

THE VALUATION OF HUMAN CAPITAL IN NEW YORK STATE COURTS

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I. INTRODUCTION

Courts are often asked to adjudicate disputes that are economic in nature or have economic components. Attorneys and judges frequently lack formal training in economics and must rely on their intuition to guide their decisions. This shortcoming can lead to poorly reasoned decisions that have inequitable financial consequences. This paper explores the difficulties that the New York State courts have encountered in the valuation of human capital in the form of academic and professional degrees and licenses. This became an important consideration after the 1985 New York Court of Appeals decision in *O'Brien v. O'Brien* (66 NY2d 576), where the court ruled that human capital acquired during marriage is an asset subject to equitable distribution upon dissolution of the marriage. Prior to this decision, the distribution of marital wealth in divorce was confined to tangible assets. *O'Brien* opened the door to valuation of intangible human capital, which dramatically increased marital wealth. This ruling has had a profound impact in New York State since it affects all those who obtain education or training during a marriage that ultimately ends in divorce.

We begin this paper by developing a simple formula for valuing a license based on human capital theory. We then examine the human capital methodology sanctioned by the *O'Brien* decision. Subsequent to *O'Brien*, the courts wrestled with valuation issues not specifically addressed in the case: the simultaneous valuation of human capital in the form of a professional degree or license and the valuation of a professional practice. Valuing multiple intangible assets proved to be problematic for the courts. Initially, the courts under-valued human capital by invoking a court created notion of “merger,” whereby the value of a license *merged* with the practice and lost its value as a separately identifiable asset [*Marcus v. Marcus* (137 AD2d 131), *Vanasco v. Vanasco* (132 Misc2d 227), *Finochio v. Finochio* (556 NYS2d 1007) and *DiCaprio v. DiCaprio* (556 NYS2d 1011)]. Eventually, the courts realized the

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fallacy of the “merger” doctrine, but sanctioned an estimation procedure that systematically over-valued these assets [McSparron v. McSparron (87NY2d 275, 639 NY2d 265)]. How these issues have evolved over time and how they have been resolved are discussed below.

II. HUMAN CAPITAL THEORY

It has been established both theoretically and empirically by Becker (1975), Becker (1981), Mincer (1974), and Mincer and Polachek (1974) that investments in human capital by an individual through additional education raise his or her lifetime earnings. The costs of this investment are comprised of explicit cost such as tuition and opportunity cost in the form of foregone earnings while the education is being obtained. An individual makes the decision to seek additional education when the expected return in the form of enhanced compensation exceeds the cost of the investment. The individual would view the investment in human capital as being worthwhile as long as the present value of the future after-tax enhanced compensation associated with the education exceeds its cost. The present value of the enhanced compensation generated by the human capital can be expressed in the following form:

$$(1) \sum_{i=1}^n \frac{(CWE_i - CWOE_i)(1 - T)}{(1 + R)^i}$$

where CWE_i represents compensation with enhanced education in period i , $CWOE_i$ is compensation without enhanced education in period i , T is the aggregate incremental tax rate and R is the nominal discount rate. CWE and $CWOE$ are comprised of wages, fringe benefits, and the value of non-pecuniary characteristics. Although the methodology for valuing human capital is straight forward, there are many practical issues involved in implementing the valuation procedure. For example, both CWE and $CWOE$ must be projected over the worklife of the individual, the length of worklife must be estimated, and the appropriate discount rate must be selected.

III. THE O'BRIEN DECISION

The human capital valuation methodology was employed by valuation experts and sanctioned by the New York State Court of Appeals in the O'Brien v. O'Brien (66 NY2d 576) decision. Mr. O'Brien entered his marriage having completed almost all the requirements for his Bachelors degree. During the marriage, he completed all requirements for his medical degree and license. Upon being licensed, he commenced a divorce action. During their marriage, Mrs. O'Brien worked and provided financial and emotional support that allowed Mr. O'Brien to complete his education. The Court ruled that Mrs. O'Brien was entitled to recompense for her contribution to the family's investment in Dr. O'Brien's human capital.

The court accepted a license valuation technique in O'Brien that was based on the enhanced compensation that the license affords its holder. However, compensation was comprised solely of earnings. As Dr. O'Brien had just completed the requirements for his medical license and lacked an earnings history, future earnings were projected on the basis of statistical averages¹. At the time of trial,

Dr. O'Brien had completed a residency in surgery. Therefore, the license was valued by projecting the difference between the earnings of an average surgeon and those of an average college graduate over the remainder of Dr. O'Brien's worklife. This difference was then placed on an after-tax basis and discounted back to the commencement date of the divorce action. CWE_i and $CWOE_i$ were based on the average wages of a surgeon and the average wages of a Bachelors degree holder in year i , respectively. Dr. O'Brien's statistical worklife expectancy² was used for n . The nominal risk-free discount rate, R , was based on the market yield on U.S. Treasury securities on the commencement date.

The O'Brien methodology, although accepted and reaffirmed over time by the New York State Court of Appeals, is not without shortcomings. The Court failed to consider and account for fringe benefits and the value of non-pecuniary job characteristics. It interpreted enhanced compensation as being comprised solely of enhanced earnings. It is unfortunate that the court failed to include the value of differential fringe benefits in the human capital calculation. Omitting the valuation of differential fringe benefits is not a serious problem as long as the fringe benefit package is comparable in both career paths. Addressing the issue of the non-pecuniary characteristics however, is fraught with practical difficulties since it would require a hedonic approach to estimating the value of these attributes.

The Court approved the projection of enhanced earnings based on the difference in the *average* wages of a surgeon and the *average* wages of a Bachelors degree holder. Since Dr. O'Brien lacked an earnings history both as a surgeon and as a Bachelors degree holder, it was not possible to project future earnings based on actual historical earnings. This is likely to have led to an overvaluation of the medical license. Given that Dr. O'Brien completed rigorous medical school training, it is probable that he would have earned more than the average Bachelors degree holder since he is above average for this cohort in ability, intelligence, and motivation. Therefore, the court approved methodology overstated the enhanced earnings attributable to the education. In order to address this error, the counterfactual career earnings should have been adjusted upward to reflect a higher than average ability level.

The Court sanctioned the use of a risk-free discount rate based on U.S. Treasury securities to reduce future cash flows to present value. Given that the enhanced cash flows are not guaranteed, the use of a risk-free discount rate overstates the value of the asset. For example, the licensee may experience periods of unemployment due to economic contraction or may suffer from ill health that results in a lengthy absence from work. Additionally, wages may grow less rapidly than predicted due to the vicissitudes of the marketplace.

Although the O'Brien methodology is imperfect, it is superior to the accepted practice prior to O'Brien, which was to ignore the value of acquired human capital entirely in determining the value of marital assets.

To illustrate the application of the O'Brien methodology, consider the following hypothetical case. Mr. and Mrs. X commence a divorce action on January 1, 2005. Mr. X is an attorney who received his Bachelors degree before the marriage, his law school education and law license during the marriage. Mr. X was 50 years of age on the commencement date of the divorce action and had a statistical worklife

expectancy of 15 years. His projected wages in 2005 as an employee of a law firm are \$200,000 based on his historical earnings at the firm. Additionally, we make the following assumptions:

1. The wage that Mr. X would earn if his terminal degree were a Bachelors degree is \$75,000 per annum. This is based on the average wage of a 50-year old male with a Bachelors degree and 25 years of labor force experience.
2. Wages with a Bachelors degree and as an attorney are both projected to grow by 3 percent per annum over the remainder of Mr. X's worklife. This is the approximate rate of growth of economy-wide wages over the past fifteen years³.
3. The aggregate tax rate (the sum of FICA, federal and state income tax rates) that Mr. X faces is 30 percent of gross income⁴.
4. The nominal discount rate is 5 percent. This is based on present conditions in the U.S. Treasury security market.

The present value of Mr. X's law license appears in Table 1⁵. The present value of the enhanced after-tax earnings that Mr. X's law license affords him over his remaining worklife is \$1,123,410.

TABLE 1
O'BRIEN METHODOLOGY FOR VALUING A LAW LICENSE
FOR MR. X

(1) YEAR	(2) AGE	(3) EARNINGS WITH BACHELORS DEGREE	(4) EARNINGS WITH LAW LICENSE	(5) AFTER-TAX ENHANCED EARNINGS (30% TAX RATE)	(6) PRESENT VALUE OF AFTER-TAX ENHANCED EARNINGS
2005	50	\$75,000	\$200,000	\$87,500	\$85,391
2006	51	\$77,250	\$206,000	\$90,125	\$83,765
2007	52	\$79,568	\$212,180	\$92,829	\$82,169
2008	53	\$81,955	\$218,545	\$95,614	\$80,604
2009	54	\$84,413	\$225,102	\$98,482	\$79,069
2010	55	\$86,946	\$231,855	\$101,436	\$77,563
2011	56	\$89,554	\$238,810	\$104,480	\$76,085
2012	57	\$92,241	\$245,975	\$107,614	\$74,636
2013	58	\$95,008	\$253,354	\$110,842	\$73,214
2014	59	\$97,858	\$260,955	\$114,168	\$71,820
2015	60	\$100,794	\$268,783	\$117,593	\$70,452
2016	61	\$103,818	\$276,847	\$121,120	\$69,110
2017	62	\$106,932	\$285,152	\$124,754	\$67,794
2018	63	\$110,140	\$293,707	\$128,497	\$66,502
2019	64	\$113,444	\$302,518	\$132,352	\$65,236
PRESENT VALUE OF LAW LICENSE					\$1,123,410

IV. VALUATION OF PROFESSIONAL PRACTICES AND LICENSES

The concept of valuation evolved over the period 1986-1995 as the courts were confronted with more complicated situations in which the licensed parties maintained established professional practices [Marcus v. Marcus (137 AD2d 131), Vanasco v. Vanasco (132 Misc2d 227), Finochio v. Finochio (556 NYS2d 1007) and DiCaprio v. DiCaprio (556 NYS2d 1011)]. If the licensed party maintained an established practice for a number of years, the courts ruled that the license *merged* with the practice and lost its character as a separate distributable asset. The merger concept, unlike the O'Brien decision, is completely flawed and makes no economic sense. The license and the practice are two distinct assets that are based on different future cash flows, and never merge in value. This becomes evident when we consider how practices are valued.

Valuation experts typically use the *excess earnings* method to value a practice. This approach capitalizes any earnings over and above fair owner earnings. Fair owner earnings are defined as the amount paid to professionals of similar age and background, in the same geographic area, without ownership interest in the practice. The value of a practice⁶ can be expressed as:

$$(2) \sum_{i=1}^k \frac{(PE_i - FOE_i)(1 - T)}{(1 + R)^i}$$

where PE_i is the projected earnings for the owner of the practice in year i and FOE_i is the opportunity cost of the owner's time in year i . FOE represents the earnings the owner could receive if not self-employed. Projected future values of PE are based on the owner's past actual earning levels. Projected future values for FOE are based on the historical average earning levels for professionals with comparable experience. The expected life span of the business is k , which may or may not be equal to the statistical worklife expectancy of the owner (n). If the practice terminates at the end of the worklife of the current owner then n equals k . If the goodwill associated with the practice is enterprise rather than personal goodwill, where enterprise goodwill is defined as intangible but marketable characteristics such as location, name recognition or business reputation, then k is likely to be greater than n .

Both the value of a license and the value of a practice are based on enhanced earnings. The license value is based on the earnings differential between an individual with the education and an individual without the education. The practice value however, is based on the earnings differential between an owner-practitioner and an employee-practitioner with the same level of education. A practice may have little or no value, while a license may have considerable value. Consider a situation where an owner-practitioner earned wages comparable to an employee-practitioner. In this case, the value of the practice would be small or zero, while the license of the owner-practitioner would be of significant value if the wages commanded by the owner-practitioner were considerably higher than the wages of a Bachelors degree holder.

To illustrate the flaw of the merger doctrine, consider our initial example with the following modifications. Mr. Y is identical in all respects to Mr. X, except that Mr. Y is the owner of his own law firm rather than an attorney-employee. His wages, as an owner-practitioner, are \$220,000 per annum and are

projected to grow by 3 percent per year. It is assumed that the law practice has a lifetime of 30 years. We value Mr. Y's law practice in Table 2⁷. Fair owner earnings amount to \$200,000 in 2005. The present value of the practice amounts to \$314,449⁸. This contrasts with the license value in Table 1 of \$1,123,410. Clearly the value of Mr. Y's law license has not been subsumed into the value of his practice.

**TABLE 2
VALUE OF LAW PRACTICE
FOR MR. Y**

(1) YEAR	(2) EARNINGS IN LAW PRACTICE	(3) FAIR OWNER EARNINGS	(4) AFTER-TAX ENHANCED EARNINGS (30% TAX RATE)	(5) PRESENT VALUE OF AFTER-TAX ENHANCED EARNINGS
2005	\$220,000	\$200,000	\$14,000	\$13,663
2006	\$226,600	\$206,000	\$14,420	\$13,402
2007	\$233,398	\$212,180	\$14,853	\$13,147
2008	\$240,400	\$218,545	\$15,298	\$12,897
2009	\$247,612	\$225,102	\$15,757	\$12,651
2010	\$255,040	\$231,855	\$16,230	\$12,410
2011	\$262,692	\$238,810	\$16,717	\$12,174
2012	\$270,572	\$245,975	\$17,218	\$11,942
2013	\$278,689	\$253,354	\$17,735	\$11,714
2014	\$287,050	\$260,955	\$18,267	\$11,491
2015	\$295,662	\$268,783	\$18,815	\$11,272
2016	\$304,531	\$276,847	\$19,379	\$11,058
2017	\$313,667	\$285,152	\$19,961	\$10,847
2018	\$323,077	\$293,707	\$20,559	\$10,640
2019	\$332,770	\$302,518	\$21,176	\$10,438
2020	\$342,753	\$311,593	\$21,812	\$10,239
2021	\$353,035	\$320,941	\$22,466	\$10,044
2022	\$363,626	\$330,570	\$23,140	\$9,853
2023	\$374,535	\$340,487	\$23,834	\$9,665
2024	\$385,771	\$350,701	\$24,549	\$9,481
2025	\$397,344	\$361,222	\$25,286	\$9,300
2026	\$409,265	\$372,059	\$26,044	\$9,123
2027	\$421,543	\$383,221	\$26,825	\$8,949
2028	\$434,189	\$394,717	\$27,630	\$8,779
2029	\$447,215	\$406,559	\$28,459	\$8,612
2030	\$460,631	\$418,756	\$29,313	\$8,448
2031	\$474,450	\$431,318	\$30,192	\$8,287
2032	\$488,684	\$444,258	\$31,098	\$8,129
2033	\$503,344	\$457,586	\$32,031	\$7,974
2034	\$518,444	\$471,313	\$32,992	\$7,822
PRESENT VALUE OF LAW PRACTICE				\$314,449

The Court of Appeals eventually recognized the flaws in the merger principle in the 1995 *McSparron v. McSparron* (87NY2d 275, 639 NY2d 265) decision. The Court concluded that professional licenses retain their status as independent assets and never merge into a practice. Consequently, both the license and the practice may have value. Although the Court of Appeals didn't specify the procedure for valuation of a license and practice in *McSparron*, it did warn against double counting when separately valuing the practice and the license. Additionally, the Court asserted that when an individual possesses an actual work history that makes use of the license, future values for earnings with the license should be based on the licensee's past actual earnings rather than statistical average earnings for license holders.

Complying with the Court's ruling in *McSparron* ensures that the combined value of the license and practice are overstated. The license value under *McSparron* is expressed as:

$$(3) \sum_{i=1}^n \frac{(PE_i - EWOE_i)(1 - T)}{(1 + R)^i}$$

where EWOE represents earnings without the enhanced education (the earnings of a Bachelors degree holder). Practice earnings are used to value both the practice and the license. This is the source of the overvaluation. To illustrate this problem, consider Table 3, where the value of Mr. Y's law license is projected under *McSparron*. The present value of the law license amounts to \$1,303,155, with a practice value previously computed in Table 2 of \$314,449. Following *McSparron*, the Y household possesses marital assets amounting to \$1,617,604. Suppose that as a result of the divorce settlement, Mr. Y sold the practice for its market value. In 2005, Mr. Y can no longer earn \$220,000 in wages as an owner-practitioner, but rather fair owner earnings of \$200,000. Clearly the enhanced earnings differentials computed in Table 3 overstate the enhanced earnings that Mr. Y can now expect to earn in the future.

This overvaluation can be redressed by basing the value of Mr. Y's license on fair-owner earnings rather than owner-practitioner earnings. This has already been computed in Table 1. The correct value of the Y household's marital assets is \$1,437,859 (License value = \$1,123,410, Practice value = \$314,449)⁹.

The Court of Appeals refined its *McSparron* ruling in the 2000 *Grunfeld v. Grunfeld* (255 AD2d 12) decision to eliminate the double counting. It ruled that when a practitioner has both a practice and a license, the license is valued by computing the differential between fair owner earnings and earnings of Bachelors degree holder instead of the differential between owner-practitioner earnings and the earnings of a Bachelors degree holder.

**TABLE 3
VALUE OF LAW LICENSE
FOR MR. Y**

(1)	(2)	(3)	(4)	(5)	(6)
YEAR	AGE	EARNINGS WITH BACHELORS DEGREE	EARNINGS WITH LAW LICENSE	AFTER-TAX ENHANCED EARNINGS (30% TAX RATE)	PRESENT VALUE OF AFTER-TAX ENHANCED EARNINGS
2005	50	\$75,000	\$220,000	\$101,500	\$99,054
2006	51	\$77,250	\$226,600	\$104,545	\$97,167
2007	52	\$79,568	\$233,398	\$107,681	\$95,316
2008	53	\$81,955	\$240,400	\$110,912	\$93,501
2009	54	\$84,413	\$247,612	\$114,239	\$91,720
2010	55	\$86,946	\$255,040	\$117,666	\$89,973
2011	56	\$89,554	\$262,692	\$121,196	\$88,259
2012	57	\$92,241	\$270,572	\$124,832	\$86,578
2013	58	\$95,008	\$278,689	\$128,577	\$84,929
2014	59	\$97,858	\$287,050	\$132,434	\$83,311
2015	60	\$100,794	\$295,662	\$136,408	\$81,724
2016	61	\$103,818	\$304,531	\$140,500	\$80,168
2017	62	\$106,932	\$313,667	\$144,715	\$78,641
2018	63	\$110,140	\$323,077	\$149,056	\$77,143
2019	64	\$113,444	\$332,770	\$153,528	\$75,673
PRESENT VALUE OF LAW LICENSE					\$1,303,155

IV. CONCLUSION

The New York State Court of Appeals recognized the importance of human capital as a marital asset in its 1985 O'Brien decision. The valuation methodology it accepted in O'Brien was conceptually sound but imperfect. Lower courts have wrestled with the interpretation and application of the O'Brien decision. The most serious difficulties arose when a license holder also owned a practice. Early rulings from 1985 through 1995 applied the faulty merger principle that led to an under-valuation of marital assets. From 1995-2000, a strict interpretation of the McSparron ruling led to an over-valuation of these assets. Finally, in Grunfeld, the Court affirmed a procedure that eliminates the most egregious errors in valuing marital assets.

ENDNOTES

1. Subsequent to O'Brien, courts have consistently ruled that when a licensee possesses an actual earnings history, actual earnings rather than statistical average earnings should be used to project future earnings.
2. For example, one could use the following to find statistical worklife expectancy "Worklife Estimates: Effects of Race and Education," U.S. Department of Labor, Bureau of Labor Statistics, Bulletin 2254, February 1986.
3. See *Economic Report of the President 2004*, Table B-47, Percent change of average weekly earnings in current dollars.
4. The aggregate tax rate depends upon a multiplicity of factors such as: the number of exemptions, the value of itemized deductions, and the maximum earnings subject to the social security payroll tax.
5. The cash flows are being received at discrete equidistant intervals throughout the year. To approximate the present value of these cash flows, we have assumed that they are all received at the midpoint of the year. Therefore, year 2005 cash flow is divided by $1.05^{1/2}$ to arrive at present value. The same discounting technique is used throughout the paper.
6. For ease of exposition, we assume that the practice owns no tangible assets, and all capital is leased. The initial purchase price of the practice is irrelevant for valuation purposes. Suppose that the cost of the equity share of the practice was financed by a personal loan. If the loan has been repaid at the time the marriage is dissolved then it is irrelevant in determining the value of marital assets. If the loan has not been fully repaid at the time the marriage is dissolved then the outstanding debt is a relevant consideration. In this case, the Court will reduce the value of the marital assets by the outstanding debt in arriving at an equitable distribution. However, the market value of the practice is unaffected by the debt.
7. We have assumed that the purchaser of Mr. Y's practice could receive the same enhanced earnings that Mr. Y would have received had he continued to work beyond age 65. Consistent with the assumption that the business has only a 30-year time-horizon, the terminal date for the practice valuation is 2034.
8. We have used the same discount rate to value both the practice and the license. It can be argued that the practice is a risky enterprise and one should use a higher discount rate in its valuation. Since we are primarily interested in demonstrating the fallacy of the merger principle, the discount rate issue has been ignored.
9. The value of the license for Mr. Y is the same as that for Mr. X (Table 1). This occurs because the earnings with the law license for Mr. Y are based on fair owner's earnings rather than practice earnings.

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