

Topics in Economic Analysis & Policy

Volume 6, Issue 1

2006

Article 2

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Abstract

Under the September 11th Victim Compensation Fund (VCF), victims' families were provided monetary compensation based on economic and non-economic losses in exchange for giving up their right to sue U.S. entities, such as airlines. Was the Fund successful in calculating economic losses, and should it be repeated in the wake of another such attack? This paper assesses the extent to which forensic economists influenced the Special Master's decisions. We find that, for the most part, the Special Master's economic awards before collateral offsets were bounded by the presumed award amounts and the forensic economist's calculations, with substantial variation across claimants. This result implies that the Special Master's economic awards appear to have been significantly influenced by other factors offered during the VCF hearings, raising questions about fairness if a similar process is to be repeated in the future.

*The authors would like to thank Jeffrey Rella, Amy Brennan and Ryan Moore for excellent research assistance. We would also like to thank Pacey Economics Group for providing their data that made this report possible. Pacey Economics Group was not involved in this analysis or preparation of this report. Of note, Pacey Economics Group indicates that their reports were mainly for non-traditional employees, which could be cause for some of the differences identified in this report. The statements and conclusions in this report are based on analysis by the authors and do not necessarily reflect the opinions of Pacey Economics Group.

Introduction

Under the VCF, families of victims of the September 11, 2001, attacks were provided monetary compensation based on economic and non-economic losses in exchange for giving up their right to sue U.S. entities, such as airlines. The economic loss component of the September 11th Victim Compensation Fund (VCF) awards, the focus of this paper, was to be based on “lost income, looking forward, as a result of the death or the serious injury.”¹ VCF Special Master Kenneth Feinberg attempted to standardize awards by establishing a series of tables that matched various age and income groups with specified or ‘presumed’ economic awards. Many claimants, however, hired an economist to reassess the “one-size-fits-all” categories outlined by the Special Master. In this paper, we evaluate the extent to which the forensic economist’s calculations influenced the Special Master’s decision.

The September 11th Victim Compensation Fund of 2001 was one component of a much larger bill entitled the Air Transportation Safety and System Stabilization Act which was intended to insulate the air transportation industry from financial disaster following the September 11th terrorist attacks. The VCF, in particular, was designed to provide a no-fault alternative to tort litigation for those who were physically injured or killed as a result of the 9/11 attacks. The Special Master established guidelines for determining the amount of monetary compensation, and concluded that award amounts would be equal to the sum of economic losses plus non-economic losses, less collateral offsets, such as life insurance. The Special Master also proclaimed that one objective was to minimize award disparity between the upper and lower end of the income distribution.

Within the Special Master’s framework, a series of tables dictated presumed awards based on age, income, and household size. The award amounts, derived using standard growth rates and discount rates, were intended to measure the lost income that a victim would have likely received over his or her lifetime had they not been killed or injured in the 9/11 attacks. The standardized tables served three additional purposes. First, they attempted to achieve horizontal equity in assessing award amounts, since all individuals in specific age-income categories would receive the same award. Second, in an effort to also achieve vertical equity (e.g., reducing the disparity across income groups) the tables truncated award amounts for individuals with incomes higher than \$250,000. Third, the standardized tables made implementation efficient, since economic award calculations could be made in a straightforward way.

¹ Special Master Kenneth R. Feinberg Transcript News Conference Announcing Regulations Concerning 9/11 Victim Compensation Fund, December 20, 2001, Department of Justice Conference Center, <http://www.usdoj.gov/ag/1220kenfeinbergnewsconference.htm>.

The Special Master acknowledged the importance of individual circumstances and allowed claimants to present their case in special hearings. Hearing officers oftentimes listened to emotional testimony from victims' family members as well as testimony from experts, such as forensic economists. A key question is what the Special Master did with the information presented. The Special Master may have simply incorporated all of the information available during the VCF hearings and then determined the appropriate level of economic loss. In doing so, the hearing officer may have, perhaps inadvertently, been more sympathetic to some claimants than others because of the nature of their role in the 9/11 attacks.

The Special Master's objective function could have even been more complicated. VCF awards may have been based in part on the Special Master's desire to minimize conflict, for example, or to spend down all resources allocated to the Fund. Or, rather than view the VCF as a one-shot game, the Special Master could have considered the long-term ramifications of offering overly-generous awards for the sake of future compensation funds. While all of these decision models are plausible, we make the simplifying assumption that the Special Master's primary goal was to accurately assess the economic damages of claimants.

Economic losses, as quantified by the forensic economist, were based on a combination of standard methodologies, specific VCF guidelines, and professional judgment. In most death cases the economist would quantify three components of loss: lost earnings, pension loss (if any) and loss of services. Services include any loss of household services, companionship services to both spouse and children, and advice and counsel services to both spouse and children. In injury cases, the economist would evaluate lost earnings and pension benefits and, depending on the case, household services as well. Of significance is that service losses were not incorporated in the VCF presumed award tables, so use of an economist was an important part of quantifying claimants' total losses.

Each of the 140 VCF claimants who provided information for this study submitted a report by a forensic economist. Reports required detailed information about victims' demographic background, earnings histories, expected career paths, family structure, household responsibilities, and relationships with family members. In addition to the contents of the reports, we acquired information about case type (i.e., death or injury), rescue worker status, report dates, filing dates, and hearing dates. We were also able to obtain final economic award amounts with permission from the VCF claimants. The resulting data set is relatively robust for examining the effects of the VCF award process.

Using these data, we compare award amounts from three sources: the Special Master's tables, the forensic economist's calculations, and the final VCF award amounts. We find that the Special Master's award oftentimes exceeded the

tables in cases where an economist was hired, with over half of the claimants receiving more than twice the size of the award in the published tables. That said, the Special Master did not systematically follow the economist's recommendations, as the final economic awards were substantially less than the economist's calculations.

The Special Master's final economic awards also varied substantially across similar types of claimants, implying that awards were a function of many factors aside from the forensic economist's calculation. As a result, many claimants received awards (before collateral offsets) that did not match the economist's calculation of economic loss. At the same time, most claimants who did not opt for a hearing, and some who did, likely received lower awards than they would have received had they requested a hearing or presented their case differently. This outcome, along with other issues of fairness such as granting awards based on income and offsetting awards with the value of private insurance payments, highlight some lessons to be learned from the 9/11 VCF experience. In fact, the Special Master concludes that: "a better approach might be to provide the same amount for all eligible claimants."²

The remainder of this article is structured as follows. The next section presents background regarding the goals of the VCF as spelled out by the Special Master. We then outline our methodology for examining the intended and unintended factors that determined VCF awards. The section that follows describes our sample, which includes information on final economic award amounts for 478 claimants, and detailed information on determinants for 140 claimants. We then present the results of our analysis, and the final section concludes.

Background

Within days of the terrorist attacks of September 11th, 2001, representatives of the airline industry had gone to Capital Hill and were requesting from Congress a financial bailout package that included immunity from litigation. At the same time, the Association of Trial Lawyers of America and other public advocates mobilized their lobbying teams around the rallying cry that "No Victim Should Be Left Behind." Draft legislation was prepared and sponsors were secured. One week after the attacks, key members of the House and Senate had enough proposals and support from lobbying groups to introduce new legislation.

² Feinberg, et al. (2004), p. 82.

The Air Transportation Safety and System Stabilization Act

On September 22, 2001, the U.S. Congress enacted Public Law 107-42 entitled the “Air Transportation Safety and System Stabilization Act.” This Act was intended to insulate the U.S. air transportation industry from financial disaster caused by the terrorist attacks. Public Law 107-42 was composed of six titles. Title I, on “Airline Stabilization,” deals with aviation disaster relief provisions.³ Title II, on “Aviation Insurance,” deals with reimbursement of insurance costs.⁴ Title III, on “Tax Provisions,” deals with extension of due date for excise tax deposits and treatment of loss compensation by air carriers. Title IV, on “Victim Compensation,” deals with issues of compensating individuals who were injured or the personal representative of those who were killed as a result of the aircraft crashes in the 9/11 tragedy. Title V, on “Air Transportation Safety,” deals with the congressional commitment to increase air transportation safety.⁵ The final Title VI, on “Separability,” provides that “If any provision of this Act ... is held invalid, the remainder of this Act ... shall not be affected thereby.”

September 11th Victim Compensation Fund of 2001

Title IV of Public Law 107-42 is known as the “September 11th Victim Compensation Fund of 2001.” It is part of legislation passed by Congress and signed into law by President George W. Bush to establish immunity for airlines from liabilities to compensate victims of the aircraft crashes of September 11th for

³ For example, Section 101 (a) provides that “Notwithstanding any other provision of law, the President shall take the following actions to compensate air carriers for losses incurred by the air carriers as a result of the terrorist attacks on the United States that occurred on September 11, 2001: (1) Subject to such terms and conditions as the President deems necessary, issue Federal credit instruments to air carriers that do not, in the aggregate, exceed \$10,000,000,000 and provide the subsidy amounts necessary for such instruments in accordance with the provisions of the Federal Credit Reform Act of 1990 (2 U.S.C. 661 et seq.)...”

⁴ For example, Section 201 (b)(2) provides that if the Secretary of Transportation certifies that an air carrier was a victim of an act of terrorism, “the air carrier shall not be liable for an amount that exceeds \$100,000,000, in the aggregate, for all claims by such parties arising out of such act, and the Government shall be responsible for any liability above such amount. No punitive damages may be awarded against an air carrier (or the Government taking responsibility for an air carrier under this paragraph) under a cause of action arising out of such act.”

⁵ For example, Section 501 provides that “Congress affirms the President’s decision to spend \$3,000,000,000 on airline safety and security in conjunction with this Act in order to restore public confidence in the airline industry.”

economic and non-economic damages. Immunity of the airline industry was balanced by the provision of public funds to compensate the victims.

The Fund was designed to provide a no-fault alternative to tort litigation only for those victims of 9/11 who were physically injured or killed. Eligibility was limited to “Personal Representatives” of deceased individuals who were (1) aboard American Airlines flights 11 or 77 and United Airlines flights 93 or 175 at the time of the crashes (other than the terrorists); and (2) present at the World Trade Center, the Pentagon, or the site of the crash in Shanksville, Pennsylvania, at the time of the crashes or in the immediate aftermath of the crashes. Those who lost property, employment or profit opportunities as a result of the aircraft hijackings and crashes on 9/11 were not included in this special program.

Claimants who chose to file for compensation from the Fund had to waive any right to file a civil action in any federal or state court for their sustained damages. The alternative to the provisions of the Fund was for the victims to undertake the significant risk, expense, and delay in proving liability in civil litigation, and hoping that those proved liable had the financial ability to compensate victims for the damages incurred.

The History of Rulemaking

On November 5, 2001, the U.S. Department of Justice, in response to section 407, requested public input on different issues of the Act through its 66 FR 55901 Notice of Inquiry. More than 800 comments were received. On November 26, 2001, the Attorney General, John Ashcroft, appointed Kenneth R. Feinberg⁶ as Special Master of the Fund. During the following four weeks, the Special Master and the Department of Justice reviewed all comments received from interested parties, consulted with economic experts, and met with groups that represented the victims of the attacks and with elected officials. On December 20, 2001, the Special Master of the Fund publicly announced the completion of the Interim Final Regulations and unveiled several charts illustrating in a general way presumptive, non-binding estimated awards available for those eligible claimants filing on behalf of certain deceased victims.

In a news conference on December 20, 2001, at the Department of Justice the Special Master proclaimed that the regulations had three primary objectives in

⁶ Kenneth R. Feinberg is a Washington, DC attorney specializing in mediation, arbitration and negotiation. He was a former administrative assistant to Senator Edward M. Kennedy of Massachusetts, and served as a member of President Clinton’s Advisory Commission on Human Radiation Experiments and President Reagan’s Commission on Catastrophic Nuclear Accidents. He served as Special Counsel to the Senate Committee on the Judiciary, and as an Assistant U.S. Attorney in New York City. He has also taught as an Adjunct Professor of Law at Georgetown University Law Center, New York University Law School, the University of Pennsylvania Law School and the University of Virginia Law School.

mind. First, “fairness and consistency ... in the treatment of individual claims.” Second, “speed and efficiency in getting these awards out to eligible claimants.” And third, “consistent with the statute, to minimize award disparity from the upper end to the lower end... to try to make the gap between higher-end claimant awards and lower-end claimant awards narrower.”

On December 21, 2001, the Department of Justice promulgated Interim Final Regulations governing the Fund [66 FR 66274], and was ready to accept applications and begin processing claims for “Advanced Benefits.” The Department of Justice also solicited further comments from the public on the Interim Final Regulations for a 30-day period. The Department of Justice received thousands of comments during the 30-day period, helping the Special Master further adjust the Interim Final Regulations.

Public Comments on the Anticipated Amount of Compensation

The amount of compensation reflected on the announced charts received more public comments than any other subject [see 67 FR 11236]. While many described the presumptive awards as just and fair, others criticized them as either too high or too low. These disagreements were based in large part upon differing views regarding the purpose of the Fund. Some commenters began with the presumption that the Act’s provision of recovery for both economic and non-economic losses, accompanied by the requirement that claimants waive their right to civil litigation, indicated that the amount of compensation under the Fund should mirror past jury awards in airline litigation. Those commenters, for the most part, concluded that the presumed awards were insufficient, particularly for victims with the highest incomes.

Other commenters viewed the program not as a replication of the tort system but as a government program designed to assist the victims and their families. The program was viewed similar to government programs in natural disasters of hurricanes and earthquakes. Those commenters therefore concluded that there should not be a disparity among the awards based upon the income of the victim. Some vigorously criticized the proposition that the wealthiest victims should receive more from taxpayers than public safety officers and Pentagon employees. Indeed, some commenters expressed frustration that people demanded more than the presumed awards, contending that the awards were “more than generous” and that it was inappropriate for the federal government to “make victims’ families millionaires with taxpayer money.”

Although prescribed by the Act, many commenters expressed frustration that a victim’s income is considered in calculating economic loss. One commenter stated: “rich people do not deserve more because they are rich.” Others believed that the distribution of taxpayer dollars should be equal to all

victims regardless of income levels. At least one commenter noted that persons with substantial incomes should not receive higher awards because they were the ones, he argued, with the “financial savvy” to protect their loved ones with life insurance.

Several commenters raised issues with respect to deriving a victim’s average annual income from the years 1998-2000 in determining the foundation for calculating economic loss. These commenters suggested the Special Master use average income from 1999-2001 (rather than 1998-2000), arguing that 2001 was more indicative of a victim’s actual earning potential. In addition, several families of victims of the Pentagon attack expressed concern that the description of income in the interim final rule did not account fully for income of employees of the military which uses specific terms of art to describe various forms of compensation.

In response to these suggestions, the Interim Final Regulations were amended to allow the Special Master discretion to consider on a prorated basis a victim’s income from 2001 as well as published salary scales from government or military employees. Additional amendments were introduced at this stage to take into account valid criticisms.

The Department of Justice and the Special Master concluded that no single perspective would dictate the economic compensation of the victims under the Fund. Civil litigation often takes years, with awards varying greatly from one claimant to another, particularly where the incomes of the victims vary. Indeed, under the tort system, while many claimants receive extremely large awards, many others walk away empty-handed due to the requirement that plaintiffs prove fault. In contrast, the Fund was a no-fault alternative to civil litigation designed to provide compensation in a matter of months.

Victim’s Resources

Thousands of lawyers and litigation support professionals volunteered their pro bono services to the hundreds upon hundreds of families coping with the aftermath of 9/11. More than 4,000 families requested Trial Lawyers Care (TLC) assistance, a non-profit organization established subsequent to the 9/11 attacks to help victims with their claims, and nearly 1,100 attorneys assisted more than 1,750 families with claims to the VCF. Statistics indicate that TLC volunteers contributed more than 100 years worth of free time in assisting the victims. The Financial Planning Association and the National Structured Settlements Trade Association also made their members available for pro bono services, as did experts on economic damages. The following table reports their numbers by state:

State	Number of Economic Experts
Arkansas, Illinois, Maine, North Carolina, Utah, Washington, West Virginia	2 each
California	12
Colorado, Idaho, Kansas, Mississippi, South Dakota	1 each
Connecticut	3
District of Columbia	5
Florida	3
Indiana	3
Maryland	3
Massachusetts	4
New Jersey	5
New York	9
Ohio	3
Pennsylvania	3
Texas	3
Total	75

Claimant's Participation in the Compensation Process

The families and beneficiaries of those killed, along with individuals who suffered physical injuries, had two choices to claim compensation for their damages. They could choose to engage an attorney and litigate their losses to federal and State courts, or waive their right to litigation and file a Compensation Form with the Victim Compensation Fund. The Compensation Form solicited information to i) identify the victim and establish eligibility requirements, ii) identify and acquire documentation with relevant information for the calculation and distribution of the economic award, and iii) acquire a certification that the provided information was true, accurate and complete, and the authority to release this information to appropriate third parties. A checklist with all supporting documents was to be submitted with the Compensation Form.

Applicants had to choose one of two tracks to adjudicate (process) their claim. Track A had two steps. In Step 1, the claim was reviewed and a presumed award was calculated. In an optional Step 2, the applicant could request a hearing and have the presumed award reviewed. At a prescheduled hearing s/he could present additional information and witnesses to justify a higher award than the one calculated by the Office of the Special Master. Track B had one step. The claim was presented at a prescheduled hearing after which the Office of the Special Master calculated the award. The applicant had to submit all information

before the hearing was held and s/he could offer witnesses, like an economic expert, to testify at the hearing.⁷

The choice of the economic expert was, ultimately, the applicant's decision although in many cases the decision was guided by the advice of the applicant's attorney. The attorney's recommendation could have been based on past experience with a forensic economist, referrals from other attorneys, advertising, or other means. Another likely factor was price since fees varied by forensic economist. In some instances, economists worked entirely on a pro-bono basis, while in other cases the economist performed the calculations at a reduced hourly rate or per-case fee. No forensic economist to our knowledge was compensated on a contingency basis.

Another factor, presumably, was the forensic economist's reputation in terms of quality, timeliness, ability to communicate, and experience. These characteristics are of particular importance for this study since they can influence the way in which losses are calculated or communicated. In terms of the VCF, individual economists' influences were somewhat marginalized because guidelines were established by the Special Master, such as the appropriate number of years required to calculate earnings capacity (three) and the appropriate discount rate (e.g., 5.1% for victims aged 35 and under). Still, the forensic economist's styles and opinions most certainly impacted how losses were calculated, and the forensic economist's losses used in this study are no exception. A detailed discussion of how these differences may impact our analysis and conclusions is presented in the data section.

The Process for Determining the Amount of the Award

In a news conference on December 20, 2001, the Special Master explained that his office would follow three steps for determining the amount of the monetary awards. First, for each claim they would compute the economic loss, "the lost income, looking forward, as a result of the death or the serious injury." Second, they would compute the "non-economic loss – pain and suffering, emotional distress, loss of consortium – listed in the statute" and third, deduct "collateral offsets ... such as life insurance" to derive the final amount of the award to be paid to the claimant.

Economic Loss: The following steps were followed in death claims: 1) Establish the victim's age and compensable income by considering the past three years of income data. 2) Determine after-tax compensable income by applying an average effective combined federal, state and local income tax rate for the victim's income bracket. 3) Add the value of employer-provided benefits. 4)

⁷ About 53% of claimants for deceased victims and 11% of physical injury victims chose Track B.

Determine a measure of the victim's worklife expectancy. 5) Use an earnings growth rate and calculate projected compensable income and benefits through the victim's expected work-life. 6) Adjust future earnings for the probability of unemployment. 7) Adjust future earnings for the victim's personal consumption. 8) Calculate the present value of projected compensable income and benefits using an appropriate discount factor.

Non-economic Loss: The Fund did not make distinctions among claimants on the basis of pain and suffering, consortium and emotional distress. The only variation in non-economic loss was the number of dependents. The award for non-economic loss was fixed at \$250,000 per family in death cases, plus an additional amount of \$100,000 for each dependent.

Exemptions in Collateral Offsets: The only collateral income that was not used to offset the amount of the award was *charitable contributions*. The stated reason for this exemption was practical rather than conceptual in nature. The charities made it clear to the Special Master that "they would delay further the distribution of their money" until the Victims Compensation Fund cut all its checks, so that their money would not be used as an offset since they were not distributed yet.

Data Set

Our sample consists of 478 claimants of awards from the 9/11 Victim Compensation Fund. The majority of observations, 338, were collected from Trial Lawyers Care (TLC). The TLC observations contain information on final award amounts as well as several characteristics of the victim, including age, marital status, number of dependents, and income. This information provides a benchmark for the more detailed information on economic award calculations.

The remaining 140 observations were obtained from three economic consulting firms – Tinari Economics, Inc., Pacey Economics, Inc., and David Powers – who were among the damage experts who submitted appraisals of economic loss for claimants. Each of the 140 observations contains detailed information on economic losses as calculated using standard forensic economic methodology and established VCF guidelines, and a host of demographic and economic variables.

With the exception of the TLC data, which is used as a benchmark, each observation had to satisfy two criteria in order to be included in our study. First, we required a complete record of how the economic award calculation is made. Standard forensic methodology in death cases includes the loss of net income, including net pension losses, and the loss of various services. Second, each observation had to contain information on the actual award amount. In most cases, we received this information directly from counsel, after submitting a letter

ensuring confidentiality. Non-response rates to our request were quite high. For example, more than half of the Tinari Economics cases for which economic appraisals were completed were excluded from the sample because final award amounts could not be obtained. In total, 102 out of 167 Tinari Economics cases were excluded from the study for this reason. Still, an analysis of responders and non-responders reveals that the 65 Tinari Economics observations appear to be representative of the entire Tinari Economics sample of VCF cases.⁸

Nonresponse bias is only one of a host of possible selection issues that may have consequences when performing the analysis and drawing out-of-sample conclusions. The claimants studied in this paper, for example, only represent those who hired an economist and are, therefore, not necessarily representative of all 9/11 VCF claimants. Nearly all of the Tinari Economics sample had a VCF hearing. Overall, however, only about 68.6% of VCF death claimants and 47.2% of those with physical injury claims had hearings. The claimants in our sample also *chose* to hire an economist and *chose* which economist to hire. These two choices may influence the types of claimants included in our study. Data restrictions limit the extent to which we can control for these selection factors, if at all. Therefore, for the purposes of this paper, we merely highlight some of the key selection issues that may influence our findings.

First, the types of claimants who opt for a forensic economist are likely those who stand the most to gain from an economist's report and testimony. These claimants presumably believed the economist could help increase award amounts above the amount indicated in the Special Master's tables. For example, a victim could have had an earnings pattern that indicated a career path with very high future earnings that would have otherwise been overlooked. If so, our sample is likely to capture more claimants with potentially higher earnings, or other factors leading to higher-than-average award amounts.

Claimants also selected their economist, as noted above. Insofar as each economist has his or her own opinions regarding methodology and insofar as claimants understand these differences, our sample may contain a disproportionate number of certain types of claimants. Our calculations may then not only reflect both the characteristics of the decedent, but may also reflect characteristics of the forensic economist – and possibly even those of the claimant. If one economist has a reputation for offering conservative opinions

⁸ Appendix Table A.1 addresses the issue of representativeness of the sample by describing the Tinari Economics sample according to claimants for whom we have final award amounts and those for whom we do not. Generally speaking, the two samples appear remarkably similar, implying that the restriction of the sample due to limited information on final award amounts does not necessarily alter our findings based on the information available. A similar analysis could not be performed on observations from other sources, due to limited access to data. Therefore, we rely on information that shows similarities across the four data sets with respect to demographic and economic characteristics, which are discussed in the determinants sections of this paper.

while another economist offers ambitious alternative scenarios, the types of claimants who choose the former economist may be quite different than the types of claimants who choose the latter. The economic firms that performed the calculations for this study, however, rely on widely-accepted methodologies in forensic economics, making it unlikely that claimants seeking aggressive outcomes would be included in our sample. Still, even this exclusion may lead to some selection bias in and of itself.

A third form of selection is grounded in the economist's calculation, since claimants could choose to ignore the economist once the outcome is revealed. In one realization of this form of selection, the claimant may have chosen to forgo a hearing after seeing that the economist's estimate resembled those in the Special Master's tables. The result is a potential upward bias in the observed difference between the economist's award and the presumed amount. The impact of this form of selection is unlikely to be significant, however, especially if the relevant sample is defined to be claimants who decided to proceed with an economist.

There is no reason to suspect that claimants in our sample received disproportionately higher (or lower) awards from the Special Master for unobserved reasons. This assertion implies that the selection issues noted above do not constitute a selection on the error terms, which would be most problematic. As such, the forms of selection noted above still allow for out-of-sample extrapolations, albeit with a caveat regarding the relevant population (e.g., VCF claimants for upper-income victims who used an economist).

The final award amounts among the observations used in this study are somewhat higher than those provided by TLC. Awards among the TLC sample are equal to about \$2 million, on average, as shown in Figure 1. In comparison, the observations used in this study averaged about \$2.5 million, or about 25% higher than the TLC sample. The difference is likely explained by the fact that many observations in our sample are associated with high-income earners. Net awards between the TLC sample and the observations used in this study are more similar when the sample is restricted to those earning \$250,000 or less, with the difference between the two being less than \$100,000.

The focus of this paper is on the economic component of the VCF awards. The economic component makes up the lion's share of the total award received by claimants. Final award amounts averaged \$2.5 million among the observations used in this study, and about 80% of the awards were economic in nature, as shown in Figure 1. (The remaining portion of the awards was non-economic and consisted of a \$250,000 death benefit and \$100,000 for each dependent, as mentioned previously.)

The total value of each claimant's economic and non-economic award was reduced by certain offsets established by the Special Master. Life insurance payments, for example, were subtracted from the total value of the award.

However, in civil litigation, forensic economists would not take offsets such as these into account. We address this issue by focusing on total economic award amounts, that is, awards before offsets. Economic awards without offsets are equal to about \$3.6 million in our sample.

Methodology

Our analysis begins with three measures of the VCF economic awards: the presumed award, the economist's calculated award, and the Special Master's final economic award. The presumed award is calculated using a set of standardized VCF tables that take into account age and income. The Special Master published a total of five tables, each one accounting for a different marital status type and number of dependents.⁹ Each table presents presumed award amounts for select ages and incomes. For the purposes of this study, we calculate a weighted average of the awards listed in the table for the age and income categories that bound the age and income of the individual.

The economist's calculated award takes into account lost earnings, pension losses, household services losses, and other applicable services losses. Each case is unique and different economists may take a slightly different approach, but standard methodologies are present in the calculation of economic awards, especially with respect to lost earnings.

Household services losses are based on both national estimates and the claimant's testimony of the amount of services provided by the decedent. The time period over which household services losses are projected is based on the number of years the victim would have provided services to survivors. In particular, losses extend through the lower of the victim's and claimant's life expectancy, since services necessarily need to be both provided by and to a given person.

Companionship and advice/counsel services are included as part of the economist's award calculation in death cases that are litigated in New Jersey, while they typically are not allowed in New York cases. Nonetheless, the Special Master oftentimes considered companionship and advice/counsel services when considering the economist's testimony, regardless of the claimant's residence status. Companionship services to family members are limited to types of services that are substitutable and can be purchased; they do not include emotional losses. For example, companions can be considered those who provide assistance with shopping or household management. A typical case handled by the economists associated with this study could include about 20 to 30 hours of companionship per week prior to retirement and 30 to 40 hours per week in

⁹ Tables were published on August 27, 2002.

retirement. Hourly wage rates for companionship services can be obtained through telephone surveys of agencies in the local area.

Advice/counsel services represent the help individuals need regarding everyday decisions, as well as potentially life-changing decisions, such as a business decision. A typical case would involve about one hour per week of advice/counsel services to the spouse, one to two hours per week to children under age 18, and one hour per month to older children. Of course, the actual level of hours depends on the individual claimant's circumstances. The pecuniary value of advice/counsel services can be determined by construction of a composite wage for advice-related occupations, based on persons who offer advice/counsel services, such as social workers, financial managers, and other such persons, adjusted to account for the replacement cost of these services.

The Special Master's final economic award is our third measure. The Special Master's economic award is a function of the presumed economic award, the economist's findings, and any other relevant information presented at the VCF hearing. The final economic award studied in this paper is the *economic* component of the total award before offsets. Noneconomic awards, based on number of dependents and a lump-sum benefit of \$250,000, are not included in this analysis. Neither are offsets from monies received from private insurance payments or other offsets.

Our analysis focuses on the difference between (a) the economist's calculation relative to the presumed award, and (b) the Special Master's final economic award relative to the presumed award. We rely on descriptive statistics for much of our analysis, given sample size limitations. In particular, we rely on a series of bivariate comparisons of the award differences, stratified by different individual characteristics. These bivariate comparisons are performed *mutatis mutandis* (allowing other things to vary). Statistical significance of differences between the groups is determined via an F-test in the case of categorical values and a two-sided t-test in the case of continuous variables or simple proportions.

This study also aims to assess the influence of the economist's calculation on the final economic award issued by the Special Master. In other words, we aim to address the causal relationship that may exist between the forensic economist's calculations and the Special Master's decision. We rely on multivariate techniques to perform the analysis. The following equation examines the relationship between the economist's calculation and the final economic award from the Special Master in a straightforward dollar-for-dollar comparison:

$$A_i = \alpha + \beta_1 \hat{A}_i + \beta_2 X_i + \varepsilon_i \quad (1)$$

where A_i is the final economic award of the Special Master for individual i , and \hat{A}_i is the economist's calculated award.¹⁰ X_i includes other factors that may influence the final economic award amount, such as gender, marital status, or rescue worker status. ε_i is a white noise disturbance term.

The forensic economist's calculation might not have been the key point of interest to the Special Master per se; rather, the Special Master may have been more interested in the difference between the presumed economic award and the economist's award. So we estimate a second model that takes into account the difference between the economist's calculation and the presumed award:

$$\tilde{A}_i = \alpha + \beta_1 \tilde{\hat{A}}_i + \beta_2 X_i + \varepsilon_i \quad (2)$$

\tilde{A}_i is equal to $A_i - A^{base}$, where A^{base} is the presumed economic award calculated from the VCF tables. $\tilde{\hat{A}}_i$ is equal to $\hat{A}_i - A^{base}$. In this equation β_1 measures how much the final economic award amount exceeded the presumed award for each dollar the economist's calculation exceeded the presumed award amount.

An alternative approach is to examine the relationship of awards as a percentage of the economist's calculation or as a percentage of the difference from the presumed amount. A measure of the elasticity of the economist's calculation, or the percentage change in the Special Master's Award that results from the percentage change in the economist's calculation, provides the result. This elasticity measure is calculated using the following specification:

$$\ln(A_i) = \alpha + \beta_1 \ln(\hat{A}_i) + \beta_2 X_i + \varepsilon_i \quad (3)$$

The coefficient β_1 is the elasticity. All other variables are the same as in equation one.

Finally, we estimate elasticities for the economist's calculation relative to the presumed economic award. This specification provides a measure of the economist's influence, taking the presumed award amount as given.

For certain analyses in this study, we focus on claimants of victims with annual income below \$250,000. The VCF Special Master imposed an informal cap on the amount of income that was taken into account when calculating total awards. The \$250,000 income cap dilutes the expected relationship between the economist's estimated award and the actual award amounts issued by the Special Master, since the economist's calculated award would not have incorporated such a cap.

¹⁰ Alternative non-linear specifications did not significantly improve model fit. Results for models using splines, but otherwise analogous to those presented in this section, are presented graphically in Appendix Figures A.1 and A.2.

Results

Table 1 shows descriptive statistics for the three different calculations of total economic awards. The first is the presumed award computed for each case in our sample using the VCF tables. The second is the economist's calculated award. And the third is the final economic award granted by the VCF Special Master. Economic losses measured by the presumed award are equal to \$1,492,813, on average. The median value is somewhat lower, \$1,163,714, which is intuitive given that the tables did not contain extreme values that might drive up the average. The range about this mean is the lowest of the three samples, as might be expected given that one justification for the use of loss tables is to limit the discrepancy between high and low award amounts. The range remains unchanged for the most part when the sample is restricted to those earning less than \$250,000 per year.

The economist's calculated award, in contrast, has a wide range. Several awards are quite high (e.g., \$10,000,000+), leading to a mean that is substantially higher than the median. The average economist's calculated award is \$4,237,391, or about three times higher than the average presumed award. The median value is \$3,289,600, which reflects the fact that the mean is driven upward by some outliers at the upper end of the distribution.

The final economic award granted by the Special Master would, at first glance, seem to be something that approaches the economist's calculated award, since the Special Master considered the initial presumed award along with the higher economist's calculated award. The average final economic award of the Special Master, at just under \$3 million, is almost halfway between the presumed award and the economist's calculated award. The median award is lower than the average, at \$2,267,641, reflecting some high awards granted by the Special Master.

When high earners are excluded from the sample, award amounts are reduced significantly, and the economist's calculated award is much closer to the Special Master's economic award. The average economist's calculated award is lowered from \$4 million to about \$3 million, while the Special Master's award is lowered to \$2.2 million. The large reduction among the economist's award can be explained partly by the fact that a number of high awards are not included in the restricted sample.

The results from Table 1 show how the three types of awards compare on average. The key to this study is how they compare to each other among individual claimants. A scatter plot of the Special Master's award against the economist's calculated award, with an OLS regression line based on the first two models discussed in the previous section, is shown in Figure 2. A direct relationship exists between the two measures albeit with substantial variation,

especially at the upper end of the award amounts. We also consider award amounts relative to the presumed award, since the presumed award is a common feature of both awards. A substantial amount of variation remains even after controlling for the presumed award.

Table 2 examines the final economic award to the economist's calculated award relative to the presumed awards. We find that only about 10% of the economist's calculated award and 15% of the Special Master's economic award are equal to the award from the tables; none were lower. That means 90% of the economist's calculated amounts and 85% of the Special Master's economic awards exceed the tabulated amounts. Moreover, more than half of the economist's calculated awards and more than 40 percent of the final economic awards are *double* the recommended award from the tables. And more than one quarter of both the economist's calculated award and about 20% of the Special Master's awards exceed *three times* the size of the presumed award. It is fair to say that the tables did not provide an accurate assessment of losses for the observations in our sample. A similar pattern remains even when higher income individuals are excluded from the sample, as shown in the second part of the table.

The second issue concerns how the Special Master's economic awards compare to the economist's calculated awards. The short answer is that, for the most part, the Special Master's economic awards are lower than the economist's awards in the majority of cases. When looking at the absolute difference, that is, the dollar difference between the two award amounts, about one third of the claimants in our sample have final economic awards that are within \$500,000 of the economist's calculation, as shown in Table 3. Only 14% of the observations in our sample have final economic awards that exceed the economist's calculation by \$500,000. Among those claimants where the Special Master's award is lower than that of the economist's award, 21% have awards that are at least \$2 million lower, and another 20% have awards that are \$1 to \$2 million lower. The largest discrepancies are reduced somewhat when the sample is restricted to those earning \$250,000 or less, but substantial differences remain for a large portion of the sample.

An analysis in percentage terms reveals that the final economic awards are almost always different than the economist's calculated awards by 10% or more, as shown in the second part of Table 3. The large majority of claimants have final economic awards that are lower than the economist's calculated amount. More specifically, about one half of the sample has a final economic award that is 25% to 75% lower than the economist's calculated award and nearly 20% of the sample has an award that is at least 75% lower. The same pattern holds even when the upper income claimants are excluded.

The dollar-difference story shows that many claimants have final economic awards that are more than \$500,000 less than the economist's calculated awards. The percentage-difference story shows that most claimants have at least a 10 percent difference between the actual and calculated award. An analysis of mean award amounts in Table 4 shows that the Special Master's awards exceeded the economist's awards among those with the smallest difference from the presumed awards. For claimants with economist's calculated amounts that differed from the presumed award by \$500,000 or less, the Special Master's average award exceeded the presumed award by \$500,000, and for those with a difference of between \$500,000 and \$1 million, the Special Master's award minus the presumed award averaged about \$684,000. At the upper end of the distribution, claimants with an economist's calculated award amount of between \$2.5 and \$5 million had final economic awards that average about \$1.9 million.

Determinants

The next part of our analysis explores if the Special Master's final economic award or the economist's calculated award amount differs systematically from the presumed award within certain demographic and economic categories. We also examine how the Special Master's economic award and the economist's calculated award compare to each other within each of these categories.

Both the Special Master's final economic award and the economist's calculated award increase with respect to the presumed award as the age of the victim increases, as shown in Table 5. The economist's calculated award exceeds the presumed award by 1.34 times the presumed award among the youngest age category, and the difference increases to more than 3 times the presumed award for victims aged 51 to 60. The Special Master's awards also increase with age, although the magnitudes relative to the presumed award are lower for all but the oldest age category.

Sample size restrictions limit the extent we can make conclusions about many of the subgroups. That said, we report mean values in Table 5 and highlight two findings of note. We find that both the Special Master's award and the economist's calculation are substantially higher than the presumed award for female victims compared to male victims. The Special Master's calculation and the economist's calculation exceed the presumed award by about 1.4 times and 2.5 times, respectively. Another interesting finding is that both the Special Master's award and the economist's calculated award are much higher relative to the presumed award for victims who are not rescue workers. Rescue workers have a Special Master's economic award that is only 29% higher than the tabulated amounts, compared to other workers who have final economic awards that are double the presumed awards. The economist's calculations are 74%

higher than the presumed award among claimants of rescue workers, while they are more than three times higher for non-rescue workers.

Multivariate Analysis

We express the relationship between the final economic award amount and the economist's calculation in terms of dollars and in terms of elasticities. A straightforward regression of final economic awards on the economist's calculation shows that for every dollar increase in the economist's calculation, the Special Master increased the final economic award by 37 cents, as shown in Table 6. The result is highly statistically significant, as one might expect given the plot and fitted regression line in Figure 2. When the sample is restricted to those with incomes less than \$250,000, the impact increases to 55 cents per dollar. A second model specification takes into account a series of factors beyond the economist's calculation that may influence award amounts, such as gender, marital status, state of residence, and rescue worker status. For the most part, these factors are not statistically significant determinants of award amounts, above and beyond the economist's award. The exception is the type of case, death or injury. That said, in the expanded regression model, the influence of the economist is reduced to about 25 cents per dollar among the entire sample, and 33 cents per dollar for the restricted sample.

The Special Master had knowledge of the tabulated amounts at the time the economist offered an opinion of economic loss. Given this chronology, the influence of the economist can be thought of relative to the presumed award. Assuming the Special Master would offer the presumed award as the default, another approach is to examine how much influence the economist had in increasing the award beyond this point. The economist's influence in terms of a dollar-for-dollar relationship is lower once the presumed award is taken into account, as shown in Table 7. For each dollar the economist estimated above the presumed award, final economic awards increased by only 23 cents. The result remained unchanged for the restricted sample, and is reduced further to about 10 to 14 cents when controlling for other potential factors.

A second measure of the economist's influence is in terms of elasticities, or the percentage increase in the final economic awards resulting from a percentage increase in the economist's calculation.¹¹ The relationship appears to be stronger when examined this way. In the simplest model, a 10 percent increase in the economist's calculated amount increases final economic awards by about 6.8 percent, both for the total and restricted sample. The relationship declines to about 5 percent once other factors are taken into account, as shown in Table 8.

¹¹ The linear specification in this case remains justified, based on a straightforward plot of the data (Figure 3) and a similar result with the use of splines (Figure A.2).

In examining elasticities relative to the presumed award, we find that a 10 percent increase in the economist's calculation above the presumed award results in a 5 percent increase in the final economic award. The result declines to about 3.5 percent among the restricted sample, and declines further once other factors are taken into account.

We note that our most straightforward models explain more than half of the variation in the Special Master's economic award amounts. Our models relative to the presumed awards, however, do not perform as well. With the exception of one specification, the models explain less than half of the variation in awards relative to the presumed amount. Given that the tabulated award amounts represent a default value, the implication is that other factors, such as extenuating circumstances surrounding the victim's experience, appear to have influenced the Special Master's decision the same or more so than the economist's calculations.

Conclusion

In August 2002, the VCF Special Master, Kenneth Feinberg, published tables outlining economic and non-economic awards for victims' families. The tables of presumed awards were designed to attain a degree of horizontal equity in the distribution of awards, since individuals with similar age and income status were treated equally in how awards are determined. The presumed awards, however, did not take into account individual circumstances that may have justified a different award amount. Many claimants contested the awards based on the VCF tables, as was their right under the VCF guidelines, and many hired a forensic economist to provide an independent appraisal of economic losses. After hearing the economist's testimony, the Special Master granted final economic awards that were more often than not larger than those initially granted in the published tables.

In this paper, we examine how the forensic economist's calculations impacted the Special Master's decisions for a sample of VCF claimants who hired an economist. We find that the Special Master's awards were substantially higher than the presumed awards listed in the VCF published tables but substantially lower than the economist's calculations.

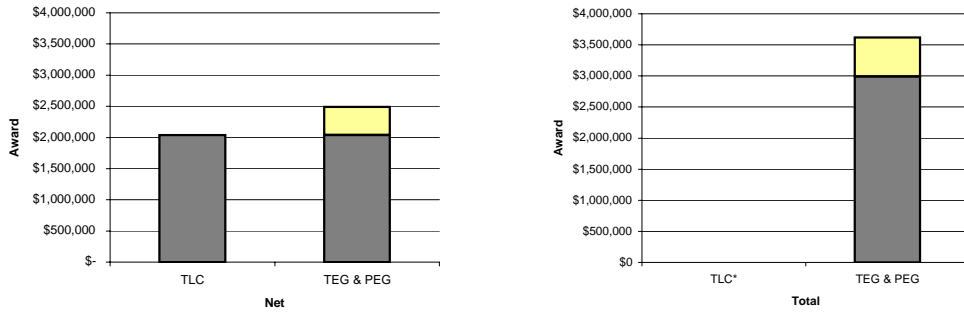
We then examine how the economist's calculations influenced the Special Master's final economic award on both a dollar-for-dollar basis and on a percentage-change basis. For every dollar the economist's award exceeds the presumed award, we find that the Special Master's award, on average, increases by about 37 cents. In percentage terms, a ten percent increase in the economist's calculated award corresponds to a 6.8% increase in the Special Master's award. The value declines when other variables are taken into account and when award amounts are considered relative to the presumed award.

The Special Master's final economic awards appear to acknowledge the forensic economist's calculations, although the difference between the two values implies that other factors played an important role in determining final economic award amounts. The extent to which these other factors influenced awards is unknown. It could be the case, for example, that the Special Master only took the economist's calculations into account in part, and that other circumstances dominated the decision affecting the final economic award amount. Or it could be the case that the Special Master was motivated by reasons other than an accurate level of compensation for economic losses. Still another possibility is that the forensic economist's calculations themselves are biased upwards. Whatever the explanation, the VCF final awards did not map directly to observable characteristics in the data.

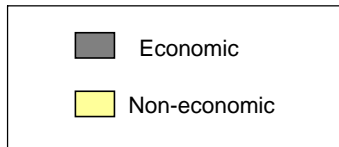
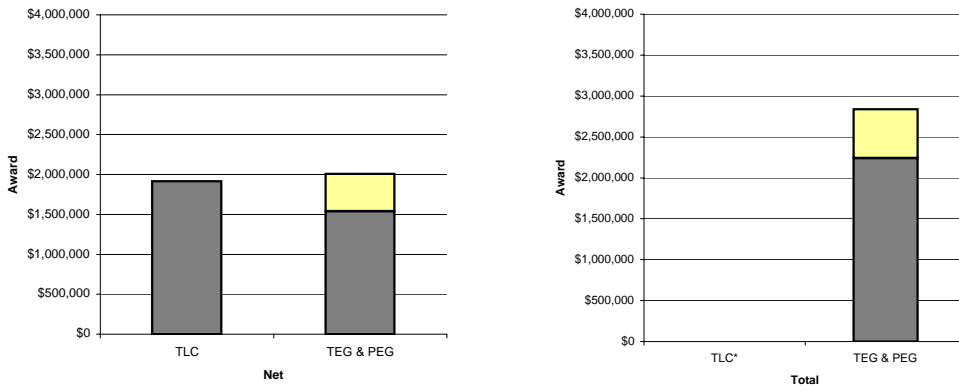
The underlying question of this study is whether the VCF was "successful" in assessing economic losses. On the one hand, the VCF provided additional compensation for individuals with economic losses that exceed those in the published tables. On the other hand, final economic awards oftentimes strayed from the economist's calculations. We conclude that the VCF's awarding of economic loss was only a conditional success, mainly because unobservable factors had a large influence on the size of the awards. Moreover, the absence of an identifiable decision-making strategy on the part of the Special Master may be cause to rethink the VCF model should another attack occur and another VCF-related program be established. In particular, policymakers may want to consider an objective and transparent methodology for determining awards in order to ensure fairness across claimants. Or, as noted by the Special Master, another option is to simply provide all claimants with the same award amount.

Figure 1
VCF Economic and Non-economic Final Award Amounts

ALL



< \$250,000



* No information available from TLC data.
SOURCE: Authors' calculations.

Figure 2

VCF Total Economic Awards Relative to Economist's Calculated Awards

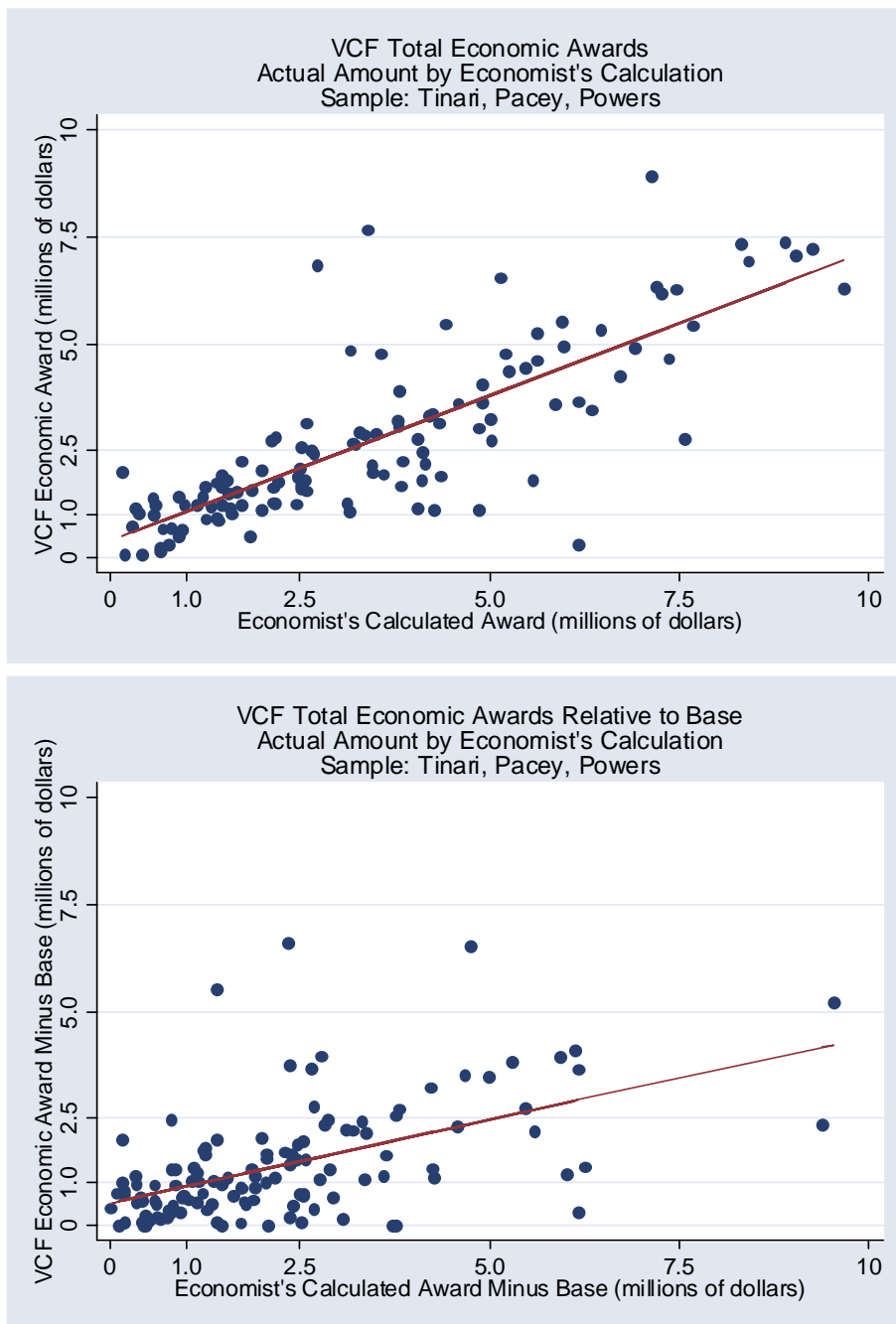


Figure 3

**VCF Total Economic Awards (ln) Relative to
Economist's Calculated Awards (ln)**

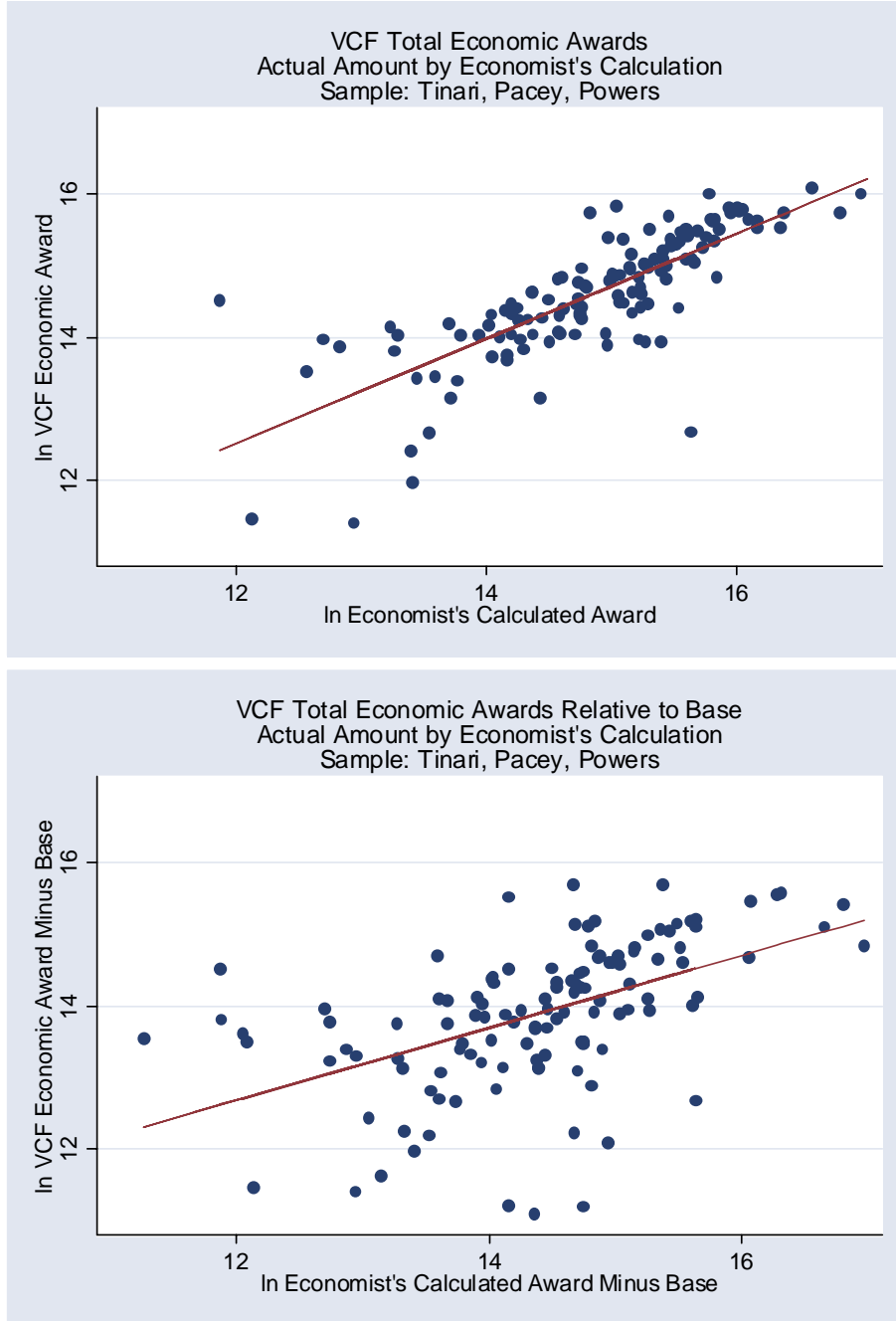


Table 1
VCF Economic Awards
Descriptive Statistics by Stage of Award

ALL

	n	mean	median	min	max
Presumed Award	135	\$1,492,813	\$1,163,714	\$0	\$4,188,498
Economist's Award	137	4,237,391	3,289,600	143,026	25,300,000
Final Economic Award	133	2,991,135	2,267,641	75,000	9,741,767

< \$250,000

	n	mean	median	min	max
Presumed Award	103	\$1,202,107	\$948,734	\$0	\$4,088,498
Economist's Award	106	2,891,126	2,542,663	143,026	7,577,239
Final Economic Award	101	2,242,161	1,823,171	90,000	7,642,297

SOURCE: Authors' calculations.

Table 2
Economist's and Actual Economic Award
Relative to Presumed Award

ALL

Percent higher than presumed award	Economist's Calculation	Final Economic Award
0	9.7%	15.3%
0 - 25%	3.0	9.2
25 - 50%	8.2	9.9
50 - 100%	17.9	20.6
100 - 200%	26.9	26.7
200 - 300%	19.4	8.4
300% +	14.9	9.9

< \$250,000

Percent higher than presumed award	Economist's Calculation	Final Economic Award
0	11.7%	16.2%
0 - 25%	2.9	11.1
25 - 50%	10.7	11.1
50 - 100%	19.4	19.2
100 - 200%	22.3	23.2
200 - 300%	21.4	10.1
300% +	11.7	9.1

SOURCE: Authors' calculations.

Table 3
Final Economic Award Relative to Economist's Award
Net of Presumed Award

<u>Absolute Difference (%)</u>		
<u>difference</u> <u>(actual - economist's)</u>	<u>All</u>	<u>< \$250,000</u>
lower		
\$2 million +	20.8%	12.1%
\$1 - 2 million	20.0	18.2
\$500k - 1 million	16.1	19.2
"equal"	29.2	35.4
higher		
\$500k - 1 million	7.8	10.1
\$1 - 2 million	6.1	5.1

<u>Percentage Difference (%)</u>		
<u>difference</u> <u>(actual - economist's)</u>	<u>All</u>	<u>< \$250,000</u>
lower		
75 - 100%	18.6%	18.4%
50 - 75%	23.3	23.5
25 - 50%	25.6	22.5
10 - 25%	8.5	7.1
"equal"	3.9	5.1
higher		
10 - 50%	7.8	8.2
50% +	12.4	15.3

SOURCE: Authors' calculations.

Table 4
VCF Economic Awards
Economist's Calculation and Final Economic Award
Relative to Presumed Award

ALL

Economist's Calculation Minus Presumed Award	<u>Final minus Presumed Award</u>				
	n	mean	median	min	max
\$0-500k	18	\$565,992	\$577,932	\$0	\$2,026,380
\$500k - 1 million	17	684,040	502,121	111,353	2,465,917
\$1 million - 2.5 million	46	1,285,117	1,038,783	0	6,585,544
\$2.5 million - 5 million	33	1,929,833	1,957,714	0	6,525,146
\$5 million +	16	3,366,531	3,648,799	320,346	5,845,723

< \$250,000

Economist's Calculation Minus Presumed Award	<u>Final minus Presumed Award</u>				
	n	mean	median	min	max
\$0-500k	17	\$599,285	\$598,499	\$0	\$2,026,380
\$500k - 1 million	17	684,040	502,121	111,353	2,465,917
\$1 million - 2.5 million	42	1,205,830	1,038,783	0	6,588,544
\$2.5 million - 5 million	21	1,472,019	1,312,983	0	3,670,517
\$5 million + *	-	-	-	-	-

* Only two observations were available for this category.

SOURCE: Authors' calculations.

Table 5
VCF Economic Awards
Economist's Calculation and Final Economic Award
Relative to Presumed Award
by Demographic and Economic Characteristics

	Presumed Award	Economist	Final	Economist Relative to Presumed Award	Final Relative to Presumed Award	Difference Relative to Presumed Award
Age*						
20-30	\$1,520,741	\$3,571,574	\$2,574,732	1.335	0.768	0.568
31-40	1,918,304	5,387,000	3,419,094	1.590	0.707	0.883
41-50	1,403,129	4,059,422	3,098,455	1.730	1.174	0.556
51-60	780,677	3,191,523	2,712,601	3.432	2.518	0.913
60+	327,110	915,272	992,182	2.420	2.738	-0.318
Dependants						
0	1,276,366	4,397,298	2,495,599	2.185	1.035	1.150
1	1,444,156	3,325,067	2,563,007	1.256	0.938	0.318
2	1,262,741	5,331,917	3,165,371	1.748	1.076	0.672
3+	1,607,665	3,910,511	3,368,959	1.924	1.645	0.279
Income (\$1,000)						
0-50	488,895	1,519,688	1,024,619	1.943	1.250	0.693
50-100	868,110	2,578,216	1,932,299	1.880	1.287	0.592
100-250	2,044,921	4,175,843	3,397,014	1.142	0.903	0.239
250-500	2,507,452	6,118,395	4,815,757	1.430	1.054	0.375
500+	2,505,789	13,800,000	6,815,692	5.256	2.138	3.118
Gender						
m	1,693,171	4,419,462	3,386,307	1.682	1.124	0.558
f	981,371	3,779,879	1,965,824	2.477	1.426	1.051
Ethnicity						
White	1,262,475	3,792,118	2,338,751	1.456	0.646	0.811
Black	684,649	2,096,144	834,456	1.188	0.095	1.093
Hispanic	415,138	1,940,092	1,326,940	1.516	0.999	0.517
Asian	941,638	6,885,405	2,023,330	4.232	1.313	2.919
Indian	1,721,609	5,589,777	2,360,744	2.391	0.407	1.984
Marital status						
single	868,533	3,770,314	1,521,170	1.754	0.684	1.071
married	1,724,687	4,638,660	3,390,375	1.744	1.150	0.594
divorced	370,406	1,885,924	2,026,572	1.278	1.885	-0.607
Age of Oldest Dependant						
0-5	2,806,839	8,329,744	4,377,361	1.951	0.417	1.534
6-10	1,653,813	5,163,974	3,003,876	1.301	0.778	0.523
11-20	702,037	2,574,274	1,803,635	1.995	1.129	0.866
20+	1,466,521	4,698,765	2,240,523	2.410	0.592	1.818

Table 5 (continued)
VCF Economic Awards
Economist's Calculation and Final Economic Award
Relative to Presumed Award
by Demographic and Economic Characteristics

	Presumed Award	Economist	Final	Economist Relative to Presumed Award	Final Relative to Presumed Award	Difference Relative to Presumed Award
Age of Youngest Dependant						
0-5	1,896,879	7,656,677	3,788,453	3.191	1.279	1.912
6-10	638,411	2,324,979	1,899,220	1.863	1.387	0.476
11-20	1,061,758	3,698,045	2,624,453	1.450	0.929	0.521
Parent Beneficiary						
y	1,199,380	4,555,996	2,012,361	2.256	0.852	1.404
n	1,064,687	3,587,091	2,158,968	1.754	0.893	0.860
State						
NY	985,373	3,513,168	2,194,560	1.213	0.633	0.580
NJ	1,131,028	4,094,632	2,021,110	2.466	1.111	1.355
CT	4,088,498	8,317,451	7,315,072	1.034	0.789	0.245
other	493,661	1,072,995	916,416	2.404	1.615	0.788
Residence Type						
home	1,103,547	4,308,826	2,373,823	1.754	0.889	0.866
apartment	1,126,394	2,703,347	1,875,762	1.225	0.684	0.541
other	880,186	3,018,829	1,744,520	2.232	0.771	1.461
Case Type						
injury	0	2,150,107	1,157,239	-----	-----	-----
death	1,368,444	4,115,186	2,385,564	2.275	1.117	1.158
Rescue Worker*						
yes	598,782	2,333,229	1,628,669	0.741	0.292	0.449
no	1,178,007	3,975,495	2,230,022	2.020	0.999	1.021
Tinari Report Date						
2003						
Q1	1,659,538	4,317,763	2,785,155	2.809	1.597	1.212
Q2	2,128,833	4,799,323	3,627,781	1.987	0.790	1.196
Q3	1,759,285	5,617,922	2,915,240	1.314	0.578	0.736
Q4	1,004,118	2,988,700	1,965,802	1.979	1.185	0.794
2004						
Q1	858,740	4,837,481	1,931,992	2.552	0.746	1.806
Q2	439,669	1,649,907	1,394,798	0.685	0.522	0.163

Table 5 (continued)
VCF Economic Awards
Economist's Calculation and Final Economic Award
Relative to Presumed Award
by Demographic and Economic Characteristics

	Presumed Award	Economist	Final	Economist Relative to Presumed Award	Final Relative to Presumed Award	Difference Relative to Presumed Award
Filing Date						
2003						
Q1	1,015,224	3,687,768	2,131,618	3.937	1.906	2.031
Q2	2,124,911	11,700,000	4,315,715	5.457	1.163	4.294
Q3	1,426,581	4,862,497	2,561,490	1.512	0.805	0.707
Q4	1,126,065	3,155,217	1,939,941	1.865	0.919	0.945
2004						
Q1	673,370	2,309,784	1,742,230	1.246	0.956	0.290
Q2	809,411	3,081,009	1,610,351	0.981	0.138	0.844
VCF Hearing						
yes	1,028,636	3,695,142	2,053,173	1.886	0.911	0.976
no	1,982,238	4,187,187	2,431,545	1.393	0.181	1.212
Hearing Date						
2003						
Q3	4,088,498	8,317,451	7,315,072	1.034	0.789	0.245
Q4	1,524,004	5,592,368	3,039,090	2.851	1.341	1.509
2004						
Q1	1,337,381	5,032,693	2,145,503	2.489	0.767	1.722
Q2	750,565	2,571,161	1,717,758	1.429	0.895	0.534

Table 6
Multivariate Regression Analysis
Dependent Variable: Final Economic Award

	Specification #1				Specification #2			
	All		< \$250,000		All		< \$250,000	
	coeff.	t-stat	coeff.	t-stat	coeff.	t-stat	coeff.	t-stat
Economist's Calculation	0.37	12.77	0.55	10.00	0.25	7.94	0.33	4.47
Female					-732382	-1.96	-565234	-1.78
Married					-4716	-0.01	-371579	-1.10
Ethnicity- White					246602	0.68	343042	1.18
VCF Hearing (y/n)					-287797	-0.48	188468	0.35
Own Home					155195	0.44	137348	0.47
Case Type								
death					935398	2.04	744899	2.07
injury					----	----	----	----
Rescue Worker (y/n)					43596	0.09	259729	0.66
State								
NJ					-695016	-2.15	-273194	-0.92
NY					----	----	----	----
File Date								
early					-192052	-0.16	260124	0.28
late					-163619	-0.48	24597	0.09
Constant	2007667	9.38	1030234	4.51	1043700	1.25	307331	0.41
R-squared		0.6197		0.5543		0.6941		0.5223
Adjusted R-squared		0.6138		0.5452		0.6125		0.3714

Table 7
 Multivariate Regression Analysis
 Dependent Variable: Final Economic Award Net of Presumed Award

	Specification #1				Specification #2			
	All		≤ \$250,000		All		≤ \$250,000	
	coeff.	t-stat	coeff.	t-stat	coeff.	t-stat	coeff.	t-stat
Economist's Calculation Net of Presumed Award	0.23	7.90	0.24	3.23	0.14	5.54	0.10	1.21
Female					-423724	-1.54	-360478	-1.27
Married					25731	0.09	-143685	-0.49
Ethnicity- White					-185119	-0.74	-151879	-0.62
VCF Hearing (y/n)					415294	1.00	712778	1.59
Own Home					322099	1.31	283893	1.17
Case Type								
death					137466	0.44	7017	0.02
injury					----	----	----	----
Rescue Worker (y/n)					167955	0.49	303823	0.92
State								
NJ					-506459	-2.22	-140147	-0.56
NY					----	----	----	----
File Date								
early					6694	0.01	225616	0.29
late					-262105	-1.12	-113265	-0.49
Constant	1252617	7.67	857075	4.72	506487	0.87	212625	0.34
R-squared		0.3856		0.1255		0.5588		0.2531
Adjusted R-squared		0.3759		0.1073		0.4385		0.0109

Table 8
 Multivariate Regression Analysis
 Dependent Variable: Natural Log of Final Economic Award

	Specification #1				Specification #2			
	All		≤ \$250,000		All		≤ \$250,000	
	coeff.	t-stat	coeff.	t-stat	coeff.	t-stat	coeff.	t-stat
In(Economist's Calculation)	0.68	13.63	0.65	9.52	0.52	5.67	0.47	3.77
Female					-0.47	-2.22	-0.48	-1.93
Married					-0.23	-1.02	-0.30	-1.14
Ethnicity- White					0.08	0.41	0.13	0.59
VCF Hearing (y/n)					-0.17	-0.51	-0.10	-0.23
Own Home					0.19	0.95	0.21	0.90
Case Type								
death					0.84	3.13	0.80	2.78
injury					----	----	----	----
Rescue Worker (y/n)					0.39	1.38	0.40	1.30
State								
NJ					-0.30	-1.61	-0.15	-0.65
NY					----	----	----	----
File Date								
early					0.68	1.00	0.69	0.95
late					0.14	0.68	0.19	0.87
Constant	4.63	6.12	4.98	4.92	6.22	4.50	6.83	3.59
R-squared		0.6369		0.5124		0.6472		0.5711
Adjusted R-squared		0.6312		0.5025		0.5531		0.4357

Table 9
 Multivariate Regression Analysis
 Dependent Variable: Natural Log of Final Economic Award Net of Presumed Award

	Specification #1				Specification #2			
	All		< \$250,000		All		< \$250,000	
	coeff.	t-stat	coeff.	t-stat	coeff.	t-stat	coeff.	t-stat
In(Economist's Calculation Net of Presumed Award)	0.52	6.92	0.35	3.37	0.39	2.70	0.28	1.57
Female					-0.57	-1.30	-0.68	-1.57
Married					-0.32	-0.72	-0.42	-0.93
Ethnicity- White					-0.04	-0.11	-0.24	-0.61
VCF Hearing (y/n)					1.06	1.74	1.92	2.65
Own Home					0.55	1.57	0.53	1.48
Case Type								
death					0.05	0.12	-0.06	-0.13
injury					----	----	----	----
Rescue Worker (y/n)					-0.13	-0.28	0.08	0.16
State								
NJ					-0.24	-0.74	0.08	0.21
NY					----	----	----	----
File Date								
early					0.20	0.18	0.42	0.38
late					0.09	0.25	0.16	0.46
Constant	6.62	6.09	8.77	5.95	7.13	3.37	7.87	2.95
R-squared		0.3322		0.1311		0.3357		0.3233
Adjusted R-squared		0.3210		0.1118		0.1312		0.0844

Figure A.1

VCF Total Economic Awards Relative to Economist's Calculated Awards

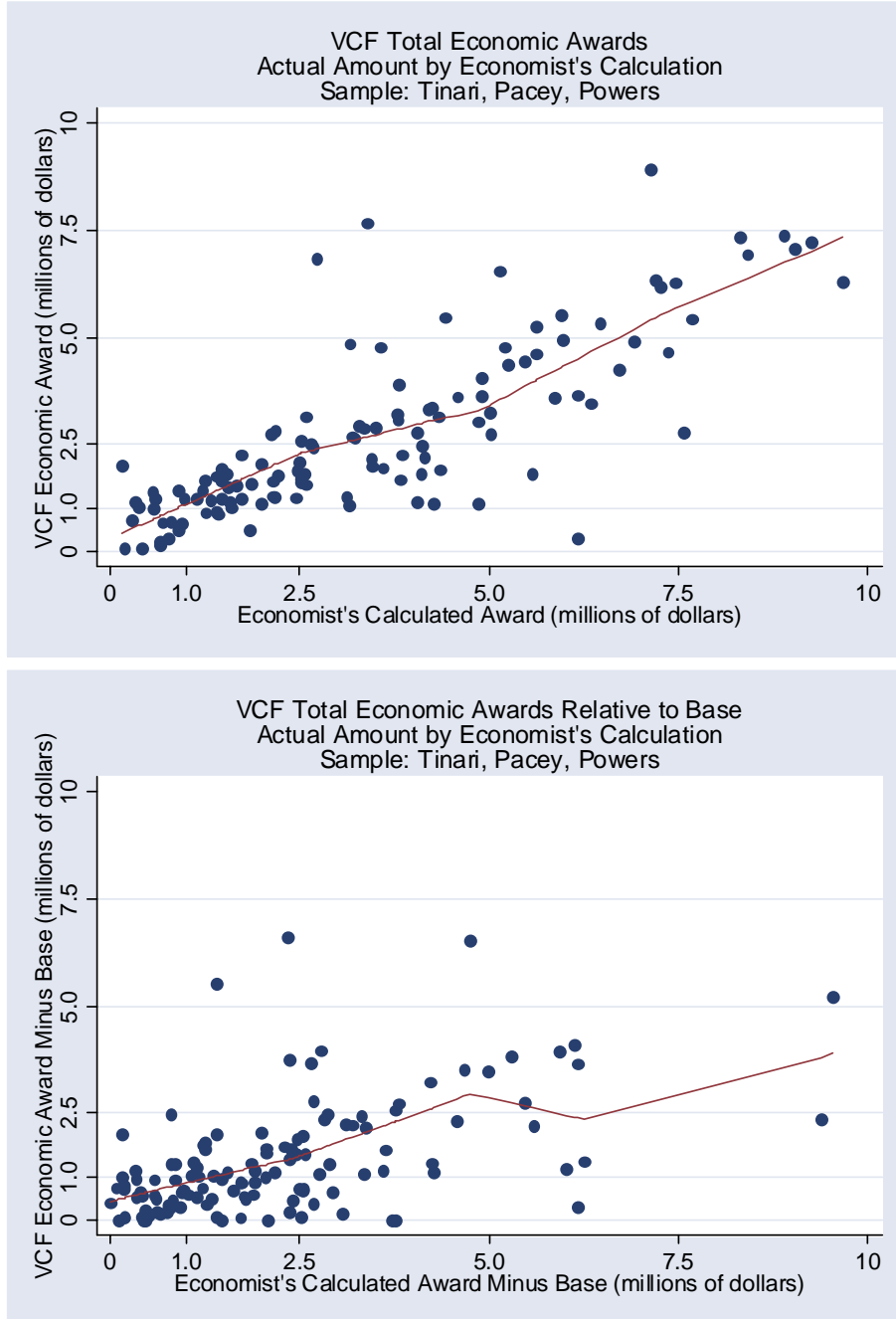


Figure A.2

**VCF Total Economic Awards (ln) Relative to
Economist's Calculated Awards (ln)**

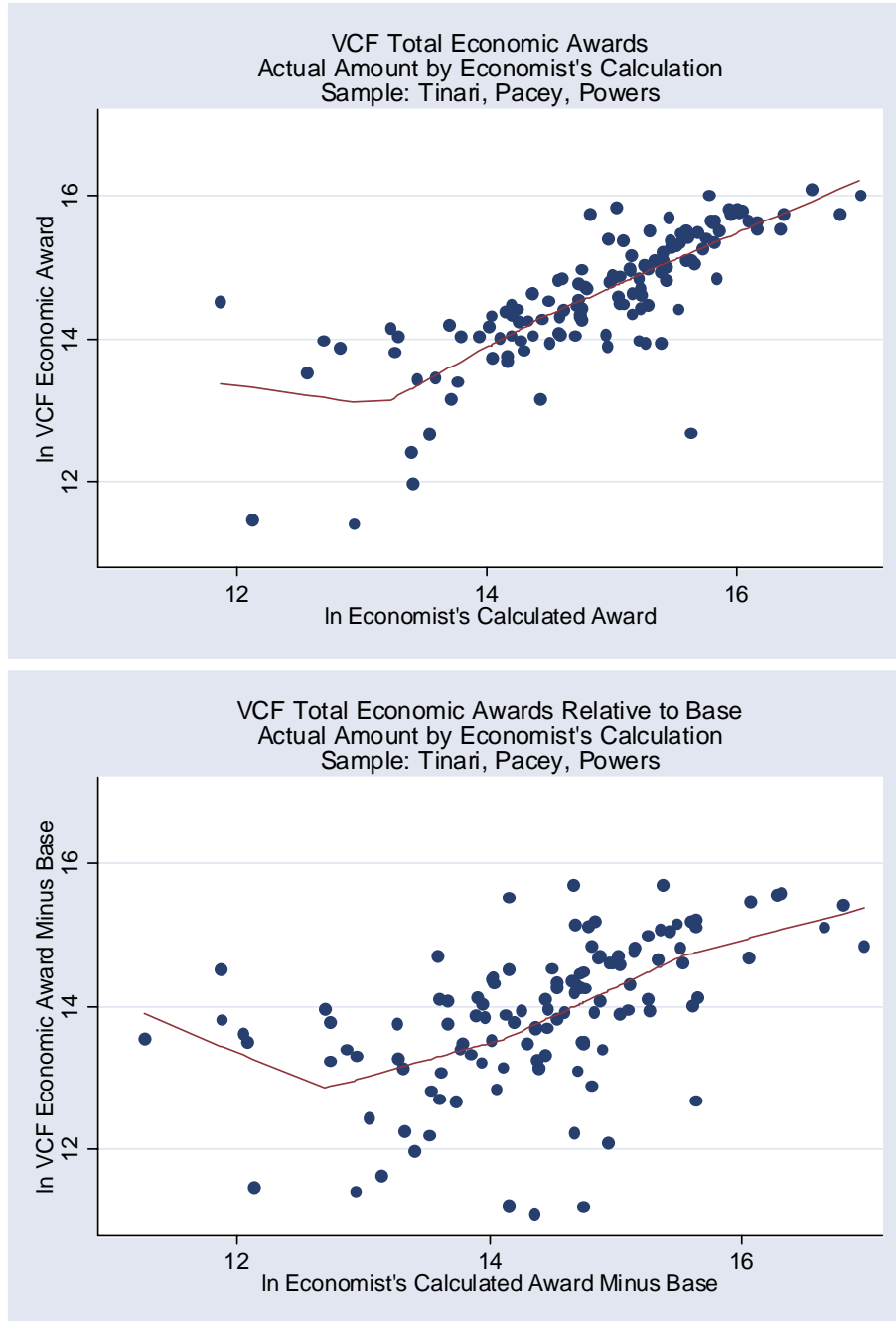


Table A.1
Demographic, Economic and VCF-Related Variables,
by Responder Status

	Responders		Non-responders	
	n	%	n	%
Age				
20-30	10	15%	8	8%
31-40	22	34%	38	38%
41-50	20	31%	36	36%
51-60	10	15%	11	11%
60+	3	5%	6	6%
missing	0	0%	2	2%
Gender				
male	44	68%	84	83%
female	21	32%	16	16%
missing	0	0%	1	1%
Ethnicity				
White	36	55%	64	63%
Black	3	5%	2	2%
Hispanic	8	12%	4	4%
Asian	5	8%	4	4%
Indian	2	3%	2	2%
Missing	11	17%	25	25%
Marital Status				
single	17	26%	21	21%
married	44	68%	73	72%
divorced	4	6%	6	6%
missing	0	0%	1	1%
Spouse Employed				
yes	15	23%	27	27%
no	20	31%	15	15%
na	20	31%	28	28%
missing	10	15%	31	31%
Income (\$1,000)				
0-50	16	25%	17	17%
50-100	27	42%	40	40%
101-200	11	17%	22	22%
201-500	7	11%	11	11%
500+	3	5%	8	8%
missing	1	2%	2	2%
Residence Type				
home	23	35%	43	43%
apartment	20	31%	21	21%
condo	2	3%	1	1%
multifamily	2	3%	4	4%
townhouse	1	2%	0	0%
missing	17	26%	32	32%

Table A.1
Demographic, Economic and VCF-Related Variables,
by Responder Status (continued)

	Responders		Non-responders	
	n	%	n	%
Dependents				
0	25	38%	37	37%
1	17	26%	16	16%
2	11	17%	31	31%
3+	12	18%	16	16%
missing	0	0%	1	1%
Age of Oldest Dependent				
0-5	7	11%	15	15%
6-10	6	9%	14	14%
11-20	20	31%	32	32%
20+	7	11%	1	1%
na	25	38%	37	37%
missing	0	0%	1	1%
Age of Youngest Dependent				
0-5	8	12%	26	26%
6-10	8	12%	11	11%
11-20	7	11%	10	10%
20+	0	0%	0	0%
na	42	65%	53	52%
missing	0	0%	1	1%
Parent Beneficiary				
yes	10	15%	16	16%
no	55	85%	84	83%
missing	0	0%	1	1%
Other Family Victims				
yes	4	6%	0	0%
no	61	94%	100	99%
missing	0	0%	1	1%
State				
NY	32	49%	55	54%
NJ	29	45%	39	39%
CT	1	2%	1	1%
other	3	5%	5	5%
missing	0	0%	1	1%
Case Type				
injury	13	20%	19	19%
death	52	80%	81	80%
missing	0	0%	1	1%

Table A.1
Demographic, Economic and VCF-Related Variables,
by Responder Status (continued)

	Responders		Non-responders	
	n	%	n	%
Rescue Worker				
yes	10	15%	16	16%
no	55	85%	84	83%
missing	0	0%	1	1%
VCF Hearing				
yes	56	86%	36	36%
no	4	6%	0	0%
missing	5	8%	65	64%
Filing Date				
2002				
Q3	1	2%	0	0%
Q4	0	0%	0	0%
2003				
Q1	3	5%	0	0%
Q2	2	3%	0	0%
Q3	10	15%	1	1%
Q4	25	38%	0	0%
2004				
Q1	11	17%	2	2%
Q2	5	8%	4	4%
missing	8	12%	94	93%
Hearing Date				
2003				
Q2	0	0%	1	1%
Q3	1	2%	0	0%
Q4	9	14%	1	1%
2004				
Q1	14	22%	10	10%
Q2	34	52%	21	21%
missing	7	11%	68	67%
Tinari Report Date				
2002				
Q2	0	0%	5	5%
Q3	0	0%	1	1%
Q4	0	0%	2	2%
2003				
Q1	3	5%	2	2%
Q2	4	6%	3	3%
Q3	9	14%	20	18%
Q4	24	37%	32	29%
2004				
Q1	14	22%	22	20%
Q2	11	17%	12	11%
missing	0	0%	10	9%

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