

A Short Guide for Using the Expenditures on Children Report
to Prepare a Parental Investment Analysis

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The focus of this paper will be on demonstrating methods for using Expenditures on Children by Families annual reports that are produced by the Center for Nutrition Policy and Promotion of the U.S. Department of Agriculture to prepare parental investment analyses for litigation involving the wrongful death of a child. This approach involves calculating the present value of both past actual expenses on the child and future intended expenditures if the child had lived to majority. The resulting parental investment value serves as a proxy measure for the purely economic aspects of raising a child. The authors regard the loss of love and affection that the parents may have had for the child as immeasurable by economic science, but argue that the investment value reveals a minimum value that could be attached to purely economic aspects of raising the child by the parents. A parental investment analysis includes both direct and indirect expenditures on a child. Direct expenditure measures will be developed from Expenditures on Children by Families: 1999 Annual report. Indirect expenditures will be assessed in terms of the value of time investments by the child's parents. The two authors have different approaches to measuring indirect costs, as will be indicated in the two sample calculations.

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I. Introduction

This short paper is intended as a guide for how a forensic economist might use the Annual Reports on *Expenditures on Children by Families* that are produced by the Center for Nutrition Policy and Promotion of the U.S. Department of Agriculture under the direction of Mark Lino. As this paper is written, the most recent annual report is for the year 1999, so that is the report that is used in the sample calculations developed by the two authors as long appendices for this short paper. The primary objective of the paper is to demonstrate how this rich source of child expenditure information can be utilized by a forensic economist. However, since the two authors have significantly different approaches for taking into account the indirect time investments of the parents, it will also provide interesting contrasts between those approaches.

II. Understanding Direct and Indirect Costs of Raising a Child

Direct costs of raising a child are costs that directly involve monetary outlays by parents. They must make cash outlays to purchase more food, transportation, clothing, health care, child care, along with various other educational and miscellaneous expenses. These expenses directly reduce what other goods and services or investments parents may purchase in lieu of raising their children. Indirect expenses include time spent by both parents in raising a child that could have been used for other purposes that would have had financial value to the parents. If a mother stays home from work to provide child care, nurture and guidance for her children, she sacrifices the earnings she could have earned in the labor market if she had taken commercial employment.

This sacrifice may be partial in the sense that a mother might take either part-time or “mommy track” employment (Edwards 1979, Ireland 1999). A mother, and in rare cases, a father may take part time employment or accept full time employment with less responsibility and great flexibility for time off because of responsibilities for children. In traditional families, the primary “breadwinner,” usually the husband emphasizes his labor market career, while the primary “homemaker,” usually the wife, sacrifices much of her opportunity for career development in order to be available on an “as needed” basis for her children (Becker, 1981). Thus, there will be a sacrifice of resources with commercial value in the indirect form of homemaker and child care-guidance services provided by homemakers. However additional valuable services may also be provided by the spouse who specializes in career development. Most fathers contribute important services in addition to money earnings from the labor market toward raising their children. One difference between the Ward and Ireland sample reports is that Ward takes contributions toward child rearing into account while Ireland does not. This does not represent a difference of opinion between the authors about the legitimacy of doing so, but valuing the services of a fully employed father can sometimes be more difficult than valuing the services of a mother.

Economists value services provided by parents to children using two general methodologies: Opportunity Cost and Replacement Cost. These are the two basic methodologies economists and other experts use for valuing losses of any sort. Opportunity cost values the inputs that went into creating something of value, while replacement cost values the outputs of what is being valued. In some situations, both methodologies will produce the same result, but more often there will be some differences. This is not an “either-or” choice between methodologies, but a question of which methodology works best in which situations. All forensic

economists use both methodologies in their work, but some favor opportunity cost and some favor replacement cost for particular types of valuation. That is the case with family services.

An opportunity cost methodology values parental services in terms of how much the parents could have earned in the labor market by using the same time and energy for earning money wages and job-related fringe benefits. Thus, if a mother could have worked full-time in a career track in the labor market for \$25,000 per year, the value of her services as a mother and homemaker must be worth at least the \$25,000 that she sacrificed. However, this is not the entire story because full-time career-track workers also provide services in the home that would include child care and child guidance services. For this reason, the “whole value” of the services of a mother who does not work in the labor market must be substantially greater than her labor market opportunity cost because she would have provided additional family services even if fully employed in a career-track position. How that additional value is to be added will be considered below (Ireland, 1999).

Replacement cost values parental services in terms of how much it would cost to hire one or more persons from the commercial marketplace to replace the family services that parents have been and would provide. In the context of wrongful death, this would be the total cost of replacing all of the services a decedent parent had been providing prior to his or her death. In an investment analysis, the investment of parents in providing family services to the decedent child are valued in terms of how much the parents would have had to pay to purchase those services. One important difficulty is that both parents would have been supplying some family services to the household, with or without the decedent child being present. Thus, the value that must be replaced is the value of the additional family services that the parents had provided or would have

provided because of the presence of the decedent child. If there were several children in the family, it must be based on a reduction in the family of one child.

With that explanation of replacement cost in mind, the remaining part of an opportunity cost assessment can be considered. An opportunity cost assessment represents the forgone earning capacity of the parent that has been sacrificed to provide services in the home. However, even persons who work on a full-time career-track basis in the labor market also provide some family services. Thus, the full value of the family services of a homemaker includes both the value of services provided in return for the sacrifice of labor market opportunities and the value of the family services that would have been provided, even with full time career-track employment. With women, that value will tend to fall between 20 and 30 hour per week in most time-use surveys. With men, it will fall between 9 and 18 hours per week. Whatever figure one uses, that time may be assessed on a different basis than a simple labor market opportunity cost basis. What is the value of the, let's say, 20 hours per week provided by a mother her husband's 10 hours per week in family services, assuming that both maintained full-time, career-track positions in the labor market?

The answer may be that individual's wages in a "moonlighting" job, which would be substantially less than that person's value in his or her career-track position. Wages for a second part time job during non work-week hours can come very close to the kinds of wage rates that are often used in replacement cost studies. Thus, at least in that respect, the two methods come close to coinciding.

III. Using "Expenditures on Children by Families."

When the current authors first wrote their first book about the investment approach

(Ireland and Ward, 1995), a great deal of emphasis was placed on reprinting publications from USDA concerning the costs of raising children going back far enough to allow a researcher to get accurate data year by year all the way back to 1957. Ireland and Ward reprinted data from 1980 through 1994. Using the index data provided by Edwards (1979), one could extend at least part of the data about costs of raising a child all the way back to 1957, which USDA first came involved in collecting information about costs of raising a child.

Since 1995, however, both authors have switched to using the most current annual reports on Expenditures on Children by Families. This is a much simpler methodology and solves other problems as well. One problem was that there were changes in methodology from year to year that means that data from some early years were compiled differently from data in later years. Another problem is that until 1991, there was no measure for single parent families. That information is now routinely provided in the annual reports. A third problem that has been solved only in the most recent reports, is that there was no way to adjust for multiple children in families. Current annual reports allow such adjustments to be made. Since there are important differences between the costs of first children and subsequent children, this is an important advantage of current data.

In this paper, the reports by both Ireland and Ward rely on the 1999 Annual Report on Expenditures of Children by Families. This can be done by working backward to adjust for changes in the price level from the year of actual expenditures. Ireland and Ward go about this in different ways, but both start from 1999 figures and work back to figures that would be reasonable for prior years after adjustment for inflation. This insures that the data being used has not been changed in fundamental definitions. It allows differentiation for single parent status, for

number of children in the families, for region of the country by urban area, and for rural United States. (USDA redefined even the regions for which it provided data in the period over which data has been maintained.) How Ward and Ireland have done this will be made clear in their reports, which are incorporated as appendices to this paper.

IV. Background for Ward Report

John O. Ward's report provides three alternative methods for valuing loss is based on a two parent family who have lost their only child, an eighteen year old male who intended to only complete high school. The mother had been a primary homemaker and the father a full-time career-track worker in the labor market during the eighteen years when the child was growing up. Just before the child's death, the mother had returned to the workforce. The report presents the three alternative methods of valuing loss to surviving parents. The alternative methods demonstrate alternative uses of the "Parental Investment" approach for calculating loss to parents from the death of a child. The report also presents the conventional "production" method of valuing loss in the death of a child.

The first method uses the principle of replacement cost as the measure for calculating the value of parental investment. Direct costs from *Expenditures on Children by Families: 1999 Annual Report* provide measures of direct outlays of funds to raise the child to the age of death (or majority). The value of the time spent by the parent in child care and supervision is taken from *Dollar Value of a Day* (Expectancy Data, 1999) and represents a market replacement cost for the parent's time in direct child care and supervision. Passive child supervision is not calculated in this example. One could argue that for a young child, child supervision is 24 hours/day.

The second method uses the opportunity costs of parental care as a measure of loss to the

mother, and direct replacement care for the father. With this method, the cost of child care and supervision time of the mother is measured by the opportunity cost value of wages the mother lost by leaving the labor force. This opportunity cost measure of child care and supervision values the eight hours/day, five days/week that the parent could have worked at her market wage. Using this method, it matters what occupation the mother would have had if working in the commercial labor market. Obviously, the value placed on child care for a physician would be considerably greater than that of a store clerk.

The third “production” method is only presented for comparison to the “investment” valuations. In this case, an effort is made to project the financial support and future household services the child would have provided to the parents. In some states, this may be the only approach that is possible and it is covered for that reason.

V. Background for Ireland Report

In the Ireland Report, the mother was again a full time homemaker, but there were three children in the family of the deceased. The deceased child was the eldest of three children and was ten years of age at the time of his death. The parental investment valuation is divided into past and future intended expenditures on Burt Harris, the decedent child. Burt’s mother, Jennie Lynn Harris is a high school graduate who had never worked in the labor market. Burt’s father, Charles Harris had earned income in the middle range of the estimates provided in *Expenditures on Children by Families: 1999*, so those figures were used from the urban midwest table to develop direct cost estimates. The figures are highest for years during which Burt was the only child of the Harris parents. The estimate for foregone labor market earnings of Jennie Lynn Harris was based on the average for year-round full-time females in from Series P60 data for 1999. No accounting

is made in the Ireland Report for time spent by Charles Harris in raising Burt.

VI. Similarities and Differences Between the Two Reports

The most striking difference between the Ward and Ireland reports is in the length of the reports. The Ward Report is much longer and more detailed in many respects than the Ireland report. This is largely a difference in style between the persons writing the reports. The Ward style is very detailed. The Ireland style is to keep calculations very simple. The second difference is that the Ward report provides three different methods for evaluation, while the Ireland report provides only one based on the same framework as the second of three Ward calculations. The third difference is that the Ward report includes the service contributions of the child's father, while the Ireland report does not. This does not represent a difference in theory, but of practicality. The attorney in the Ireland case did not want to consider lost services of the father. The attorney in the Ward case did.

Still another difference is that Ward's sample case assumes no other children, while Ireland's sample case involves three children in the family. The Department of Agriculture tables allow direct costs of raising children to be adjusted for number of children. That process is now fairly straight forward, due to the pioneering efforts of Mark Lino. Adjusting the value of child care and supervision provided by both parents is another story. It is difficult to place a specific opportunity cost value on the time spent to raise a child when there is a subsequent or prior child. In the Ireland example, the decedent child was an only child for three years before his brother's were born. However, both parents may or may not have anticipated having more children during that period. The Ireland report assigns the entire value of lost earnings before the birth of Burt's brothers to Burt, but that is somewhat arbitrary. After that point, Ireland divides lost earnings

equally between the three children. That is also somewhat arbitrary. Supervision time for one child probably does not substantially change for the addition of another child. Ireland also did not take into account earnings loss that might have occurred after all three children were grown and Jenny Lynn Harris might have taken labor market employment. However, if she had done so, she would have reentered the labor market at entry level earnings for a high school graduate, at best. One can certainly argue for taking such future earnings loss into account. Using the replacement cost method, it is equally difficult to divide up time of child care and supervision for several children.

The other key difference is another issue that does not divide the authors. Ward's decedent child was 18 years of age and at the end of the assumed parental investment period. Ireland's decedent child was 10 years of age and less than half way through the 22 year intended parental investment period. As will be discussed in the next and final section of the paper, the investment approach works best and easiest if the child is killed at the end of the intended investment period. This has the effect of making all of the expenses actual past expenditures on the child. In the Ireland case, the fact that the child was ten years old means that less than half of the expenditures parents had intended to make on the child had been actually made by the time the child was killed. A consideration of the difficulties of using (or not using) a claim for future intended investments will be one of the issues considered in the next section.

VII. Issues Involved in Using the Parental Investment approach

The practical problems involved in using the "Investment" approach to valuing the life of a child includes a number of factors such as:

1. Do you bring investment values from the past forward to present value as was done in both reports? Since we are using an investment model it is logical to bring the direct and indirect

costs of raising the child forward using an appropriate interest rate that reflects the risk of raising the child. You could look at the same problem of valuation by asking the question of how much would it cost to replace the child, that is to raise the child from today to a given future age. In this analysis direct expenditures are brought forward to present value, while indirect child care time values are not brought forward to present value.

2. Do you omit social costs of raising the child? The annual costs of public education for a child will likely exceed \$4,000/year and other public investments in raising the child may be significant. As in the case of anti-trust damages, do you award the value of social loss to the plaintiff, the parent. It is unlikely that a court would allow such a recovery, but the loss still exists.

3. Do we reduce loss for that enjoyment of the life of the child that occurred up to the time of death of the child? Certainly if I bought a \$1 million painting and put it on my wall for ten years, then someone destroyed the painting, I would not deduct the enjoyment I derived from viewing the painting for ten years from the cost of the painting as loss. Does the value of a relationship with a child die with the child? The death may leave fond memories or a scarred whole in the parents' memories. There are also dynastic issues. The child's death ends forever the hope for grandchildren from that child. These are issues beyond what an economist can consider.

4. If the child is not at the end of the intended parental investment period as in Ward's example, but only 10 years of age as in Ireland's example, the parental investment approach prompts the question: Since the future intended expenditures will not have to be made, why should those expenditures be considered. The answer is that the parental investment value is only a proxy for the minimum pecuniary value parents attached to having a child. However, understanding that answer requires a level of sophistication in economic reasoning that is not

required for past actual expenditures. However, if future intended expenditures are not included, a ten year old child is worth more than twice what a five year old child is worth, which defies common sense. The reason is that the addition of past interest means that expenditures from ten years in the past have present values higher than expenditures from five years in the past.

5. There is resistance on the part of some juries to the notion that a child can be seen in purely pecuniary terms. Some jurors will feel that a child is just too valuable to have anyone put a monetary value on any aspect of the child. From that perspective, valuing services and hypothetical support a child might have provided to the child's parents, while very speculative, seems less invasive of basic human ideals. It is a common defense strategy to try to counter the parental investment approach with this kind of appeal.

This is an emotional and illogical defense. It is like saying that if someone destroyed the Mona Lisa, the magnitude of the loss would obviate any compensation to the Louve for its destruction. Moreover, it would be added, the Louve would be insensitive in seeking such compensation. While illogical, this defense has been successful. However, few cases using the "parental investment" approach to valuing the life of a child have been tried in the courts. In *Valuing Children in Litigation: Family and Individual Loss Assessment* (1995), the authors cover a number of important cases that have dealt with the "parental investment" concept. Despite the favorable treatment of the method by some courts and by Richard Posner (1998) the method has had only limited success thus far.

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Appendices

- Report by John O. Ward & Associates, dated 7/6/2001.
- Report by Thomas R. Ireland, dated 2/9/2001