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Journal of Legal Economics, July 1991
. Vol. 1, No. 2, pp 1-11

Valuing Homemaker Production By Implied Opportunity Cost: Using A Family Human Capital Methodology

Forensic economists have been at a loss to provide adequate measures for the economic value of homemakers for purposes of wrongful death, personal injury and divorce litigation. Typically, they have relied on replacement costs studies which generate large numbers, but have a number of important conceptual flaws that can be easily attacked on the witness stand. The alternative of attempting to gauge the potential current market earnings of a homemaker requires a vocational expert and results in values that are unreasonably low. The family human capital literature developed by Gary Becker and others provides a mechanism by which the value placed on a homemaker's production can be tied to the actual value placed by the family on her (and in very rare cases, his) production activity. This paper outlines the process by which that family valuation process can be validated and estimated.

The Meaning Of The "Human Capital" Approach

The term "human capital" as used in this paper is the term used in economics to refer to "income earning ability." It has, however, a somewhat more general meaning, as explained by Gary Becker (1964), its inventor:

> "Some activities primarily affect future well-being; the main impact of others is in the present. Some affect money income and others psychic income, that is, consumption. Sailing primarily affects consumption, on-the-job training affects primarily money income, and a college education affects both. These effects may operate either through physical resources or through human resources. [Becker's book, *Human Capital*] is concerned with activi-

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ties that influence future monetary and psychic income by increasing the resources in people. These activities are called investments in human capital."

The human capital approach is the approach normally taken by economists in assessing economic damages in wrongful death and personal injury cases. It involves projecting the incomes an individual would have produced if the wrongful death or personal injury had not taken place, and reducing this flow of benefits to present value. Typically, this involves projecting future incomes from wages (technically, labor market compensations), fringe benefits and production of household goods and services over some estimate or implied estimate of the individual's worklife expectancy. Deductions are made for taxes (in some states), probabilities of labor market participation and for unemployment and then also for personal consumption that would have been made by the decedent in wrongful death cases (but not personal injury cases).

The Special Role Of Homemakers

Homemakers provide a significant part, but by no means all of household production in a given household. The term "homemaker" refers to the person, usually (but not always) the wife, who has primary responsibility for nonmarket activities involved in household maintenance, including cleaning, preparing meals, child rearing, gardening, clothing repair and laundering, shopping, chauffeuring children, and so forth. In the traditional family, husbands have primary responsibility for some types of home repairs and yard work, but are definitely secondary producers of household goods and services. Children and other members of a household also provide some household goods and services.

In recent years, there has been an increasing willingness to recognize "homemaking" as a full-time or significant part-time profession. In this sense, there is an important distinction between production by homemakers and household production by other family members. This distinction focuses on the amount of human capital required for the performance of household functions (Leibowitz 1974; Becker 1981). Any family member can sweep a floor, but not every family member knows how to engage in clothing repair. Any family member can do the laundry under supervision from the homemaker, but not every family member is involved in developing an overview of the tasks that need to be accomplished for a smoothly functioning household.

Not all families have "homemakers" in this sense. In a two person household, both husband and wife might both help with simple cleaning chores, but rely on apartment managers, dry cleaners and other market institutions to provide most household services. In this circumstance, each marital partner is as free as a single person to advance his or her career (or even more so because of division of labor advantages in the limited household production involved). What makes a homemaker a "homemaker" is specialization in the acquisition of knowledge and skills involved in maintaining a household, usually including raising children. And since this household specialized acquisition of knowledge and skills uses up time and energy that could have been put into labor market career enhancement, homemakers suffer an opportunity cost loss of that potential career enhancement.

For that reason, the distinction between families with homemakers and families without them does not depend on whether the homemaker has part-time or full-time labor market employment. It depends on whether specialization in homemaker activities results in a lowered ability to pursue career enhancement activities, relative to what would have been possible in a single person household by the person performing the role of homemaker. That fact is recognized in the current literature on "dual careers" for women who are both homemaker/mothers and at the same time pursuing labor market professions. Even though these women are maintaining professional careers, their progress in these careers is limited by the time, energy, and responsibility that must be involved in their roles as homemaker/mothers.

Existing Valuation Methodologies

Forensic experts have used three basic methodologies to place values on household production by homemakers: (1) General Replacement Cost, (2) Specific Services Replacement Cost, and (3) Simple Opportunity Cost. This list of categories is somewhat different from that of Fischer (1987), but Fischer's conclusions are also that existing methodologies do not adequately address the problem of measuring household production. Each of these valuation methodologies is subject to major shortcomings that will be discussed in turn.

General Replacement Cost

General Replacement Cost valuation involves attempting to gauge the cost of hiring one person in the labor market who would "replace" all of the services that are provided by a homemaker. This has sometimes been done by looking at the wages of full-time "nannies," who also do basic housework. Typically, this type of work is done by relatively poor individuals with very few labor market skills and the compensations involved tend to be quite low, making this approach popular with defense attorneys seeking low damages in wrongful death or personal injury cases but not a very accurate proxy valuation comparison for homemakers with significant household skills. A "nanny" is a supervised market worker while a homemaker is the household manager of her home. Few "nannies" are expected to act as household budget managers and most of them are not "on call" 24 hours a day, as are homemakers. There are many other functions that homemakers perform that are not expected of "nannies." There are no good market equivalents for the occupation of a homemaker in charge of the household production activities of her family.

Specific Services Replacement Cost

The Specific Services Replacement Cost approach is the approach most often utilized by forensic economists (Johnson 1985; Ireland and Ward 1991). This method involves determining the mix of services provided by homemakers and the amount of time spent doing each type of activity. The evaluator then determines market wage rates for the market activity closest to each service provided by the homemaker and determines a market replacement value by multiplying the relevant wage rates by the amount of time spent by the homemaker in each category. The sum of such values is treated as the value of the homemaker's contribution. Figures derived from this methodology occasionally appear in "Dear Abby" and "Ann Landers" and are popular with plaintiff's attorneys because they yield figures in the $40,000 to $50,000 per year range for any homemaker, regardless of education.

A brief summary of the problems with the Specific Services Replacement Cost method is as follows: (1) It is very difficult to distinguish between household labor, household leisure activity and activity designed to increase the homemaker's future human capital. For example, if a woman is spending a significant amount of time gardening, is she gardening as a homemaker production activity or as a hobby or in preparation for a future career in landscaping? (2) There are significant differences in the skill levels with which household services are provided by different homemakers. Is a mother with an eighth grade education providing the same service as a mother with a masters degree in psychology when each counsels her child? (3) There are great difficulties in decoupling concurrently performed household services. A woman might be baby sitting, doing the laundry and preparing the evening meal at the same time. How is the time to be allocated between the three activities? (4) There may be important differences among homemakers in the intensity with which they perform household services. A woman who has more time might spend more time doing the same activity as another woman. (5) There may be important differences in the value of household services at different stages of the homemaker's life cycle. A young mother with several children to care for is very busy, but a mother with "an empty nest" may do things simply to fill time.

Simple Opportunity Cost

The third methodology that has sometimes been used by forensics experts is the Simple Opportunity Cost methodology. A version of this methodology underlay figures that were provided by the Social Security Administration in the 1960's and 1970's that were based on assuming that homemakers could only earn salaries at the minimum wage if they left households and entered the labor market as paid workers. Since a full-time homemaker who is a subject of litigation is likely to have been out of the labor market for an extended period, her potential earnings upon return to the labor market would be low, thus the use of minimum wage law figures as a proxy for her potential earnings in the Social Security figures. For obvious reasons, this approach would be popular with defense attorneys.

A more sophisticated version of this methodology could be developed, showing figures higher than minimum wages. "Displaced homemaker" programs have shown that women who have been displaced as homemakers often can achieve better than minimum wages in the labor market, given the skills they have developed for homemaking. Further, a woman with a college degree has a significant prior investment in human capital, even if that degree is more than 20 years old. Taking these factors into account, vocational experts can be used by plaintiffs to establish higher earnings potentials than would be implied by minimum wage projections.

The opportunity cost concept underlying this method is that the value of a homemaker is the value of the job she could have had in the labor market if she had not been serving as a homemaker. Therefore, if she did not take a job in the labor market, it reveals that her family valued her household production as at least worth more than her potential earnings from that job, net of additional tax and job expenses. *How much more* cannot be determined, but economic experts regularly rely on the value of sacrificed alternatives to place minimum values on a flow of benefits, in this case household goods and services produced by a full-time homemaker.

The basic problem with this methodology is that it implicitly treats the occupation of homemaker as if it involves only unskilled labor with no educational requirements or significant skill development. If homemaking involves investment in homemaking skills specific to the occupation of homemaking, the true value of homemaker production must include a return to her investment in developing those homemaking skills. The Simple Opportunity Cost method provides no mechanism for valuation of this return to the investment in human capital in the form of the homemaker's development of homemaking skills.

Using An Implied Family Human Capital Methodology

The Implied Family Human Capital methodology (IFHC) advanced in this paper has important elements in common with the Simple Opportunity Cost methodology in that it relies on the family's own implied valuation of the homemaker's production. What is different is that the Implied Family Human Capital methodology provides accounting for a homemaker's investment in the development of homemaking skills, albeit imperfectly. In doing so, it provides a practical implementation system for the household human capital investment theory developed by the inventor of human capital theory in general, Gary Becker (1964, 1981; Pollak 1985). It provides values that will normally fall between the Specific Services Replacement Costs favored by the plaintiff's attorneys and the General Replacement Cost and Simple Opportunity Cost methodologies that would be favored by defense.

Becker imagines marriage as a process by which two individuals form a household "firm," pooling their resources to maximize their household production possibilities (subject to some reservations in possible anticipation of divorce). Under many circumstances, Becker suggests, this will involve having one marital partner "specialize" in developing labor market focused human capital and the other partner "specialize" in the development of household human capital. Typically, this takes the form of a husband being freed of many household chores and primary responsibility for child rearing so that he can specialize in advancing in his profession to earn a larger income to support the household. The wife (and Becker allows for these roles to be reversed) typically specializes in household production and child rearing, as well as possibly helping her husband in his career development through developing social contacts and providing career advice. (Whether this latter role is important depends on the nature of the husband's career.)

According to Becker, what this accomplishes is to maximize the flow of money and psychic income to the family. The husband generates most of the money income. The wife generates most of the psychic income in the form of child quality and household production of goods and services that do not have to be purchased in the market. It is important to recognize that this is likely to be true even if the wife works in the labor market in a full-time job. In order to maximize family income, it is still likely to be her responsibility to take time off work when children are sick or if someone needs to be home to let repairmen into the home. It is also likely that she stayed home with the children when they were infants and has made other decisions that were likely to have prevented her from maximizing money income from her career.

The Implied Family Human Capital Valuation methodology relies on Becker's concept of household specialization. Using information specific to a family in question, the value the family placed in the wife's development of household-specific human capital is derived from simulating an alternative career track in which the wife is projected to have specialized in the development of labor market career based human capital instead of household-specific human capital. The logic behind this simulation is that the husband and wife together made a decision that the wife's production of family income would be greater with household specialization than with labor market specialization. On that basis, the value of the wife's household production is considered at least worth what she could have earned in a labor market career because the family sacrificed the wife's career opportunity to obtain the household production.

The value that is obtained by this method is an estimation of the value to the family, regardless of the form that value takes. A husband might, for example, value having the wife stay home simply out of male chauvinism. Or the wife might choose to stay home simply because she enjoys loafing. In these cases, the value of enjoying a male dominant household or loafing exceeds the value of the foregone income stream of the wife. Typically, however, the value of the household specialization lies in the flow of goods and services being produced rather than more frivolous pursuits, at least at the outset. (In the last few years of a marriage that ends in divorce, marital partners may cheat on the production side of their marital arrangements as well as in other ways.)

This methodology has the advantage of avoiding direct quantification of the stream of investments in household human capital. In most instances, homemakers refine homemaking skills by practice, discussions with other homemakers and reading articles in magazines rather than by formal coursework or any other easily credentialed process. Attempting to value the amount of time involved in this investment process would be even more difficult than the valuation problems confronted in the Specific Services Replacement Cost method, as discussed above.

Instead, the implied family human capital methodology involves returning to the decision point at which a homemaker began investing in household human capital rather than fully pursuing a labor market career. One or several hypothetical career tracks are then simulated, based on the homemaker's skills and demonstrated interests prior to that point of decision. The homemaker's current services are then valued on the basis of what the homemaker would be currently earning if she had followed the hypothetical alternative career track (or tracks). The availability of alternative career tracks can be used to establish ranges for the value of the homemaker's services.

In actual practice, the implied family human capital methodology involves identifying the appropriate point in the homemaker's career at which the homemaker began investing in household human capital rather than putting all work energy into pursuing some other career. This could be the point of marriage, the point of birth of a first child or some other point at which the homemaker and spouse decided to have the homemaker specialize in household human capital. One or several hypothetical career tracks are then simulated, based on the homemaker's skills and demonstrated interests prior to that point of decision. These simulated alternative career tracks should be reasonable and based on the specific circumstances of the homemaker's prior education and experience. The homemaker's current services are then valued on the basis of what the homemaker would currently be earning if she had followed the hypothetical alternative career track (or tracks). The availability of alternative career tracks can then be used to establish ranges for the current value of the homemaker's services. Three case studies are provided to indicate how this approach can be used. The first two of these case studies are based on actual examples but with names and pertinent identifying details changed. The third deals with a hypothetical case of a homemaker who prepared all of her life to be a homemaker, precluding an identification of a decision point of the sort discussed above.

Case Study 1. Mrs. Smith had achieved a GS4 rating working for the federal government in an auditing function. Prior to her marriage, on a part-time basis, she had taken several courses toward her bachelor's degree in accounting but had not earned a college degree. She had also completed several special auditing courses offered by her agency employer. She did not immediately give up her career focus upon marriage, but did so after the birth of her first child. Thereafter, the record showed that she had devoted herself to the promotion of her husband's career, managing the social life of the family and acting as a career counselor for her husband as well as other activities typical of homemakers. Her attorney argued that, on this basis, she had functioned in such a way that her husband was able to realize his full potential in the labor market.

On that basis, her alternative career track was simulated from the time of her retirement prior to the birth of her first child rather than the point of her marriage. Her simulated alternative career track was based on the assumption that she would have continued in her auditing career, adding job experience and completing special agency auditing courses in the manner indicated by her performance before the birth of her first child. Based on those assumptions, it could be projected that she would be earning between $36,000 and $45,000 per year. Having spent 25 years in her marriage with no continuing labor market experience, however, she had taken employment just prior to her divorce at $16,000 in low level clerical employment.

The differential between the actual $16,000 per year and the simulated alternative career track was therefore a range between 20,000 and 29,000 current dollars per year. This range was offered as an estimate of her forbearance of earning power, a factor to be considered in both division of property and in awards for maintenance. This differential range was then also used to project a present value of loss of lifetime earnings due to forbearance, using normal wage increase and discount rate assumptions. The range was between $270,000 and $300,000.

Case Study 2. Mrs. (Dr.) Jones had remained involved in her career throughout her marriage. However, in every instance in which a family decision about location or advancement had to be made, her husband's career was put first. Further, Mrs. Jones was expected to assume almost full responsibility for child care and homemaking in such a way as to significantly reduce the time, energy, and availability she had to advance within her profession.

Her career was that of a college professor, which requires great amounts of personal time outside teaching responsibilities to achieve publications in professional journals. It also requires attendance at professional meetings, from which Mrs. Jones was precluded because of her child rearing responsibilities. Early in her career, Mrs. Jones had a standing offer for several years of a position at one of the most prestigious universities in her discipline. She passed up that opportunity because of her husband's employment.

The relative rankings of her current university and of the university at which she had the standing offer were validated through questioning individuals at other universities. Based on her accounts of being unable to attend professional meetings and to have time to prepare publishable papers because of time spent in child care (unmatched by her husband), a simulated alternative income stream was projected on the basis of an assumption that she would have achieved full professor status at the prestigious university if she had not married and had children. As a result, a differential of $22,000 per year, as of the current year, existed between her compensation in that simulated alternative and her current employment. The present value of this differential for her assumed worklife expectancy, using normal wage increases and discount rates, was between $215,000 and $250,000.

Case Study 3. Mrs. Brown was killed in an automobile accident at the age of 36. She had married at the age of 19 and had never wanted to be in or prepared for any other career than that of full-time homemaker and mother. Her husband and surviving three children are suing for their economic losses caused by her death. Mrs. Brown had met her husband in high school, where she had a somewhat lackluster, but passing record that would have gotten her into a university. However, she had been in love with her husband at graduation and had shown no interest in going to a university. From her husband's account, she had taken a job after graduating from high school to add financial support to the amount he received in a college scholarship. As a result, they were able to maintain a household while he was a college student and then a law student. She also typed many of his reports and otherwise tried to assist him in every way in achieving his education. After graduation, he was hired by a prestigious law firm and began earning a large income. She quickly became pregnant and had three children in short succession. After becoming pregnant with her first child, she left employment and never worked again. However, in spite of her lack of interest in a labor market career of her own, she was a devoted mother and conscientious homemaker. She attended lectures, read magazines, and took noncredit courses in a number of areas that improved her mothering and homemaking skills. Witnesses were available to testify to the devotion she had to her children and to the quality of her homemaking.

The problem in this case lies in the fact that there is no clear alternative career track to simulate. She had not seriously considered any other career except that of mother and homemaker. While she was apparently excellent at that career, there is no obvious career to compare it to, as in the first two cases. The solution is to value her household services based on mean earnings of an average high school graduate, an average college graduate and a college graduate with 1-3 years of post graduate work. It is not possible to know which of these alternative career tracks is the correct one, but each can be used to calculate a family loss estimate. These figures can be derived from the *Money Income of Households, Families and Persons in the United States* annual publication of the Bureau of the Census. As in any wrongful death calculation for an individual with an earnings track record, personal consumption maintenance should be subtracted from earnings figures to determine family loss.

One final point in this case relates to the principle of "assortive mating." There is a literature in psychology and sociology that suggests that individuals marry persons with like backgrounds and characteristics. To that extent, it may be possible to argue from a husband's achievements what a wife's potential might have been. In the current example, the husband had become a lawyer with a substantial income. Given the assortive mating principle, it is unlikely that he would have married a woman who did not at least have the potential to become a college graduate (Blau/Duncan 1967; Blau/Schwartz 1984; Fischer 1987). It might also be desirable to bring in a psychologist or sociologist as an expert witness to make this point.

Measuring Forbearance In Divorce Litigation

Two of the three case studies above represent uses in divorce actions. While this methodology has not been specifically tested by judicial decisions through an appeals process, it goes directly to the issue of career forbearance, which is specifically mentioned as a factor to be considered in property division and child support in many state divorce laws.

Effectively, these laws require the judge to consider how much less a spouse will earn because of forbearance of career development during the marriage and take that factor into account, along with other factors, in property division and child support allocations. Forbearance, in the language of the laws, is the difference between what a woman can earn today and what she could have earned if she had furthered her career instead of marrying. This is exactly what the Implied Family Human Capital Valuation methodology is designed to measure.

Admissibility And Conclusion

The relevance of career forbearance by homemakers has been tested in a number of Missouri cases. The methodology of this paper is designed to exactly address categories judges in many states are required to consider, "the contribution of each spouse to the acquisition of marital property, including the contribution of a spouse as homemaker" and "forbearance of career opportunity." In wrongful death and personal injury matters, it is already established that forensics experts have a role to play. They are already playing that role through other methodologies, primarily the Specific Services Replacement Cost methodology, which is inadequate.

The (IFHC) methodology is identical to the methodology a forensics expert would use in the event of the wrongful death of a male college student who left a wife and child as survivors. The forensic economist would have to make assumptions about the possible career track that the deceased would have followed and project damages in the form of lost earnings and lost household services based on those assumptions. With a homemaker, that same system is used with an earlier starting point, but the human capital methodology is otherwise identical.

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