (−2.45)	−87.61 (−1.66)
Duration Effect			
Length Marriage	.261 (11.58)	.165 (7.15)	.211 (13.24)
Length Squared	−.008 (−11.64)	−.003 (−4.76)	−.005 (−10.91)
Controls			
Age	0.041 (0.81)	0.142 (2.47)	0.168 (4.50)
$(\text{Age})^2$	−0.002 (−2.43)	−0.003 (−3.47)	−0.003 (−6.67)
Immigrant	−.729 (−4.61)	−.795 (−4.99)	−.757 (−6.78)
Education	−0.049 (−3.71)	0.000 (0.01)	0.036 (3.71)
Urban	.177 (1.80)	0.487 (4.67)	0.332 (4.70)
Quebec	.254 (2.37)	0.263 (2.33)	0.202 (2.66)
Major Income Earner	.210 (0.63)	−0.322 (−1.05)	1.946 (13.63)
Spouse Unemployed	4.757 (25.05)	3.70 (26.86)	4.798 (21.54)
Year	.019 (0.49)	.090 (2.37)	.039 (1.48)
Post 97	−.513 (−1.87)	−0.524 (−2.07)	−0.265 (−1.63)
Panel 1	−.169 (−0.96)	.023 (0.13)	−.103 (−0.82)
Panel 2	−.165 (−1.29)	.040 (0.32)	−.055 (−0.62)
Number Children	−.597 (−4.64)	−.247 (−2.64)	−.373 (−5.19)
Number × Post 97	.229 (2.08)	−0.019 (−0.21)	0.061 (0.95)
Death of Child	0.416 (0.32)	1.144 (0.80)	−.431 (−0.41)
Birth of Child	−0.621 (−1.53)	−0.613 (−1.99)	−.616 (−2.54)
Living with Children	0.284 (1.41)	.552 (3.45)	.334 (2.75)
Test Variables			
Non-Custodial Income	−.017 (−4.66)	−.097 (−10.40)	−0.032 (−10.49)
NC Income × Post 97	.028 (3.40)	.020 (2.36)	.007 (2.26)
$(\text{NC Income} \times \text{Post 97})^2$	.0005 (3.85)	.001 (9.25)	0.001 (3.89)
Custodial Income	−0.045 (−2.70)	−0.012 (−2.60)	.013 (3.49)
Custodial Income × Post 97	−0.035 (−1.61)	.008 (1.10)	0.003 (0.62)
$(\text{Custodial Income} \times \text{Post 97})^2$	.001 (1.96)	0.000 (1.46)	.000 (1.16)
χ-square (df)	5320.07 (26)	6649.97 (26)	11627.77 (26)
percent correct	98.9	98.9	98.9
N	58,255	68,446	126,701
Mean of Dependent Variable	.0161	0.0156	.0158

t-statistics in parentheses.

Table 3: Discrete Time Logistic Regressions

Dependent Variable = 1 if separated in reference year

	Non-Parent Sample
Variable	
Constant	−38.28 (−0.50)
Duration Effect	
Length Marriage	.204 (10.06)
Length Squared	−.005 (−8.38)
Controls	
Age	0.259 (5.41)
$(\text{Age})^2$	−0.004 (−7.27)
Immigrant	−.912 (−5.77)
Education	0.039 (2.85)
Urban	0.349 (3.40)
Quebec	0.187 (1.69)
Major Income Earner	.158 (0.43)
Spouse Unemployed	5.637 (14.09)
Year	.014 (0.37)
Post 97	−0.225 (−0.98)
Panel 1	−.442 (−2.47)
Panel 2	−.284 (−2.21)
Number Children	−.247 (−2.64)
Number × Post 97	−0.019 (−0.21)
Death of Child	1.144 (0.80)
Birth of Child	−0.613 (−1.99)
Test Variables	
Before Tax Income	−0.013 (−3.53)
Income × Post 97	.000 (0.00)
$(\text{Income} \times \text{Post 97})^2$	0.000 (0.41)
Spouse Before Tax Income	.000 (0.00)
Spouse Income × Post 97	0.006 (0.19)
(Spouse Income × Post 97	.000 (0.27)
χ-square (df)	4954.70 (20)
percent correct	96.7
N	20,993
Mean of Dependent Variable	.0513

t-statistics in parentheses.

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