

"Rack the Value"¹

by

Michael J. O'Hara, J.D., Ph.D. of the Univ. of Neb. at Omaha

presented to

Nebraska Economics and Business Association; October 2008; Doane College, Crete, NE

http://cba.unomaha.edu/faculty/mohara/web/NEBA08_Rack_Value.pdf

ABSTRACT: Pecuniary damages² are a policy choice. The law (unlike equity) offers the remedy of damages, and thus constrains recoverable losses to those losses that are pecuniary. Objectivity might be gained, but much can be lost, with a public policy that requires a loss to equate with a market's monetary valuation. The field of "law and economics" tends to assume damages paid by the defendant are a mathematical identity with the plaintiff's loss. This assumption allows "law and economics" to claim to perceive efficiency; but, it does so erroneously.

MONEY, MONEY, MONEY³

What price do you place on your pet, Fluffy?⁴ Let's make that transaction both wrongful and involuntary (e.g., my negligent car accident kills Fluffy), does your price change?

¹ Shakespeare, William. *Much Ado about Nothing*. Act IV, scene 1. Bartlett's Shakespeare quote #531.

For it so falls out
That what we have we prize not to the worth
Whiles we enjoy it, but being lack'd and lost,
Why, then we rack the value; then we find
The virtue that possession would not show us
Whiles it was ours.

Hmmm, is this yet another piece of evidence that the true author is the lawyer Francis Bacon?

<http://www.sirbacon.org/links/evidence.htm>

² This manuscript is the first of several on the pecuniary aspects of damages within a broader research agenda on forensic economics. My research agenda is focused upon forensic economics: a field of interplay between economics and the law. Within forensic economics I am most interested in commercial damages, and the type of commerce that most interests me is related to honeybees. This segment of the research agenda will key on the role of pecuniary in forensic economics. For example, does a favorite queen bee have recognizable value discrete from the pecuniary value of her genetics and/or lost production?

³ <http://www.stlyrics.com/lyrics/cabaret/money.htm>

⁴ If you have on hand neither pet insurance for Fluffy nor the price for emergency room treatment for Fluffy, then may we assume your price for Fluffy unambiguously is less than the price of that pet insurance which you did not buy?

This method for establishing value from both the shadows of market transactions as well as from genuine market transactions is known as "**willingness to pay**", and can be used to yield such metrics as the "**value of a statistical life (VSL)**". For example, if a safety device is offered as an option on a new car, then the pattern of new car buyers who select and who reject that safety option reveals (it is claimed) the dollar value of the willingness to pay those buyers place on the associated reduction in risk of injury and/or death; and, conversely that willingness to pay then can be used to generate the value of a statistical life.

See, for example, from the champion of the VSL literature, Viscusi, W. Kip, "How to Value a Life (March 18, 2008), Vanderbilt Law and Economics Research Paper No. 08-16 Available at SSRN: <http://ssrn.com/abstract-113978>. For an older take on the issue, with a law focus, see, Miller, Ted, "Public Policy: Willingness to Pay Comes of Age: Will the System Survive?", 83 Nw.U.L.R. 876 (Summer 1989). Moving further back into the mist towards the origins of such formal analysis, see, Dublin, L.I. and A.J. Lotka, *Money Value of a Man*, The Roland Press Company: New York, 1930. Lastly, for one of the oldest (the oldest?) formal forensic economics treatments, see, Burr, Chauncey Rea, *Economic Value of*

Identical words can appear as jargon words in more than one discipline. If jargon words are moved between disciplines, then differences in definitions and differences in understandings of central tendencies of a jargon word as well as the flexibility and outer bounds of a jargon word make interdisciplinary analysis difficult.

Economics⁵ and the law⁶ both use pecuniary, but not necessarily in the same spirit. To economics, pecuniary means no more than money itself. To the law, pecuniary connects directly to money itself but also connotes a broader and more flexible meaning. To the law, pecuniary connotes a market transaction.⁷ For example,

Man: A Treatise on the Economic Value of Man, Together with Rules for Determining his Economic Loss in Every Case of Injury or Disease, Senate Doc. 965; 63rd Congress, 3rd session; Government Printing Office: Washington, D.C., 1915.

In July 2008 the USA EPA changed the VSL that the EPA uses in its cost/benefit ratios for evaluating the appropriateness of regulation. In real dollars (i.e., after including the effects of inflation or deflation on the value of a nominal dollar), before that VSL change by EPA "your" life was worth \$7.8 million; and after that change "your" life is worth \$6.9 million. It is a simple and ordinary extension of this logic to note that retirees are less expensive deaths than workers, but babies are worth the least. This means EPA previously had been erroneously insisting on an "inefficiently" safe environment.

<http://www.ombwatch.org/article/articleview/4303>

<http://ap.google.com/article/ALeqM5i40Z1LWhFws4xIKaXbYZ96a8y6QD91R8K800>

Oh, by the way, does it matter if Fluffy is a three headed dog overly found of harp music? Those few readers that read to the end of a footnote ought to get some reward.

⁵ Economics prefers the fungible nature of money (see, footnote 8). Economists reflect this preference in how they use the word "pecuniary". Economists preface a particular form of **externality** (i.e., cost or benefit not captured by market price) with the adjective pecuniary as well as preface a particular form of criminal penalty with the adjective pecuniary.

A **pecuniary externality** is treated as less significant since a pecuniary externality is not related to underlying production realities (e.g., technological requirements). The pecuniary externality being fungible is less worrisome. Similarly, a **pecuniary penalty** is viewed (by economists) as superior penalty (from their perspective and their definition of efficiency) because the pecuniary penalty is moves freely in the market. A time penalty (e.g., jail time) is lumpy and can retard an efficient allocation. See, for example, *The New Palgrave Dictionary of Economics*. Second Edition, 2008.

It ought to be obvious to even the most casual observer (it is said with tongue firmly in cheek) that since time is money, money must be time. Accordingly, it only is right and good (i.e., efficient) that rich folks not go to jail, but rather rich folks ought merely disgorge so much green confetti that is not particularly treasured given its relative abundance in their wallet. The short and sweet of it is that economists prefer pecuniary, including preferring the problems that economists might confront also being of the species money.

As an aside, I will note it is a tad odd that economists do not employ Coasian analysis to save the time penalty (e.g., jail time) from being an inefficient penalty. In Coasian analysis, an initial allocation of resources, no matter how distorted, will generate an efficient end allocation and an efficient use of resources as long as there are a limited number of transaction and those transactions come at a cumulatively small total cost. Economists infrequently trouble themselves with the lack of satisfaction of either of those theoretical requirements when seeking to salvage distorted initial allocations that favor the rich. See, the text accompanying footnote 6 in O'Hara, Michael J, "Digest of Selected Articles: Usufructs", *37 Real Estate Law Journal* 253 (2008) that cites Coase, R.H., "The Problem of Social Cost", *3 J.L. & Econ.* 1 (1960).

⁶ Quoting from *Black's Law Dictionary* (8th ed. 2004),

pecuniary, adj. Of or relating to money, monetary <a pecuniary interest in the lawsuit>.

pecuniary damages, see DAMAGES.

damages, n. pl. Money claimed by, or ordered to be paid to, a person as compensation for loss or injury <the plaintiff seeks \$8,000 in damages from the defendant>. -- damage, adj. "Damages are the sum of money which a person wronged is entitled to receive from the wrongdoer as compensation for the wrong." Frank Graham, *The Law of Damages* 1 (1936).

⁷ See, footnote 6, footnote 1, and footnote 11.

gifts from family and friends fostering recuperation following a wrongful injury are not recoverable losses and might foreclose offering proof of any similar future needs.

Money ala economics⁸ provides three functions: [i] unit of account; [ii] store of value; and [iii] medium of exchange. The law's⁹ use of money is different.

In the hands of economics and of the law, the unit of account function of money is treated as obvious. "Unit of account" can be read narrowly and can be read broadly. Read narrowly, a unit of account is no more than a mere bookkeeping entry. Read broadly, a unit of account can be a metric of value. The obviousness with which both economics and the law react to the unit of account suggests that both read it no more broadly than a mere bookkeeping entry. Accordingly, to rack the value we would turn to the medium of exchange function of money rather than the unit of account function of money.

The law's use of money in damages is closest to the medium of exchange function of money. But note, the law tends to conflate the medium of exchange concept with the economist's money as a store of value. The economist's quoted definition in footnote 8 does alert the reader to the potential for lack of temporal stability in that stored value (e.g., deflation), but the quoted definition does not comment upon how well ephemeral values (e.g., alienation of affections) might be stored.

Most importantly, both economics and the law need a context for exchange for money to contain an expression of value. Theoretically at least, money itself is not value; instead money merely allows some (but not all) values to be revealed by exchanges. Many ephemeral values, emotional values, and/or shared values (e.g., non-actionable public nuisances in the presence of a private nuisance) can not enter into nor participate in that context for generating exchange valuation. Hence, the policy almost always ignores¹⁰ such values excluded from the context of exchange any time a policy choice relies upon money as a proxy for value.

If money is a flexible term, then on that flexible continuum the word "value" might be classified as a positively mercurial term. *Black's* has 91 entries for forms of "value", and one subentry under "value" is our legal lode star: fair market value.¹¹ Note

⁸ "Money is a good that acts as a medium of exchange in transactions. Classically it is said that money acts as *a unit of account, a store of value, and a medium of exchange*. Most authors find that the first two are nonessential properties that follow from the third. In fact, other goods are often better than money at being intertemporal stores of value, since most monies degrade in value over time through inflation or the overthrow of governments."

Definition (emphasis in the original) from <http://economics.about.com/library/glossary/bldef-money.htm>.

⁹ Quoting from *Black's Law Dictionary*, (8th edition, 2004).

money. 1. The medium of exchange authorized or adopted by a government as part of its currency; esp. domestic currency <coins and currency are money>. UCC § 1-201(b)(24). 2. Assets that can be easily converted to cash <demand deposits are money>. 3. Capital that is invested or traded as a commodity <the money market>. 4. (pl.) Funds; sums of money <investment moneys>. -- Also spelled (in sense 4) monies. See MEDIUM OF EXCHANGE; LEGAL TENDER.

medium of exchange. Anything generally accepted as payment in a transaction and recognized as a standard of value <money is a medium of exchange>. Cf. EXCHANGE (2); CURRENCY; LEGAL TENDER.

¹⁰ Necessarily? In practice? Ignorantly? Intentionally?

¹¹ Quoting from *Black's Law Dictionary*, (8th edition, 2004).

fair market value. The price that a seller is willing to accept and a buyer is willing to pay on the open market and in an arm's-length transaction; the point at which supply and demand intersect. -- Abbr. FMV. -- Also termed actual value; actual cash value; actual market value; cash value; clear market value;

that in the *Black's* definition of fair market value quoted in footnote 11, a series of synonyms is given. One synonym of fair market value is actual value: which speaks volumes. The policy choice is that the actual value of Fluffy is the fair market value of Fluffy.¹²

The law's fair market value calls for a transaction context that is less rigorously defined than the theoretical markets of economics. The law calls for an open market while the rigorous theory of economics requires a perfectly competitive market.¹³ In practice, the law's open market might be in fact far more demanding than many real world markets can satisfy.¹⁴ Since we will have enough on our plate without dragging in the kitchen and its sink, let's just pretend that we have access to some market that can generate that thing we call fair market value. And, thereby limit our focus to meaning of that dollar value rather than to the process that generates that quantum.

Money acts as a store of value. That form of storage also is a policy choice. With the value stored in money, time, necessarily, becomes a part of money and that subset of values that money seeks to encapsulate.

fair and reasonable value; fair cash market value; fair cash value; fair market price; fair value; full value; just value; market value; salable value; true value. [Cases: Taxation ¶ 348(3).] "[A] forced sale price is not fair value though it may be used as evidence on the question of fair value. Likewise, the fair value of saleable assets is not what they would sell for in the slow process of the debtor's trade as if the debtor were continuing business unhampered. The general idea of fair value is the amount of money the debtor could raise from its property in a short period of time, but not so short as to approximate a forced sale, if the debtor operated as a reasonably prudent and diligent businessman with his interests in mind, especially a proper concern for the payment of his debts." David G. Epstein et al., *Bankruptcy* § 6-18, at 307 (1993).

¹² Are you now ready to answer the question posed in footnote 4? See also, text accompanying and footnote 31 where some daylight gets between FMV and actual value for a pet.

¹³ A perfectly competitive market only exists in theory and never has (because it physically can not) exist in reality.

The requirements include a large number of buyers and sellers exchanging homogenous goods. All of those buyers and sellers each must have perfect information. All of the transactions must be voluntary. Entry into and exit from that market must be easy.

In short, no large corporations, no product differentiation, no informational asymmetries, no regulations, and no barriers to entry or exit. That is, in short, no reality. The rigorous theory generates many beautiful results (e.g., "The consumer is king.") and much of the published economics research seeks to prove no more than inconsequential the relaxation of the theoretical requirements.

¹⁴ Forensic economics is a subset of economics and a subset of law. A forensic economist (FE) often functions in the role of an expert witness in litigation. An FE works with real world data.

One consequence of being required to work with the real world, the definition of fair market value used by a forensic economist does not jibe exactly with the definition of fair market value as defined by *Black's* in footnote 11.

In building an estimate of fair market value the FE's that focuses upon commercial damages look for a set of five market attributes (see next paragraph) and adjust the FE's estimate of the resulting value based upon how those attributes are manifested in the market relevant to the litigation. The five market attributes are similar to but relaxed forms of the perfectly competitive market theoretical requirements identified in footnote 13. The five market attributes are similar to and somewhat more demanding than the open market of the law.

Fair Market Value (FMV) comes from a market where: 1. property would exchange; 2. between a willing buyer and a willing seller; 3. both knowing all material facts; 4. in a voluntary transaction (e.g., no fraud, duress); and 5. with equity to both. Note how the litigation metric of FMV is focused more narrowly on the plaintiff and the defendant than is economic theory as well as note how the law ends with an attribute that is alien to most economists: equity. See, Smith, Gordon V. and Parr, Russell L. *Valuation of Intellectual Property and Intangible Assets*. Third Edition. Wiley Intellectual Property Series. John Wiley & Sons, Inc.: New York, 2000.

The Rule of 72 is a neat little math trick¹⁵ for approximating how dollar values are altered by time.¹⁶ One critical component of such temporal analysis of money is the final analytical step required to complete the exchange between now and the future. That is, today, the present must dedicate the calculated discounted present value solely to the purpose of serving the paying for the future harm. Without that current dedication of cash there will be no future stream of dollars to cover the forecasted future harm.

Routinely, no money is set aside. Routinely, the Rule of 72 is used for no purpose other than measuring how much we will ignore. Typically, we all are like Popeye's friend Wimpy, and perpetually we are eager to pay on Tuesday for a hamburger today.¹⁷ If no cash is set aside today, then rather than bogus calculated value that is ignored, we ought to be as honest as the law's fair market value and say the transaction value (i.e., zero) is the actual value. Or, our honesty might prompt us to characterize the transaction between the present and the future not as a market exchange, but to more accurately portray the transaction as a theft.

In accounting and in finance, it is ordinary to set aside funds for a dedicated purpose (e.g., sinking fund for replacement purchase of a capital asset currently being consumed). The strength of the dedication varies widely, however. Some funds are no

¹⁵ The **Rule of 72** calls for dividing 72 by the period's interest rate stated as an integer (e.g., 7.2% interest is written as 7.2 rather than as 0.072). The result of that division is the number of time periods need to double (if being paid interest) or to halve (if paying interest) the original value. Thus, if \$3 is borrowed at an interest rate of 7.2% per year, then in 10 years the borrower will have paid to the lender both \$3 of interest and \$3 of principal. To the borrower, the future value is twice the present value. To the lender, the present value is half of the future value.

If the above is not perfectly clear to you, then perhaps it would be wise for you to be neither a borrower nor a lender.

Some prefer the Rule of 70. This math trick only yields a close approximation. How close depends upon the absolute size of interest rate. Economists and biologists tend to work with rates of change in the range of 3.0% per year; and, thus, use the Rule of 72. The economist works with the risk that is purely temporal. In finance, the task is to capture two risks: the real rate interest of the economist as well as the risk rate of the borrower's non-repayment. Accordingly, in finance, one works with rates in the range of 7.0% per year; and, thus, use the Rule of 70.

¹⁶ Clock time, of course, is a fiction. Clocks are real, but what they purport to measure is a tall tale worthy of Paul Bunyan or Pecos Bill. <http://www.americanfolklore.net/tt.html>

Humans use clocks to divide into artificial and discrete units a seamless web of time. Those artificially uniform divisions empower human vision to see quite different types of changes as similar rather than as unique. To make the changes of apples more objectively comparable to the changes of oranges, humans overlay the fiction of clock time. Neither apples nor oranges tick off seconds, but do experience idiosyncratic processes of change. Genuine time is calibrated by those idiosyncratic, natural processes even if humans track those changes by the human's artificial seconds.

It ought to be no surprise that value ebbs and flows with other processes. (Do processes equate with transaction in the form that we have been discussing transactions and/or market exchanges?) The ticket scalper's price is higher before the start of the game than at halftime. Our fiction of clock time helps us see that ebb and flow. But, our fiction of clock time comes with heavy baggage in the form of necessary assumptions concerning the comparability of the idiosyncratic, natural processes of those apples and those oranges.

But, not to worry, any inconvenience of that heavy baggage can be avoided. We can travel light on our analytical voyage for calibrating value by merely jettisoning as so much flotsam any remembrance of the fiction of clock time. Once we are liberated from the remembrance of the fiction of clock time, we can then apply in a rote fashion of the Rule of 72. Then, as we read off of our calculator our quite precise calculations we can feel confident that a year of interest is identical to the ebb and flow of value in a natural process. See also, footnote 25.

¹⁷ http://en.wikipedia.org/wiki/J._Wellington_Wimpy

more dedicated than as is connoted by the name slush fund. Other dedicated funds are more firmly attached to their purported purpose (e.g., segregated funds; pledge funds). Pledged funds are dedicated in such a way to create a cause of action in favor of security holders if funds are misdirected towards a purpose other than the pledged purpose.

Most frequently, dedicated funds are slush funds (e.g., only the primarily intended purpose is to meet expected contingent liabilities). When we do no more than calculate the discounted present value of the future harm by using the Rule of 72, and then purport to limit our current actions to efficient harms, we do not even set aside a slush fund. When, like Wimpy, we do not put our money where our mouth is, the analytical value we genuinely use is zero. That is a policy choice.

DID YOUR LITTLE PIGGY GET TO MARKET?¹⁸

Both economics and USA law defer, as a matter of policy, to markets for most rationing decisions. Both reject markets as inappropriate for some rationing decisions (e.g., natural monopolies). And, economics and the law split on the appropriateness of markets for still other rationing decisions (e.g., kidneys). Both economics and the law make those policy choices because of certain assumed characteristics of markets that predispose markets to generate rationing decisions with particular characteristics (e.g., impersonal efficiency). But, markets, like love is, are blind to some values; and both economics and the law blindly see beauty in the results of the market.

Above, we looked at dollar values temporally. In addition to temporally, markets also exist contextually (e.g., spatially; by commodity; by quantity). Accordingly, money needs to store value both over time and over context (e.g., geography). Just as time adjusts the value of a dollar, so too does jurisdiction. Different jurisdictions will have different policy preferences with respect to the value of a dollar, as it were. In addition to interest payments altering the value of a dollar, if the transaction crosses currency jurisdictions, then the value of a dollar almost certainly will need to be adjusted for foreign exchange requirements.¹⁹

¹⁸ http://www.rhymes.org.uk/this_little_piggy.htm

¹⁹ A contentious point in the law of work place injuries revolves around damages for injuries caused by the wrongful actions of the employer who previously has committed the crime of knowingly hiring an illegal alien. Which wage market is the relevant market for the forensic economist to use when forecasting the earning lost? Is the relevant wage market the USA wage market or the alien's home's wage market?

The market processes prior to the work place injury are clear. The market generated an unlawful transaction as both of the market participants (e.g., criminal domestic employer and illegal immigrant employee) sought out the market benefits of arbitrage. **Arbitrage** involves moving an item from a market that places a low value on the item to a market that places a high value on the item.

The policy choice is far less clear. Are the future lost earnings of an illegal immigrant to be forecasted by assuming a continuing crime by the injured employee? Or, is the past crime of the employer whose subsequent wrongful act injured the employee to be rewarded with a court order of damages reduced substantially in size by forecasting the injured employee's lost earning using the illegal immigrant's home country's wage rates?

Labor is not the only thing that crosses boundaries without permission. Environmental harms often span jurisdictional boundaries. Are the environmental harms to be estimated using the value structure of the harming jurisdiction (e.g., coal fired electricity generation plant in Ohio) or of the harmed jurisdiction (e.g., Ontario's forest and fisheries losses due to acid rain)? Those value structures expressed in (Canadian?) dollar values would quite likely diverge, and do so substantially.

That said, once a dollar value is established, what exchange rate is to be used?

Not all markets are perfect: not by a long shot. Markets come and markets go; as well as when here, markets can be thick or markets can be thin. Since the law can be as adept as economics in building sand castles in the sky, it ought to come as no surprise that the law's hypothetical open market need not exist at all. And, in fact, the law might be content with a market that is known not to exist.²⁰ That does not stop the law from finding fair market value. To accomplish that feat an economic expert²¹ is used to fabricate a but for world out of the finest whole cloth.

Fair market value is used by the law of damages to define the hypothetical context for the requisite exchange. A buyer who is both willing and able is coupled with a seller who also is both willing and able, both of whom possess all material information, and with those necessary elements that market will generate a fair market value. When some or all of those necessary elements are missing from the real world market, the law does not abandon its allegiance to awarding fair market value, the law merely turns to economic experts.²² Experts can approximate the value that would be generated by such a market by using proxy measurers of value.

YOU SAY POTATO, AND I SAY POTATO²³

The first proxy is comparable purchases from --a-- market. The second proxy is the forecasted income adjusted for the time value of money. The third proxy is cost of replacement via fabrication.

In the real world, the only type of market that is available is a flawed market. The flaws might be so great (individually or collectively) so as to warrant the label market failure. That said, many real world markets generate results (if not possesses characteristics) that approximate the results of the law's theorized open or free market. Accordingly, purchases from the market might afford an expert with sufficient basis²⁴

²⁰ The legal process of mortgage foreclosure sale is not to be stopped by a court's equity powers merely because there is no active market and the resulting sale will generate a sale price at great variance from the fair market value. 55 *Am. Jur.* 2d 941.

²¹ *Federal Rules of Evidence*, Rule 702.

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

<http://www.law.cornell.edu/rules/fre/rules.htm>

²² There are several professional associations related to expert witnesses on economic damages. The oldest associations are the fraternal twins National Association of Forensic Economists (www.NAFE.net) and the American Academy of Economic and Financial Experts (www.AAEFE.org) that jointly sprang from a single discussion at meeting of the Eastern Economics Association (<http://www.iona.edu/eea/>) in the late 1980s prior to inexpensive long distance telephone service. A middle sibling is American Rehabilitation Economics Association (www.A-E-R-A.org) and it is focused on vocational rehabilitation issues. The newest sibling is the College of Pecuniary Damages Experts (www.CPDE.info).

²³ <http://www.stlyrics.com/lyrics/whenharrymetsally/letsallthewholethingoff.htm>

²⁴ *Federal Rules of Evidence*, Rule 703.

The facts or data in the particular case upon which an expert bases an opinion or inference may be those perceived by or made known to the expert at or before the hearing. If of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject, the facts or data need not be admissible in evidence in order for the opinion or inference to be admitted. Facts or data that are otherwise inadmissible shall not be disclosed to the jury by the proponent of the opinion or inference

for an expert's opinion. Economic theory posits homogeneous (i.e., fungible) goods, whereas every real world manager continually strives for product differentiation. Thus, the crux of an expert's use of market purchases is being able to construct an array of comparable goods exchanged in market transactions comparable to free market transactions. The resulting sky might be bright blue.

As noted above in footnote 5, economics uses the concept of an externality. The market price does not contain payment for all inputs. For example, what did you pay for your last breath of fresh air? Will the expert's comparable gather those comparables while tabulating the externalities of each purported comparable? Or, is the comparable in a market sense rather than in the sense of total cost to society? Surely, a forensic economist would gather and sort comparables while explicitly cognizant of subsidies and taxes. But, will externalities be included in that racking of value? Using pecuniary metrics generates a host of policy choices that all too often are unsuspected, over looked, or deliberately ignored.

Theoretically, the market price of an item ought to equate with the discounted present value of the future value stream of ownership. Cash income stream is quickly equated with value, when using this motif. And, in turn, fair market value is quickly equated with the discounted present value (e.g., Rule of 72) of the future income stream from the item. If ownership of an item could generate a stream of royalty payments, then the fair market value (e.g., market price) of that item ought to be no more than the discounted present value of that stream of income. Often, this dodge will work. For example, when if there are significant market failures in the market for current sale of the item, but the real world market for the royalty stream is a passably functioning market, then this dodge might work. Assuming, of course, that value and money are identical.

Would you pay more to buy an item than what it would cost you to make the item? The negative answer to that question is the basis²⁵ for seeing replacement cost as a boundary²⁶ on estimable range that contains the fair market value price. Yes, the market transaction offers other product attributes; notably convenience, immediacy, and certainty of acquisition. However, those included attributes each are individually purchasable (in theory), either from the market or from the production process. Theoretically, the homogenous goods of the market are infinitely variable across all desired characteristics. Yeah, right. And, also in theory, there are different production paths to the item itself that allow for the capture of those different attributes (e.g.,

unless the court determines that their probative value in assisting the jury to evaluate the expert's opinion substantially outweighs their prejudicial effect.

<http://www.law.cornell.edu/rules/fre/rules.htm>

²⁵ Please, we are discussing theory, try not to pay too close attention to the man behind the screen. He is not the Great OZ, and it is just distracting to point out that humbug. If you are going to insist upon noting that the entire fast food industry is proof positive that folks willingly pay far more for far less quality, then you are going to have a very hard time playing this game. See also, text accompanying footnote 27.

²⁶ Replacement cost might provide the upper bound or might provide the lower bound of that range estimate of fair market value. If you can fabricate a substitute item in all relevant respects for a manufactured cost of \$10, then that \$10 becomes the price ceiling you would pay into the market to purchase the item. If, however, market transaction attributes such as convenience, immediacy, or certainty create significant value streams that are not available from self manufacture, then your \$10 cost of manufacture might be a price floor for the estimate of fair market value.

certainty). A variable production path tends to be more plausible than a market with all relevant variations. Quite frequently, the process of fabricating the item on one's own can offer alternative pathways to success that provide a means of estimating the cost differences for convenience, immediacy, and certainty.²⁷

HEADS AND TAILS WITH AN INATTENTIVE HOBGOBLIN

Standing to sue and remedies are two heads of the same coin. Typically, the law uses pecuniary as a concept to sculpt both the rights (e.g., standing to sue) and the remedies (e.g., monetary award versus specific performance). That is, pecuniary losses (e.g., cover) are far more frequently recognized than losses that are not pecuniary (e.g., pain and suffering). Also, pecuniary remedies (e.g., punitive damages) are more likely than non-pecuniary remedies (e.g., forfeiture of limb).

Speaking broadly, "the law" contains both (speaking narrowly) law (e.g., damages) and equity (e.g., specific performance). The former has a strong preference for pecuniary, and the latter exists in no small part as an escape from nettlesome valuation questions when confined to pecuniary remedies.

Definitionally, damages in the law are paid as monetary compensation to make the injured party whole. Not whole is the truest sense of the word (e.g., restoration of a limb lost in an accident), but whole in the pecuniary sense. This distinction we have wrestled with since freshman year in law school. Since then, the distinction is likely to have become so rote an application that we have lost all sense of how the plaintiff is not made whole.

Equity strives to provide remedies that the law can not. Since the law focuses upon money awards, most frequently the phrase "restitutionary damages" is an oxymoron as equity. However, if profits gained by the defendant had been wrongfully denied the plaintiff, then equity of unjust enrichment might compel transfer of money in the form of restitutionary money damages.²⁸ While we are operating in the realm of the law and money damages it is understandable that we might be blind to the infirmities of money as a metric of lost value. However, when we find ourselves in equity, we ought to have a clue that money will not accurately capture the values lost.

Lost wages surely are a pecuniary loss and a pecuniary remedy will make that plaintiff whole for *that* loss. However, can wages be lost by a wrongful termination without also suffering a loss of reputation? Typically, will the law offer up pecuniary damages for that lost reputation; or, typically, will the law declare that lost reputation as a mere *de minimus* loss? The objective value of that lost reputation might be *de minimus* (especially when calculated as net value after incurring the cost of effective proof²⁹), but the plaintiff is not made whole when *that* lost value is not racked.

When the law loses sight of the fact that subjective values are almost always are categorically *de minimus* in the eyes of the law, what beauty does the law see?

²⁷ However, certainty via production rarely approximates the certainty available from current purchase.

²⁸ Baker, Kit. "Riddles, Remedies and Restitution: Quantifying Gain in Unjust Enrichment Law (2001)." University of Queensland TC Beirne School of Law Research paper No. 08-02. Available at SSRN: <http://ssrn.com/abstract-1101959>.

²⁹ See also, manuscript section below entitled "Adding Insult to Injury".

The real source of conflict in eminent domain case *Kelo*³⁰ was not the exercise of eminent domain. The real source of conflict was the loss of value streams beyond the scope of just compensation. The plaintiff could not be made whole by money. As with all land, its uniqueness prevents the market from offering genuine substitutes that are free of material compromises. The commuting distance might be equivalent, but the ambience of the commute might vary greatly. Very importantly, the community of neighbors as a value to each displaced resident can not be resurrected. Because land is unique, and the assumed markets are full of replacement items that are far from fungible with the item taken. There is no market in which the *Kelo* plaintiff's can buy what was lost.

The true rule³¹ of damages for the loss of an animal is: **[i]** fair market value, if any, as well as consideration of **[ii]** any special or pecuniary value lost by the owner by such proof as the circumstances permit. That second value, the purported actual value to the owner, can be positive even when the fair market value is zero. But note, that purported actual value still must be pecuniary in nature. Also, any economic value that is part of that actual value to the owner must be derived from the animal, rather than from the owner (e.g., service animal such as a seeing eye dog). That is, to have value, the animal must be capable of exchange. This is similar to the tort rule for loss of use of one's own body where the value of one's time spent self installing a catheter is accepted into evidence as part of damages even when the capped tort reform damages available for pain and suffering already have been reached. This also is similar to infringement of intellectual property damages where valuation might best be estimated by cost of replacement. The purported actual value is not the value to the plaintiff, but is the value obtainable via exchange with someone not the plaintiff. Tautologically, any non-pecuniary loss unique to the plaintiff is not a loss, so when the plaintiff is not compensated for that which is not a loss, the plaintiff is made whole. In no event does the genuine value of Fluffy *to you* get restored to you.

ADDING INSULT TO INJURY

Lastly, in addition to not being made whole in a genuine sense, the plaintiff is not made whole as measured by money. In the USA, it is the rare plaintiff that recovers the any of the costs of bringing suit. Neither the direct pecuniary costs of enforcing rights (e.g., attorney fees), nor the consequential costs associated with litigation (e.g., value of time lost), nor the non-pecuniary but very real costs associated with litigation (e.g., emotional strain) are ordered by the court to be paid by the defendant (must less recovered by the plaintiff).

The scholarship of economics and of the law includes contributions from a large cadre of fellow travelers sharing the moniker "law and economics". There really are two groups under than banner. The original band of academics using the label "law and economics" hailed from the Institutionalist School of thought and their fruits include such landmarks as public utility commissions. The currently most well known band of academics using the label "law and economics" also travel under the banner the Chicago School, and to their eyes the market's flaws nearly always are minute in comparison to the flaws of governmental action.

³⁰ *Kelo v. New London* (04-108) 545 U.S. 469 (2005); affirmed 268 Conn. 1, 843 A. 2d 500 (2004).

³¹ 4 *Am. Jur.* 2d Animals §117.

The Chicago School of Law and Economics (CSLE) is fond of positing that the damages paid by the defendant share a mathematical identity with the damages suffered by the plaintiff. That is tautologically true if all of the preceding in this manuscript is ignored.³² Any one who every has taken a partial derivative using the calculus can anticipate the tremendous simplicity and ease of analysis that such an identity would create by eliminating all sorts of nettlesome variables and complexity. This may or may not be an instance of reality taking a back seat to ideology. But, it certainly is yet another stream of value not racked and yet another reason to question how well the goal of making the plaintiff whole has been served.

The Institutional School does not truncate its analysis with this tautological identity slight of hand in part because the Institutional School (unlike CSLE) has not confused the beauty of mathematical rigor with an accurate description of reality. As any lawyer knows well, rigorous analysis does not have partial derivatives as a necessary component. There are tools of analysis³³ that can be as probing or even more probing than the calculus. This is especially true when the calculus imposes impossible requirements³⁴ upon the inputs and upon the outputs prior to generating the outputs from analysis. Policy choices are made best when all values are racked.

A fair reader might be tempted to conclude that the author sees so little value captured by the law's pecuniary fetish that the law is fatally flawed for all purposes. But, that reader would be in error. The author does believe that all participants in the litigation process (especially including the trier of fact) ought to refresh their appreciation for the intense and immense deficiencies of pecuniary damages. But, like Winston Churchill's view of democracy,³⁵ this author sees the law's reliance on pecuniary damages as both flawed and preferable.

³² See also, footnote 10.

Also note that this assumption side steps one of the most important real world lessons taught in law school. To wit: there is a very real difference between a judgment ordered by the judge and a payment of damages owed by the defendant. For example, see footnote 27; and then recall footnote 25.

³³ Hayden, F. Gregory. *Policymaking for a Good Society: The Social Fabric Matrix Approach to Policy Analysis and Program Evaluation*. Springer: New York, 2006.

³⁴ E.g., [a] functions (i.e., each value of Y only associated with one value of X {e.g., no circles}); [b] continuous functions (i.e., no gaps in the smooth line {e.g., no price jumps at small changes in quantity}); and [c] infinitely divisible inputs and outputs (e.g., can buy 1/1,000th of an automobile {e.g., but see, this how for some consumers of automobiles this requirement now is satisfied by www.zipcar.com}).

³⁵ "Democracy is the worst form of government, except for all those other forms that have been tried from time to time.", Winston Churchill, House of Commons Speech, November 11, 1947. [http://wais.stanford.edu/Democracy/democracy_DemocracyAndChurchill\(090503\).html](http://wais.stanford.edu/Democracy/democracy_DemocracyAndChurchill(090503).html)