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Mohamed Mansour, Eric Kamwa

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JUDGES AND THE PRICE OF HUMAN LIFE IN THE FRENCH COURT SYSTEM

Mohamed MANSOUR

University of Paris-Dauphine | Tunis
20 Rue Baudelaire, El-Omrane 1005, Tunis, Tunisia
mansour@dauphine.tn

Eric KAMWA

LC2S UMR CNRS 8053, Université des Antilles,
Faculté de Droit et Economie de la Martinique,
Martinique, France
eric.kamwa@univ-antilles.fr
Corresponding author.

Abstract

We question the irrationality of the evaluation of the price of human life in the French court system, using an original database of 1,094 judgments, from 2011 to 2014, concerning judges' decisions on personal compensation in cases of fatal road accident. In this matter, French law follows a simple rule: the victim shall be restored to the same position that he would have been in had the accident not occurred. This principle puts the plaintiff in a situation of indifference between certainty and risk and requires giving a monetary estimation of the value of the victim's life. The goal of the paper is twofold. On one hand, we compare judges' evaluations of the value of life with those proposed by other actors who are also required to put a price on a human life: heirs and spouses who seek injury compensations, engineers who must estimate the value of a statistical human life in designing the road system, and the victims of accidents who bought life insurance to protect their families in such a case. On the other hand, we show how judges' decisions about the value of human life depart from the evaluations made by economists, and why there is such a wide dispersion in the levels of damages awarded in court decisions as well as in transactions.

Keywords: Judge; Value of life; Damage; Transactions; Courts' decisions.

JEL: K10, K15

1. INTRODUCTION

In France, Law N° 85-677 of 5 July 1985, known as the *Badinter Law*, establishes a right of compensation for road traffic accident victims or their dependents, in addition to the common law of civil liability. This is compensation for the damage caused by the accident; the law leaves it to the judges to specify the principle of assessment and decide upon the amount of damages awarded. A Judgment of the 2nd Chamber of the Court of Civil Cassation of October 28, 1954 (JCP 1957 II 8765), and confirmed by European law, indicates the doctrine to be followed in this matter, namely: “restoring as exactly as possible the balance destroyed by the damage and putting the victim back in the situation he would have been in, if the damaging act had not taken place.”

This Judgment resembles Article 271-72 of the Civil Code dealing with compensatory benefits in divorce matters, according to which “The compensatory benefit is set according to the needs of the spouse to whom it is paid and the resources of the other by taking into account the situation at the time of the divorce and its evolution in the foreseeable future.” Replacing the word “divorce” in this Article with “accidental death on the road by a third party” results in the same principle of compensation as that enacted by the Judgment of October 28, 1954.

It should be noted that the concept of compensation taken up by European law clashes head-on with the concept of compensation in the case of civil liability. The French civil code states the following:

Art. 1382 Any fact whatsoever of man, which causes damage to another, obliges the one through whose fault it happened, to repair it.

Art. 1383 Everyone is responsible for the damage he has caused not only by his own act, but also by his negligence or recklessness.

Art. 1384 We are responsible not only for the damage we cause of our own doing, but also for that caused by the acts of people for whom we must answer, or things that we have in our care.

In the specific case of road accidents, Articles 3 and 4 of the *Badinter Law* are unambiguous:

The victims, except the drivers of motorized land vehicles, are compensated for the damage resulting from the attacks on their person that they have suffered, without being able to be brought against them their own fault except for their inexcusable fault if it was the sole cause of the accident (Art. 3). The fault committed by the driver of the land motor vehicle has the effect of limiting or excluding compensation for the damage he has suffered. (Art. 4)

It is up to each judge to specify how to adapt his judgment to the particular case he is examining in order to comply with the law. Judges have long known that a law that claims to be

Universalist, and so seeks to quickly resolve a particular problem, tends to collide with the complex reality of the facts. What the legislators were apparently thinking is that the term ‘land motor vehicle’ generally refers to an object that runs with a gasoline or an electric motor and is driven by an individual on a road. But in fact, this is not a sufficiently precise definition: should, for example, a self-propelled lawn mower be considered as a vehicle? What about a self-driving car without a pilot inside? How does the judge assess the amount of compensation that the insurance will pay out to victims or other beneficiaries? What about the notion of inexcusable fault outside the case of intentional accidents, which excludes the driver or the victim from compensation? On these points, the legislation is silent; it is up to the judges to interpret it. Thus, arbitrariness and subjectivity become the daily bread of any judge who is unwilling to fall back upon the classic concept of civil liability and the associated notion of reparation.

In general, the legislation imposes an obligation on each driver to take out at least one third-party insurance policy, while the judge adopts an assessment principle such that the well-being of the individual should remain unchanged even if an accident occurs. However, an individual who had an absolute aversion to risk might be prepared to pay an insurer a premium so substantial that it would prevent him ever facing a punitive demand to compensate someone he had harmed. This would be contrary to the principle of insurance, which is to make people take risks that they would not have taken otherwise. The legislation thus explicitly encourages drivers, their insurers, as well as third-parties who may become victims, to a general irresponsibility. Through their insurance premiums, drivers will have paid in advance for the potential damage they can create by their driving behavior. But if someone has prepaid for the damage they might cause, why would the law seek to make them avoid it? They have no incentive to take the precautions, so dear to lawyers, characteristic of the *good family father*. For his part, the third-party victim knows that even if an accident does occur, his well-being will be maintained at the same level as it would have been had the accident not occurred: so he, too, has no incentive to be careful. This is the context in which the judge is called upon to do the work of assessing the amount of compensation to be paid. Should judges correct the imperfections of the law through case law, or reinforce these defects? In this paper, we focus on judges’ assessments of the amount of compensation to be paid to beneficiaries in the event of a fatal accident.

The rest of the paper is organized as follows: Section 2 discusses the valuation of the price of human life from two perspectives: that of (i) the roads and bridges engineer (*ingénieur des ponts et chaussées*) concerned about road safety, and (ii) the victim of the accident, including the

insurer and the beneficiaries. As we will note, each of these methods approaches the valuation of the price of human life from its own perspective. It should be noted that one may be tempted to avoid these different methods of evaluating the price of life, to base the evaluation on the indemnities paid to beneficiaries and paid out by insurers during a transaction or a judicial decision on the damage caused by a person responsible for a fatal road accident. Employing the database of the Association pour la Gestion des Informations sur les Risques de l'Assurance (AGIRA) for the period 2011–2014, Section 3 presents the facts in France by analyzing the indemnities paid to beneficiaries and paid out by insurers during a transaction or a judicial decision. This database is used in Section 4 to attempt to identify and explain the apparent irrationality of judges in the assessment of compensation covering damages. This section reveals that the inconsistency and inequalities observed by all the players in the amounts of compensation distributed to victims and beneficiaries constitutes an anomaly. This, in turn, explains why all these actors are calling for a homogenization or standardization of the criteria for assessing compensation. Section 5 concludes by providing a theoretical justification for the apparent irrationality of judges in their erratic awarding of compensation to victims and other concerned parties in cases of fatal road accidents

2. THE PRICE OF HUMAN LIFE FROM DIFFERENT PERSPECTIVES

One can distinguish two ways of conceiving the value of a human life: (i) The potential victim makes a judgment on the value of his life, for him and his loved ones; he then makes this judgment concrete by taking out insurance against his unexpected death. Alternatively, (ii) the value of life could be derived from the judgments made by economist-engineers (often in charge of public policy on road safety investments) who must efficiently allocate investment expenditures in the fight against various causes of premature mortality.

A priori, nothing requires these two approaches to issue in identical evaluations. There are at least two reasons why their points of view may be difficult to reconcile: (a) the value of an identified life is not perceived in the same way as that of an unidentified life, in the sense that the death of strangers does not affect us as much as that of a loved one (Small and Loewenstein, 2003); (b) the evaluation of a statistical life by an economist-engineer or by an insurer is ex ante, potential, and relates to a class of individuals, whereas on the other hand that of a specific and identifiable lost life is ex-post and must be determined by the beneficiaries where the victim

of an accident has not already taken out death insurance. In the latter case, the determination of the price of life is subjective, assessed on a case-by-case basis, and depends on the circumstances and causes of the accident and the responsibility of the drivers and the third-party victims.

Let us take a closer look at these two different points of view on conceiving the value of a human life.

2.1 *The value of human life as seen by economist-engineers*

Schelling (1968, 1984) introduces a major distinction between the *statistical value of a life* and the *value of the life of an identified person*. Road users are a class of individuals who face the possibility of having a fatal accident; they are neither identified nor identifiable, and the only thing known is the proportion of fatal accidents among the class of road users in whom the economist-engineers are interested.

For engineers, it is important to have a measure of the value of years of life lost, because only this allows us to determine whether a given road safety policy, which mobilizes additional financial resources, should be continued or abandoned. Economist-engineers suggest that a cost-benefit assessment be made of the additional public resources devoted to this objective, weighing the expenses generated by this policy against the expected gains. However, given their inability to identify any specific life among them, in the expected gains the main item is the value of the number of human lives saved; hence the expression *statistical life*. Let us illustrate this as follows. Consider a crossroads where the number of fatalities in the year is 6 per 100,000 motorists crossing it. Suppose that building a roundabout at this point would cost 1 million euros and reduce annual fatalities by half. To know whether the gains exceed the fixed costs of construction and the variable costs of maintenance, a monetary valuation of the three lives saved is needed. Normally, the objective of politicians is to ensure, on behalf of taxpayers, an efficient allocation of the resources devoted to the construction of roundabouts. For equal expenses, resources must be allocated to save as many human lives as possible from all causes of death. According to Boiteux (2003), such a goal is achieved when the value of an extra life saved is the same wherever the problem occurs, and costs of achieving this are likewise equal.

Thus, for it to be preferred, an investment of 1 million euros in the construction of a roundabout saving the value of three lives each year must save at least as many lives as in the case of another preventable cause of death—otherwise it would be more profitable to place this investment of

1 million euros, for instance, in an additional intensive cardiology team which could save the value of four lives per year. Either the three lives saved on the road are worth more than the four lives saved in cardiology, or they are worth less: in the first case, the number of investment projects in road safety must be increased to the point where the value of these three lives no longer exceeds that of the four lives saved in cardiology; and in the second case, the project must be abandoned. Increasing (respectively reducing) the number of road safety projects means simultaneously reducing (respectively increasing) the number of 1-million-euro projects in the fight against another preventable cause of death. If this million euros does not help equalize the value of the lives saved among all the preventable causes of death, there will always be a reason to shift its use to a cause of death other than that of road safety. The value of an extra life saved on the road is worth 1 million euros since this investment must be made in order to equalize the number of lives saved as regards fatal road accidents and heart attacks. We thus need to understand the importance of estimating the statistical value of a human life in the acceptance or rejection of this investment and its allocation to road safety as opposed to hospital services.

Note, however, that the calculation method used by engineers is not the one just discussed. The three most common methods of estimating the value of years of life lost are as follows (Dionne and Lanoie, 2003): (i) an approach in terms of the minimum expected profit that would be required for an individual to take a risk versus not taking it, where this estimate is revealed by the actions of individuals; (ii) an approach based on questionnaires on the maximum price that the interviewees are willing to pay to accept a risk; and (iii) an approach in terms of human capital.¹

2.1.1 The revealed preference approach

The revealed preference approach consists of estimating the minimum price required to accept a risk by comparing wage differentials between a dangerous job and a safe job. The present value of the difference in salary between these two jobs is a measure of the monetary compensation demanded by market players to take on the relevant risk. This method is based on the hedonistic theory of prices. In the economist's jargon, the additional compensation

¹ This approach can be split into two: (a) an estimate based on the cost of replacing the deceased person with a surrogate or (b) an estimate in terms of opportunity cost, i.e., present value and future income lost by the victim himself and all those who live at his expense: the beneficiaries and all those whose well-being depends on the compulsory deductions collected on the victim's income.

required to accept a given additional risk and maintain constant satisfaction is a measure of the “statistical” value of an individual’s life.

According to Table 4 of Dionne and Lanoie (2003, p. 263), there is great variety in the estimates made by economists who have to take on the role of social engineer, depending on the estimation method, the year the study was published, and the country. In the United States, for example, estimates vary between 1 and 21 million Canadian dollars with the revealed preference method for risky jobs and between 5 to 6 million Canadian dollars with market studies on the purchase of risky products.

Although this method has the advantage of being based on the behavior of individuals, it is difficult to isolate the impact of risk on the price difference compared to other factors that may influence it.

2.1.2 Contingent valuation

In the contingent valuation approach, people are asked directly (through surveys) to say what prices they would be willing to pay to reduce (or take) a risk related to their life. By summing these estimates over all individuals, we obtain a statistical value of life. Let us recall an example from Dionne and Lanoie (2003) in order to illustrate this approach. Consider 100,000 road users who are willing to pay \$40 each year to reduce the risk of death from 3 in 100,000 to 1 in 100,000. If 2 in 100,000 lives are saved through a total expenditure (contribution) of \$4 million, then the statistical value of a life will be \$2 million (4 million divided by 2). Recall that this statistical value of life is “only” that of the group of 100,000 people who are willing to pay \$40 to finance a risk-reduction technique. According to Ashenfelter and Greenstone (2004), using the contingent valuation method the price of life fluctuates between \$3 million and \$6.6 million.

Unlike the revealed preferences approach, the contingent valuation method makes it possible to isolate the impact of risk on the price difference, thanks to the protocol of the experiment or the questionnaire linked to the opinion survey. Its major drawback lies in the method itself: evaluations are opinions displayed publicly when collecting information, and has to presuppose that behaviors will correspond to those expressed opinions without any sacrifice on the part of the responder. It is this lack of real consideration that prevents this method from being used to draw a conclusion about the value of a person’s life. The same goes for the QUALY (Quality-Adjusted Life Year), a derivative of the contingent valuation method.

The QALY method, very often used for therapeutic trials and surgical procedures, estimates an indicator that varies between 0 (death) and 100 (perfect health) to measure the quality of a year of life. The QALY is also based on the use of a questionnaire where the interviewee is asked for his opinion in three different possible ways:

- (a) he calibrates this indicator himself from 0 to 100;
- (b) he indicates whether he would prefer to remain disabled for a given period or to have a normal life but for a shorter period;
- (c) he indicates whether he would choose to remain disabled for a given period (10 years) or to undergo a surgical intervention which restores a perfectly normal state of health until the date of his average life expectancy, but in return for a risk of dying, with a certain probability, during the intervention.

This questionnaire can easily be adapted to a sample of motorists, in the following terms: (a) the motorist calibrates the value of his time on a scale of 0 to 100; (b) he indicates whether he would prefer to drive slowly and lose time for a given period corresponding to his average life expectancy, or to drive fast to save time, but over a shorter period, by dying prematurely on the road; (c) he indicates whether he would prefer to drive slowly throughout his average life expectancy, or to drive fast but with the risk of dying prematurely on the road.

The fact remains that the credibility of the estimates resulting from this type of approach are not reliable, because they are not carried out under conditions where people indeed lose their lives: to make such experiments credible, this risk would have to be realized. Suppose, for example, that the organizers were to randomly “kill” two of the participants at the end of the experiment, in accord with some estimated probability of having a fatal road accident. How much money should then be offered to the participants to engage in the experiment? In such case, this method transposes into that of the disclosure of preferences. It remains to be seen who would do the dirty work of taking the lives of the two randomly selected participants—the organizers of the experiment or a third party—yet both the executor and the organizers of the experiment would have to answer in court for the sponsorship and execution of a double murder, even if they had made each participant sign their agreement to taking such a risk.² These so-called contingent valuation methods therefore do not reflect reality, but rather a virtual or

² This is particularly the case in hospitals where, prior to a surgical operation, one is required to sign a document which relieves the performer and the sponsor (head of the service, surgeon, anesthesiologist) of any responsibility for acts that could possibly end in death.

idealized framing which does not really exist. The values of life inferred from such a procedure therefore cannot be expected to have counterparts in reality.

2.1.3 The human capital approach

Economist-engineers also use an approach in terms of human capital—also known as the accounting method—where lost production is linked to the years of life lost prematurely as a result of a fatal road accident or early illness. In France, one of the first works to propose a monetary valuation according to this approach to calculating the price of human life is that of Michel Le Net (1978). This work was followed by several others, in particular from the working groups led by Marcel Boiteux (1994, 2001) and by Emile Quinet (2013). The approaches adopted by these working groups are quite similar to that of Le Net (1978). Table 1 provides the different amounts obtained.

Table 1: Some estimates of the price of a human life by the accounting method in France

	Year	Amounts in euros
Michel Le Net	1978	416,000 ³
Marcel Boiteux	1994	650,000
	2011	1,500,000
Emile Quinet	2013	3,000,000

The statistical and accounting estimation methods that we have just outlined are far from the object of consensus among the general population, let alone among economists and the physicians who have to attend accidents. An estimate of the cost of road mortalities can hardly be offered without an estimate of its counterpart: the expected gains from traveling on the road network or from using the car as a mode of transport. The opportunity cost of driving a vehicle ought to be deducted from the gains made by using a car rather than an alternative form of public transport (metro, tram, bus, train or plane). The first type of gain that we think of is time

³ 650,000 francs at the time (416,000 euros in 2010).

saving, the other is what Haight (1994) calls *positive externalities* or *network economies* linked to the spatial mobility of individuals, of which tourism is only one facet.

The statistical value of life is not a good indicator of the value of a concrete human life because the statistical victims are not identifiable. The estimates offered by economist-engineers cannot therefore be used as a basis for an estimate of the value of life by judges, beneficiaries, or victims. This is simply because the latter are perfectly identified ex-post.

2.2 *The value of human life from the perspective of victims*

The insurance market gives a valuation of the price of a perfectly identified human life. The purpose of this market is to assess not only the risk incurred but also the damage created by the event from which we want to be protected. To guard against possible losses resulting from a road accident, each individual protects himself against the occurrence of such an event. Careful behavior and individual precautions in order to avoid a possible accident are one way of reducing the risk involved; but these carry an opportunity cost. Such self-protection is then weighed against a simple alternative: that of going to an insurer. By contract, the insurer can undertake to maintain all or part of the standard of living of the beneficiaries at the level preceding the fatal accident on condition of paying an insurance premium which reflects the probability of the accident as estimated by the actors on the market (demanders and suppliers), in such a fashion as to render their expectations of the risk compatible.

To better understand how insurance companies estimate the value of a perfectly identified individual life, consider the following example. Suppose you are a photojournalist and get an assignment from a major daily newspaper to cover Islamist groups that are storming a city in the Middle East. Fearing being taken hostage, you contact an insurance company that offers special risk contracts such as *Kidnap and Ransom*.⁴ You ask the company if it can offer you a contract such that, if you are taken hostage, the insurance will pay a ransom of 1,800,000 euros to the hostage-takers to free you; or, if they behead you, it will pay this sum to your family. If the insurer offers you such a contract against an insurance premium of 100,000 euros, then the price of your life, as estimated by yourself, would be 1,700,000 euros (1,800,000 euros minus the 100,000 euros of the costs of the operation if the feared event occurs). For its part, the

⁴ Kidnap and ransom (K&R) insurance is designed to protect individuals and corporations operating in high-risk areas around the world.

insurer offers you the following bet: if you return safe and sound from the mission, it keeps the 100,000 euros; if not, it pays 1,800,000 euros to the hostage takers or to your family. So the capital you have is 1,700,000 euros (1,800,000 minus 100,000 euros). This contract has a net rate of return of 17 euros for a stake of 1 euro. In terms of sports betting, the fractional odds are 17 to 1 and the decimal odds are 18—which is to say, for 1 euro wagered on the insurance contract, you get 18 euros if the feared event occurs, which allows you to free yourself or to compensate the loss of income for loved ones. The decimal odds reveal the insurer's estimate of the frequency with which the feared event occurs: $1/18$, or 5.556%. If the journalist returns unscathed, the insurer keeps the 100,000 euros without having to spend it; but if the worst happens, the insurer must have at least 1,800,000 euros in equity to make good the bet. Note, however, that the insurer is *not* a bettor; it will only offer this contract if it is able to sell this type of contract to at least 18 *other journalists*, hoping for a single case of hostage-taking in the year. If the insurer expects it will not be able to sell this contract to more than 16 journalists in that year, or if two journalists are taken hostage rather than one, the insurer incurs financial losses because the premiums collected do not cover the damage for which the contract was concluded. The insurer is therefore taking a risk in the absence of information on the number of clients interested in the offer, or on the expected number of journalists taken hostage during the year. It may therefore refuse to offer this contract on the terms that you, as a journalist, propose. In such a case, a prudent journalist may turn to other alternatives to protect against this risk (such as hiring the services of bodyguards).

In the case of our example, the insurance agency's task is to determine the decimal odds that will equalize the income from clients' premiums with the expected expenses if it has to pay the ransom or compensate the beneficiaries. Thus, to accept the mission, each journalist will have to propose the maximum decimal odds which will maintain their constant satisfaction, and in return the insurer will offer a minimum decimal odds (one for which its profits are not negative). The effect of a possible competition between insurers leads to the decimal odds falling between these two limits.

Actuaries, statisticians, and economist-engineers based their calculations on a database of past observations. These data are assumed to persist into the future. Unfortunately, this is not always the case, since the shapes of the distribution curves may vary. Thus, many events that outside experts deem uninsurable for lack of an observable statistical distribution, would never be covered if insurers did indeed have to wait for this statistical information in order to act. In reality, however, driven by greed, the insurer looks for ways to insure one-off and catastrophic

events that are otherwise considered uninsurable. To do this, it suffices to find clients willing to finance the insurer's risk-taking in the hope of speculative profits (Lemenicier, 2014). This *tour de force* is enabled today thanks to financial innovations in derivatives markets.

The decimal odds that coordinate supply with demand in this market are the only correct measure of the price of human life. Why? A journalist will accept the mission if and only if the value of the photos taken in the theater of operations exceeds 100,000 euros. Indeed, if the income from the journalist's activity as a photographer is less than 100,000 euros, he must lower his expectations and bet a smaller sum on the temporary death contract, which will better reflect the value of his life. Make no mistake, *in fine*, it is customers of the newspaper who decide the value of the life of our journalist; and not the journalist himself through the market price. The value of our lives is decided not by ourselves, but by others. This is the reason why outside experts, not involved in the insurance market, who post arbitrary initial decimal odds, are deceiving their audiences, even where the audience is the insurers themselves who seek to use their odds estimates; and what applies to this type of risk applies to all forms of risk, including that of being killed on the road.

In fact, the life lost, whose value we are trying to assess, is a personal and perfectly identified life. When insurers and judges decide on the compensation to be paid to relatives of those who have died on the road, they usually face an identified family, which demands compensation for their loss—provided, that is, there is someone responsible for the accident (whether other users, or the persons in charge of the road network). In such a case, the monetary and non-monetary valuations of a perfectly identified life seem difficult to estimate. Assessments made on the personal worth of a life are subject to extreme subjectivity. In cases of extreme moral prejudice, even the relatives' courtroom asseverations that they have suffered deeply from this loss might be untrustworthy.⁵ Based on the arguments by relatives, the insurers and judges are then to pay compensation to beneficiaries: in so doing, these insurers and judges are trying to assess the value of an individual life. The compensations result from transactions between insurers and the parties to the dispute, or from a decision pronounced by a judge; they may cover loss of income opportunity, moral damage, and even funeral costs. By pronouncing a judgment on this monetary value, the transaction or the judicial decision reveals an estimate of the price of a human life from the point of view of the beneficiaries. These indemnities should be compared

⁵ Nothing can assure us that these relatives are not in fact happy with this outcome. It is not even certain that the person who accidentally dies would have regretted such an end of life compared to other, slower, ends.

with the pay-out to beneficiaries from an insurance contract taken out by motorists who sought to provide for their loved ones in the event of their premature death. After all, who is affected by this fatal accident if not the victim himself and his dependents? Instead of arbitrarily evaluating the price of a human life, it seems simpler to observe what is happening in the insurance market, and accept the value of human life as it emerges from the interaction between providers and applicants for life insurance contracts.

In the context of France, based on the insurance figures for 2013, premiums for health and personal accident insurance contracts, to which are added disability, long-term care, and accidental death guarantees, amounted to 38.4 billion euros.⁶ The reimbursement of claims was estimated at 14.2 billion euros, giving an average sum of 250,000 euros in compensation for each of the 56,812 victims. Assuming a normal profit of 4 billion euros for insurers (10% of revenue), 34.4 billion remains. If all the proceeds had been used to compensate the victims, each of them would have received 610,000 euros. The price of a human life, as seen by insurance companies, would thus fall somewhere between 250,000 euros and 610,000 euros: far from the estimates recommended in the Boiteux (2001) or Quinet (2013) reports.

If we focus on temporary life insurance contracts as offered by insurers taken individually, the proposals seem more attractive. Suppose an insurance company offers a death benefit of 150,000 euros for a premium of 960 euros per year if you are 50 years old—that is to say, for a 1 euro stake the insurer gives your beneficiaries 15.62 euros; this decimal odds amounts to an estimate for the probability of your premature death at age 60 of 6.4%. If we accept this contract, our life would be worth at least 150,000 euros. If it is not possible to take out capital over 150,000 euros, we will have to take out another insurance contract if we estimate that the value of our life exceeds 150,000 euros. An uncapped contract would better reveal the value each person places on his or her life. In addition, by betting for example 9,600 euros per year in insurance premiums, we could obtain a sum of 1,500,000 euros. After all, 9,600 euros a year equates to only 800 euros a month, the price of renting a small apartment in the Paris region. Obviously, as Krebs et al (2015) remark, at this price it is better to buy an apartment directly with a maximum loan in conjunction with death insurance. Capitalization life insurance, which combines the acquisition of capital with tax-exempt death insurance, is a competitor with pure death insurance: and the French clearly have no illusions on this matter, since they put almost

⁶ This includes auto insurance, general liability and accidental death or dependency insurance. Source: Insurance dashboard, key figures 2013.

all their savings into this financial product. We can therefore measure the value placed on human life by the average amount invested in life insurance and death benefits.

We are now in a better position to understand and criticize the way judges and insurers do, in practice, compensate victims of fatal road accidents.

3. INDEMNITIES OFFERED BY INSURERS DURING TRANSACTIONS AND/OR JUDICIAL DECISIONS: THE FACTS

One might be tempted to assess the price of a human life by examining the indemnities paid to beneficiaries and paid out by insurers during a transaction or a judicial decision on the damage caused by a person responsible for a fatal road accident. This compensation requested by the beneficiaries constitutes, according to the Badinter law, an assessment of the value of a human life as seen by those who have lost a loved one.⁷ It is a measure of the monetary and non-monetary income that they have been deprived of through the fault of a third party. If we are seeking to measure the damage caused by a death, there is no reason why this assessment should differ from that for a road user who suffers an untimely natural death.

According to the practical guide issued by the French Federation of Insurance Companies, after an accident the insurer sends the victim an offer of compensation; this offer may be reduced depending on the established liability of the accident victim, or the deduction of sums paid or payable by third-party payers (social organizations, employers, complementary health insurers, pension funds, etc.). If the victim considers the offer insufficient, she can either ask the insurer to make a new offer or take the matter to court. It is also possible to take the case to court without waiting for the amicable compensation offer.⁸ The judge then intervenes; and it is he who interests us in this section.

⁷ We are not interested in the injured, nor in the victims themselves (since they have died), but rather in the beneficiaries. As we have seen, the compensation rule proposed by the Badinter law, in the image of compensatory benefits in the event of divorce, specifies that the judge is “to restore as exactly as possible the balance destroyed by the damage and put the victim back in the situation in which she would have been, if the damaging act had not taken place.” For an economist, this principle of reparation is a form of comprehensive insurance that encourages those entitled to it to be indifferent to the premature demise of the partner, as if they had married solely for their partner’s monetary value.

⁸ See ‘accidents de la route : quelle indemnisation pour les dommages corporels ?’, website of the Federation Française de L’assurance, 15 December 2017, http://www.ffsa.fr/sites/jcms/c_51407/fr/accidents-de-la-route-quelle-indemnisation-pour-les-dommages-corporels?cc=fn_7300#corps1

According to the Dintilhac nomenclature,⁹ in the event of a death, the judge takes into account the loss of income, the loss of affection and support of the relatives of the victim (with or without a parental link), and funeral costs, while distinguishing between direct relatives (spouse) and indirect relatives (children). Compensation for future damages is generally discounted: the calculation is supposed to take into account the interest rate, and the number of years of life of which the deceased has been deprived—the higher this number, the higher the capital, while the higher the interest rate, the lower the capital. The recognition of the notion of loss of chance of survival refers to “the loss of chance of not having lived longer.” However, in most verdicts, to support their judgments, judges do not limit themselves to this rule alone. They can also pass judgment on the circumstances of the death.

Indeed, to set the amount of compensation, the judges take into account the state of consciousness in which the victim was just before his death, and base their Judgment on the suffering inflicted by a feeling of imminent death. The judges thus make reference to “the loss of chance of survival with the notion of the inevitability of death,” noting that “the damage is in such a case linked to the moral suffering experienced, because of the victim’s awareness of his own disappearance.” In both cases, when the victim has become aware of the seriousness of his condition and the inevitability of his death, the compensation awarded in this regard should be higher. The judge remains aware of the fact that no compensation, even very high, can replace the missing person, and distinguishes among other things between the accompanying damage, the damage to affections, and the material and economic damage to the beneficiaries.

Since there is a need to repair the moral damage suffered by the relatives of the victim, it is appropriate to compensate for the upheavals that the death of the victim has caused in the lives of his relatives. For direct members of the family (father, mother, spouse, child, brother, sister, grandchildren), the prejudice of affection is attributed automatically, since there is a family link with the victim. On the other hand, people not related to the victim must justify having maintained a real emotional bond. It follows that the judge needs not only to verify the existence of this emotional bond (which can sometimes reveal previously hidden realities) but must also

⁹ The Dintilhac nomenclature (2005) of damage items to be taken into account in order to standardize judges’ estimates was drawn up by a working group within the Ministry of Justice comprising specialists in bodily injury, and chaired by the president of the second civil chamber of the Court of Cassation, Jean-Pierre Dintilhac. It draws heavily on previous case law but also takes up some ideas from European working groups such as the one of Trier of 2000.

estimate the moral suffering of the person concerned. Thus, a person from outside the family can compete with the direct members of the victim and share the compensation awarded with them. The material and economic damage to the beneficiaries is evaluated a posteriori, according to the resources of the victim, the redistributions that he made during his lifetime with regard to his relatives, the income of the spouse, and the composition of the household. The calculation of these damages also includes the degree of expenses or reductions in income of relatives strictly linked to the death of the victim (example: temporary loss of employment, costs of transport, accommodation, meals, etc.). The judge could therefore more easily calculate the amount of material and economic damage to the beneficiaries based on tangible supporting documents using an accounting valuation method.

To investigate the assessments of human life made by the judges, we use the database of the Association for the Management of Information on Insurance Risks (AGIRA)¹⁰ for the years 2011–2014. In these data we are interested only in deaths; this considerably reduces the sample of observations, but it offers the possibility of comparing the indemnities with the different estimates of the price of human life made by economist-engineers and insurers. The technical files of the *Compensated Victims File*¹¹ (Fichier des Victimes Indemnisées, FVI) that we use here are rather brief. Information on the victim is limited: age and sex are specified, but nothing on the victim's occupation or level of education; the beneficiaries, other members of the family, are not specified. Nothing is said about the spouse, let alone whether the victim is divorced or widowed. These limitations notwithstanding, the following tables illustrate the amount of compensation paid and their dispersion around the average.

Table 2 shows the amount of compensation paid to beneficiaries in the period 2011–2014 (awarded by the judge, paid by insurers). The average amount was in the order of 88,753 euros. We notice a very high variability of the indemnities in the event of death: a standard deviation of 84,770 euros, but also a strong asymmetry, since the median (70,021 euros) is well below the average. In Table 3, we present judicial decisions separately from out-of-court settlements.

¹⁰ In French, Association pour la Gestion des Informations sur les Risques de l'Assurance.

¹¹ The purpose of the Compensated Victims File (Fichier des Victimes Indemnisées, FVI) is to inform the public of the compensation awarded to victims of traffic accidents within the framework of decisions taken either by settlement agreement or by judicial process. FVI was created by the law of July 5, 1985 and is updated every 6 months; it covers 36 months of compensation. Querying the file makes it possible to determine, for comparable situations, the compensation paid to injured persons with a disability, or to indirect victims (beneficiaries or relatives) of deceased persons. FVI is accessible at <http://www.victimesindeemisees-fvi.fr/>.

Table 2 Compensation (in euros) paid to beneficiaries in the event of a fatal accident

Number of observations: 1,094 victims							
	Total indemnities	Loss of income	Total damage	Funeral expenses	Damage to the spouse	Average number of relatives compensated	Compensation per person
Average	88,753	21,039	62555	5,164.6	7,690.4	5	13,685
Median	70,201	0	61,000	3,706	0	5	12,250
Standard deviation	84,770	67,177	35,822	18,098	13,565	2.6	8,829.2

Source : AGIRA's databases

Table 3 Judicial decisions and amicable settlements

	Total indemnities	Loss of income	Total damage	Funeral expenses	Damage to the spouse	Average number of relatives compensated	Compensation per person
Court decisions: 272 observations							
Average	106,740	28,952	71,179	6,631	8,733	5.4	13,443
Median	87,796	0	70,000	3,633	0	5	12,500
Standard deviation	95,817	80,414	36,301	32,796	15,567	2.6	6,531
Amicable settlements: 822 observations							
Average	82,802.3	18,420	59,701	4,681.3	7,345.4	4.8	13,752
Median	66,005	0	58,000	3,633	0	5	12,167
Standard deviation	79,959	62,013	35,221	32,796	15,567	2.6	9,481.2

Source : AGIRA's databases

On the basis of the examination of the total compensation paid, court decisions seem more favorable to the beneficiaries than amicable settlement.

Let us now consider in Table 4, the number of beneficiaries claiming compensation.

Table 4. Compensation and number of beneficiaries

	Total indemnities	Loss of income	Total damage	Funeral expenses	Damage to the spouse	Average number of relatives compensated	Compensation per person
Number of beneficiaries greater than 5: 440 observations.							
Average	121,540	28,473	88,461	4,608.1	9,480.0	7.67	11,783
Median	98,255	0	88,000	3,992.0	0	7.00	11,333
Standard deviation	87,517	77,897	27,598	4,462	13,458.0	1.57	3,555.5
Number of beneficiaries less than or equal to 5: 654 observations.							
Average	55,625	12,542	38,402	46,90.4	6,319.5	2.67	15,388
Median	41,760	0	35,000	3,372.0	0	3	13,354
Standard deviation	57,072	42,045	27,977	11,822	14,215	1,13	12,076.0

Source : AGIRA's databases and author's calculations

The relationship between the number of beneficiaries and the total compensation paid raises a problem. In the sample of 658 observations where the number of beneficiaries is less than 5 (2.6 on average), the total compensation is 55,625 euros; on the other hand, in the sample of 440 observations where the number of beneficiaries is greater than 5 (7.6 on average) the total compensation rises to 121,540 euros. This difference is enormous. Yet the spousal loss and the compensation per person are not significantly different between the two groups of beneficiaries since the standard deviations between the two samples overlap.

The indemnities proposed by the judge or the financial transaction therefore consist much more in satisfying the number of beneficiaries by distributing the indemnity between them, and not in compensating for the damage caused to the spouse, nor in sanctioning a fault by the party liable. The judge and/or the insurer also takes age and sex into account.

Table 5 Decisions (in average) by sex and age

	Total indemnities	Loss of income	Total damage	Funeral expenses	Damage to the spouse	Average number of relatives compensated	Compensation per person	Age in average
Men (706 observations)	96,907	27,199	64,857	4,858	8,594	5	14,239	41
Women (388 observations)	73,916	9,829,9	58,365	5,721.2	6,046.2	5	12,677	52
Over 32 years old, the median age (650 observations)	87,779	25,178	58,303	4,305	10,433	4.9	13,172	63
Under 32 years old, the median age (444 observations)	88,849	13,252	69,102	6,495.2	3,469.7	5.1	14,506	18

Source : AGIRA's databases and author's calculations

From the data, it appears that the value of a man exceeds that of a woman by 23,991 euros; an older person (63 years old on average) is worth a little less than a young person (18 years old on average), but the difference, at 1,070 euros, is insignificant. On the other hand, the loss of income and the damage to the spouse are appreciably higher when the person is old.

These results raise questions about the evaluations of human life made by judges or insurers. The estimates, expressed through a court decision or an amicable settlement, set the value of the life of a deceased person at 88,753 euros *plus or minus* 84,770 euros—i.e., somewhere between 173,523 and 3,983 euros. This sum is divided at the discretion of the parties to the amicable transaction or by decision of the judge in a way that seems very unequal; it does not correspond to an assessment of the value of life in economic terms. In short, in their estimates or judicial decisions, the judges seem to be irrational.

4. THE JUDGES' IRRATIONALITY HYPOTHESIS

We can formalize the problem faced by judges in the following way. Let us denote by c_{max}^i the maximum compensation offered by the perpetrator and by c_{min}^i the minimum compensation required by the victim for an accident type of i . We assume that the judge does not know the real compensation demanded by each of the two parties. He knows the proposals made, probably overestimated by the complainant or underestimated by the perpetrator. He will, however, arbitrate between the two propositions by weighting each of them. We denote by Φ_j the weighting made by judge j if he was aware of the difference between c_{max}^i and c_{min}^i . We can describe the difference between the compensation offered and requested for an accident of type i and the amount of compensation decided by a particular judge j , as follows:

$$c_e^{ij} = c_{max}^i - \Phi_j(c_{max}^i - c_{min}^i)$$

With $i = 1, 2, 3 \dots N$ and $j = 1, 2, 3, \dots, n$

The dispersion of indemnities therefore results from both the subjectivity of the judge (Φ_j , his impartiality, generosity, and/or incompetence) and the difference between the compensation offered by the perpetrator and that requested by the complainant, $c_{max}^i - c_{min}^i$.

Table 6 illustrates the two sources of uncertainty or dispersion for compensation.

Table 6 The sources of the dispersion of indemnities

Judges	Case 1	Case 2	.....	Case i	Case N	Variance
1	c_e^{11}	c_e^{21}	.....	c_e^{i1}	c_e^{N1}	$V(c_e^{i1}; i=1 \text{ to } N)$
2	c_e^{12}	c_e^{22}	.....	c_e^{i2}	c_e^{N2}	$V(c_e^{i2}; i=1 \text{ to } N)$
.....
j	c_e^{1j}	c_e^{2j}	.....	c_e^{ij}	c_e^{Nj}	$V(c_e^{ij}; i=1 \text{ to } N)$
n	c_e^{1n}	c_e^{2n}	.....	c_e^{in}	c_e^{Nn}	$V(c_e^{in}; i=1 \text{ to } N)$
Variance	$V(c_e^{1j}; j=1 \text{ to } n)$	$V(c_e^{2j}; j=1 \text{ to } n)$	.....	$V(c_e^{ij}; j=1 \text{ to } n)$	$V(c_e^{Nj}; j=1 \text{ to } n)$	

Consider a judge j in an appellate court who each year has to make court decisions on the amount of compensation for N fatal road accidents. The variance of the compensation amounts decided by this judge is

$$V(c_e^{ij}; i=1 \text{ to } N) = (1 - \Phi_j)V(c_{max}^i) + \Phi_j V(c_{min}^i)$$

With $\text{Cov}(c_{max}^i, c_{min}^i)$, the covariance between c_{max}^i and c_{min}^i , we can write

$$V(c_e^{ij}; i=1 \text{ to } N) = (1 - \Phi_j)^2 V(c_{max}^i) + (\Phi_j)^2 V(c_{min}^i) + 2(1 - \Phi_j)(1 - \Phi_j) \text{Cov}(c_{max}^i, c_{min}^i)$$

Or by exploiting $\text{Cor}(c_{max}^i, c_{min}^i)$, the correlation between the two random variables c_{max}^i and c_{min}^i ,

$$V(c_e^{ij}; i=1 \text{ to } N) = (1 - \Phi_j)^2 V(c_{max}^i) + (\Phi_j)^2 V(c_{min}^i) + 2(1 - \Phi_j)(1 - \Phi_j) \text{Cor}(c_{max}^i, c_{min}^i) \left(V(c_{max}^i)^{1/2} \right) \cdot \left(V(c_{min}^i)^{1/2} \right)$$

It appears that the variance of the indemnities is therefore a weighted average (by the judge) of the variance of the maximum and minimum compensations proposed by the parties involved in case i . We add a term corresponding to the correlation between the compensation offered and requested by the parties; this correlation can be positive or negative (and perfect if it is equal to unity). This dispersion increases with a positive correlation and decreases with a negative correlation.

As the compensation offered and requested for each accidental death on the road relates to a variety of accident circumstances, it seems reasonable to make an assumption of zero correlation between these two terms. The observed variance of the indemnities is then a weighted average of the variances of the indemnities according to a weight which reflects the judge's conception of how to resolve the conflict submitted to him.

As we noted previously, the law specifies that the practical rule to follow in this matter is "to find as exactly as possible the situation if the harmful act had not taken place." The legislators thus take the side of the victim by demanding from the judge maximum compensation such that a death on the road has no impact on the lives of beneficiaries. But the judge must both settle a conflict (a disagreement over the amount of compensation) *and* determine the amount of compensation that corresponds to the preferences of the legislators.

Now, consider the case where a court decision is requested on the same case from n different judges; at worst, we will have n different Φ_j . The variance is then written for the case i :

$$c_e^{ij} = c_{max}^i - \Phi_j(c_{max}^i - c_{min}^i)$$

the variance of court decisions can be written as:

$$V(c_e^{ij}; j=1 \text{ à } n) = (c_{max}^i - c_{min}^i)^2 V(\Phi_j)$$

The variety of rules with which each judge (in each court) will decide the same conflict adds a crucial element to the dispersion of compensation. The variance is multiplied by the square of the difference between the requested and offered compensation.

The efforts made by insurers and judges to standardize the practical rules for determining the amount of compensation show that the latter are aware of the dispersion attributable to the behavior of the judge alone and not to the case itself. The first hypothesis that comes to mind is that judges are not correctly calculating the cost of a human life. For if they did, the dispersion of the amount of compensation would be much smaller, since each judge would follow the same rule so as to best approach the maximum compensation desired by the victim.

To test this hypothesis, we construct a variable, the value of life, which calculates the number of years of life lost as the difference between the life expectancy of the deceased person and the age of death at the time of the fatal accident; then we multiply this number by the net salary received discounted at the real interest rate of 2% per age group as recommended by INSEE. Thus, in our database, we impute to each observation this fictitious and coarse value of life, as economists might suggest. We then have:

$$\text{Imputation} = \text{years of life lost} * \text{salary updated}$$

It is then sufficient to compare this figure to the total amount of compensation paid during the transactions or legal decisions. To this end, Table 7 gives descriptive statistics of the total amount of compensation and an assessment of the value of life based on the years of life lost attributed to each deceased person. In this table, in addition to the raw distribution of the 1,094 observations, we distinguish two “theoretical” distributions for each of which we compute the imputation:

- *Theoretical distribution A* where zeros are excluded from the sample for people who die at an age greater than their life expectancy (162 observations out of 1,094).
- *Theoretical distribution B* where people who die aged over 70 (244 out of 1,094) are excluded from the sample on the grounds that among the 39.4% of life insurance holders, 95% are under 70 years old.

Table 7 Total amount of compensation and valuation of life from imputed years of life lost

	Total amount of compensation paid	Imputation	
		Theoretical distribution A	Theoretical distribution B
Nb. Observations	1,094	932	850
Minimum	977	15,792	21 319
Maximum	761,902	1,658,200	1,658,200
Median	70,200.5	884,350	963,310
Mean	88,753.3	840,720	908,770
Standard deviation	84,770	417,200	371,090
Asymmetry	3.5	-0.20608	-0.19543

Source: Author's calculations

If the judges followed an economist's logic, the amount and distribution of allowances should correspond to the right-hand columns of Table 7. The descriptive statistics of these two distributions confirm the total gap between the two approaches, that of the lawyer and that of the economist. This also confirms the lower dispersion of compensation, since the standard deviation of imputations is between 49.6% and 40% of the average, instead of the 95.5% observed in court decisions or transactions. The asymmetry of the distribution is weaker with imputation since the difference between the median and the mean is significantly smaller: which

means that the calculation proposed by the economist is much more generous than that proposed by the judge. These results are expected because they are linked to the calculation method, which in this survey limits the dispersion of the imputation given the few characteristics available to differentiate the victims of the accident.

Thus, the “theoretical” value of an individual’s life is therefore almost 10 times greater than that of the compensation paid. If the judges followed a method of calculation on the basis of the discounted income of which the deceased and his beneficiaries were deprived, this difference should be zero, or at least with a much lower residue and distributed randomly. We can confirm this anomaly by estimating a functional relationship between the “theoretical” value of life and that implicitly proposed by the judges or by insurers who follow the judges during transactions. The estimation of this functional relationship by a simple regression of the calculated value of life to that observed is also a test of the argument proposed by the economists. This is precisely what we do in Table 8, where we present the results of the regression by the method of ordinary least squares.

Table 8: OLS estimation results

Dependent variable: total amount of compensation paid;

	Gross amount 932 obs.	Gross amount 850 obs.	<i>Log. of amount</i> 932 obs.	<i>Log. of amount</i> 850 obs.
<i>Independent Variables</i>	<i>Coefficient</i>	<i>Coefficient</i>	<i>Coefficient</i>	<i>Coefficient</i>
Constant	10,259.0 (1.18)	25,148.1 (2.430)	8.06576 (21.37)	8.84130 (14.72)
Theoretical value of life	0.00286515 (0.6584)	-0.0136913 (-1.739)	0.149871 (5.359)	0.0944698 (2.143)
Sex (Male)	23,053.9 (4.02)	22,500.9 (3.598)	0.188391 (4.285)	0.174289 (3.68)
Paris Court of Appeal	28,650.3 (2.96)	35,255.4 (3.319)	0.123828 (1.666)	0.161743 (2.10)
Number of indirect victims	12,810.5 (12.3)	13,375.4 (11.74)	0.185939 (23.37)	0.184585 (21.39)
Adjusted R ²	0.157	0.1557	0.391	0.3596
Average dependent variable	94,771.03	98,085.68	11.14988	11.18607
Schwarz criterion	23,770.52	21,736.57	1,818.224	1,692.317
(.) t-Student value				

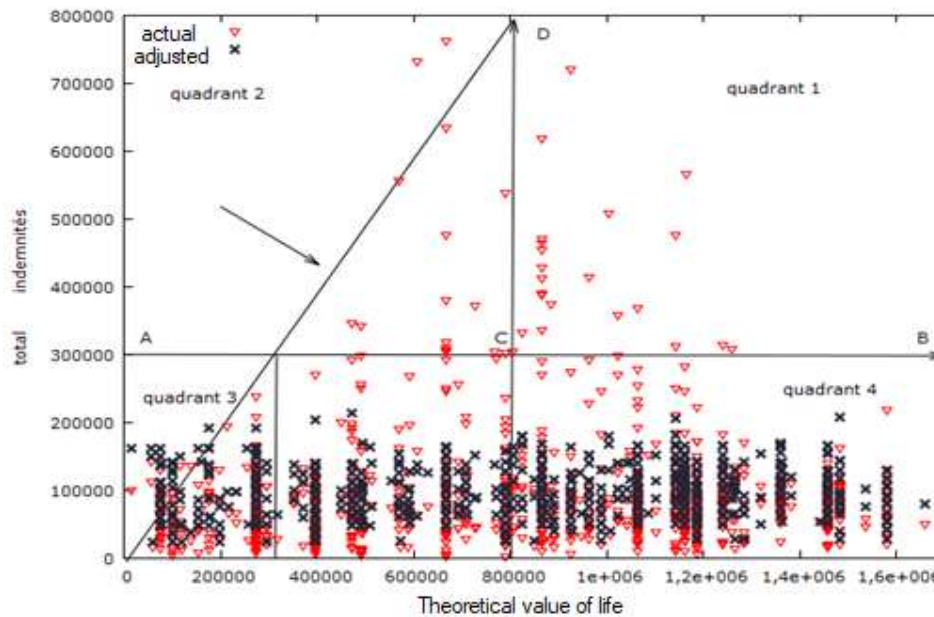
If the coefficient between the total allowances and the theoretical value differs from unity, there is no match between the distribution of the allowances and the theoretical value proposed. Table 8 shows a coefficient much less than unity (0.017), even though it is significantly different from zero. Thus, an additional year of life lost increases the compensation to the average of 1,508 euros (i.e. $0.017 * 88753$), while an additional indirect victim increases the total compensation by 11,819 euros.

Number of indirect victims, Paris Court of Appeal, and sex (male) are the only significant variables;¹² the theoretical value of life appears to be unrelated to the amount of compensation paid when the estimates are made on the gross amounts. When taking the logarithmic form, the results improve, the elasticity of the indemnities paid in relation to their theoretical value is 0.15; this is significant. On the other hand, it is very far from the expected value of 1, since an increase in the theoretical value of 1% increases the amount of the compensation by 0.15% or by 0.09% with the sample of 850 observations. The three significant variables explain only 16% of the dispersion of indemnities paid by judges in the linear relationship, and 39% in the logarithmic form. If we isolate the theoretical value of human life from the other variables it loses much of its importance, since it only explains 2% of the dispersion of the indemnities paid in its formulation in the form of a logarithm and 0.000102% in the linear form.

We also note that living in the Paris region and being a male allows you to benefit from slightly higher compensation. In contrast, the more indirect victims there are, the higher the amount paid. This last variable is by far the most significant. Isolated from the others, it explains 13% of the dispersion of indemnities out of 15% in the linear form and 36% (out of 39%) in the logarithmic version. The main anomaly in our estimation results lies in the distribution of compensation according to the number of indirect victims.

¹² We have introduced the variable “transaction versus decision of the judge”, but this is not significant. We therefore excluded it from the analysis.

Figure 1 Theoretical value of life and amount of compensation



The line (OD) represents a perfect match between observed values and theoretical ones; it is the bisector. The adjusted values (in black), and those observed (in triangles), are independent of each other. The graph reveals something rather simple: the compensation paid is mainly restricted to a range between a minimum of 977 euros and a maximum of 761,902 euros. However, for a theoretical value of 200,000 euros, the corresponding compensation paid varies from 15,792 to 1,658,200 euros. Suffice to say that the dispersion of compensation paid, for example at the level of 200,000 euros, does not correspond to a “rational” calculation of the value of human life as theorized by economics. The observation is therefore direct, and the hypothesis does not seem to be refuted: the judges are irrational.

Comparing the average amount of compensation paid to beneficiaries, i.e., 88,730 euros, with the monetary assessments of human life proposed by economists, we are hardly reassured. How can we base a public policy on estimates which evince such fragility? And is it the judge, or the economist-engineer, who should be more modest in their ambitions to put a price on human life?

5. ARE THE JUDGES REALLY IRRATIONAL?

Are our empirical results really an anomaly? Presumably not. Lawyers cannot be blamed for having difficulty in proposing an analytical method based on economic analysis to assess the

price of a human life: this is not what they trained for.¹³ Nor are they best placed to make such an assessment of the value of life from the perspective of the beneficiaries. Meanwhile, if we look to the insurers who will pay the indemnities demanded by the judge, we see that they are making proposals that are almost identical to those of the judges. They, too, are irrelevant to a rational view of the economic value of a life.

It is not the judge or the economist, therefore, to whom the judge should outsource the calculation which decides the amount of compensation; it is rather up to the insurer and the insured to determine this by contract. The insured decides the value of the desired protection to be granted to his relatives in the event of a fatal accident, or to third-party victims if he is responsible for this accident. The insurer accepts—or not—the value of this life proposed by the contracting party. The judge may intervene to establish the responsibilities, or if there is an ex post dispute between the insurers of the person responsible for the accident and his or her victim(s) on the amount of the repairs (but not of the indemnity, which is in the hands of the victim via his insurance) to be granted to the relatives of the deceased. This amount is not intended to assess the life of the deceased or the damage caused by the loss of a loved one against the party responsible for the fatal accident who, for his part, has a different view of the value of the life of the deceased.

The division and distinction of tasks is essential, and everyone has their role. The economist may seek to understand why young people's lives are less insurable than those who have reached their peak age, but it is not his role to calculate the value of a lost life. He has no more legitimacy than the judge to impose a view on this valuation, which ultimately is purely arbitrary if it is not based on how individuals themselves esteem it through the insurance premiums they are willing to pay.

The judge, for his part, must decide the dispute on the amount of the transaction not based on his conception of the value of a life but based on the resolution of the conflict between the parties over its amount. He is a referee. The person responsible for the accident (or his insurer) is ready to pay a maximum sum to repair the damage; by contrast, the victim (here the deceased who has taken out the insurance) demands a minimum sum (specified in the contract of

13 Hence, the recommendation in the report by Vaillant et al. (2008) that judges or insurers be trained to estimate the cost of a human life. It is true that economists 'preach to their parish' with this proposition, but it is difficult to reject it given that judges are so reluctant to listen to economists, yet so easily accept sociological, psychological (or behavioral) approaches that speak more to the emotions than to reason.

insurance) corresponding to the affection shown to his loved ones. Between these two amounts, the judge makes a compromise or a transaction preserving the interests of both parties. He must convince each party to lower his expectations if the maximum sum that the person responsible for the accident is ready to pay (or in fact his insurer, who is defending the contract concluded with his client) is lower than the minimum sum demanded by the victim (or respectively his insurer). The judge's role is not to take the place of the deceased and decide for him on the protection to be granted to his relatives, even if the principle of reparation requires restoring the well-being of the beneficiaries to the level which prevailed before the accident.

The legislators who passed the Badinter Law and the judges who apply it sought to replace the role of the insurer and make the judge play an irrelevant role with respect to his competence and the object of his profession. We should not be surprised, therefore, to observe subjectivity and irrationality: this is the expected result of a state edict which calls into question the division of labor between insurer and judge. It is certainly true that the legislators' desire is to maintain the standard of living of a victim or of the beneficiaries at a level corresponding to that if the accident had not taken place. But this involves interference and a substitution of roles between insurer and judge, and a form of chaos emerges. Ironically, this chaos was finally codified—arbitrarily so—in the various nomenclatures produced in the name of the homogenization of judicial practices.

The judge decides *ex post*, and arbitrarily, on the compensation to be granted to direct and indirect victims, with the strange idea of wanting to repair damage that he is unable to assess and which normally would be in the hands of the insurer. While the price of funeral expenses is known on the market, and its reimbursement is offered by the insurer to its clients, the value of the loss of income as well as the damage to affections and support are unknown. The judges of the courts then seek to settle the conflict between the insurers, the person responsible for the accident, and the relatives of the deceased, by following a simple rule, which consists in lowering the requirements of the beneficiaries and of the person responsible for the accident in order to resolve their dispute over the valuation of the deceased's life. Yet judges have no competence or legitimacy to assess the amount of compensation that can repair the damage caused. They cannot decide on the amount of the maximum and/or minimum indemnities required by each one: these amounts are definitely subjective, not known to insurers and even less so to judges. Even loss of income and damage to affections and support are not liable to external estimation by market mechanisms.

In fact, the loss of years of life by the victim of a fatal accident, whether they were responsible for it or not, should not be compensated. No one can put himself in the place of the deceased, not even his relatives, if the deceased has not expressed his desire to see these years of life compensated by death insurance. Why should the person responsible for the accident compensate the victim's dependents for an amount other than that provided for in his third-party insurance contract? By not insuring against his own death, the deceased revealed that the value he places on the standard of living of his relatives is zero. Why should the party responsible for the accident, who survived, take the place of the deceased in maintaining the standard of living of his relatives at the level preceding the fatal accident, when the deceased himself has revealed that he does not wish to do it? He probably had his reasons for doing so.

Thus, the only reliable and fairest estimate of the cost of human life is that emerging from a free insurance market; for the simple reason—as Sunstein (2013) rightly reminds us—that no one “should be forced to pay more than he was willing to pay for reducing the risk considered.”

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