Costs and Compensation
Paid in Aviation
Accident Litigation

James S. Kakalik, Elizabeth M. King,
Michael Traynor, Patricia A. Ebener, Larry Picus

RAND
THE INSTITUTE FOR CIVIL JUSTICE
This research is supported by The Institute for Civil Justice.

Library of Congress Cataloging in Publication Data
Costs and compensation paid in aviation accident litigation / J.S.
Kakalik ... [et al.].
p. cm.
“R-3421-ICI.”
“1988.”
Includes bibliographical references.
1. Liability for aircraft accidents—United States. 2. Death by
wrongful act—United States. 3. Costs (Law)—United States.
4. Damages—United States. I. Kakalik, James S. II. Institute for
Civil Justice (U.S.)
KF1290.A9C87 1988
346.73/0322—dc19
[347.306322] 88-26545
CIP

The RAND Publication Series: The Report is the principal
publication documenting and transmitting the Institute’s major
research findings and final research results. The Note
reports other outputs of sponsored research for general distri-
bution. Publications of The RAND Corporation do not neces-
sarily reflect the opinions or policies of RAND’s and the
Institute’s research sponsors.

Copyright © 1988
The RAND Corporation

Published by The RAND Corporation
1700 Main Street, P.O. Box 2138, Santa Monica, CA 90406-2138
The Institute for Civil Justice

The Institute for Civil Justice, established within The RAND Corporation in 1979, performs independent, objective policy analysis and research on the American civil justice system. The Institute's principal purpose is to help make the civil justice system more efficient and more equitable by supplying policymakers with the results of empirically based, analytic research.

RAND is a private, nonprofit institution, incorporated in 1948, which engages in nonpartisan research and analysis on problems of national security and the public welfare.

The Institute examines the policies that shape the civil justice system, the behavior of the people who participate in it, the operation of its institutions, and its effects on the nation's social and economic systems. Its work describes and assesses the current civil justice system; analyzes how this system has changed over time and may change in the future; evaluates recent and pending reforms in it; and carries out experiments and demonstrations. The Institute builds on a long tradition of RAND research characterized by an interdisciplinary, empirical approach to public policy issues and rigorous standards of quality, objectivity, and independence.

The Institute is supported by pooled grants from corporations, private foundations, trade and professional associations and individuals. The Institute disseminates the results of its work widely to state and federal officials, legislators, and judges, to the business, consumer affairs, labor, legal, and research communities, and to the general public.
Board of Overseers

Jack G. Clarke, Director and Senior Vice President, Exxon Corporation; Chairman of the Board of Overseers, The Institute for Civil Justice
Stephen J. Brobeck, Executive Director, Consumer Federation of America
Edward H. Budd, Chairman and Chief Executive Officer, The Travelers Companies
Robert Clements, President, Marsh & McLennan, Incorporated
James A. Greer, III, LeBlanc, Lamb, Leisy & MacRae
Missy Harrell, Locke Purnell Rain Harrell, former President, American Bar Association
Geoffrey C. Hazard, Jr., Sterling Professor of Law, Yale Law School; Director, American Law Institute
Aileen C. Hernandez, President, Aileen C. Hernandez Associates
Edwin E. Huddleston, Jr., Cooley, Godward, Castro, Huddleston & Tatum
George N. Leighton, Of Counsel, Earl L. Neal & Associates; U.S. Senior District Judge, Northern District of Illinois
Ignacio E. Lozano, Jr., Editor-in-Chief, La Opinion; Chairman of the Board, Losano Enterprises
C. Bruce Maines, President and Chief Executive Officer, SAFECO Corporation
Kevin F. McCarthy, Director, The Institute for Civil Justice
Robert F. McDermott, Chairman, President, and Chief Executive Officer, United Services Automobile Association
Joseph W. Morris, Cable & Gottwalds, former Vice President and General Counsel, Shell Oil Companies; former U.S. District Chief Judge
Donald E. Nickelson, President, Paine Webber Group, Inc
Franklin W. Nathan, President, Alliance of American Insurers
Paul F. Oreffice, Chairman of the Board, The Dow Chemical Company
Howard Raiffa, Frank Plumptre Ramsey Professor of Managerial Economics, Harvard University
Paul D. Rheingold, Rheingold & McGowan
Alice M. Rivlin, Senior Fellow, The Brookings Institution
Edward B. Rust, Jr., President and Chief Executive Officer, State Farm Insurance Companies
Howard D. Samuel, President, Industrial Union Department, AFL-CIO
David S. Shrago, Shrago McDaid Lofts & Flum; former President, The Association of Trial Lawyers of America
Gustave H. Shubert, Senior Vice President, The RAND Corporation; Founding Director, The Institute for Civil Justice
Leonard Woodcock, Adjunct Professor of Political Science, University of Michigan; former President, United Auto Workers; former U.S. Ambassador to the People's Republic of China
Kathryn D. Wriston, Corporate Director
Lawrence Zicklin, Managing partner, Neuberger and Berman
Honorary Overseers
Kenneth J. Arrow, Joan Kenney Professor of Economics and Professor of Operations Research, Stanford University
William O. Bailey, Vice Chairman, Aetna Life and Casualty Company
Irving A. Bluestone, Professor of Labor Studies, Wayne State University; former Vice President, United Auto Workers
Archie R. Boe, President (retired), Sears, Roebuck & Company
Guido Calabresi, Dean and Sterling Professor of Law, Yale Law School
Richard P. Cooley, Chairman of the Board, SeaFirst Corporation
Donald P. Crail, Jr., Chairman and Chief Executive Officer (retired), Allstate Insurance Group
Thomas R. Donahue, Secretary-Treasurer, AFL-CIO
Laurence S. Gold, General Counsel, AFL-CIO
W. Richard Goodwin
Shirley M. Hufstedler, Hufstedler, Miller, Carlson & Beardsley; former U.S. Circuit Judge; former Secretary, U.S. Department of Education
Edward H. Levi, Glen A. Lloyd Distinguished Service Professor Emeritus, School of Law, University of Chicago; former Attorney General of the United States
John A. Love, Davis, Graham & Stubbs; former Governor of Colorado; former Chairman, Ideal Basic Industries
Laurence E. Lynn, Jr., Dean, The School of Social Service Administration, The University of Chicago
Robert H. Mallott, Chairman and Chief Executive Officer, FMC Corporation
Richard L. Mathias, former President, Property-Casualty Insurance Council
Chauncey J. Medbery, III, Chairman of the Board (retired), Bank of America
Edward J. Neha, Chairman and Chief Executive Officer, CNA Insurance Companies
Samuel R. Pierce, Jr., Secretary, U.S. Department of Housing and Urban Development
Barbara Scott Freisak, Attorney at Law
Donald H. Rumsfeld, Senior Adviser, William Blair & Co.; former Secretary, U.S. Department of Defense
William B. Schwartz, Vannevar Bush University Professor and Professor of Medicine, Tufts University
Eleanor D. Sheldon, former President, Social Science Research Council
Justin A. Stanley, Meyer, Braun & Platt; former President, American Bar Association
Ward Wagner, Jr., Cone, Wagner, Nugent, Johnson, Roth & Romans; former President, The Association of Trial Lawyers of America
Robert B. Wilcox, President (retired), Property-Casualty Insurance Council
Sandra L. Willett, former Executive Vice President, National Consumers League
Margaret Bush Wilson, Wilson, Smith and Seymour; former Chairman of the NAACP, National Board of Directors
Paul S. Wise, Chairman of the Board (retired), Alliance of American Insurers
Charles J. Zwick, Chairman and Chief Executive Officer, Southeast Bank, N.A.; former Director of the U.S. Bureau of the Budget
Preface

In 1985 the Institute for Civil Justice undertook a detailed study of aviation accident litigation in the United States. Like earlier ICJ studies of automobile, asbestos, and medical malpractice litigation, this research provides a detailed picture of the unique features, transactions costs, and compensation levels of a particular kind of litigation. To meet the interests of different audiences, the study's findings have been published in six separate volumes:


Economic Loss and Compensation in Aviation Accidents, by Elizabeth M. King and James P. Smith, R-3551-ICJ, 1988.


The executive summary volume is a compendium of the summaries of the individual studies. The present report describes the general character of aviation accident litigation and compares plaintiffs' and defendants' litigation expenses with the compensation paid to the survivos of those who died in the accidents. The third report reviews the underlying principles and detailed procedures used to compute the economic loss associated with individual decedents. The fourth report describes the characteristics of the decedents and compares the compensation paid to their survivors with the levels of economic loss they
suffered. The fifth report analyzes the legal and economic determinants of the litigation decisions that plaintiffs and defendants faced. The sixth volume contains the forms used to compile the data used in the separate analyses.

In combination, these volumes provide a comprehensive profile of aviation accident litigation and a basis for assessing the policy issues surrounding it.
Summary

In 1985, RAND's Institute for Civil Justice undertook a comprehensive study of aviation accident death cases. Through the cooperation of plaintiff and defense attorneys, defendants, and insurers, the RAND research staff had complete access to the detailed records of more than 2,000 cases—the entire population of U.S. airline major aviation accident death cases from 1970 to 1984. This report describes the characteristics of the decedents and the litigation, provides data on compensation paid and litigation costs, and compares the transactions costs with the amount of compensation paid for aviation accident and for other types of tort cases.

The study found that from the average total compensation of $363,000 received in the mass aviation accident cases that involved U.S. airlines between 1970 and 1984, the plaintiffs paid $72,000 in legal fees and related expenses and took home $291,000 in net compensation. Defendants' litigation expenditures amounted to $49,000 per death. The combined litigation expenditures for both sides totaled $121,000 per death. Thus, of the total $412,000 in expenditures per death, the plaintiffs received 71 percent in net compensation, and 29 percent went for transactions costs.

OVERVIEW OF AVIATION ACCIDENT LITIGATION
Scope and Data Sources

Scope. The study included all 25 major accidents that involved U.S. airlines between 1970 and 1984. These accidents resulted in 2,228 passenger and ground deaths. Data were included on all these deaths except for 30 whose cases were still open when data collection stopped in May 1986. The study excluded U.S. airline accidents that involved relatively small aircraft (60 or fewer passenger seats) or relatively few
deaths (five or fewer). The study also excluded accidents involving only private planes.

**Data Sources.** The study used three kinds of data.

We collected data on each accident from the claims and accident files of insurance carriers and defense lawyers. Data included characteristics of the decedents, the claimants, the lawsuits, and the accidents; compensation data; experts' evaluations of case worth; and defendants' litigation expenditures. We also collected information on plaintiffs' legal fees and related expenses whenever the files contained that information.

We supplemented the claims and accident file data with information from personal interviews with plaintiffs' attorneys who are aviation specialists; a mail survey of a random sample of plaintiffs' attorneys; interviews with representatives of every airline and aircraft manufacturer, the U.S. Department of Justice, every primary insurer, and the person primarily responsible for negotiating liability and damage compensation for the defendants in each accident; and published statistics on accidents.

Many claims files lacked information critical to estimating economic loss—for example, fringe benefit rates or taxes paid. We used external economic, census, and labor market sources to estimate these factors.

**Characteristics of the Decedents**

Air accident victims differ systematically from the U.S. population along several dimensions that should make their compensation values higher than the values associated with the death of an “average” American. The decedents in our sample were predominantly male and middle-aged. About two-thirds were employed, and their average income was twice the national average.

About 60 percent of the decedents in the sample were married, and this fact has an important influence on compensation: The law in most states provides for payment of loss to the decedents' survivors. About 40 percent of the cases involved multiple deaths in the same family, and in only 33 percent of the cases was there a surviving spouse. Multiple-family deaths significantly reduce compensation payments under current law in most states.

---

1These excluded accidents resulted in 331 deaths, only 12 percent of all U.S. airline accident deaths from 1970 to 1984.
Characteristics of the Litigation

Suits Filed. The plaintiffs in airline accident cases almost always file separate claims or lawsuits for each decedent. About 90 percent of the claimants in the accidents we studied hired a lawyer. However, lawyers did not always file lawsuits on behalf of their clients. Only two-thirds of the claims resulted in lawsuits. Of these suits, more than 85 percent were settled without going to trial.

Time to Closure. The time from accident to disposition varied with the stage of closure (see Fig. S.1). For example, the average time to disposition for claims settled without a lawsuit was 1.0 year. Settled lawsuits took an average of 2.5 years. And tried cases had an average time to disposition of nearly 5 years.

Multiple Defendants. Aviation accident cases usually involve multiple defendants. The most commonly named defendants are the airline, the aircraft manufacturer, the U.S. government (air traffic control), and one other organization that may have manufactured equipment for the airplane or serviced it.

However, not all of the defendants named actually pay compensation. In about one-third of the cases in this study, two defendants paid; in another third, only one paid. In all cases, the airline contributed to passenger compensation.

Specialized and Coordinated Bars. Both the plaintiff and the defense bars are quite specialized. Fourteen law firms handled approximately one-third of the plaintiff cases in our sample and about half of the cases that went to trial. The defense bar is also specialized, in part because the aviation accident insurance market is itself very concentrated. The defense is coordinated by the direct insurer of the airline, who takes the lead in negotiating with the plaintiffs on behalf of all defendants.

Causation and Liability. Defendants in air accident litigation usually do not seriously contest liability with the plaintiffs, and defendants often simply agree among themselves about how to share that liability. In about half of the accidents in our sample, there was no major liability dispute of any kind. Even when defendants fought about liability among themselves, the disputes did not usually delay payment of compensation to the plaintiffs. Either the airline's insurer paid it, expecting to seek reimbursement later, or the defendants signed an interim contract, pending later adjustment.
Fig. S.1—Time to disposition and stage of closure for aviation accident death cases
LEGAL ENVIRONMENT

Type of Court

About 40 percent of the deaths resulted in lawsuits filed in federal courts, 20 percent had suits filed in state courts, 1 percent had suits filed in foreign courts, and the remaining one-third did not involve lawsuits. Nearly all of the federal cases were subject to multidistrict litigation procedures, which transfer cases pending in different federal district courts to one district for consolidated pretrial proceedings.

Laws Governing Compensation

Compensation for aviation accident deaths is usually governed by state law, and all states have statutes establishing the damage principles that apply in these cases. With the exception of one state whose law is penal, all states provide for compensation of economic loss, and many also permit recovery for noneconomic loss such as pain and suffering and loss of consortium. About four-fifths of the states have some type of law that provides payment of economic loss to survivors; about one-fifth of the states have statutes in the general category of economic loss to the decedent's estate.

Limits on Compensation

Today no state law limits total compensation for aviation deaths, although some states do limit payments for nonpecuniary loss. However, in the early years of our sample, some states had legal caps on total settlements or awards. In addition, current international treaties, such as the Warsaw Convention and the Montreal Agreement, potentially limit the maximum award to survivors of decedents who had international tickets. However, for a number of reasons (usually because some defendant in addition to the airline was liable), these treaties did not limit total compensation for three-fourths of the deaths involving Warsaw-Montreal treaty tickets.

COMPENSATION PAID

The average compensation paid for the 2,198 aviation accident passenger and ground deaths with closed cases was approximately $363,000 in 1986 value dollars. This totaled $798 million, or an aver-
age of $32 million for each of the 25 accidents in the study. These figures include total compensation paid by all defendants for economic and noneconomic loss before subtracting legal fees and expenses. Punitive damages were not paid in any of these death cases.

Average compensation increased during the period covered by this study. During the first half (1970–1976), it was approximately $321,300; during the second half (1977–1982), it was $408,500.

As Fig. S.2 shows, compensation paid varied widely across decedents. No compensation was paid for only 12 deaths (cases for which legally eligible claimants did not exist or could not be located). About one-fourth of the deaths resulted in compensation of less than $100,000. Half of the cases involved compensation of less than $179,000. The maximum compensation awarded was more than $5,000,000 per death. Only 8 percent of the cases resulted in compensation of more than $1,000,000. but these cases account for almost one-third of the compensation paid for all deaths combined.

Compensation varied with stage of closure, as Fig. S.3 shows. Claims settled without a suit averaged about $256,200 in compensation. The nearly two-thirds of the cases that involved lawsuits had substantially higher compensation. Settled lawsuits averaged $387,600 in compensation, about one and one-half times as much as settled claims that did not involve lawsuits. Average compensation for cases that went to trial was approximately $599,000, nearly double the average of $339,800 for all cases that closed before trial began.

PLAINTIFFS’ LITIGATION EXPENDITURES

Contingent Fee System

The dominant fee system for plaintiffs’ attorneys is the contingent fee, in which lawyers receive a percentage of the compensation after all the plaintiff’s other legal expenses are deducted. The most common fee is about 15 to 25 percent. However, there are some variations. Lawyers may charge less if no suit is filed or if the case does not go to trial; if the case settles early; or if the lawyer is handling multiple cases for the same accident.

Data Sources

Our estimates of plaintiffs’ litigation expenditures include both legal fees and any other expenses associated with the case—for example, court filing fees and expenses for developing information about the decedent’s economic and family history. We included fees to both a
Fig. S.2—Distribution of total compensation paid per death

Median = $179,000
Average = $362,943
1970-76 = $321,317
1977-82 = $408,453
Aviation accident deaths with closed cases
N = 2,198
Comp. = $362,943

99.7% 9% 63% 54%

Claim filed
N = 2,192
Comp. = $363,936

Lawsuit filed
N = 1,390
Comp. = $417,413

Lawsuit closed after trial began
N = 196
Comp. = $599,032

Claim settled without lawsuit
N = 746
Comp. = $256,171

Lawsuit settled before trial
N = 1,194
Comp. = $387,599

No claim filed
N = 6
Comp. = $0

Settled, don't know if lawsuit filed
N = 58
Comp. = $472,142

Fig. S.3—Compensation by stage of disposition (1986 dollars)
local attorney and an aviation accident specialist attorney if one was hired, as well as the fee paid to a plaintiffs' committee if one was established for the accident. To analyze plaintiffs' litigation expenditures, we used exact data from case files, where possible. We supplemented the file data with interviews of plaintiffs' attorneys and mail survey data. Although we do not have data for every case, we believe that our estimates of average plaintiffs' expenditures are reasonably accurate: Nearly all the claims were handled on a contingent fee basis, and the data from the various sources are consistent.

Plaintiffs' Average Expenditures

We estimate that the average plaintiffs' legal fees and related expenses for all the cases with lawyers were 21 percent of compensation, about $80,000 per decedent. If we include cases without lawyers, the average litigation expenditures fall to about $72,000 per decedent. Since we have assumed that the 215 cases without lawyers have minimal or no litigation expenses, the remainder of this discussion refers only to the cases in which there was an attorney.

Variation in Plaintiffs' Litigation Expenditures

We used multivariate regression analysis to estimate the independent effects of a variety of factors on plaintiffs' litigation expenditures. Our analysis showed that six variables are significantly related to variation in these expenditures:

- The year of the accident.
- The amount of economic loss to survivors of decedents.
- The stage at which the case was closed.
- Whether the sole counsel was a foreign attorney.
- Whether the decedent had a Warsaw-Montreal treaty ticket.
- Whether a state law limited total compensation.

Year of the Accident. Average plaintiffs’ litigation expenditures as a percentage of total compensation declined during the study period from an average of 24 percent during 1970–1976 to an average of 18.4 percent during 1977–1982. This is an estimated average decline of about 0.2 percent per year from 1970 to 1976 and 0.8 percent per year thereafter. The decline is statistically significant. This reduction in expenditures as a percentage of compensation has been almost exactly offset by a rise in the average compensation. Thus, for cases with lawyers, the total of plaintiffs' litigation expenditures per case has

The aviation accident specialists we interviewed suggested several factors that might explain the downward trend in fee ratios. After about 1976, there was a trend toward early and substantial offers by defendants; liability was less likely to be contested; and competition among aviation litigation specialists for clients intensified. Whatever the causes, accidents since 1977 typically involve fees of from 15 to 25 percent; more recently, cases have fees of from 15 to 20 percent, with some quoted as low as 10 percent.

**Amount of Economic Loss to Survivors.** As economic loss to survivors rises, the average plaintiffs’ litigation expenditures as a percentage of compensation decline. Since the attorney’s work probably does not rise proportionately with compensation, this decline suggests that an attorney may be willing to accept a lower-percentage contingent fee on cases perceived to be of higher value.

The decline in plaintiffs litigation expenditures is only significant for cases with economic loss over $1 million: Litigation expenses, as a percentage of compensation, were 2.6 percentage points lower for a case with $2 million in economic loss than for a case with less than a $100,000 loss. However, although average expenditures for high-loss cases are a lower percentage of total compensation, the amount spent is much higher: The average litigation expenditures per death for cases with economic loss under $100,000 in this study was $32,000; for cases with losses over $2 million it was $172,000.

**Stage at Which the Case Was Closed.** Plaintiffs’ litigation expenditures as a percentage of compensation are lower for cases without a lawsuit or a trial. If a suit was filed, average litigation expenditures per death were $92,000, more than double the amount for cases closed without suits. We estimate that filing a lawsuit entails litigation expenditures as a percentage of compensation that are 7.4 percentage points higher than the figure for cases without a lawsuit. There are a number of possible reasons for this difference. Some contingent fee contracts call for a higher percentage if the case is closed after a lawsuit is filed; some lawyers may charge a higher rate if the case remains unresolved for a year or some other time period, in which case it is more likely to be in suit. We estimate that cases that actually went to trial had litigation expenditures as a percentage of compensation that were 2.7 percentage points higher than cases that were settled. Some contingent fee contracts call for a higher fee percentage if the case is closed after trial begins, and the expenses of trial often exceed the expenses of settled cases.
Foreign Attorney as Sole Counsel. If the only attorney in the case was foreign, plaintiffs’ average litigation expenditures as a percentage of compensation were about 8 percentage points lower than those in cases involving U.S. attorneys.

Whether the Decedent Had a Warsaw-Montreal Treaty Ticket. All other factors being equal, cases in which the decedent had a Warsaw-Montreal treaty ticket had litigation expenditures as a percentage of compensation that were 2.6 percentage points lower than those without such a ticket.

Whether a State Cap on Total Compensation Applied. State limits on total compensation also affected litigation expenditures. The plaintiffs’ expenditures for these cases, as a percentage of compensation, were 5.5 percentage points lower than the expenditures for cases that were not subject to these caps, indicating that a ceiling on compensation may reduce the amount of work done by attorneys for some cases.

DEFENDANTS’ LITIGATION EXPENDITURES

Data Sources

We grouped defense expenditures into two categories: (1) expenses related to determining the division of liability among defendants, and (2) expenses related to determining the compensation for passengers and ground victims. The expenses data we obtained from defendants and their insurers include allocated and unallocated expenditures. Allocated expenditures are fees paid to outside defense lawyers retained for the case and any other defendant and insurer expenses that are allocated directly to a specific accident. Unallocated expenditures are the defendants’ and insurers’ in-house costs for processing and supervising the claims and litigation.

Because insurer records do not distinguish between expenditures incurred for determining liability and those incurred for determining compensation, we asked the insurance companies and lawyers who actually did the work to estimate how they divided their time and other expenses between these two activities.2

Defendants’ Average Expenditures

We estimate that all the defendants combined spent a total of $60,257,000 to resolve the issue of liability for death cases. The average

---

2We excluded defense expenditures related to injuries, to on-duty crew members, and to property damage.
was $2,410,000 for each of the 25 accidents, or $27,000 for each of the 2,228 deaths.\textsuperscript{3} Of this total, 49 percent was spent for legal fees, 38 percent for in-house costs of defendants’ and insurers’ employees (including U.S. government lawyers), and 13 percent for other expenses.

Determining the *compensation* for each decedent cost all the defendants combined $49,563,000, or an average of $22,000 per death case. Of this total, 55 percent was for legal fees, 29 percent was for in-house costs, and 16 percent was for other expenses.

The total expenditure for liability and compensation litigation was $109,820,000. The per-death expenditure average was $49,000. This amount is approximately 14 percent of the average $363,000 compensation per death. For both compensation and defense litigation expenditures, defendants and their insurers spent an average of $412,000 per death.

**Variation in Defendants’ Litigation Expenditures**

Expenditures varied widely across the various accidents. For compensation litigation expenditures per death, this wide distribution is partly explained by the fraction of deaths in an accident that resulted in lawsuits and trials. In some accidents, many claimants filed suit and a relatively high percentage of them went to trial; in other accidents, many cases were settled without a suit. For liability litigation, a major factor in determining the distribution is whether or not there was a significant liability dispute, usually among the defendants.

Our multivariate statistical analysis, done at the accident level because data were not available at the decedent level, shows that defendants’ litigation expenditures vary with characteristics of the accident and of the litigation itself. Because of the small number of cases in this study—25 accidents in all—our statistical findings should be regarded as suggestive rather than conclusive.

Different factors influence expenditures for liability and compensation litigation:

- *Liability litigation expenditures* are higher for accidents with higher economic loss.
- *Compensation litigation expenditures* are higher for accidents (1) that have a larger fraction of lawsuits, (2) that have a larger fraction of plaintiffs’ attorneys who are not aviation specialists, and (3) in which the insurer directly negotiated compensation.

\textsuperscript{3}The 2,228 deaths include the 30 cases that had not closed when data collection stopped in May 1986. We include them here because liability expenditures were basically completed for these cases.
Variation in Liability Litigation Expenditures. The only statistically significant variable for predicting defendants' liability litigation expenditures for an aviation accident is the magnitude of the accident, which we measured in terms of the total economic loss to all survivors of decedents. The average defense liability litigation expenditures per accident increase from about $500,000 for accidents with relatively low economic loss to survivors (less than $25 million) to over $6 million for accidents with $100 million or more in economic loss. If all other factors affecting these expenditures are equal, doubling the total economic loss for an accident increases defense liability litigation expenditures by 35 percent. This finding suggests that the larger the amount of compensation at stake, the larger the amount the defendants will invest in disputing liability.

Variation in Compensation Litigation Expenditures. Expenses for compensation litigation are significantly influenced by (1) whether a lawsuit is filed, (2) whether an aviation accident specialist plaintiffs' attorney is used, and (3) whether the insurer negotiated the compensation.

Some claimants settle their claims without filing suit. In seven accidents in this study, more than half the claimants chose to settle without suit. In contrast, in 10 other accidents, fewer than one-fourth of the claimants settled without filing a suit. In our sample, the higher the percentage of cases that settled without a suit, the lower the compensation litigation expenditures per death.

The filing of a lawsuit increases defense expenses because there is more legal work to be done if a suit is involved and because a suit generally connotes a higher level of dispute among the parties. However, we found that if the fraction of people who file a lawsuit increases from 50 percent to 75 percent, then the average defense expenditures for compensation litigation per death increase by a factor of more than two. This suggests that there are some fundamental differences in litigation behavior by plaintiffs' and defendants' attorneys in accidents with a relatively small fraction of lawsuits.

We identified the 14 plaintiffs' law firms in the United States that handled the most cases in the accidents studied. We found that when the fraction of cases handled by one of these aviation specialists doubles, for example, from 25 percent to 50 percent, the compensation expenditures per death are cut in half. This decline may be due to the fact that these specialist plaintiffs' attorneys and defense attorneys know each other, have worked together on prior accidents, and thus know what to expect of each other.

In 15 of the accidents, the insurer's employees conducted compensation negotiations directly. In these accidents, average expenditures for
defense compensation litigation were approximately $25,000. In the other 10 accidents, the insurers, by policy, delegated the primary responsibility for conducting negotiations to outside defense lawyers. When outside defense lawyers were primarily responsible, the average defense compensation litigation expenditures per death were lower ($15,500). Holding all other factors constant, the policy of having the insurer negotiate compensation increases the defense compensation litigation expenditures by more than 100 percent. The reason appears to be that even though the insurer was actually conducting the negotiations, the insurer still utilized outside counsel extensively.

A COMPARISON OF COMPENSATION AND COSTS FOR AIR ACCIDENTS AND OTHER TORTS

Central to the debate about the tort system is the issue of whether its transactions costs are reasonable in relation to the compensation provided. We cannot answer that question definitively even for air accident litigation because we do not have the data to compare the current tort system with either revisions to it or alternative systems that might provide similar benefits. However, we can shed some light on the issue by comparing costs and compensation for air litigation with the costs and compensation for other torts.

Two previous ICJ studies of transaction costs provide the available basis for comparison: (1) a study of costs and compensation for all tort litigation concluded in 1985 and (2) a study of costs and compensation in asbestos worker injury litigation from 1980 to 1982.4 The first study provides a benchmark that reflects the broad range of tort litigation, much of which involves modest injuries. The study of asbestos worker injury suits provides what many regard as an upper bound on transaction costs relative to compensation, reflecting the complexities of liability disputes and loss calculations in toxic tort litigation.

We summarize the comparisons in Fig. S.4, which compares net compensation in the average tort, air accident, and asbestos case.

Average Tort Case. In 1985, about 866,000 tort lawsuits closed in courts of general jurisdiction. In the average tort case, defendants paid about $37,300 in 1986 value dollars, of which $18,700 (50 percent) was net compensation to the plaintiffs and $18,600 (50 percent) was for litigation expenditures for both sides combined.

Fig. S.4—Comparison of litigation expenditures and compensation per case for aviation accident, asbestos, and all tort cases (1986 dollars)
Air Accident Cases. With an average of fewer than 200 cases per year, U.S. airline major accident cases are only a small fraction of the total tort caseload. The average air accident death case resulted in $412,233 in payments by defendants, of which 71 percent ($291,170) was net compensation to the plaintiffs. The other 29 percent ($121,063) covered total litigation expenditures for both sides.

Asbestos Cases. An average of over 5,000 asbestos claims are now filed per year. In the average case closed in 1980–1982, defendants paid $123,400 in 1986 value dollars. Plaintiffs received $47,600 (39 percent) in net compensation, and $75,800 (61 percent) was used for litigation expenditures for both sides combined. We do not have data for more recent asbestos case closures, and they may differ.

Conclusion. Airline accident litigation has a lower ratio of transactions costs to total expenditures than tort litigation in general. As a percentage of total outlays, average transactions costs in aviation cases are only 29 percent, about half the average in all tort cases combined (50 percent) and in asbestos cases (61 percent). On the other hand, aviation accident cases have higher average transactions costs in absolute dollar terms ($121,000) than the average tort case ($19,000) or the average asbestos case ($76,000).

Why are the transactions costs as a percentage of compensation substantially lower for airline accident litigation than they are for all tort litigation combined and for asbestos litigation? We cannot answer this question conclusively; however, we can offer some hypotheses. First, in aviation accident cases, a unified defense is led by the airline’s insurer. Second, defendants agree among themselves as to the apportionment of liability in many accidents and often have no significant contest over liability with plaintiffs. Third, because air accident death cases are relatively high-value cases and defense litigation expenditures do not increase proportionally with the amount of compensation at stake in a case, defense litigation expenditures tend to be a lower percentage of the compensation paid for air accident cases. Fourth, many of these cases are settled without a lawsuit. Fifth, experienced aviation accident specialist attorneys often work on these cases, and the plaintiffs’ lawyers often use a committee to coordinate work on an accident. Sixth, the relatively high value of the air cases and the fact that nearly every case results in payment of compensation make it possible for plaintiffs’ lawyers to charge a substantially reduced contingent fee percentage and still make a reasonable income. And finally, competition among plaintiffs’ lawyers for clients may have put downward pressure on the contingent fee percentage.

Why are the transactions costs substantially higher in aviation accident litigation than they are for all tort litigation combined and for
asbestos litigation? Again, we can only offer hypotheses. The aviation accident cases in our study involve wrongful death; thus, compared with the typical tort case involving a much less serious injury, air cases may be more costly to prepare and to value. Second, air accident cases usually involve multiple defendants. Although defendants have increasingly shown a unified front to plaintiffs, disputes among defendants have resulted in average defense liability litigation costs per death that are more than the defense expenditures to resolve the issue of the amount of compensation per death. What is at stake in these liability disputes is not only who pays compensation but also the market-related future of airlines, airplane manufacturers, and other defendants. Third, higher-value cases result in higher plaintiffs’ litigation expenditures under the contingency fee system. Fourth, the higher compensation at stake in the litigation process may lead to larger transactions costs as both sides work to protect their interests.
Acknowledgments

James S. Kakalik and Larry Picus were responsible for obtaining the cooperation of defendants and insurers, and for collecting and analyzing compensation and litigation expenditure data. Patricia A. Ebener designed and managed the collection of data on decedents and claimants from defendants and their insurers. Elizabeth M. King and James P. Smith were responsible for estimating and analyzing economic loss and for the multivariate analysis of litigation behavior and compensation. Michael Traynor was responsible for obtaining the cooperation of plaintiffs’ attorneys and for collecting and analyzing plaintiffs’ expenditure data.

We are deeply grateful to all of the plaintiffs’ and defendants’ lawyers, defendants, and insurers for their full cooperation in providing access to the data on compensation, transactions costs, and decedent characteristics needed to complete this study. Nearly all of the plaintiffs’ lawyers with large aviation accident practices were cooperative in interviews, and several dozen of the plaintiffs’ attorneys with a limited amount of aviation accident work responded to our mail survey on a confidential basis. Every one of the airlines, aircraft manufacturers, the U.S. government, and the other major defendants involved in the accidents in this study provided full cooperation in the release of detailed data, again on a confidential basis. The U.S. Department of Labor and the U.S. Defense Manpower Data Center also provided information useful in calculating losses suffered as a result of aviation accident deaths.

The majority of the funding for this study was provided by general Institute for Civil Justice funds from over 200 contributors. A supplementary unrestricted grant was also provided for this study by the Aerospace Industries Association and the Air Transport Association. This support is gratefully acknowledged.

We also would like to thank our RAND colleagues for their extremely hard work on this project. In particular, Nora Fitzgerald helped plan and manage the entire data collection effort, Barbara Simon supervised the data collection from defendants, Julie A. Brown
supervised the data cleaning and coding, and Jennifer Duncan managed
the survey of plaintiffs' attorneys. Numerous data collectors and
coders did an excellent job of extracting information from lawyer and
insurance company files. We gratefully appreciate the assistance of
Marie Bellegarde, Wendel Finner, Helen Giglio, Susan Golden, Martin
Goldstein, Kristen Green, Masood Haque, Douglas King, Deborah M.
Merrill, Veronica Mitta, Anne Morey, Nicholas M. Pace, Gary Silver,
Lloyd I. Silverberg, Alissa Simon, Steven Tzerman, and Timothy
Vernier.

Carolyn Lee, Elizabeth Lewis, Judith Fischer, Marian Oshiro, and
David Rumpel provided excellent computer programming support.
William L. F. Felstiner conducted several interviews with insurers in
London. James Bigelow, Judith Resnick, and Gary Schwartz served as
technical reviewers and offered many helpful suggestions for improving
and clarifying the report. Our thanks also go to Gustave H. Shubert,
Deborah R. Hensler, Kevin F. McCarthy, and Stephen J. Carroll for
their management support, to Mary Vaiana, Joyce Peterson, and Janet
DeLand for their great and skillful efforts in organizing, summarizing,
and editing hundreds of pages of draft reports, and to Ethel Snider-
man, Barbara Schwartz, and Rosa Meza for their excellent secretarial
services.
Contents

PREFACE ........................................ iii
SUMMARY ....................................... v
ACKNOWLEDGMENTS .............................. xxiii
FIGURES ........................................ xxvii
TABLES ......................................... xxix

Section
I. INTRODUCTION .............................. 1
   Context ...................................... 1
   Organization of This Report ............... 2
   Limitations of Previous Studies .......... 3
   The RAND Air Accident Litigation Study  4
II. AVIATION ACCIDENT LITIGATION ........ 9
   Characteristics of the Decedents ......... 9
   Characteristics of the Litigation ......... 10
   Legal Environment .......................... 13
III. COMPENSATION, STAGE OF CLOSURE, AND TIME TO DISPOSITION .... 20
    Overview ................................... 20
    Compensation: Detailed Discussion ....... 21
    Time to Disposition: Detailed Discussion 27
    Stage of Closure: Detailed Discussion .... 29
    Variation in Compensation ................. 31
IV. PLAINTIFFS’ LITIGATION EXPENDITURES 39
    Overview ................................... 39
    Plaintiffs’ Litigation Expenditures: Detailed Discussion ........ 40
    Variation in Plaintiffs’ Litigation Expenditures .......... 50
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>V. DEFENDANTS' LITIGATION EXPENDITURES</td>
<td>65</td>
</tr>
<tr>
<td>Overview</td>
<td>65</td>
</tr>
<tr>
<td>Defendants' Litigation Expenditures: Detailed</td>
<td>66</td>
</tr>
<tr>
<td>Discussion</td>
<td>66</td>
</tr>
<tr>
<td>Variation in Defendants' Litigation Expenditures</td>
<td>74</td>
</tr>
<tr>
<td>VI. A COMPARISON OF COMPENSATION AND COSTS FOR AIR ACCIDENTS AND OTHER TORTS</td>
<td>86</td>
</tr>
<tr>
<td>Air Accident Litigation: Compensation and Costs</td>
<td>86</td>
</tr>
<tr>
<td>Comparison of Aviation Accident and Other Tort Cases</td>
<td>90</td>
</tr>
<tr>
<td>Summary of Comparison of Net Compensation and Transactions Costs</td>
<td>93</td>
</tr>
<tr>
<td>Conclusions</td>
<td>95</td>
</tr>
</tbody>
</table>

Appendix

A. DATA SOURCES                                                        | 97   |
B. ADDITIONAL DATA ON COMPENSATION PAID                                 | 108  |
C. ADDITIONAL DATA ON DEFENDANTS' LITIGATION EXPENDITURES              | 122  |
D. AVIATION ACCIDENT INJURIES                                           | 147  |
## Figures

<table>
<thead>
<tr>
<th>S.1. Time to disposition and stage of closure for aviation accident death cases</th>
<th>viii</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.2. Distribution of total compensation paid per death</td>
<td>xi</td>
</tr>
<tr>
<td>S.3. Compensation by stage of disposition</td>
<td>xii</td>
</tr>
<tr>
<td>S.4. Comparison of litigation expenditures and compensation per case for aviation accident, asbestos, and all tort cases</td>
<td>xix</td>
</tr>
<tr>
<td>2.1. Percent of filings and types of courts</td>
<td>11</td>
</tr>
<tr>
<td>3.1. Distribution of total compensation paid per death</td>
<td>22</td>
</tr>
<tr>
<td>3.2. Time to disposition and stage of closure for aviation accident death cases</td>
<td>23</td>
</tr>
<tr>
<td>3.3. Compensation by stage of disposition</td>
<td>33</td>
</tr>
<tr>
<td>4.1. Plaintiffs' litigation expenditures (percentage of compensation for cases with lawyers)</td>
<td>54</td>
</tr>
<tr>
<td>6.1. Comparison of litigation expenditures and compensation for the average aviation accident death</td>
<td>89</td>
</tr>
<tr>
<td>6.2. Litigation expenditures and compensation for the average aviation accident death for cases with and without plaintiffs' attorneys</td>
<td>89</td>
</tr>
<tr>
<td>6.3. Changes in net compensation over time</td>
<td>90</td>
</tr>
<tr>
<td>6.4. Comparison of litigation expenditures and compensation per case for aviation accident, asbestos, and all tort cases</td>
<td>94</td>
</tr>
</tbody>
</table>
### Tables

3.1. Distribution of total compensation paid per death, by time period ........................................... 24
3.2. Percent of death cases with various levels of total compensation ................................................. 25
3.3. Total compensation paid per death, by whether compensation payments were structured ............. 26
3.4. Distribution of time to closure, by year of accident ................................................................. 28
3.5. Number of trials per accident ..................................................................................................... 30
3.6. Total compensation paid per death, by time to closure .............................................................. 31
3.7. Total compensation paid per death, by whether a lawsuit was filed ........................................ 34
3.8. Variation in compensation and likelihood of lawsuit or trial, by time period ................................. 34
3.9. Total compensation paid per death, by whether a trial began .................................................... 34
3.10. Total compensation paid per death, by type of plaintiffs' attorney ........................................... 36
3.11. Total compensation paid per death, by whether decedent had a Warsaw-Montreal treaty ticket .... 38
4.1. Sources of information on plaintiffs’ litigation expenditures ......................................................... 41
4.2. Comparison of cases with and without information on plaintiffs’ litigation expenditures ............... 43
4.3. Regression results for plaintiffs' litigation expenditures as a fraction of total compensation paid in aviation accident deaths for cases with attorneys ................................................. 52
4.4. Plaintiffs’ litigation expenditures, by time ................................................................................. 53
4.5. Distribution of plaintiffs' litigation expenditures as a percentage of total compensation paid per death, by time period, for cases with lawyers .......................................................... 55
4.6. Plaintiffs’ litigation expenditures, by amount of compensation .................................................... 58
4.7. Plaintiffs' litigation expenditures, by economic loss to survivors of decedent ................................. 58
4.8. Plaintiffs' litigation expenditures, by time and stage of closure .................................................. 60
4.9. Plaintiffs' litigation expenditures, by type of plaintiffs' attorney .................................................. 62
4.10. Plaintiffs' litigation expenditures, by whether decedent had a Warsaw-Montreal treaty ticket ............ 63
4.11. Plaintiffs' litigation expenditures, by whether state law limiting compensation applied .................... 64
5.1. Defendants' litigation expenditures, per death and per accident ...................................................... 72
5.2. Distribution of defendants' litigation expenditures ................................................................. 74
5.3. Regression results for the logarithm of defendants' liability litigation expenditures per aviation accident .... 76
5.4. Regression results for the natural logarithm of average defendants' compensation litigation expenditures per decedent in the accident ................................................................. 77
5.5. Defendants' litigation expenditures, by total economic loss to survivors for the accident ...................... 80
5.6. Defendants' litigation expenditures, by fraction of deaths with no lawsuit filed ................................. 81
5.7. Defendants' litigation expenditures, by percent of decedents with attorneys specializing in aviation accidents ................................................................. 82
5.8. Defendants' litigation expenditures, by whether insurer negotiated compensation ............................... 84
6.1. Comparison of compensation and litigation expenditures per aviation accident death ............................. 88
B.1. Total compensation paid per death, by sex ................................................................. 108
B.2. Total compensation paid per death, by age range ................................................................. 109
B.3. Total compensation paid per death, by whether decedent was a juvenile ............................................ 109
B.4. Total compensation paid per death, by race ........................................................................ 110
B.5. Total compensation paid per death, by level of education ................................................................ 110
B.6. Total compensation paid per death, by work status .................................................................. 111
B.7. Total compensation paid per death, by earned income of decedent .................................................. 111
B.8. Total compensation paid per death, by wage-based occupation group ......................................... 112
B.9. Total compensation paid per death, by citizenship .................................................................. 112
B.10. Total compensation paid per death, by health status of decedent at time of accident .......................... 113
B.11. Total compensation paid per death, by marital status .................................................. 113
B.12. Total compensation paid per death, by whether multiple deaths occurred in same family ...................... 114
B.13. Total compensation paid per death, by whether the decedent survived the accident for some time .......... 114
B.14. Total compensation paid per death, by type of surviving dependents ............................................. 115
B.15. Total compensation paid per death, by foreign or U.S. accident location ........................................ 115
B.16. Total compensation paid per death, by whether weather was a factor in the accident ...................... 116
B.17. Total compensation paid per death, by whether terrorism was a factor in the accident ................. 116
B.18. Total compensation paid per death, by type of liability dispute .................................................... 117
B.19. Total compensation paid per death, by type of court ........................................................................ 117
B.20. Total compensation paid per death, by whether state law limiting compensation applied to the case .......... 118
B.21. Total compensation paid per death, by number of named defendants ................................................. 118
B.22. Total compensation paid per death, by number of defendants who paid compensation ................. 119
B.23. Total compensation paid per death, by whether insurer or lawyer conducted negotiations over compensation . 119
B.24. Total compensation paid per death and likelihood of a lawsuit, by whether defendants contacted plaintiffs with an early offer .................................................. 120
B.25. Total compensation paid per death and likelihood of a lawsuit, by whether a special letter was sent to family members immediately after the accident ................. 120
B.26. Total compensation paid per death, by whether test cases were tried to resolve certain issues ............... 121
C.1. Defendants' litigation expenditures, by average economic loss to survivors ....................................... 123
C.2. Defendants' litigation expenditures, by total deaths in accident ....................................................... 124
C.3. Defendants' litigation expenditures, by time period ...................................................................... 126
C.4. Defendants' litigation expenditures, by whether weather was a factor in the accident ...................... 128
<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.5</td>
<td>Defendants' litigation expenditures, by whether terrorism was a factor in the accident</td>
<td>129</td>
</tr>
<tr>
<td>C.6</td>
<td>Defendants' litigation expenditures, by fraction of deaths with trials</td>
<td>130</td>
</tr>
<tr>
<td>C.7</td>
<td>Defendants' litigation expenditures, by average compensation per death</td>
<td>131</td>
</tr>
<tr>
<td>C.8</td>
<td>Defendants' litigation expenditures, by median time to case disposition</td>
<td>133</td>
</tr>
<tr>
<td>C.9</td>
<td>Defendants' litigation expenditures, by whether there was a liability dispute</td>
<td>134</td>
</tr>
<tr>
<td>C.10</td>
<td>Defendants' litigation expenditures, by number of years to agreement on liability</td>
<td>135</td>
</tr>
<tr>
<td>C.11</td>
<td>Defendants' litigation expenditures, by percent of decedents with lawsuits in federal court</td>
<td>137</td>
</tr>
<tr>
<td>C.12</td>
<td>Defendants' litigation expenditures, by whether state law limiting total compensation applied for most deaths in accident</td>
<td>138</td>
</tr>
<tr>
<td>C.13</td>
<td>Defendants' litigation expenditures, by percent of decedents who had a Warsaw-Montreal treaty ticket</td>
<td>139</td>
</tr>
<tr>
<td>C.14</td>
<td>Defendants' litigation expenditures, by whether the Warsaw-Montreal limitation on total compensation applied for most decedents</td>
<td>140</td>
</tr>
<tr>
<td>C.15</td>
<td>Defendants' litigation expenditures, by number of named defendants</td>
<td>142</td>
</tr>
<tr>
<td>C.16</td>
<td>Defendants' litigation expenditures, by number of defendants who paid compensation</td>
<td>143</td>
</tr>
<tr>
<td>C.17</td>
<td>Defendants' litigation expenditures, by whether defendants contacted plaintiffs with an early offer</td>
<td>144</td>
</tr>
<tr>
<td>C.18</td>
<td>Defendants' litigation expenditures, by whether a special letter was sent to family members immediately after the accident</td>
<td>145</td>
</tr>
<tr>
<td>C.19</td>
<td>Defendants' litigation expenditures, by whether test cases were tried to resolve certain issues</td>
<td>146</td>
</tr>
<tr>
<td>D.1</td>
<td>Distribution of total compensation paid per injury</td>
<td>148</td>
</tr>
<tr>
<td>D.2</td>
<td>Percent of injury cases with various levels of compensation</td>
<td>148</td>
</tr>
</tbody>
</table>
I. INTRODUCTION

CONTEXT

Over the past decade, controversy has intensified about the tort system's performance in compensating victims for injuries and wrongful death. Among the issues at the heart of this debate are whether the compensation provided by the system is adequate and equitable, and whether the costs of providing it are reasonable. In general, opinion rather than fact has played the dominant role in the debate. Neither the supporters nor the critics of the system have had empirical evidence to validate their claims.

In 1985, The RAND Institute for Civil Justice (ICJ) undertook a comprehensive study of mass aviation accident death cases. Through the cooperation of plaintiff and defense attorneys, defendants, and insurers, we were given complete, and unique, access to the detailed records of more than 2,000 cases—the entire population of major aviation accident death cases from 1970 to 1984. We assembled and analyzed detailed data on the economic losses incurred, compensation paid, and expenditures for processing claims and lawsuits resulting from aviation accident deaths. The results of the study, reported here and in companion volumes,\(^1\) add significantly to the body of evidence available to address the tort issues.

The study's findings have important potential applications in two other areas, as well. First, criticism of the tort system's treatment of aviation cases has stimulated various proposals for changing it. Plaintiffs' lawyers, defendants and their lawyers, and academic experts have proposed new legislation to revise the system of paying compensation in such cases.\(^2\) Discussions also have been held regarding revision of

---


the international treaties or protocols to update the mechanisms for paying compensation and for determining the amount paid in air accident cases.3

Second, because mass torts pose special challenges to the tort system, these cases constitute a special research focus for the ICJ. A number of other ICJ studies have examined costs and compensation in asbestos litigation,4 and ICJ staff are currently developing a framework for evaluating alternative procedures used in resolving mass torts. The analysis of aviation accident litigation adds another dimension to the emerging picture of this critical and volatile area of litigation.

**ORGANIZATION OF THIS REPORT**

This report describes the aviation accident decedents and litigation, reports the compensation paid, and documents the transactions costs incurred and how they vary; it then compares the transactions costs with the amount of compensation paid for aviation accident and other types of tort cases. The discussion is organized as follows.

In the remainder of this section, we discuss the background for the study, briefly review some of the other analyses of air accident litigation, and describe our data sources. Section II presents an overview of the aviation accidents and deaths studied, the nature of the litigation, and the law relating to those deaths. Section III presents our findings on compensation paid.5 Sections IV and V discuss the plaintiffs' and defendants' litigation expenditures.6 Section VI compares compensation and costs for aviation accidents and other torts.

---


5By compensation, we mean the total amount paid to plaintiffs as a result of tort litigation or pre-litigation settlements. Net compensation is total compensation minus the plaintiff's legal fees and other litigation expenditures.

6By litigation expenditures or transactions costs, we mean legal fees and related expenses of both plaintiffs and defendants, plus the value of the time spent by in-house lawyers, claims personnel, and others employed by defendants and insurers associated with litigation or pre-litigation settlement of disputes concerning civil liability for aviation accident deaths.
LIMITATIONS OF PREVIOUS STUDIES

Previous studies provide a sketchy, dated, and perhaps inaccurate picture of aviation accident litigation. Based on old and incomplete data, they focus solely on the amount of compensation and do not address litigation costs or other issues of concern. Their findings have been questioned because the studies were not conducted by an independent party with full and complete access to data.

The most comprehensive information previously available on compensation paid in U.S. aviation accidents is contained in two reports issued by the Civil Aeronautics Board (CAB). The CAB studies covered settlements and verdicts for accidents occurring from 1960 through the first half of 1974. They reported an average compensation per passenger death of $142,195 for the period 1964 to June 1974 if an international ticket covered by the Warsaw-Montreal treaty was not involved. (The Warsaw-Montreal treaty potentially places a $75,000 limit on compensation paid to passengers with international tickets.) In 84 percent of the deaths, compensation was less than $300,000. These studies also gave information on compensation for “seriously injured” parties (an average of $69,189) and on the amount of time between the accident and the date on which the case was closed (an average of over four years for cases with compensation above $100,000). The CAB studies did not address the issue of litigation expenses, nor did they compare compensation levels with economic and other types of noneconomic losses.

The Department of State obtained some additional data on compensation paid from 1965 through 1977, but that study also did not address expenses or compare compensation to economic loss. The Department of State study found compensation to be less than $325,000 in 90 percent of the deaths; in 7 percent, it was over $400,000.

The Air Transport Association of America (ATA) reported some data on five major accidents that occurred after the CAB study ended in 1974; however, the ATA data are incomplete because not all claims

---

7Civil Aeronautics Board, Levels of Recoveries on Account of Passenger Deaths and Serious Injuries in Airplane Accidents (covering settlements with respect to aircraft accidents occurring in the calendar years 1960 through 1969) and Levels of Recoveries on Account of Passenger Deaths and Serious Injuries in Airplane Accidents—1974 Study, January 1, 1975.

8The average for all passengers with international tickets was $60,148. All dollars reported in previous studies are valued as of the date of payment.

9Assistant Secretary of State for Congressional Relations, Department of State, letter to Senator Biden, May 12, 1978.
had been settled. Of the claims for which data were available, 86 percent resulted in compensation under $325,000.

All of these studies have been challenged. Two researchers from the Cumberland School of Law analyzed the CAB statistics and found them "questionable at best."11 They questioned the completeness and accuracy of the data because the CAB obtained its information on a voluntary basis from U.S. carriers. The Cumberland researchers also cited internal inconsistencies in the CAB studies and noted specific examples of large unreported settlements. Prominent members of the plaintiffs bar have also charged that the economic data on which the CAB and Department of State studies were based were inaccurate, citing evidence that one firm alone had more cases in certain categories than the CAB listed for the entire country.12

THE RAND AIR ACCIDENT LITIGATION STUDY

The RAND study of air accident litigation is the first comprehensive, up-to-date, and objective investigation of this area. The research was conducted with direct access to defendant and insurer detailed data and did not depend on voluntary reporting of data in summary form.

Scope

We studied all 25 of the major accidents involving U.S. airlines that occurred between 1970 and 1984 (see Table 1.1). These accidents resulted in 2,228 U.S. airline passenger and ground deaths. Our analyses were made at both the decedent level and the accident level; however, we were precluded from displaying the results separately for individual decedents or accidents as a condition of receiving the information needed to conduct this study. Our study includes all 2,228 passenger and ground deaths,13 with the exception of 30 whose cases

---

10 James E. Landry, Senior Vice President and General Counsel, Air Transport Association of America, Washington, D.C., statement before the Committee on Foreign Relations, U.S. Senate, 97th Cong., 1st Sess., September 29, 1981.
13 Our study accounted for every person on board the airplanes and all people on the ground for whom claims were filed based on death or bodily injury from these 25 accidents. The data in Table 1.1 and the numbers published at the time of the accident may differ slightly because some of the initially reported statistics were in error. In addi-
<table>
<thead>
<tr>
<th>Accident No.</th>
<th>Date</th>
<th>Airline</th>
<th>Location</th>
<th>Dead</th>
<th>Injured</th>
<th>Not Injured</th>
<th>Dead</th>
<th>Injured</th>
<th>Not Injured</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>11-14-70</td>
<td>Southern</td>
<td>Kenova, WV</td>
<td>70</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>11-27-70</td>
<td>Capitol</td>
<td>Anchorage, AK</td>
<td>46</td>
<td>0</td>
<td>85</td>
<td>1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>6-6-71</td>
<td>Air West</td>
<td>Duarte, CA</td>
<td>44</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>9-4-71</td>
<td>Alaska</td>
<td>Juneau, AK</td>
<td>104</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>12-8-72</td>
<td>United</td>
<td>Chicago, IL</td>
<td>42</td>
<td>0</td>
<td>19</td>
<td>4</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>12-20-72</td>
<td>No. Central</td>
<td>Chicago, IL</td>
<td>20</td>
<td>0</td>
<td>13</td>
<td>0</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>12-29-72</td>
<td>Eastern</td>
<td>Miami, FL</td>
<td>65</td>
<td>0</td>
<td>65</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>7-23-73</td>
<td>Pan Am</td>
<td>Tahiti</td>
<td>68</td>
<td>1</td>
<td>0</td>
<td>10</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>7-31-73</td>
<td>Delta</td>
<td>Boston, MA</td>
<td>83</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>12-17-73</td>
<td>Pan Am</td>
<td>Rome</td>
<td>28</td>
<td>24</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>11</td>
<td>1-31-74</td>
<td>Pan Am</td>
<td>Pago Pago</td>
<td>87</td>
<td>0</td>
<td>4</td>
<td>10</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>12</td>
<td>4-22-74</td>
<td>Pan Am</td>
<td>Bali</td>
<td>96</td>
<td>0</td>
<td>0</td>
<td>11</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>13</td>
<td>9-5-74</td>
<td>TWA</td>
<td>Ionian Sea</td>
<td>70</td>
<td>0</td>
<td>0</td>
<td>9</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>14</td>
<td>9-11-74</td>
<td>Eastern</td>
<td>Charlotte, NC</td>
<td>70</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>15</td>
<td>12-11-74</td>
<td>TWA</td>
<td>Mt. Weather, VA</td>
<td>55</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>16</td>
<td>6-24-75</td>
<td>Eastern</td>
<td>New York, NY</td>
<td>107</td>
<td>0</td>
<td>9</td>
<td>6</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>17</td>
<td>4-27-76</td>
<td>American</td>
<td>St. Thomas, V.I.</td>
<td>26</td>
<td>0</td>
<td>33</td>
<td>2</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>18</td>
<td>5-27-77</td>
<td>Pan Am</td>
<td>Tenerife</td>
<td>394^2</td>
<td>56</td>
<td>0</td>
<td>9</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>19</td>
<td>4-4-77</td>
<td>Southern</td>
<td>New Hope, CA</td>
<td>70</td>
<td>0</td>
<td>25</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>20</td>
<td>9-25-78</td>
<td>PSA</td>
<td>San Diego, CA</td>
<td>135</td>
<td>0</td>
<td>9</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>21</td>
<td>12-28-78</td>
<td>United</td>
<td>Portland, OR</td>
<td>7</td>
<td>0</td>
<td>173</td>
<td>2</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>22</td>
<td>5-25-79</td>
<td>American</td>
<td>Chicago, IL</td>
<td>261</td>
<td>7</td>
<td>0</td>
<td>13</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>23</td>
<td>10-31-79</td>
<td>Western</td>
<td>Mexico City</td>
<td>61</td>
<td>18</td>
<td>0</td>
<td>11</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>24</td>
<td>1-13-82</td>
<td>Air Florida</td>
<td>Washington, DC</td>
<td>74</td>
<td>8</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>25</td>
<td>7-9-82</td>
<td>Pan Am</td>
<td>New Orleans, LA</td>
<td>146</td>
<td>0</td>
<td>5</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Total: 2,228^3, 583^3, 98, 145, 44, 11

*Excludes 235 KLM passenger deaths.
*Includes 31 ground deaths whose cases were handled the same as passenger death cases.
*Includes 38 ground injuries whose cases were handled the same as passenger injury cases.
had not been closed when data collection stopped in May 1986. The study excludes five categories of cases:

1. Accidents involving aircraft with fewer than 60 seats or fewer than 6 deaths.
3. Accidents involving only foreign airlines.
4. Deaths of on-duty airline employees.
5. Cases involving the 582 injured passengers, off-duty crew, and people on the ground.

Accidents involving relatively small aircraft or fewer than 6 deaths were excluded because of the high cost of data collection. This decision excluded 331 deaths—12 percent of the total during that time period. We also excluded general aviation accidents, i.e., those involving private planes.

We excluded accidents that occurred before 1970 because changes in compensation levels, in litigation expenditures, and in the law make old cases less relevant for our analytic purposes. We excluded accidents occurring during or after 1985 because most of these claims are still open, and final data on compensation and litigation expenses are not available.

We excluded all accidents involving only foreign airlines because these accidents present acute data access problems. In addition, because of differences in the law and in the characteristics of airline passengers, the passengers’ economic losses, and the compensation paid, these accidents may differ significantly from those involving U.S. airlines. If an accident involved both a foreign and a U.S. airline, we included the U.S. airline passenger deaths in the study.

We excluded deaths of on-duty airline employees because compensation for them is not determined solely by the tort system, but is also governed by union contracts and/or the workers’ compensation system. We included off-duty crew if their deaths were compensated under the tort system in the same manner as those of passengers.

We did not analyze in detail those cases involving the 582 injured passengers, off-duty crew, and people on the ground, because the degree

\[14^{\text{Nearly all of these 30 open cases were from 1982 accidents.}}\]

\[15^{\text{On-duty crew members accounted for an additional 145 deaths, 44 injuries, and 11 survivors who were not injured.}}\]
of injury differed greatly among plaintiffs. In addition, there was conflicting evidence in the insurer and lawyer files regarding the extent and the permanence of many of the injuries suffered. Consequently, it was prohibitively expensive and difficult to accurately assess the severity and permanence of injuries or to predict the injured individuals' future economic losses.

However, we do have some compensation and cost data on injured persons. We needed to know the total compensation paid to injured people for each accident so that we could compare total accident compensation with total accident defense legal fees and other expenses. We also considered the average defense legal fees and expenses for injury cases because it was necessary to separate expenditure data for injuries from expenditure data for deaths. Data for injury cases are reported in App. D.

Data Sources

This study used three distinct kinds of data:

- Defense claim and accident files.
- Personal interviews with key participants in air accident litigation.
- External supplemental information.

RAND collected data on each of the 25 accidents from the claims and accident files of insurance carriers and defense lawyers. The data include characteristics of the decedents, the claimants, the lawsuits, and the accidents; compensation data; experts’ evaluations of case worth; and defendants’ litigation expenditures. They also include information on legal fees and related expenses paid by plaintiffs to the extent that such information was available in the files.

We supplemented the claims and accident file data with information from personal interviews with plaintiffs’ attorneys who are aviation specialists, including attorneys in 13 of the 14 law firms in the United States that our records show handled the most cases in the accidents studied; a mail survey of a random sample of plaintiffs’ attorneys with relatively few cases in our study; personal interviews with representatives of every airline and aircraft manufacturer, the U.S. Department of Justice, every primary insurer, and the person primarily responsible

---

\(^{16}\)In one case, an employee of the primary defense lawyers was supervised by RAND personnel as he extracted the information. The RAND Corporation staff did not collect the names of the decedents and claimants.
for negotiating liability and damage compensation for the defendants in each accident; and published statistics on accidents.

Many claims files lacked information critical to estimating economic loss—for example, fringe benefit rates, taxes paid, or sometimes even salary at the time of death. We used external economic, census, and labor market sources to estimate this information.

Details of our data collection methods and sources are described in App. A. The major data collection instruments used have been published separately.17

17Kakalik et al., Aviation Accident Litigation Survey Data Collection Forms, op. cit.
II. AVIATION ACCIDENT LITIGATION

To provide a context for examining the amount of compensation paid to air accident victims and the transaction costs of providing it, this section characterizes the decedents, describes the basic tactics used by the plaintiffs' and defendants' bars, and discusses some important features of air accident litigation and of the legal environment in which it takes place.¹

CHARACTERISTICS OF THE DECEDENTS

Air crash victims are not a random sample of the population. They differ systematically from the U.S. population along a number of dimensions that should make their compensation values higher than those associated with the death of an average American.

The decedents in our sample were predominantly male and middle-aged. Sixty percent were men. The average age of all decedents was 41, and more than half the victims were concentrated in the prime wage-earning years, 30 to 59. There are fewer young people in our sample than in the total population. Only about 8 percent of the decedents were under 18, although nearly one-third of the total population in 1975 were in this age group. About 15 percent were citizens of foreign countries. Twelve percent were nonwhite (including black, Asian-Pacific islander, and other, but not including Hispanic).

About 60 percent of the decedents were married. This fact has an important influence on compensation, because the law in most states provides for payment of loss to the decedent's survivors. Thus, the average compensation for married decedents with surviving spouses and juvenile children is more than five times greater than the average for victims with no surviving dependents.

About 40 percent of the cases involved multiple deaths in the same family. Although 60 percent of the decedents were married, only 33 percent had a surviving spouse. Another 10 percent had surviving juvenile children but no surviving spouse. These multiple deaths in the same family significantly reduced compensation payments under current law in most states.

About two-thirds of the decedents were employed. The pattern of employment is especially apparent in those age categories where there

¹Additional details on these topics can be found in App. B.
are relatively fewer workers in the total population—e.g., 20 to 24, and 65 and over. For example, 44 percent of the male decedents over age 65 were employed, more than twice the employment rate in the population. The average annual earned income rate at the time of the accident (in 1986 value dollars, excluding fringe benefits) was $33,811; this average includes the 29 percent of the decedents who had no earned income in the year of the death because they were students, homemakers, unemployed, or retired.

About 3 percent survived for some time before dying as a result of injuries sustained in the accident. The known survival time ranged from less than an hour to two months. The median survival time was three days. The pain and suffering and the cost of medical care increased compensation for these victims.

CHARACTERISTICS OF THE LITIGATION

Air accident litigation differs from most other tort cases in some important ways:

- Most tort litigation occurs in the context of a single accident involving one or two injured plaintiffs and one or two defendants. Aviation accidents usually involve multiple defendants and may involve hundreds of deaths.
- In aviation accident litigation, specialized plaintiffs' and defendants' bars have developed, and lawyers on both sides use established procedures to coordinate their work. The defendants, led by the attorney for the airline's insurer, are unified in dealing with the plaintiffs.
- Most tort litigation involves disputes between plaintiffs and defendants regarding the cause of the injury and/or who, if anyone, is liable. In aviation accidents, the defendants usually do not seriously dispute these issues with the plaintiffs, and they usually settle the issue of liability among themselves; compensation is paid for nearly all deaths.

Below, we discuss some of these features in more detail. Additional discussions of plaintiffs' and defendants' characteristics and procedures appear in Secs. IV and V, respectively.

Suits Filed

In major aviation accidents, the plaintiffs usually file separate claims or lawsuits for each decedent unless there are multiple deaths in the
same family. The plaintiffs are usually the surviving dependents and
other relatives of the decedent. In our study, 44 percent were surviving
spouses and/or juvenile children; 16 percent were other dependents;
and 36 percent were other relatives such as parents, siblings, or adult
children of the decedent.\footnote{We did not know the relationship for the remaining 4 percent of the decedents.}

About 90 percent of the claimants in the accidents we studied hired
a lawyer.\footnote{A small fraction of the case files we examined did not indicate whether the plaintiff hired a lawyer. Based on other information in those and other files, we estimate that approximately 10 percent of all the claims resulting from aviation accidents did not involve plaintiffs' lawyers.} However, as Fig. 2.1 shows, lawyers did not always file
lawsuits on behalf of their clients. Across the entire time period we
studied, only about two-thirds of the claims resulted in lawsuits. Trial
actually began for only 14 percent of these suits; the rest were settled.

\textbf{Multiple Defendants}

Unlike most tort cases, aviation accident cases usually involve multi-
ple defendants. About half of the deaths in our study occurred in

\begin{center}
egin{figure}[h]
\centering
\includegraphics[width=0.5\textwidth]{diagram.png}
\caption{Percent of filings and types of courts}
\end{figure}
\end{center}
accidents with four named defendants. Those were usually the airline, the aircraft manufacturer, the U.S. government (air traffic control), and one other organization that may have manufactured equipment for the airplane or serviced it. Only about 10 percent of the cases had one or two defendants.

Although several defendants may be named, not all defendants are liable and pay compensation. In our study, two defendants paid compensation in 38 percent of the deaths; in about one-third of the cases, only one defendant paid, and in no case did more than four pay. The airline always contributed to passenger compensation.

Specialized and Coordinated Bars

A relatively small number of plaintiff's attorneys specialize in aviation accident cases. We identified 14 law firms that handled approximately one-third of the cases in our sample and about half of the cases that went to trial. In the typical accident, a small group of plaintiffs' attorneys (a plaintiffs' committee) is established to coordinate claims. Some of the aviation specialist attorneys serve on this committee.

Unlike some other tort litigation with multiple defendants, the defense in air accident litigation usually is highly coordinated and unified in dealing with the plaintiffs. The defense bar is specialized and coordinated, in part because the aviation accident insurance market is itself very concentrated. The direct insurer of the airline takes the lead in negotiating with the plaintiffs on behalf of all defendants. This concentration on both sides of the bar means that defense and plaintiff lawyers have often worked together on previous cases.

Causation and Liability

One of the more striking differences between air accident litigation and other torts concerns the issues of causation and liability. All the air accidents that we studied involved multiple deaths, and the relationship between the crash and the harm to the plaintiff was usually unambiguous. The cause of the crash may take time to establish, but it is usually determined with a fair degree of certainty. Defendants usually do not seriously contest liability with the plaintiffs, and defendants often agree among themselves about how to share that liability.

In 12 of the 25 accidents, there was no major dispute among defendants or between defendants and plaintiffs over liability. The defendants agreed among themselves not to contest liability and also agreed
on how to divide the responsibility for paying compensation. These agreements were reached in a year or less, did not involve a trial on the liability issue, and, according to the defendants, did not significantly delay payment of compensation to plaintiffs.

Time to disposition of cases for individual decedents is usually determined by the characteristics of the particular case. However, major liability disputes at the accident level can also affect the time it takes to close individual cases. For 13 of the 25 accidents in the study, there was a major dispute over liability, usually among the defendants. Seven of these were resolved without a trial in an average of two years. The other six required trials and took an average of over six years (including appeals) to resolve the liability issue. The longest case took 11 years to resolve. In three of the liability trials, the major issue was how to allocate liability and payment among defendants. In the other three trials, the issue was whether the Warsaw-Montreal treaty $75,000 limitation could be exceeded because of alleged willful misconduct on the part of the airline.

These liability disputes did not usually delay the payment of compensation to plaintiffs. The defendants reported that liability disputes seriously delayed payment to plaintiffs in only 4 of the 13 accidents in which they occurred. The delay ranged from 1.5 to 4.5 years and averaged 2.7 years for the 499 deaths involved. For the other accidents with disputed liability, payments were made to plaintiffs before the liability issue was resolved among the defendants. The payments were either made by the airline’s insurer in anticipation of winning partial reimbursement from other defendants later, or on the basis of an interim contract between the defendants that permitted payments to plaintiffs with the understanding that the amount of each defendant’s contribution would be adjusted later according to the final resolution of the liability issue.

LEGAL ENVIRONMENT

Type of Court

For all the aviation accidents, 41 percent of the deaths had lawsuits filed in federal court, 20 percent had suits filed in state courts, 1 percent had suits filed in foreign courts, and 34 percent did not involve a lawsuit. The remaining 4 percent were cases for which we did not know whether a lawsuit had been filed and/or in which court a suit had been filed.
More than 75 percent of all suits in our study were filed in five states—California, New York, Illinois, Florida, and Louisiana. The remaining 23 percent were filed in 33 different states, with no single state accounting for more than 3 percent of suits.

Nearly all federal court aviation accident cases were subject to multi-district litigation procedures. In 1968, Congress created the Judicial Panel on Multidistrict Litigation. This panel of federal judges from all sectors of the country is authorized to transfer cases pending in different federal district courts to one district for consolidated pretrial proceedings. In theory, consolidated processing is limited to pretrial issues (discovery, summary judgments, stipulations, etc.), but in practice, most cases are settled or tried by the courts in which they were consolidated rather than being remanded back to the original courts. In a multidistrict case, the judge typically appoints a small group of attorneys, the plaintiffs' committee, to conduct liability discovery and to supervise and coordinate plaintiffs' claims.

Laws Governing Compensation for Air Accident Deaths

Compensation for aviation accident deaths is usually governed by state law. In most states, the primary objective of the civil justice system in these cases is to compensate the surviving claimants for the losses they suffered as a result of the death. However, there are differences among states in the details of how this concept is implemented—for example, who the eligible claimants are, whether income tax effects are considered, whether loss of inheritance is considered, and whether various types of nonpecuniary loss are compensated.

The law recognizes three basic types of damages: (1) economic (pecuniary), (2) nonpecuniary (pain and suffering of the decedent; loss of companionship, comfort, and consortium to the survivors; and grief and mental anguish of the survivors), and (3) punitive. With the exception of one state whose law is penal rather than compensatory, all states provide for compensation of some economic loss. Many states also permit recovery for some types of nonpecuniary loss, and some permit recovery for punitive damages.  

---

4 Based on the state or federal court where the suit was originally filed, not on the location of a federal court handling multidistrict litigation.

Although state laws concerning compensation for wrongful death vary, they may be classified into three general categories: loss to survivors, loss-to-estate, and penal.\textsuperscript{6}

**Loss-to-Survivors Statutes.** About four-fifths of the states, including nearly all of the heavily populated states, provide for payment of loss to survivors. Calculation of loss to survivors excludes the amount that would have been consumed in the future by the decedent and by all other relatives and dependents who died in the accident. This exclusion is especially significant because in about 40 percent of the cases in this study, more than one member of the same family died.

The general objective of the loss-to-survivors statute is to compensate economic losses suffered by the decedent’s survivors:

> Damages are awarded for the present value of probable contributions which the deceased would have made to the survivors had he or she lived, and for the pecuniary value of the services decedent would have rendered to the survivors which, in many states, includes the value of a parent’s training, guidance, nurture, and education. In addition, a number of courts allow recovery of medical expenses, funeral expenses, and the amount of the probable inheritance the deceased would have left to the survivors, by either will or intestate succession, had he lived out his normal life span.\textsuperscript{7}

However, there is divergence among states as to whether expected inheritance should be included. The damages awarded in a tort action do not ordinarily include additional compensation to pay for attorney fees or other expenses of the litigation.\textsuperscript{8}

In computing the economic loss to the survivors when a minor child dies:

> The most common element of damages for the death of a minor is the award to or for the benefit of the father (or other person) entitled to such services of the value of the minor’s services from the date of death . . . until such minor would have reached majority, less the probable expense of rearing him or her during that period, including the expenses of support, education, and medical care.\textsuperscript{9}

---


\textsuperscript{8}Ibid., p. 112

\textsuperscript{9}American Law Institute, op. cit., p. 492.

\textsuperscript{10}S. M. Speiser, op. cit., Vol. 1, p. 520.
A newer theory, used in Michigan, is to repay the parents of a deceased child for their "lost investment," the expenses of raising the child from birth to the time of death.\footnote{Ibid., p. 537.}

Other factors, notably dependency and closeness of the interpersonal relationship, may affect the amount of compensation awarded. For example, when the claimants are the surviving spouse and children who depended on the decedent’s earnings, the economic loss and therefore the amount of settlement or verdict is usually much larger than that for claimants who are not dependents or members of the decedent’s immediate family.

Moreover, some states define economic loss differently, depending on who the surviving claimants are. For example, Pennsylvania and Delaware are loss-to-survivors states if a spouse or certain other close relatives survive (and no lawsuit by the decedent for the fatal injuries was pending at the time of death) and are loss-to-estate states otherwise.\footnote{S. M. Speiser, op. cit., Vol. 1, pp. 104, 105.} Thus, while four-fifths of the states are primarily loss-to-survivors states, the exact number of such states depends on the relationship of the plaintiffs to the decedent.

**Loss-to-Estate Statutes.** Approximately one-fifth of the states are primarily in the loss-to-estate category. The general objective of loss-to-estate statutes is to compensate losses suffered by the decedent’s estate rather than losses suffered by the decedent’s survivors:

Three different theories of measuring damages are utilized under the loss to estate type of statute. The first, and most prevalent, theory is that the damages should represent the present value of the decedent’s probable future net earnings. In other words, the recovery should equal the decedent’s probable future earnings, diminished by the amount he would have spent for his own living expenses had he survived, and reduced to present value. . . . The second theory of recovery measures damages by the present worth of decedent’s probable future accumulations. Under this theory, the recovery equals the amount which decedent would have earned (by his own efforts) and saved (from the time of his death to the time he probably would have died had he not been wrongfully killed) and left at his death as part of his estate, reduced to present value. . . . The third theory of recovery measures damages by the present value of decedent’s probable gross earnings. According to this theory, the recovery consists of the total probable future earnings of the decedent with no deduction made for the amount decedent would have expended for his own expenses had he lived.\footnote{Ibid., pp. 122-125.}
In addition to loss of earnings and probable future accumulations of the decedent, the loss of services is sometimes considered to be a loss to the estate.\textsuperscript{13}

\textbf{Penal Statute.} Alabama is the only state with a penal statute governing air accident deaths. There is no relationship between the settlement or award and economic loss, because the law is designed to punish, not to compensate for damages. The measure of recovery is the quality of the wrongful act and the degree of the wrongdoers' culpability.\textsuperscript{14} We do not know how damages are determined in practice under this type of law.

\textbf{Laws Governing Compensation for Deaths}

\textit{For most aviation accident deaths included in this study, it is difficult to say with certainty which state's law applied to the determination of compensation.} Earlier in this century, the governing law would have been the state law at the location of the accident. "Until after the middle of the Twentieth Century, the settled rule was that where multi-state contacts existed in a wrongful death case, the substantive law to be applied was that of the state where death occurred, usually also where the fatal injury was inflicted."\textsuperscript{15} Today the choice of law is made in a more flexible manner. "One court of last resort after another has ruled, in its place, for the law of the state with the most significant qualitative contacts, or with the greatest governmental interest, or with the main interest, considering relevant choice-influencing considerations."\textsuperscript{16} Thus the applicable law might be the law of the residence of the plaintiff, the residence of the principal defendant, the location of the accident, the location where the ticket was purchased, or perhaps some other state as determined by a court ruling on the conflict-of-laws issue. More than one state's law may apply to a given accident or even to an individual case. For example, one state's law might govern compensatory damages, while another state's law might govern punitive damages. Furthermore, many states changed their laws during the 1970–1984 study period.

\textsuperscript{17}Ibid., p. 379
For the cases in our study, the question of which state's law applied to the determination of compensation for a particular aviation accident death was usually not decided by the court, because more than 90 percent of the cases were settled without trial. Hence, we usually do not know which state's law applied, since the case files did not contain that information. Furthermore, due to the legal complexity and the judgmental nature of the conflict-of-laws issue, we did not attempt to answer the question using other available facts.

**Limits on Compensation**

State laws and international treaty ceilings potentially impose legal limits on the amount of compensation.

**State Laws Limiting Compensation.** "[M]any of the early statutes limited the amount that could be recovered. The amounts, however, were progressively raised and the limitations eliminated such that now limitations have virtually disappeared, and no state retains a general limitation on the amount recoverable."\(^{17}\) Today, no state limits total compensation for aviation accident deaths, although some impose limits on payments for nonpecuniary loss.\(^ {18}\) Some of the state limits previously in effect did influence litigation for accidents in this study, and these effects are discussed in Sec. III.

**International Treaty Limits: The Warsaw-Montreal Treaty.** The Warsaw Convention and its subsequent revisions, as amended by the Montreal Agreement,\(^ {19}\) limit to $75,000 the amount of compensation paid to passengers with international tickets.\(^ {20}\) The limit does not apply to all cases because not all countries have agreed to abide by it. The $75,000 limit also does not apply: to ground deaths or injuries, to passengers who do not hold a ticket that gives adequate notice of the limitation, or to an accident in which the airline was guilty of "willful misconduct."

---


From the plaintiff's viewpoint there is no limitation in the majority of the deaths involving a ticket subject to the Warsaw-Montreal treaty. The limitation applies only to the airline's liability. Thus, if liability is shared by more than one of the defendants, the airline's contribution may be limited to $75,000, but the plaintiff's total compensation will not be affected, since other defendants who are jointly and severally liable will pay the amount above $75,000. However, because the treaty may shift responsibility for payment from the airline to other defendants, the litigation may be more difficult.
III. COMPENSATION, STAGE OF CLOSURE, AND TIME TO DISPOSITION

The unique database for this study provides previously unavailable information about the amount of compensation paid in air accident death cases, the stage at which cases were closed, and the time to disposition. The data also permit us to make some observations about how compensation varies with time to closure, stage of disposition, and attorney representation. We also discuss how state limitations and Warsaw-Montreal treaty limitations on compensation affect the amount paid.

We begin our discussion with an overview and then consider compensation, stage of closure, time to disposition, and variation in compensation in more detail.

OVERVIEW

The average compensation paid for the 2,198 aviation accident passenger and ground deaths with closed cases was approximately $363,000 in 1986 value dollars.\(^1\) This amounted to $798 million, or an average of $32 million for each of the 25 accidents in the study.\(^2\) These figures include total compensation paid by all defendants for economic and noneconomic loss before subtracting legal fees and expenses.

Average compensation increased during the period covered by this study. During the first half (1970–1976), it was approximately $321,300; during the second half (1977–1982), it was $408,600. Of course, the average is determined by compensation paid for all deaths combined. Actual compensation for an individual is determined by the characteristics of the decedent and the claimants, as well as several other factors.

---

\(^1\)All dollars presented in this report have been adjusted to a constant March 1986 value unless otherwise specifically stated. The adjustment was done using the latest consumer price index (CPI-U) available when we began the analysis. In March 1986 the CPI-U was 326.0 (1967 = 100.0) (U.S. Department of Labor, Consumer Price Index for All Urban Consumers, reported in U.S. Department of Commerce, Survey of Current Business, Washington, D.C., Vol. 66, No. 4, April 1986).

\(^2\)Other reports in this study present some slightly different average compensation numbers based on the 2,119 deaths for which economic loss could be estimated.
As Fig. 3.1 shows, compensation paid varied widely across decedents. About one-fourth of the deaths resulted in compensation of less than $100,000. Half of the cases involved compensation of less than $179,000. The maximum compensation awarded was more than $5,000,000 per death. Only 8 percent of the cases resulted in compensation of more than $1,000,000, but these cases account for almost one-third of the compensation paid for all deaths combined.

About one-third of the claims were settled without filing a lawsuit. As is typical in tort disputes, relatively few cases—about 9 percent—actually required a trial. Figure 3.2 shows how time from accident to disposition varied with the stage of closure. For example, the average time to disposition for claims settled without a lawsuit was 1.0 year. Settled lawsuits took longer, an average of 2.5 years. And tried cases had the longest average time to disposition, nearly 5 years. The time to disposition was influenced primarily by the characteristics of the individual case, but significant liability disputes at the accident level delayed compensation by an average of 2.7 years for the almost 500 decedents in four accidents.

Compensation varied with stage of closure. Compensation in claims settled without a suit averaged about $256,200. The nearly two-thirds of the cases that involved lawsuits had substantially higher compensation. Compensation in settled lawsuits averaged $387,600, about one and one-half times as much as settled claims that were not lawsuits. And average compensation for cases that went to trial was approximately $599,000, nearly double the average of $339,800 for all cases closed before trial began.

COMPENSATION: DETAILED DISCUSSION

Approach

We collected data on the total compensation actually paid by all defendants combined for all closed cases.3 Where more than one group of claimants received compensation for the same decedent—for example, where the spouse and children of the decedent filed one lawsuit, while the parents of the decedent filed a separate legal action—we totaled the individual amounts. The compensation total includes compensation paid for all purposes, including economic loss, various types of nonpecuniary loss to the surviving claimants such as loss of consortium and mental anguish, and pain and suffering to the decedent, if

---

3The only exceptions are 16 previously tried cases that were still on appeal as of May 1986. These 16 cases are discussed later in this section.
Fig. 3.1—Distribution of total compensation paid per death
Fig. 3.2—Time to disposition and stage of closure for aviation accident death cases
any. The compensation total also includes whatever amount the plaintiff may have paid in legal fees and related expenses. Since nearly all settlements and most verdicts do not show the components of compensation separately, it is impossible to determine exactly how much of the average payment was for economic loss and how much was for each of the other types of compensation.

The compensation figures include lump-sum settlements, the present value cost of purchasing an annuity policy for structured payments at future dates (if any), payments to reimburse any liens (such as for workers' compensation), and trial awards after any posttrial adjustments (for settlements, interest, additions, remittiturs, or any other adjustments).

Compensation Paid

The average total compensation paid for the 2,198 deaths with closed cases was $362,943, in 1986 value dollars. As Table 3.1 shows,

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>54</td>
<td>24,238</td>
<td>3,570</td>
</tr>
<tr>
<td>5</td>
<td>24,267</td>
<td>59,399</td>
<td>37,175</td>
</tr>
<tr>
<td>10</td>
<td>44,786</td>
<td>80,032</td>
<td>61,977</td>
</tr>
<tr>
<td>25</td>
<td>94,822</td>
<td>110,029</td>
<td>103,383</td>
</tr>
<tr>
<td>50</td>
<td>168,009</td>
<td>194,724</td>
<td>178,971</td>
</tr>
<tr>
<td>75</td>
<td>395,365</td>
<td>578,852</td>
<td>462,955</td>
</tr>
<tr>
<td>90</td>
<td>800,599</td>
<td>951,231</td>
<td>882,855</td>
</tr>
<tr>
<td>95</td>
<td>1,083,166</td>
<td>1,299,132</td>
<td>1,209,776</td>
</tr>
<tr>
<td>99</td>
<td>1,851,442</td>
<td>2,573,061</td>
<td>2,021,885</td>
</tr>
<tr>
<td>100</td>
<td>&gt; 5,000,000</td>
<td>&gt; 5,000,000</td>
<td>&gt; 5,000,000</td>
</tr>
</tbody>
</table>

| Average    | 321,317   | 408,453   | 362,943   |

Number of closed cases 1,148 1,050 2,198
Percent of death cases 52 48 100

NOTE: Includes 12 cases closed with zero compensation.
half of the cases resulted in compensation of $178,971 or less, and the maximum paid was over $5,000,000 per death. Average compensation increased during the period covered by this study, from $321,317 in 1970–1976 to $408,453 in 1977–1984.

Plaintiffs almost always receive some compensation in air accident litigation—defendants paid compensation in all but 12 of 2,198 closed cases. In those 12 cases, no compensation was paid because either no claimants were legally eligible to receive compensation under the applicable law, no surviving family of the decedent could be located, or claimants failed to file a claim within the time set by the applicable statute of limitations. In 6 of the 12 cases, no claim was ever filed for compensation. One claim was closed with no compensation before a lawsuit was filed; one was closed after a suit was filed but before trial; and four tried cases resulted in zero compensation.

Table 3.2 shows the percentage of cases with various levels of compensation. About one-fourth of all the deaths resulted in compensation of less than $100,000. About 8 percent of the cases resulted in compensation of $1,000,000 or more, and those cases received almost one-third of all the compensation paid for all deaths combined.

<table>
<thead>
<tr>
<th>Total Compensation Paid per Death</th>
<th>Percent of Death Cases</th>
<th>Number of Closed Cases</th>
<th>Percent of Death Cases Compensated</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–99,999</td>
<td>24</td>
<td>519</td>
<td>4</td>
</tr>
<tr>
<td>100,000–199,999</td>
<td>30</td>
<td>658</td>
<td>12</td>
</tr>
<tr>
<td>200,000–299,999</td>
<td>11</td>
<td>242</td>
<td>8</td>
</tr>
<tr>
<td>300,000–399,999</td>
<td>7</td>
<td>145</td>
<td>6</td>
</tr>
<tr>
<td>400,000–499,999</td>
<td>6</td>
<td>129</td>
<td>7</td>
</tr>
<tr>
<td>500,000–599,999</td>
<td>3</td>
<td>73</td>
<td>5</td>
</tr>
<tr>
<td>600,000–699,999</td>
<td>4</td>
<td>87</td>
<td>7</td>
</tr>
<tr>
<td>700,000–799,999</td>
<td>3</td>
<td>65</td>
<td>6</td>
</tr>
<tr>
<td>800,000–899,999</td>
<td>3</td>
<td>67</td>
<td>7</td>
</tr>
<tr>
<td>900,000–999,999</td>
<td>2</td>
<td>48</td>
<td>6</td>
</tr>
<tr>
<td>1,000,000 and up</td>
<td>8</td>
<td>165</td>
<td>32</td>
</tr>
</tbody>
</table>

NOTE: Includes 12 cases closed with zero compensation.
Structured Compensation Payments

Structured compensation payments are payments made at multiple points in time to the same claimant, e.g., a settlement involving a lump sum turned over at the time of settlement plus annual payments for a number of years. This type of settlement may be used for a young child with no surviving close relatives. For example, the initial lump-sum payment would cover the costs of the lawyer and other immediate financial needs, and then the child would receive an annual payment to cover the costs of living until he or she reached maturity, at which time another lump-sum final payment would be made. The usual procedure is for the defendant's insurance company to buy an annuity to cover the future payments. Once the annuity has been purchased—usually from an insurer who specializes in that type of insurance—payments are made independently of the defendant's insurer.

The dollar value of the structured payment includes the amount of any initial lump-sum payment plus the premium paid to purchase the annuity to cover future payments. The compensation reported in this study thus represents the total amount of money paid by the defendants to close the case, taken as a present value at the time of case closure and measured in 1986 dollars. It is the sum of the discounted future income stream, plus the insurance costs of buying and administering the annuity policy.

Structured payments are more likely to occur in cases where the total amount of compensation is high, as is evidenced by the $900,734 average compensation for deaths involving structured payments. Less than 3 percent of all the deaths of aviation accidents in this study involved structured payments (see Table 3.3).

<table>
<thead>
<tr>
<th>Structured Compensation Payments</th>
<th>Percent of Death Cases</th>
<th>Number of Closed Cases</th>
<th>Average 10th Percentile</th>
<th>Median 90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>97</td>
<td>2,135</td>
<td>347,038</td>
<td>60,956</td>
</tr>
<tr>
<td>Yes</td>
<td>3</td>
<td>63</td>
<td>900,734</td>
<td>173,741</td>
</tr>
<tr>
<td>All combined</td>
<td>100</td>
<td>2,198</td>
<td>962,943</td>
<td>61,977</td>
</tr>
</tbody>
</table>

NOTE: Includes 12 cases closed with zero compensation.
Punitive Damages

"Punitive damages are damages, other than compensatory or nominal damages, awarded against a person to punish him for his outrageous conduct and to deter him and others like him from similar conduct in the future. Punitive damages may be awarded for conduct that is outrageous, because of the defendant’s evil motive or his reckless indifference to the rights of others. In assessing punitive damages, the trier of fact can properly consider the character of the defendant’s act, the nature and extent of the harm to the plaintiff that the defendant caused or intended to cause and the wealth of the defendant." The exact standard for punitive damages varies from state to state.

"Punitive damages are not awarded against the representatives of a deceased tortfeasor nor, ordinarily, in an action under a death statute." While several states authorize the award of punitive damages as well as compensatory damages in wrongful death actions, many states also preclude any award of punitive damages.

Punitive damages appear to be primarily a negotiating aid in aviation accident cases, e.g., the defendants will stipulate liability if the plaintiff will drop the request for punitive damages. On the other hand, a serious possibility of a punitive damage award may work to reduce the likelihood of trial and increase the amount of settlements. Although punitive damages are sometimes requested by plaintiffs' lawyers, punitive damages were not paid on any of the 2,198 closed cases in our study; in two cases, they were awarded in trial but reversed on appeal.

TIME TO DISPOSITION: DETAILED DISCUSSION

The disposition date of a case is defined as the date on which the last claimant signed a release, or if that date is missing, then the date when the last check was issued (usually on or soon after the date the last release was signed). We had the date of disposition for all but 84 closed cases; for those cases, we estimated the date of disposition based

---

\(^4\) For a general discussion of this topic, see American Law Institute, Restatement of the Law, Second: Torts, op. cit., and comment, pp. 461-469. For a discussion of punitive damages in the specific context of an aviation accident case, see Andor v. United Air Lines, Inc. 303 Or 505, 739 P.2d 13 (1987), which held that punitive damages were not justified in the circumstances and reinstated the trial court's decision, setting aside the jury verdict that awarded punitive damages.

\(^5\) Ibid.

on the average date of disposition for all other cases in that same accident.

There is great diversity in time to disposition. The average time in this study was 2.16 years, and it has been declining. As Table 3.4 shows, the pre-1977 accident cases took an average of 2.50 years to disposition, while the more recent cases took 1.79 years. The median time for accidents occurring between 1977 and 1982 was 1.35 years, slightly less than the average, but 10 percent of those cases took about 4 years or more to reach conclusion.

Do plaintiffs lose money because of the time that elapses between the time of the accident and the time that compensation is paid? One might argue that if the compensation had been paid sooner, the plaintiffs could have invested the money and earned more than the rate of inflation after taxes were paid. (Recall that we have accounted for inflation by adjusting all compensation data to constant 1986 dollars.)

Table 3.4
DISTRIBUTION OF TIME TO CLOSURE
BY YEAR OF ACCIDENT

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.02</td>
<td>0.02</td>
<td>0.02</td>
</tr>
<tr>
<td>5</td>
<td>0.50</td>
<td>0.30</td>
<td>0.35</td>
</tr>
<tr>
<td>10</td>
<td>0.66</td>
<td>0.39</td>
<td>0.53</td>
</tr>
<tr>
<td>25</td>
<td>1.18</td>
<td>0.81</td>
<td>0.92</td>
</tr>
<tr>
<td>50</td>
<td>1.95</td>
<td>1.35</td>
<td>1.65</td>
</tr>
<tr>
<td>75</td>
<td>3.04</td>
<td>2.38</td>
<td>2.69</td>
</tr>
<tr>
<td>90</td>
<td>4.96</td>
<td>3.81</td>
<td>4.48</td>
</tr>
<tr>
<td>95</td>
<td>7.43</td>
<td>4.64</td>
<td>5.73</td>
</tr>
<tr>
<td>100</td>
<td>&gt; 12.00</td>
<td>&gt; 7.00</td>
<td>&gt; 12.00</td>
</tr>
</tbody>
</table>

Average 2.50 1.79 2.16

Percent of death cases 52 48 100

<sup>7</sup>Since only 30 cases were still open when we finished data collection in 1986, knowing their eventual closure dates would not change the conclusion that the average length of time to case closure has been declining.

<sup>8</sup>Another report in this study used a real interest rate in inflation-adjusted dollars of 2.76 percent. King and Smith, *Computing Economic Loss in Cases of Wrongful Death*, op. cit.
On average, the plaintiffs might have been able to earn about 5 percent above inflation (2.75 percent times 2 years) if they had received the same compensation immediately after the accident. However, our study found statistically significant real growth above inflation in compensation in recent years, so that, on average, cases that were otherwise identical received more in inflation-adjusted dollars if they settled at a later point in time.  

Another recent RAND study of jury verdicts for tort cases in Cook County (Chicago), Illinois, noted that “the ‘true’ prejudgment interest rate equals whatever the jury awards by way of implicit interest (the markup for delay) plus the statutory prejudgment interest rate if the state has one.” The study found that “juries provide implicit interest at a rate of 3.7 percent over the inflation rate.” The study also concluded that “the plaintiff who had to wait several years for his award ended up with more money than he would have had if he had received an award earlier and had invested the proceeds in T-bills or high quality corporate bonds.”

STAGE OF CLOSURE: DETAILED DISCUSSION

In only six cases was there no claim filed for compensation. In the other 99.7 percent of the cases, claims were filed on behalf of either the decedent’s estate or surviving family members or other claimants. In about two-thirds of these, a suit was filed.

The likelihood that a lawsuit will be filed may be increasing. In 1970–1976, 64 percent of the cases involved lawsuits; for cases of deaths occurring between 1979 and 1982, 84 percent involved suits.

Obviously, the amount of time to resolve a dispute increases when lawsuits are filed. Without a lawsuit, average closure time was 1.0 years from the date of the accident. A lawsuit, even if the case does not go to trial, increases the time to closure to 2.5 years on average.

The great majority of cases are settled rather than going to trial, but trials obviously influence settlements, because a given settlement is based at least in part on what the settling parties feel may happen in the jury room. For cases that are otherwise similar, the average settlement price is less than the average jury verdict, for at least two rea-

9King and Smith, Economic Loss and Compensation in Aviation Accidents, op. cit.
11Ibid.
12Ibid.
13The median time was 0.9 years.
14The median time was 2.1 years.
sons: (1) the cost and time delay of going to trial is eliminated, and (2) the uncertainty of going to trial is eliminated.

The likelihood of trial has been increasing over time.\textsuperscript{15} Only 6 percent of the cases for 1970–1976 decedents reached trial before closure, compared with 14 percent of the cases for 1979–1982 decedents. (In comparison, 12 percent of all tort cases in federal court are terminated during or after trial.)\textsuperscript{16} Because the liability issue and the division of responsibility for payments are usually resolved among the defendants at the accident level, most of the trials with plaintiffs focus on the amount of compensation to be paid.

The number of cases that go to trial varies widely across accidents, as Table 3.5 shows. For example, there were five accidents in which every case was settled. On the other hand, there were four accidents which resulted in 26 to 48 trials each. But trials are relatively infrequent: In 16 of the 25 accidents in the study, there were no more than two trials.

A trial delays dispute resolution; the mean duration of time from the date of the accident to the date of closure was 4.5 years. When trials are involved, the process can become very long.\textsuperscript{17} Ten percent of the trials took at least 10 years to resolve (including appeals), and 25 percent took over 6 years.

Of the 196 cases in our study that went to trial, we had both the beginning and ending dates for only 59. Those 59 trials lasted an aver-

<p>| Table 3.5 |</p>
<table>
<thead>
<tr>
<th>NUMBER OF TRIALS PER ACCIDENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Trials that Began per Accident</td>
</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td>1–2</td>
</tr>
<tr>
<td>3–10</td>
</tr>
<tr>
<td>11–25</td>
</tr>
<tr>
<td>26–48</td>
</tr>
</tbody>
</table>

\textsuperscript{15}When we discuss cases that have been tried, we mean cases for which a trial began. The eventual disposition of the case may have been by verdict or by settlement before or after the verdict. Of the 196 cases for which trial began, 20 were settled during the trial and before a verdict was rendered. The other 176 went to verdict.


\textsuperscript{17}The median time was 3.3 years.
age of 13 weekdays. The median was 4 days, and the maximum was over 120 days. Because we did not know the number of recess days taken during these 59 trials, the above numbers overestimate the true number of trial days.

VARIATION IN COMPENSATION

In this section, we present data and observations on the variation in compensation as a function of single factors such as time to closure, stage of disposition, attorney representation, and whether state limits or Warsaw-Montreal treaty limits applied to compensation payments.\(^{18}\)

We note that the amount of compensation paid is influenced by many factors simultaneously; our multivariate modeling and analysis is presented in a separate report.\(^{19}\)

Compensation and Time to Closure

Average compensation per case tended to be lower for cases that were closed soonest. Cases closed in six months or less averaged $263,775, while those closed after three or more years averaged over $400,000 (see Table 3.6). However, factors other than time to closure

<table>
<thead>
<tr>
<th>Time from Accident to Closure (years)</th>
<th>Percent of Death Cases</th>
<th>Number of Closed Cases</th>
<th>Average Compensation 10th Percentile</th>
<th>Median</th>
<th>90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0-0.50</td>
<td>9</td>
<td>200</td>
<td>263,775</td>
<td>70,224</td>
<td>149,967</td>
</tr>
<tr>
<td>0.51-1.00</td>
<td>19</td>
<td>424</td>
<td>301,265</td>
<td>66,299</td>
<td>169,910</td>
</tr>
<tr>
<td>1.01-2.00</td>
<td>31</td>
<td>677</td>
<td>381,414</td>
<td>60,843</td>
<td>190,124</td>
</tr>
<tr>
<td>2.01-3.00</td>
<td>21</td>
<td>450</td>
<td>367,044</td>
<td>61,598</td>
<td>168,718</td>
</tr>
<tr>
<td>3.01-5.00</td>
<td>13</td>
<td>293</td>
<td>441,019</td>
<td>64,554</td>
<td>274,318</td>
</tr>
<tr>
<td>&gt; 5.00</td>
<td>7</td>
<td>154</td>
<td>419,321</td>
<td>20,685</td>
<td>176,572</td>
</tr>
</tbody>
</table>

All combined 100 2,198 362,943 61,977 178,971 882,556

Note: Includes 12 cases closed with zero compensation.

---

\(^{18}\)See App. B for additional detailed data on the variation in compensation by various decedent and litigation characteristics.\(^{19}\)See King and Smith, *Economic Loss and Compensation in Aviation Accidents*, op. cit.
affect compensation. For example, cases with a longer time to closure have higher average economic loss to survivors of the decedents.\textsuperscript{20}

**Compensation and Stage of Disposition**

Figure 3.3 shows the average compensation paid, by stage of disposition of aviation accident cases. About one-third of the cases were settled without a lawsuit, for an average of $256,171 in compensation.\textsuperscript{21} The nearly two-thirds of the cases that involved lawsuits had substantially higher compensation, an average of $417,413, including both settled and tried lawsuits.\textsuperscript{22} Settled lawsuits averaged $387,599 in compensation—about 1.5 times as much compensation as in settled cases that were not lawsuits. Details of the distribution of compensation by whether a lawsuit was filed are shown in Tables 3.7 and 3.8.

The average compensation for cases not involving lawsuits has remained relatively constant over time at about $250,000. However, compensation for cases in which suits were filed has jumped 40 percent, from $348,701 in 1970–1976 to $487,523 in 1977–1982.

The average compensation paid as a result of cases for which a trial began was $599,032, nearly double the average of $339,829 for all cases closed before trial began (see Table 3.9).\textsuperscript{23} However, other factors also influence compensation for these cases. For example, tried cases have higher average economic loss to survivors of the decedents.\textsuperscript{24}

\textsuperscript{20}King and Smith, *Dispute Resolution Following Airplane Crashes*, op. cit.

\textsuperscript{21}Including the approximately 10 percent of the cases that were closed without a plaintiff's attorney.

\textsuperscript{22}There were 56 claims for which we did not know whether a lawsuit had been filed; the average compensation for those cases was $472,142.

\textsuperscript{23}The trial compensation is defined as the total amount of compensation paid after all posttrial revisions due to factors such as additur, remittitur, settlement during or after trial, and appeal. Interest payments, payments by plaintiffs out of compensation for legal fees and related expenses, any pretrial settlements that increase the total compensation paid, and lien reimbursements are included. An exception to the above exists for the 16 tried cases that were still on appeal as of May 1986. Those 16 cases represent 8 percent of the total of 196 tried cases. Thus, for 92 percent of the tried cases, we have the actual final compensation; for the 16 cases still on appeal, we have the latest court judgment. The 16 trials that still are on appeal have average verdicts of $1,140,713, as compared with the average $550,883 compensation paid on the 180 fully closed tried cases. If we had excluded the 16 cases on appeal, the average compensation for all closed cases that were tried would have changed from $599,032 to $550,883. The grand average for all closed cases, including those that were settled and those that were tried, would have been reduced by approximately $4,000, from $305,943 to $357,240, a change that does not significantly affect the interpretation of any of the results of this study.

\textsuperscript{24}King and Smith, *Dispute Resolution Following Airplane Crashes*, op. cit.
Fig. 3.3—Compensation by stage of disposition (1986 dollars)
Table 3.7
TOTAL COMPENSATION PAID PER DEATH, BY WHETHER A LAWSUIT WAS FILED
(1986 dollars)

<table>
<thead>
<tr>
<th>Lawsuit Filed</th>
<th>Percent of Death Cases</th>
<th>Number of Closed Cases</th>
<th>Average 10th Percentile</th>
<th>Median 90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>34.0</td>
<td>752</td>
<td>254,128</td>
<td>43,583</td>
</tr>
<tr>
<td>Yes</td>
<td>63.0</td>
<td>1,390</td>
<td>417,413</td>
<td>70,720</td>
</tr>
<tr>
<td>Don't know</td>
<td>3.0</td>
<td>56</td>
<td>472,142</td>
<td>53,688</td>
</tr>
</tbody>
</table>

All combined: 100.0 2,196 362,943 61,977 178,971 882,856

NOTE: Includes 12 cases closed with zero compensation.

Table 3.8
VARIATION IN COMPENSATION AND LIKELIHOOD OF LAWSUIT OR TRIAL, BY TIME PERIOD
(1986 dollars)

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Percentage with Lawsuits</th>
<th>No Lawsuit Compensation</th>
<th>Percentage with Trials</th>
<th>No Trial Compensation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970-1976</td>
<td>54</td>
<td>250,971</td>
<td>348,701</td>
<td>6</td>
</tr>
</tbody>
</table>

All years combined: 65 254,127 417,413 9 339,829 599,032

*Excluding 56 cases for which we don't know if a lawsuit was filed.
\*Of the 1979-1982 accidents, 84 percent involved lawsuits and 14 percent involved trials.

Table 3.9
TOTAL COMPENSATION PAID PER DEATH, BY WHETHER A TRIAL BEGAN
(1986 dollars)

<table>
<thead>
<tr>
<th>Trial Began</th>
<th>Percent of Death Cases</th>
<th>Number of Closed Cases</th>
<th>Average 10th Percentile</th>
<th>Median 90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>91</td>
<td>2,002</td>
<td>339,829</td>
<td>61,731</td>
</tr>
<tr>
<td>Yes</td>
<td>9</td>
<td>196</td>
<td>599,032</td>
<td>70,279</td>
</tr>
</tbody>
</table>

All combined: 100 2,196 362,943 61,977 178,971 882,856

NOTE: Includes 12 cases closed with zero compensation.
Compensation and Attorney Representation

Only 215 of the closed cases probably did not have a plaintiff's attorney.26 The 215 decedents whose claimants probably had no attorney comprise only about 10 percent of all the decedents in this study, and the average compensation for them was $214,214. This contrasts with the $379,068 average total compensation for the cases that had or probably had an attorney (see Table 3.10).

A discussion of net compensation after deduction of legal fees and other expenses is presented in Sec. VI. Here, we note that after legal fees and related expenses are deducted from the total compensation paid for cases with lawyers, the net compensation to plaintiffs with lawyers is still much higher than the compensation to those without lawyers. However, cases with lawyers have different characteristics from those without lawyers; for example, cases with lawyers have much higher average economic loss to survivors, thus we would expect those cases to have higher average compensation. We found that the ratio of total compensation to economic loss to survivors was about the same for cases with and without lawyers.26

About one-third of the cases with plaintiffs' lawyers use one of a small group of firms that are recognized specialists in aviation accident litigation. Cases involving representation by those aviation accident specialist attorneys resulted in average compensation of $391,069, slightly more than the $380,289 for deaths involving representation solely by an attorney who did not specialize in aviation accidents.

Legal Limitations on Compensation

State Law Limitations. Currently, no state's law limits total compensation for aviation accident deaths, although some impose limits on payments for noneconomic loss. In prior years, some states had limits on total compensation. For example, West Virginia had a $110,000 ceiling that could have applied to some deaths in a 1970 accident,27 and Massachusetts had a $200,000 ceiling that could have applied to some deaths in a 1973 accident.28 Although judicial

26As discussed in Sec. IV, there were 355 cases for which we were not absolutely sure whether the plaintiff had no attorney or whether we simply had no information about the name of the attorney. Of these 355 cases, we estimated that 215 actually had no attorneys.
26King and Smith, Economic Loss and Compensation in Aviation Accidents, op. cit.
### Table 3.10
TOTAL COMPENSATION PAID PER DEATH, BY TYPE OF PLAINTIFFS' ATTORNEY
(1986 dollars)

<table>
<thead>
<tr>
<th>Type of Plaintiff's Attorney</th>
<th>Percent</th>
<th>Number of Death of Closed Cases</th>
<th>Cases</th>
<th>10th Percentile</th>
<th>Median</th>
<th>90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Used or probably used an attorney*</td>
<td>90</td>
<td>1,983</td>
<td>379,068</td>
<td>62,496</td>
<td>190,124</td>
<td>925,014</td>
</tr>
<tr>
<td>Probably did not use an attorney*</td>
<td>10</td>
<td>215</td>
<td>214,214</td>
<td>43,854</td>
<td>131,381</td>
<td>536,673</td>
</tr>
<tr>
<td>Attorney specializing in aviation accidents was known to be involved</td>
<td>30</td>
<td>668</td>
<td>391,069</td>
<td>66,777</td>
<td>205,067</td>
<td>980,331</td>
</tr>
<tr>
<td>U.S. attorney, but no attorney specializing in aviation accidents was known to be involved</td>
<td>50</td>
<td>1,096</td>
<td>380,289</td>
<td>72,815</td>
<td>187,078</td>
<td>878,398</td>
</tr>
<tr>
<td>Foreign attorney only</td>
<td>4</td>
<td>79</td>
<td>69,722</td>
<td>4,382</td>
<td>41,185</td>
<td>150,847</td>
</tr>
<tr>
<td>No attorney or don't have information about attorney*</td>
<td>16</td>
<td>355</td>
<td>321,500</td>
<td>60,869</td>
<td>167,859</td>
<td>823,028</td>
</tr>
</tbody>
</table>

NOTE: Includes 12 cases closed with zero compensation.

*A total of 1,843 cases had an attorney, and another 140 cases probably had an attorney. When RAND data collectors did not locate the name of the plaintiff's attorney in the defense claim file, they did not distinguish claims with missing attorney information from claims with no attorney representation. Of the 355 cases for which we do not have the name of the attorney, 35 involved a lawsuit and probably had an attorney, a total of 264 did not involve a lawsuit, and we estimate that only approximately 64 had an attorney (based on the completeness of the available files and on interviews with the primary defense lawyer for each accident). The other 56 may or may not have involved a lawsuit (we were working with summary data rather than complete claim files for these 56 claims), and we estimate that approximately 41 cases had an attorney (assuming these cases were similar on average to those cases for which we did have complete claim files for the same accident). Thus, we estimate that approximately 140 of the 355 cases had an attorney and 215 did not.

The determination of the applicable state's law usually was not made for settled cases, according to defense lawyers, these two states' ceilings could have applied to approximately 125 of the deaths in our study. The average ceiling in 1986 dollars was $348,035. The average compensation paid for those deaths was $232,147—less than the ceiling—because about half of the decedents' cases resulted in compensation below the applicable state limit at the time of the accident. However,

---

$^{29}$Interviews with F. Schaffhausen and G. Tompkins.
according to defense attorneys, the total compensation for 51 deaths actually was limited by state law. The plaintiffs in those cases were paid the limit; their cases might have been worth more if the limitation had not existed (see App. B for additional details).

*Warsaw-Montreal Treaty.* The Warsaw Convention and its subsequent revisions, as amended by the Montreal Agreement, limit the amount of compensation paid to passengers with international tickets to $75,000 (an average of $138,661 in 1986 dollars for those passengers subject to the ceiling). A total of 890 (40 percent) of the deaths in 14 accidents in this study involved tickets covered by the Warsaw-Montreal treaty, but the total compensation to plaintiffs was subject to the ceiling amount in only 234 (11 percent) of the deaths in 5 accidents. In most of the cases that were subject to the ceiling, the compensation actually paid was below the ceiling: An average of $78,587, compared with an average of $474,990 for those passengers not flying with Warsaw-Montreal treaty tickets (see Table 3.11). Only 46 passengers were paid exactly the treaty limit, and our accident-level interviews with those involved in the litigation indicated that the ceiling probably limited compensation in these 46 cases.

For about three-fourths of the deaths involving Warsaw-Montreal treaty tickets, there was no ceiling on total compensation. No ceiling applied in 511 of the cases because more than one defendant was liable. In the other 145, the airline was judged guilty of willful misconduct or voluntarily paid compensation above the treaty limit. However, the existence of a Warsaw-Montreal treaty ticket may still have been used to influence settlement amounts before unlimited joint and several liability by the defendants as a group was established. Settlement amounts may also be influenced by uncertainty on the part of the plaintiff’s lawyer about the liability of other defendants when a treaty-protected airline was substantially at fault.
<table>
<thead>
<tr>
<th>Type of Ticket</th>
<th>Percent of Death</th>
<th>Number of Cases</th>
<th>Average</th>
<th>10th</th>
<th>90th</th>
<th>Median</th>
<th>Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Warsaw-Montreal</td>
<td>62</td>
<td>1,369&lt;sup&gt;a&lt;/sup&gt;</td>
<td>474,990</td>
<td>82,741</td>
<td>285,729</td>
<td>1,039,413</td>
<td></td>
</tr>
<tr>
<td>Warsaw-Montreal ticket and total compensation was subject to a ceiling</td>
<td>11&lt;sup&gt;b&lt;/sup&gt;</td>
<td>234&lt;sup&gt;b&lt;/sup&gt;</td>
<td>78,887</td>
<td>9,822</td>
<td>87,563</td>
<td>144,504</td>
<td></td>
</tr>
<tr>
<td>Warsaw-Montreal ticket but total compensation was not subject to a ceiling&lt;sup&gt;c&lt;/sup&gt;</td>
<td>27</td>
<td>595&lt;sup&gt;a&lt;/sup&gt;</td>
<td>216,843</td>
<td>64,564</td>
<td>134,520</td>
<td>442,599</td>
<td></td>
</tr>
<tr>
<td>All combined</td>
<td>100</td>
<td>2,198</td>
<td>362,943</td>
<td>61,977</td>
<td>178,971</td>
<td>882,856</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** Includes 12 cases closed with zero compensation.

<sup>a</sup>We know another 61 Warsaw-Montreal tickets were used in three accidents, but due to a deficiency in the information in defense files, we do not know which of the decedents in those accidents used those tickets. Approximately 50 of the 61 cases are closed, and compensation was not limited because defendants other than the airline also paid compensation. Hence, the figures shown in the table include approximately 50 Warsaw-Montreal tickets in the 1,369 shown as non-Warsaw-Montreal tickets and exclude the same 50 from the 595 shown as Warsaw-Montreal tickets for which total compensation was not limited.

<sup>b</sup>Only 46 passengers were paid the treaty limit; they might have received more if the ceiling had not been applied.

<sup>c</sup>Total compensation was not limited for some passengers with Warsaw-Montreal tickets: 450 plus approximately 50 cases were not limited because defendants other than the airline also paid compensation; 64 cases were not limited because the airline was found guilty of willful misconduct; and 61 cases were not limited because the airline voluntarily paid compensation exceeding the limit. The average compensation for each of these groups of cases was between $204,000 and $226,000.
IV. PLAINTIFFS’ LITIGATION EXPENDITURES

Soon after an airline accident, the decedents’ family members and other potential claimants are usually approached by a representative of the airline’s insurer, who offers condolences and assistance and indicates that an offer of compensation will be forthcoming. The airline’s insurer also usually requests some information about the decedents and the claimants to help determine the amounts of the offers to be made.

Thus, soon after the accident, a decedent’s family and other claimants face a series of important decisions: Should they talk directly with the defendants’ insurers or should they retain a lawyer to represent them? If they hire a lawyer, should they hire local counsel or seek a lawyer who specializes in aviation accidents? What fee should the lawyer be paid? Should a lawsuit be filed?

The answers to these questions clearly depend on the specific situation. However, our database provides some aggregate information about how claimants who have made different decisions have fared and how much they have spent on legal services. As in the preceding chapter, we begin with an overview, followed by more detailed discussion.

OVERVIEW

About 90 percent of the claimants hire lawyers, and about one-third of them hire lawyers who specialize in aviation accidents.¹ About one-third of all the cases are settled without a lawsuit. The remainder are settled after a lawsuit is filed, except for 9 percent that go to trial (usually over the issue of compensation, but not over liability). With the exception of multiple deaths in the same family, the compensation paid for each decedent’s case is usually litigated individually.

The contingent fee system predominates: Lawyers receive a percentage of the compensation after all the plaintiff’s other legal expenses are deducted. The most common fee is about 15 to 25 percent. However, there are some variations. Lawyers may charge less if

¹In this study, aviation specialists means plaintiffs’ attorneys in the group of 14 law firms that handled approximately one-third of the cases with attorneys in our database. These firms each handled 20 or more cases and had national reputations as aviation accident specialists. Our specialist category may exclude a few attorneys who are professionally regarded as aviation accident specialists but who handled fewer cases in our database.
no suit is filed, or if the case does not go to trial; if the case settles early; or if the lawyer is handling multiple cases for the same accident.

For the cases in our database with lawyers, plaintiffs' litigation expenditures averaged $80,000—21 percent of total compensation. Our statistical analysis showed that plaintiffs' expenditures as a percent of compensation are significantly lower:

- In recent years (1977–1982) than in earlier years,
- For decedents with higher economic loss,
- For cases without a lawsuit or trial,
- For cases with a foreign attorney as sole counsel,
- When the decedent had a Warsaw-Montreal treaty ticket, and
- If state law limited total compensation.

PLAINTIFFS' LITIGATION EXPENDITURES: DETAILED DISCUSSION

We begin our detailed discussion by describing our approach and data sources. We then discuss the contingent fee system of paying for legal services and some of its more important permutations. Finally, we present the results of our statistical analysis, i.e., we report plaintiffs' litigation expenditures and describe the factors that influence variation in them.

Approach and Data Sources

The plaintiffs' total litigation expenditures we report include (1) the total amount paid by plaintiffs to both local attorneys and aviation accident specialist attorneys if they were hired; (2) the amount paid to a plaintiff's committee if one was established for the accident; and (3) any other legal expenses associated with the case—for example, expert testimony, court filing fees, and the costs of developing information about decedents' economic and family histories.\(^2\)

To obtain our estimates of plaintiffs' litigation expenditures, we used three basic sources of information:\(^3\)

1. The files of insurance carriers and defense law firms.

\(^2\) All figures are expressed in 1986 value dollars.

\(^3\) Details of our data sources and methods are presented in App. A. The data we sought on compensation and plaintiffs' litigation expenditures are sensitive. Therefore, we assured all participating plaintiffs' lawyers that we would present the data only in aggregate form and that we would not identify individual decedents or claimants.
2. Personal interviews with plaintiffs' attorneys who are aviation law specialists.

3. A mail survey of a random sample of plaintiffs' attorneys.

The files of insurance carriers and defense law firms, as described in App. A, contained information about the plaintiffs' total litigation fees and expenses for 408 cases.

Personal interviews with plaintiffs' attorneys who are aviation law specialists included representatives from 13 of the 14 firms that handled the most cases in our accident sample. Although we did not seek—and these attorneys did not give us—case-specific data, they provided enough information about how legal fees and expenses have changed over time and how they vary with case characteristics to enable us to estimate the total legal fees charged for 629 deaths in our study. (For 462 cases, attorney interviews were our only source of information.) The data provided include total fees for each case by all attorneys (local, specialist, and plaintiffs' committee lawyers). To check our estimates, we compared the average estimate with the average derived from actual file data and found them to be very close (see Table 4.1).

We surveyed by mail a random sample of plaintiffs' attorneys who had handled relatively few cases in our study. We asked about fee arrangements for each accident with which they were involved. This provided us with data on 102 cases. We checked the survey results against the actual file data and found that as a percentage of compensation, average plaintiffs' litigation expenditures based on the survey differed from file data by only 1 percent. Combining data from sources 1 and 3 gave us information on 488 cases, after we adjusted for duplicate data on 22 cases.

<table>
<thead>
<tr>
<th>Type of Information</th>
<th>Number of Cases</th>
<th>Percent of Total Compensation</th>
<th>Total Expenditures per Death (1986$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case files</td>
<td>488</td>
<td>21.5</td>
<td>88,077</td>
</tr>
<tr>
<td>Lawyer interviews</td>
<td>462</td>
<td>21.5</td>
<td>83,144</td>
</tr>
</tbody>
</table>
To analyze plaintiffs' litigation expenditures, we used exact data from case files whenever possible, supplemented with interview and survey data as necessary.

When we pooled these data, we had information about plaintiffs' litigation expenditure data for 950 cases, 43 percent of the 2,196 closed cases in our study. We developed a model, based on these 950 cases, to estimate plaintiffs' litigation expenses for the 1,033 cases involving lawyers for which we did not have expenditure data. The model adjusts for differences in characteristics between cases with and without plaintiffs' litigation expenditure data. (The model is shown in Table 4.3, later in this section.) We estimate that the average plaintiff's legal fees and related expenditures in these 1,033 cases was $73,923—20.5 percent of average total compensation for those cases. The average for all 1983 cases with lawyers was $79,555—21.0 percent of the average $379,068 compensation.

We believe that the remaining 215 cases did not have attorney representation. We have assumed zero litigation expenditures for these cases.

The average plaintiffs' litigation expenditures per case, including cases with and without lawyers, is $71,773, or 19.8 percent of the average $362,943 compensation.

In sum, we do not have plaintiffs' expenditure data for every case; however, we believe that our estimates of average plaintiffs' expenditures are reasonably accurate. Nearly all the claims were handled on a contingency fee basis, and the data from the various sources are consistent. Table 4.2 shows some of the more important characteristics of cases with and without expenditure information. For the remainder of the discussion, we combine cases with lawyers for which we had litigation expenditures data and those for which we estimated them.

---

4When RAND data collectors did not locate the name of the plaintiff's attorney in the defense claim file, they did not distinguish claims with missing attorney information from claims with no attorney representation. Of the 355 cases for which we do not have the name of the attorney, 36 involved a lawsuit and probably had an attorney. Another 264 cases did not involve a lawsuit; based on the completeness of the available files and interviews with the primary defense lawyer for each accident, we estimate that 64 of these had an attorney. The remaining 36 of the 355 may or may not have involved a lawsuit—we were working with summary data rather than complete claim files for these 36 claims. But assuming that these 36 cases were basically similar to cases from the same accident for which we did have complete claims files, we estimate that 41 of the 56 cases had an attorney. Thus, a total of 1,843 cases used an attorney, another 140 cases probably used an attorney, and 215 of the closed cases probably did not use an attorney.
### Table 4.2
COMPARISON OF CASES WITH AND WITHOUT INFORMATION ON PLAINTIFFS' LITIGATION EXPENDITURES

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>No Information</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Used Lawyer</td>
<td>Didn't Use Lawyer</td>
<td>Information Available</td>
<td></td>
</tr>
<tr>
<td>Average total compensation, 1986 $</td>
<td>360,905</td>
<td>214,214</td>
<td>386,818</td>
<td></td>
</tr>
<tr>
<td>Average litigation expenditures, 1986 $</td>
<td>73,923&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0</td>
<td>85,678</td>
<td></td>
</tr>
<tr>
<td>Plaintiff expenditures as a percent of compensation</td>
<td>20.5&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0</td>
<td>21.5</td>
<td></td>
</tr>
<tr>
<td>Average economic loss to survivors, 1986 $</td>
<td>740,668</td>
<td>435,167</td>
<td>823,211</td>
<td></td>
</tr>
<tr>
<td>Percent without lawsuits&lt;sup&gt;b&lt;/sup&gt;</td>
<td>41</td>
<td>100</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Percent with trial</td>
<td>9</td>
<td>0</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Percent with attorney specializing in aviation accidents&lt;sup&gt;c&lt;/sup&gt;</td>
<td>4</td>
<td>0</td>
<td>66</td>
<td></td>
</tr>
<tr>
<td>Percent with pre-1977 deaths</td>
<td>48</td>
<td>46</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td>Percent male</td>
<td>61</td>
<td>57</td>
<td>61</td>
<td></td>
</tr>
<tr>
<td>Percent less than age 40</td>
<td>45</td>
<td>46</td>
<td>53</td>
<td></td>
</tr>
<tr>
<td>Percent foreign citizen</td>
<td>10</td>
<td>14</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup>Estimated.

<sup>b</sup>Only 15 percent of those with data had no lawsuit, whereas 100 percent of those without lawyers and 41 percent of those with lawyers but without litigation expenditure information had no lawsuit. Our multivariate analysis (presented later in this section) indicates that litigation expenditures are a significantly lower percentage of compensation for cases without lawsuits, so the litigation expenditure percentage we have for cases with data should be higher than the percentage estimated for cases without data.

<sup>c</sup>Our data collection methods yielded a great deal of information from aviation accident specialist plaintiffs' attorneys. Thus, while 86 percent of those cases with data had an aviation accident specialist attorney, only 4 percent of those without data had one. However, since our multivariate analysis shows no statistically significant difference in the percentage fees charged by U.S. aviation specialist and nonspecialist attorneys, the difference in the type of attorney representation probably does not significantly affect our estimate of the average plaintiffs' litigation expenditures as a percent of compensation.
The Contingent Fee System

All of the plaintiffs' aviation litigation specialists and most other plaintiffs' attorneys who undertake aviation accident cases typically charge a contingent fee—a fee based on a percentage of the dollar compensation obtained for the plaintiff by settlement or trial. The fee is usually calculated as a percentage of the compensation after deducting the plaintiff's other expenses such as court fees, travel costs, and expert witnesses' fees.

A fixed percentage of the total compensation, usually 15 to 25 percent, appears to be the most frequent type of fee arrangement for aviation accident cases. However, there are a number of variations that are much less frequently used.3

Variation for Settled vs. Tried Cases. The attorney may charge a lower percentage fee if the case is settled and a higher fee if it is tried. This variation appears more often in the earlier cases in our database, when fees more closely resembled arrangements customary in personal injury cases—for example, 33 percent if the case settles, 40 percent if it is tried. It also appears occasionally in fee arrangements between nonspecialist attorneys and their clients. This variation appears to be uncommon among the specialist plaintiff attorneys in the more recent accidents; however, a specialist attorney may use this fee agreement if it had previously been used by a family attorney or other referring attorney and for some reason is not modified after the case is referred to a specialist.

Some plaintiff attorneys oppose any fee distinction between settled and tried cases and believe that it exacerbates the potential conflict of interest between attorney and client by giving the attorney an incentive to earn a higher fee from trial than from settlement.

Variation Depending on Time to Closure. The attorney may charge a lower percentage if the case is resolved within a certain time and a higher percentage if it is not. For example, an attorney may charge 20 percent if the case is resolved within a year and 25 percent if it is not. Few attorneys use this variation. Its rationale is that the lawyer's time costs and risks rise if the case cannot be settled promptly, and that a 5 percent increase is sufficient to offset the increases in costs and risks but not high enough to remove the attorney's incentive to resolve the case promptly. Critics of this variation argue that it may create a conflict of interest between attorney and client because it gives the attorney an incentive to defer settlement.

---

3We do not have data on the incidence of each of the variations in fee arrangements.
**Fee on Compensation Above Original Offer.** Occasionally an attorney may charge a fee only on the portion of the compensation that exceeds the defendants' initial offer. For example, if a client receives an initial offer of $150,000 before consulting the attorney and the ultimate compensation is $250,000, the percentage fee is applied only to the additional $100,000. There may be subvariations: For example, the percentage applied to this additional portion may be higher than the percentage the attorney would charge if the fee were based on the entire amount on the grounds that there is greater risk and contingency involved in an effort to recover more money than the initial offer. On the other hand, the percentage applied to the additional portion may be the same amount as the attorney's typical fee on the grounds that the only true contingency concerns this additional portion and that a higher percentage would neither serve the client nor be competitive.

**Different Fees for Different Cases from the Same Accident.** An attorney may charge different fees for different claims arising from the same accident. For example, a family lawyer who refers a case to a specialist may already have entered into a fee agreement with the client at a percentage rate higher than the specialist is charging other clients, and the fee agreement may not be renegotiated; or the fee quoted to the first client may be higher or lower than that quoted to later clients—higher on the premise that other claims may not materialize to facilitate a volume discount, or lower on the premise that a "loss leader" is necessary to secure an early position as an identified plaintiff attorney handling claims from the accident.

Several of the specialists try to minimize the differentiation in fees among clients with claims arising out of the same accident. For example, they may persuade the referring attorney to reduce the fee initially set, or provide in the fee arrangement that the percentage for any client will not be higher than the percentage charged to other clients with such claims, or specify that the percentage will be reduced if additional claims materialize. Such an arrangement might provide for a 25 percent fee if the attorney handles one claim from the accident, with the fee being lowered on a sliding scale if the attorney obtains additional clients, down to some agreed minimum percent fee.

**Minimal or No Fee.** In special situations, an attorney may charge a very small fee or no fee at all. For example, several specialist attorneys told us that they have spent time evaluating claims and then, without charge, advised the claimant or referring attorney that compensation higher than the defendants' offer is not probable. A claimant who is a relative or friend of the attorney may also pay a reduced fee, or no fee at all.
Hourly Rather Than Percentage Fee. A few attorneys charge an hourly fee rather than a percentage fee in some or all of the cases they handle. For example, probate/estate specialists usually do not charge on a contingent fee basis. Only five of the attorneys who responded to our mail survey charged on an hourly basis.

Fee-Sharing Arrangements

Sharing Fees with Referring Lawyers. Many of the claims handled by plaintiff aviation litigation specialists are referred to them by other attorneys. Frequently the referring attorney is the family lawyer or a friend of the decedent or the decedent’s relatives or has some preexisting business or professional or personal relationship with them. A referring attorney may help to develop information about loss of earnings and other economic data as well as information about the relationship between the decedent and the relatives or others who are the claimants. Some specialists seek to involve the referring attorney in the litigation, sometimes even as co-counsel of record in the case; others prefer not to have attorneys inexperienced in air accident litigation actively involved in the case.

Regardless of the amount of work performed, the referring attorney is typically paid a portion of the total contingency fee, unless the law of an applicable jurisdiction precludes or limits referral fees. The portion varies, depending on the amount of assistance the referring attorney provides, the total amount of the contingent fee, and other factors. Typically, however, a referring attorney is paid one-fourth to one-third of the total fee.

Sometimes the referring attorney has no preexisting relationship with the decedent or the claimants, but through advertising, publicity, or some other means has obtained several cases and wishes to refer them to an aviation specialist or involve such a specialist at some point. In this instance, the referring attorney usually insists on a portion of the total fee and may negotiate with one or more specialists to obtain the most profitable arrangement. Aviation specialists reported demands by such attorneys for as much as one-half the total fee.

Sometimes a specialist can obtain a number of cases without having to rely on referral attorneys, perhaps because of the specialists’ reputation, referral from other clients, or mention of the specialist in news reports about the accident. Under these conditions, the attorney may lower the total percentage fee that is charged to the plaintiffs.

Sharing Fees with Local Attorneys. In some cases, the specialist or other primary attorney for the plaintiff may hire local counsel in another jurisdiction. For example, the specialist may be handling a
group of cases in State A and may need a case filed or other work done in State B. The attorneys will frequently agree that the State B attorney will be paid an hourly fee or some percentage of the total fee. The amount may vary, depending on the services required and performed and other circumstances of the case.

Sharing Fees with a Plaintiffs' Committee. In some cases, usually those that are assigned to the Judicial Panel on Multi-District Litigation (MDL) in the federal courts, a committee of plaintiff attorneys may be appointed to conduct discovery and other pretrial matters. Such a committee is often used in other types of tort litigation in contested liability cases to streamline the pretrial proceedings on issues such as negligence or causation that are relevant to all or most claims. The attorneys on the committee are usually awarded a portion of the total recovery as compensation, but the claimants are not charged additionally; instead, the fees of the other plaintiff attorneys are correspondingly reduced. The fees payable to the plaintiffs' committee vary with the amount of services performed, but they are usually a small fraction of total compensation recovered, e.g., 1 to 8 percent.6

When liability is not seriously contested with the plaintiffs and the major issues concern the amount of damages to individual claimants (which vary with each claim), there may be little or no work for a plaintiffs' committee.

Legal Limitations on Fees

The Federal Tort Claims Act (FTCA) contains a limitation in fees that may be relevant when the United States is a defendant7 (usually because of alleged negligence by government personnel in air traffic control, weather reporting, or the operation of government aircraft involved in an accident with an airliner). Under the FTCA, the

6In our sample of 25 accidents, plaintiffs' committees were formed in 14 accidents, were not formed in 7 accidents, and may have been formed in the remaining 4 accidents (those 4 all involved MDL, but we had no definite information on the existence of a committee). Based on available data from 10 accidents in this study for which we knew plaintiffs' committee fees separately from total fees, the average was 4.8 percent. For additional description of plaintiffs' committees, see S. M. Speiser, "Dynamics of Airline Crash Litigation: What Makes the Cases Move?" Journal of Air Law and Commerce, Vol. 43, 1977, pp. 566, 577-581. Plaintiffs' committees are one of the procedures used in MDL under a federal statute, 28 U.S.C. § 1407, which "authorizes the consolidation of similar actions filed in different Federal district courts for pretrial procedures. But the statute does not permit the cases to be joined for trial, the cases must be returned for trial to the district whence they came." See Alvin B. Rubin, "Mass Torts and Litigation Disasters," Georgia Law Review, Vol. 20, No. 2, Winter 1986, pp. 429, 439.

728 U.S.C. § 2678. See also id., § 2672 (administrative adjustment of claims), § 2677 (compromise of claims after commencement of action).
maximum contingency fee a plaintiff attorney may receive in a case against the United States is 20 percent of the settlement amount if the case settles administratively without a lawsuit and 25 percent of the judgment or settlement if the case is tried or settled after a suit is filed. The limitation may apply only to the portion of total compensation paid by the United States.

The practical effect of the fee limitation is not clear. In the 25 accidents in the study, the United States was never the only defendant that paid compensation for passenger deaths. Since the airline's insurer usually sends the plaintiff a single check that includes compensation from all defendants who paid, the plaintiff's lawyer usually will not know how much of the total came from the United States. In turn, the United States may not know what fee the plaintiffs' lawyer charged, and the release that the plaintiff signs usually does not mention the FTCA limitation on fees.

In some cases, a probate court or other court must approve the fees because the claimant is a minor or is otherwise entitled to judicial supervision of fees. Such courts may apply a standard of reasonableness or other state standard to limit fees. In addition, in some states proposals have been made to cap contingency fees or to use a graduated fee schedule (with a lower percentage being charged on higher levels of compensation). Those proposals are part of the current debate over ways to change the system for handling all types of liability cases. Where enacted, they restrict the amount that attorneys can charge plaintiffs.⁶

Under the Warsaw-Montreal treaty limitations, the $75,000 limit of liability is "inclusive of fees and costs, except that, in case of a claim brought in a state where provision is made for separate award of legal fees and costs, the limit shall be the sum of US$58,000 exclusive of legal fees and costs."⁷ Accordingly, in such states, there may be some

---


implicit limitation on fees. (The $17,000 difference between $75,000 and $58,000 is 22.7 percent of $75,000.)

Advancement and Reimbursement of Expenses Other Than Legal Fees

In addition to legal fees, plaintiffs in aviation accident death cases usually have to pay for legal expenses such as court filing fees, economic or other expert opinions, and deposition expenses.

When liability is not contested with the plaintiffs (as is typical in aviation accidents), the three principal legal expenses other than attorney fees are costs of (1) obtaining and assembling economic data such as earnings history and potential and information bearing on the nature and quality of the relationship the decedent enjoyed with the claimants; (2) paying an economic expert to analyze the relevant data, prepare a report, and testify at depositions and at a trial over the compensation issue if the case is not settled; and (3) taking depositions of relevant witnesses, paying the travel and transcript expenses involved, and, if there is a trial, bringing the witnesses to court.

Legal expenses increase significantly if liability is contested between the plaintiffs and defendants. Numerous witnesses in various locations must be deposed, experts on the liability issues are retained, and investigation expenses may be substantial. A case that might involve less than $5,000 in legal expenses if liability is not contested could easily involve many times that amount if liability is contested, even after the expenses are shared with other plaintiffs.

There have been inflationary increases in all types of legal expenses. In addition, most of the aviation accident specialist attorneys interviewed reported increases above inflation in the cost of experts. Even in constant dollar terms, the charges of economic and other experts reportedly have increased significantly.

We know the amount of plaintiffs' legal expenses separately from attorney fees for 126 aviation accident deaths. The average legal expenses were $5,500, but in half the cases, the expenses were $1,600 or less.10 Fewer than 10 percent of the cases had legal expenses over $10,000, but two of the 126 cases had over $100,000 in expenses other than attorney fees.11 Since average total legal fees plus expenses for cases with lawyers were $79,553, the $5,500 in expenses were 7 percent of the total, and legal fees were 93 percent.

10This $5,500 average (in 1986 dollars) was used as an estimate of expenses for other cases with lawyers where we knew legal fees but not expenses.

11For example, fees to an accounting firm to analyze the income of the decedent and various businesses he or she owned and operated.
The plaintiff's attorney typically advances the expenses of presenting, preparing, and bringing the case to settlement or trial. Depending on the law of the applicable jurisdiction, the client may be obligated to reimburse the plaintiff's attorney for these expenses.

If there is compensation paid by settlement or trial, there is a question about how the expenses will be reimbursed in relation to the fee. For example, if a case is settled for a total of $200,000 and the expenses advanced are $10,000, is the percentage fee applied to the gross amount of $200,000 or the net amount of $190,000? Most plaintiff attorneys deduct the expenses first and then apply the percentage of the contingent fee to the net amount rather than the gross amount. This practice is commonly referred to as “taking the expenses off the top.” There are two principal reasons advanced for this practice. First, it tends to deter excessive expenses because the greater the expenses, the lower the fee. Second, it is good client relations to base the fee only on the net compensation recovered. The principal reasons advanced for the less frequent practice of basing the fee on the gross compensation are, first, that expenses are the client’s responsibility and should not be shared via the attorney’s reduction of a fee, and second, the attorney has already advanced these monies without interest.12

VARIATION IN PLAINTIFFS’ LITIGATION EXPENDITURES

Explaining the variation in plaintiffs’ attorney fees and expenses as a percentage of total compensation is difficult because the contracts between the plaintiffs and their attorneys are negotiated individually and depend a great deal on the specific attorney, client, and accident involved. We do not know the detailed characteristics of each plaintiffs’ attorney. However, in the following paragraphs, we consider some of the characteristics of the accidents and of the plaintiffs’ attorneys that influence the ratio of their fees and expenses to compensation.

Because expenditures as a fraction of compensation are simultaneously related to many factors, we used multivariate regression

---

techniques to estimate the independent relationship of each factor when all other factors are held constant.\textsuperscript{15}

We explored several descriptive models using the ordinary least squares multivariate linear-regression technique. The model with the best statistical fit to the data is presented in Table 4.3.\textsuperscript{14}

Our analysis showed that the following variables are significantly related to the variation in plaintiffs’ litigation expenditures as a percentage of total compensation:\textsuperscript{15}

- The year of the accident.
- The economic size of the case.
- The stage at which the case was closed.
- Whether the decedent had only a foreign attorney.
- Whether the decedent had a Warsaw-Montreal treaty ticket.
- Whether state law limited compensation.

**Year of the Accident**

Average plaintiffs’ litigation expenditures as a percentage of total compensation have declined markedly since 1970—from 24 percent for accidents that occurred between 1970 and 1976 to about 18.5 percent for accidents between 1977 and 1982 (Table 4.4). The multivariate model shows an estimated average decline of about 0.2 percent per year in the earlier period, then a more rapid decline of 0.8 percent per year after 1977. This decline is statistically significant.

While litigation expenditures as a percentage of compensation have been declining with time, the average compensation has been rising. Table 4.4 shows that the rising compensation almost exactly offsets the declining litigation-expenditures percentage; thus the total litigation expenditures for cases with lawyers remain basically unchanged at approximately $80,000.

\textsuperscript{15}For a discussion of multivariate regression analysis techniques that are designed to fit a multivariate equation to the available data, see J. Johnston, *Econometric Methods*, 3rd ed., McGraw-Hill, New York, 1984.

\textsuperscript{14}This model was developed using data on plaintiffs’ litigation expenditures as a percentage of compensation for 950 cases. The model was then used as the basis of our imputation of the litigation expenditures percentage rates for cases with missing data. Because factors and mechanisms involved between plaintiffs and their attorneys establishing the fee percentage are complex and we do not have data on all of those factors, we were able to explain only 21 percent of the variation in these percentages. Nevertheless, we are able to adjust for the effects of observable variables for which we do have data in predicting plaintiffs’ litigation expenditures as a percentage of compensation.

\textsuperscript{15}Whether a lawsuit was filed in federal or state court did not make a significant difference in the percentage of compensation that was paid for litigation expenditures. The average for cases with lawyers was 22.0 percent in federal and 22.1 percent in state court.
<table>
<thead>
<tr>
<th>Case Characteristic</th>
<th>Mean Value</th>
<th>Coefficient</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>—</td>
<td>0.28396</td>
<td>27.329</td>
</tr>
<tr>
<td>Accident year (0 - 1970)</td>
<td>5.472</td>
<td>-0.00771</td>
<td>-6.726</td>
</tr>
<tr>
<td>Accident year for years before 1977 only</td>
<td>1.670</td>
<td>+0.00065</td>
<td>5.882</td>
</tr>
<tr>
<td>Natural logarithm of economic loss to survivors</td>
<td>6.521</td>
<td>+0.00155</td>
<td>0.623</td>
</tr>
<tr>
<td>Natural logarithm of economic loss to survivors for cases with loss above $1,000,000 only</td>
<td>2.007</td>
<td>-0.00219</td>
<td>-2.809</td>
</tr>
<tr>
<td>No lawsuit filed</td>
<td>0.102</td>
<td>-0.07377</td>
<td>-7.375</td>
</tr>
<tr>
<td>Trial began</td>
<td>0.103</td>
<td>+0.02749</td>
<td>+3.137</td>
</tr>
<tr>
<td>Use of aviation accident specialist attorney</td>
<td>0.063</td>
<td>-0.00518</td>
<td>-0.634</td>
</tr>
<tr>
<td>Use of a foreign attorney only</td>
<td>0.008</td>
<td>-0.07823</td>
<td>-2.566</td>
</tr>
<tr>
<td>Warsaw-Montreal Treaty ticket</td>
<td>0.192</td>
<td>-0.02813</td>
<td>-3.135</td>
</tr>
<tr>
<td>State limit on total compensation</td>
<td>0.017</td>
<td>-0.05547</td>
<td>-2.901</td>
</tr>
</tbody>
</table>

R² = 0.23
F = 25.6
N = 932

The benchmark case used for this ordinary least-squares (OLS) regression analysis is based on an accident that occurred in 1970, involving a passenger who did not have a Warsaw-Montreal Treaty ticket and whose total compensation was not limited by state law, which resulted in a lawsuit that settled before trial began with the counsel of an attorney but without the counsel of a U.S. plaintiff's attorney who specializes in aviation accident litigation and for which economic loss to survivors of the decedent was $1,000. The coefficients shown in the table measure increments associated with case characteristics that differ from the benchmark.

Zero otherwise.

We know the plaintiffs’ litigation expenditures for 488 specific cases and use that information to estimate the coefficients for all variables shown in the table. We also know the plaintiffs’ litigation expenditures for another 462 cases with aviation accident specialist attorneys whom we interviewed. Since those interviews were not done at the case level and included only a discussion of how those attorneys' fees and expenses varied by accident year and whether trial began, we use the interview data only to estimate the coefficients for accident year, use of a specialist or foreign attorney, and whether a trial began. Using a standard regression analysis procedure (see J. Johnston, *Econometric Methods*, 3d ed., McGraw-Hill, New York, 1984), we set the remaining variables to zero for these 462 cases. We also included an independent variable that indicated the 488 cases for which we had the specific case data and found that variable was not statistically significant (the coefficient was -0.02228 with t = -0.563). Note that 18 cases for which we did not have an estimate of economic loss or for which compensation was zero were excluded from this regression analysis.
Table 4.4

PLAINTIFFS' LITIGATION EXPENDITURES, BY TIME
(1986 dollars)

<table>
<thead>
<tr>
<th>Year of Accident</th>
<th>Number of Cases</th>
<th>Litigation Expenditures as a Percent of Compensation</th>
<th>Average Compensation per Death</th>
<th>Average Litigation Expenditures per Death</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970–1976</td>
<td>1,050</td>
<td>24.0%</td>
<td>331,664</td>
<td>79,513</td>
</tr>
<tr>
<td>1977–1982</td>
<td>933</td>
<td>18.4%</td>
<td>432,416</td>
<td>79,598</td>
</tr>
</tbody>
</table>

*For 1970–1972 and 1973–1976, respectively, the litigation expenditures were 24.5 and 24.1 percent of total compensation.

Although the range of the plaintiffs' litigation expenditures as a percentage of compensation varies from 0 to more than 40 percent throughout the period of the study, the average percentage for cases with lawyers declined from 24.0 percent in 1970–1976 to 18.4 percent in 1977–1982 (see Figure 4.1 and Table 4.5). About one-fourth of the plaintiffs with lawyers paid less than 18 percent in 1970–1976, whereas about half did so in 1977–1982. About one-fourth of the plaintiffs paid more than 30 percent in 1970–1976, whereas only about 5 percent did so in more recent years.

With an average contingent-fee percentage below 20 percent in recent years, aviation accident cases are well below the more than 30 percent averages that are typical of other types of tort cases.

We asked the aviation accident specialist attorneys whom we interviewed why the fee percentages were relatively low and why they had declined recently. Although opinions differed, the factors most often mentioned were:

1. In recent years, the contingency, delay, and expense of a liability contest have virtually been removed as a practical matter from many aviation accident cases. Defendants often propose a stipulation that they will not contest liability with the plaintiff if the plaintiff will waive any claim for punitive damages. Such stipulations are often accepted because there is little prospect that the defendants (as a group) will escape liability or that the plaintiff will recover punitive damages. The injury (death) is clear, and the only remaining question is the amount of compensation to be paid. The absence of both a liability contest and a degree-of-injury contest significantly
Fig. 4.1—Plaintiffs' litigation expenditures (percentage of compensation for cases with lawyers)
Table 4.5
DISTRIBUTION OF PLAINTIFFS' LITIGATION EXPENDITURES
AS A PERCENTAGE OF TOTAL COMPENSATION PAID PER
DEATH, BY TIME PERIOD, FOR CASES WITH LAWYERS
(1986 dollars)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>5</td>
<td>10.0</td>
<td>10.4</td>
<td>10.0</td>
</tr>
<tr>
<td>10</td>
<td>12.9</td>
<td>12.4</td>
<td>12.5</td>
</tr>
<tr>
<td>25</td>
<td>18.1</td>
<td>14.8</td>
<td>16.7</td>
</tr>
<tr>
<td>50</td>
<td>25.2</td>
<td>18.9</td>
<td>20.6</td>
</tr>
<tr>
<td>75</td>
<td>29.5</td>
<td>21.8</td>
<td>26.8</td>
</tr>
<tr>
<td>90</td>
<td>34.1</td>
<td>25.3</td>
<td>33.3</td>
</tr>
<tr>
<td>95</td>
<td>36.1</td>
<td>29.2</td>
<td>34.8</td>
</tr>
<tr>
<td>&gt; 100</td>
<td>&gt; 40.0</td>
<td>&gt; 40.0</td>
<td>&gt; 40.0</td>
</tr>
</tbody>
</table>

Average: 24.0 18.4 21.0

NOTE: Since we are not presenting data about individual cases, the exact maximum is not shown.

reduces both the lawyer's risk and the amount of time that must be spent on the litigation. Thus there is no clear need for a contingency fee comparable to the 33 to 40 percent fees often found in personal injury and product liability cases16 where the lawyer may have to work very hard just to establish liability.

2. When defendants make substantial and early offers and a prompt settlement can be negotiated, plaintiffs' attorneys simply have less work to do. In recent years, particularly in 1977 and later, defendants have been more likely to make such


For a case study of a liability contest, see J. Kenneley, "The Preparation for and Trial of a Complex Case Resulting in a $5,000,000 Verdict for a Single Death," Trial Lawyers Guide, Vols. 23, 24, 25, 1979-80. When a case is contested there may also be complex questions of whether the court has jurisdiction or is a convenient forum and which state or country laws should govern the various issues in the case. See J. Kenneley, "Choice of Laws, Jurisdiction and Forum Non Conveniens," Trial Lawyers Guide, Vol. 26, p. 260, 1982; In re Air Crash Disaster near New Orleans, Louisiana, on July 19, 1982, 821 F. 2d 1147 (5th Cir. 1987).

For a discussion of a dramatic example of the complex and costly litigation that can occur following an air crash, see W. Norris, Willful Misconduct, Norton, New York, 1984.
offers. (The early offer approach is described in more detail in Sec. V.)

3. Because the claims are usually for wrongful death and often carry a high economic value, it is possible to charge a substantially reduced percentage fee and still make a reasonable income.

4. Air accident litigation has become a more competitive area of law. According to the plaintiffs' attorneys we interviewed, aviation accident plaintiffs today usually do not pay a contingent fee greater than 25 percent, and plaintiffs may be able to retain a specialist attorney for a contingent fee of 20 percent or less. There appears to be active competition at this level, with the possibility of an even lower fee, depending on such factors as the volume of cases handled by the attorney and prospects of early and substantial settlements.

The conditions that give rise to effective competition in air disaster litigation may not exist in most other areas of tort litigation. For example, because air accident cases are usually high-value and relatively low-risk cases, the plaintiffs' attorneys can afford to compete by reducing the fee percentage. In addition, soon after any major aviation accident, the identities of the victims are published in the newspaper, so every aviation accident specialist attorney and any interested non-specialist attorney can learn who the potential clients are. This public disclosure is very different from a typical medical malpractice or products liability case.

5. Clients and their family attorneys are becoming increasingly sophisticated and may interview several attorneys and negotiate fees.

Thus, a critical development in both fee practices and settlement practices occurred in the mid-1970s. After about 1976, there was a

---


trend toward early and substantial offers by defendants, liability was less likely to be contested, and competition among plaintiffs' attorneys for clients intensified.\(^\text{18}\) Whatever the combination of causes, with some exceptions, contingent fee percentages have been declining. The accidents since 1977 involve fees that are typically 15 to 25 percent (the more recent fees are in the 15 to 20 percent range), with some fees quoted as low as 10 percent. Some specialists caution that if the fee is too low, the attorney may be economically unable to accept the risk, if necessary, of going to trial; thus, in the final analysis, too low a fee may not be in the best interest of the client.

**Economic Size of the Case**

Given the contingent fee system, we were not surprised to find that total plaintiffs' litigation expenditures rose as the economic size of the case rose.\(^\text{19}\) However, it was interesting that the plaintiffs' litigation expenditures as a percent of compensation declined as the economic size of the case rose. This was true whether the economic size of the case was measured in terms of compensation paid (see Table 4.6) or in terms of economic loss to survivors of the decedent (see Table 4.7). The smallest cases (under $100,000) had litigation expenditures as a percentage of compensation that were about 1.5 percentage points higher than for the largest cases (over $1,000,000).

This reduction in the percent paid may mean that some plaintiffs' lawyers are charging a lower average contingent fee on cases they perceive to be of higher value. During the initial meetings with the prospective client, attorneys learn basic facts (such as the decedent's age, sex, income, occupation, marital status, and number of dependent children) that make it possible to estimate the approximate economic loss to survivors of the decedent and the expected compensation. Since the legal work required for a case probably does not increase proportion-

---

\(^{18}\)This development, which bears on fee practices as well as settlement practices, occurred during and soon after litigation arising out of the crash of a Turkish Airlines plane in Paris on March 3, 1974. Because that Paris crash involved a foreign airline, the accident is not included in this study. In that case, most of the claims were settled or tried by the end of 1977. In 1978, the principal judge involved reported the total settlements in 320 cases, the plaintiffs' attorney fees and costs, and the net distributions to the plaintiffs. The attorneys' fees charged to plaintiffs totaled 17.4 percent of the gross settlement amounts; some fees were more and some were less. Plaintiffs' expenses other than fees were 3.6 percent, bringing the total litigation expenditures to 21.0 percent of total compensation. (See Peirson M. Hall, "Memorandum on the Settlements in the Turkish Airline, McDonnell Douglas Case," *Annals of Air and Space Law*, Vol. 3, pp. 615–642, 1978.)

\(^{19}\)The contingent fee is about 93 percent of total plaintiffs' litigation expenditures, which include both the fee and other legal expenses.
### Table 4.6

**PLAINTIFFS’ LITIGATION EXPENDITURES, BY AMOUNT OF COMPENSATION**

(1986 dollars)

<table>
<thead>
<tr>
<th>Amount of Total Compensation</th>
<th>Number of Cases</th>
<th>Litigation Expenditures as a Percent of Compensation</th>
<th>Average Compensation per Death</th>
<th>Average Litigation Expenditures per Death</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-99,999</td>
<td>452</td>
<td>21.7</td>
<td>63,145</td>
<td>13,714</td>
</tr>
<tr>
<td>100,000-199,999</td>
<td>575</td>
<td>21.9</td>
<td>141,439</td>
<td>30,917</td>
</tr>
<tr>
<td>200,000-499,999</td>
<td>473</td>
<td>21.7</td>
<td>330,380</td>
<td>71,589</td>
</tr>
<tr>
<td>500,000-999,999</td>
<td>322</td>
<td>20.9</td>
<td>722,120</td>
<td>151,652</td>
</tr>
<tr>
<td>1,000,000 and up</td>
<td>161</td>
<td>20.3</td>
<td>1,565,617</td>
<td>317,316</td>
</tr>
</tbody>
</table>

### Table 4.7

**PLAINTIFFS’ LITIGATION EXPENDITURES, BY ECONOMIC LOSS TO SURVIVORS OF DECEDEENT**

(1986 dollars)

<table>
<thead>
<tr>
<th>Economic Loss to Survivors of Decedent*</th>
<th>Number of Cases</th>
<th>Litigation Expenditures as a Percent of Compensation</th>
<th>Average Compensation per Death</th>
<th>Average Litigation Expenditures per Death</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-89,999</td>
<td>519</td>
<td>21.5</td>
<td>148,160</td>
<td>31,918</td>
</tr>
<tr>
<td>100,000-249,999</td>
<td>376</td>
<td>22.8</td>
<td>192,620</td>
<td>43,951</td>
</tr>
<tr>
<td>250,000-499,999</td>
<td>267</td>
<td>22.6</td>
<td>255,049</td>
<td>57,682</td>
</tr>
<tr>
<td>500,000-749,999</td>
<td>144</td>
<td>22.3</td>
<td>382,334</td>
<td>80,718</td>
</tr>
<tr>
<td>750,000-999,999</td>
<td>125</td>
<td>22.4</td>
<td>468,449</td>
<td>104,755</td>
</tr>
<tr>
<td>1,000,000-1,499,999</td>
<td>177</td>
<td>20.1</td>
<td>585,598</td>
<td>117,920</td>
</tr>
<tr>
<td>1,500,000-1,999,999</td>
<td>109</td>
<td>20.0</td>
<td>822,395</td>
<td>164,448</td>
</tr>
<tr>
<td>2,000,000 and up</td>
<td>265</td>
<td>19.9</td>
<td>867,098</td>
<td>172,230</td>
</tr>
</tbody>
</table>

*Estimated by King and Smith. Economic Loss and Compensation in Aviation Accidents.*
ately with a rise in compensation, attorneys may be willing to accept a lower-percentage contingent fee on cases they think are worth more.

The percentage for litigation expenditures (including both the contingent fee and other litigation expenses) declines from an average of 21.7 percent for cases with average compensation below $100,000 to 20.3 percent for cases with average compensation over $1,000,000, as shown in Table 4.6. Note, however, that the average litigation expenditures are $13,714 for cases with compensation below $100,000, whereas they average $317,316 for cases valued over $1,000,000. The high compensation cases generate much higher average litigation expenditures despite the lower percentage devoted to those expenditures.

Table 4.7 shows essentially the same pattern for economic loss to survivors of the decedent. The percentage for plaintiffs' litigation expenditures declines from an average of 21.5 percent for cases with economic loss below $100,000 to 19.9 percent for cases with economic loss over $2,000,000.

We found that plaintiffs' litigation expenditures as a percentage of compensation show a statistically significant decline as the size of the case increases. For example, we estimate that a $2,000,000 economic loss case had 2.6 percentage points lower litigation expenditures as a percent of compensation than did a $100,000 economic loss case. However, the decline in percentage of compensation is statistically significant only for cases with economic loss over $1,000,000.20

Stage at Which the Case was Closed

Cases Involving Lawsuits. About one-fourth of the cases in our study had a lawyer and were resolved without a lawsuit. For these cases, average plaintiffs' litigation expenditures were $43,771. For cases involving lawsuits, average plaintiffs' litigation expenditures per death were more than twice as high, $92,080. In terms of percentage of compensation, litigation expenditures were 6.1 percentage points higher for cases closed after lawsuit had been filed than they were for those involving lawyers but no suit (see Table 4.8).

There are several possible reasons for these differences in plaintiff expenditures. Some contingent fee contracts call for a higher percentage if the case is closed after a lawsuit is filed; some lawyers may

---

20An alternative multivariate model is one that uses actual compensation rather than economic loss as a measure of expected compensation. However, because compensation is an outcome that depends on the plaintiff's actions (such as filing suit or going to trial), a regression that includes both compensation and litigant action variables would result in biased estimates of the coefficients.
charge a higher rate if the case remains unresolved for some specified period—which means it is more likely to be in suit; some lawyers may charge a low fee or no fee at all if, after evaluating the insurer's offer, they advise their clients that there is little prospect of doing better or that the prospect is not good enough to justify additional fees, costs, and delay.

We estimate that if all other factors are equal, a lawsuit involves litigation expenditures as a percent of compensation that are 7.4 percentage points more than those for cases without a lawsuit. This difference is statistically significant.

**Cases That Go to Trial.** Lawsuits involving a trial had average litigation expenditures as a percentage of compensation that were 1.1 percentage points higher than the average for lawsuits for which trial did not begin (see Table 4.8). This may be because some contingent
fee contracts call for a higher percentage if the case is not settled before trial\textsuperscript{21} and/or that trials entail expenses such as fees for expert testimony and travel that are not required for the average settled case. However, the average litigation expenditure for tried cases was $137,146, more than half again larger than the average for settled lawsuits with lawyers. This is due largely to the contingent fee system and the fact that the average compensation in tried cases was more than half again as large as the average for settled lawsuits. The average plaintiffs' litigation expenditures have increased over time for tried lawsuits but have remained relatively constant for settled lawsuits.

We estimate that if all other factors are equal, tried cases have litigation expenditures as a percentage of compensation that are 2.7 percentage points greater than those for cases that are settled. The difference between tried and settled cases in this study was statistically significant.\textsuperscript{22}

Type of Plaintiffs' Attorney

Whether or not a U.S. plaintiff's attorney specializing in aviation accidents was known to be involved with a case made no statistically significant difference in litigation expenditures as a percentage of compensation for cases with lawyers. The average percentages for those with and without such a specialist attorney were 21.7 percent and 20.7 percent, respectively (see Table 4.9).\textsuperscript{23} However, the multivariate

\textsuperscript{21} The fee agreement is signed at the time the attorney is hired by the plaintiff and usually before a final decision is made on filing suit or going to trial. Filing a lawsuit is common and probably is contemplated when the attorney is hired. Going to trial, however, is uncommon, and the decision to do so is usually deferred. Nonetheless, responsible plaintiffs' attorneys will assume when they enter into the fee arrangement that they probably will have to file suit and may have to try the case. The fee arrangement to some indeterminate extent will reflect this risk.

\textsuperscript{22} Plaintiffs' decisions to file suit or go to trial sometimes influence the fee rate, but those decisions also are influenced by the other variables included in the fee rate equation shown in Table 4.3. We estimated a reduced-form equation (not shown in this report) in which the "no lawsuit" and "trial" variables were omitted in order to examine which coefficients were most affected by the inclusion of those two litigant action variables. We found that the parameters were not changed except for those of the state limit and foreign attorney variables; the coefficients of these two variables were more negative (about a 3 percentage point difference) when we did not control for litigant action.

\textsuperscript{23} We have excellent data for the aviation specialist attorneys as defined above, and the data from both the individual decedents' files and from the specialist attorney interviews are consistent. For the attorneys who do not specialize in aviation accidents, we have data on over 300 cases, and the data from both the individual decedents' legal files and the mail survey of attorneys are consistent (averaging within 1 percentage point of one another). We believe that our estimates of the average plaintiffs' expenditures are reasonably accurate, but it is possible that there may be some small downward bias in the data for the nonspecialist attorneys. One could speculate that respondents to our mail survey might have lower fee rates than nonrespondents who might be less willing to
Table 4.9
PLAINTIFFS’ LITIGATION EXPENDITURES, BY TYPE
OF PLAINTIFFS’ ATTORNEY
(1986 dollars)

<table>
<thead>
<tr>
<th>Type of Plaintiffs’ Attorney</th>
<th>Number of Cases</th>
<th>Litigation Expenditures as a Percent of Compensation</th>
<th>Average Compensation per Death</th>
<th>Average Litigation Expenditures per Death</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. attorney, aviation specialist</td>
<td>668</td>
<td>21.7</td>
<td>391,069</td>
<td>84,919</td>
</tr>
<tr>
<td>U.S. attorney, not specialist*</td>
<td>1,236</td>
<td>20.7</td>
<td>382,354</td>
<td>81,310</td>
</tr>
<tr>
<td>Foreign attorney</td>
<td>79</td>
<td>9.6</td>
<td>69,722</td>
<td>6,685</td>
</tr>
</tbody>
</table>

*The category of cases for which no specialist was known to be involved may include a few specialists whose involvement could not be ascertained from the available data.

Regression analysis indicated that whether or not a foreign attorney was the only counsel involved was statistically significant, with average litigation expenditures as a percent of compensation 7.8 percentage points lower than the percentage charged by the U.S. attorneys who were not aviation accident specialists.24

Warsaw-Montreal Treaty Ticket

We estimate that, all other factors being equal, Warsaw-Montreal treaty ticket cases with lawyers had litigation expenditures as a percentage of compensation that were 2.6 percentage points lower than those for cases without a Warsaw-Montreal treaty ticket; this difference was statistically significant. It is possible that the potential $75,000 ceiling on compensation may reduce the attorney workload for some cases.

divulge their hypothetically higher fee rates. However, since data from the mail survey and the decedents’ legal files are consistent, one also would have to speculate that cases with fee data in the decedents’ legal files might have systematically lower fee rates than cases without such data; perhaps this might occur if plaintiffs’ lawyers fee rates tended to be lower when the judge required reporting of fees. We stress, however, that our multivariate analysis of the plaintiffs’ litigation expenditures revealed no statistically significant difference in the litigation expenditures as a percentage of compensation for U.S. attorneys who specialize in aviation accidents and those who are not known to be specialists.

24We had fee data for only 8 foreign attorneys.
For example, if it appears that the $75,000 limitation cannot be circumvented (e.g., by proving that the airline is guilty of willful misconduct or that some other defendant is liable), it may not be economically justifiable for the attorney to invest—or the client to require the investment of—a disproportionate amount of time in the case. On the other hand, if the plaintiffs' lawyers participate in a trial over the $75,000 limitation for the accident, a great deal of plaintiffs' attorney time may be invested. Data for cases with and without Warsaw-Montreal treaty tickets are shown in Table 4.10.

<table>
<thead>
<tr>
<th></th>
<th>Type of Ticket</th>
<th>Litigation Expenditures as a Percent of Compensation</th>
<th>Average Compensation per Death</th>
<th>Average Litigation Expenditures per Death</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of Cases</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Warsaw-Montreal</td>
<td>735</td>
<td>20.9</td>
<td>184,134</td>
<td>38,471</td>
</tr>
<tr>
<td>Non-Warsaw-Montreal</td>
<td>1,248</td>
<td>21.0</td>
<td>493,873</td>
<td>103,747</td>
</tr>
</tbody>
</table>

State Limits on Compensation

We estimate that, all other factors being equal, cases with lawyers that were subject to a state limit on total compensation per death had litigation expenditures as a percentage of compensation that were 5.5 percentage points lower than those for cases not subject to such a limit (see Table 4.11). The reason may be that a ceiling on compensation reduces the amount of work done by attorneys for some cases.

The difference in Table 4.10 is less than 2.6 percent because cases with Warsaw-Montreal treaty tickets were more likely to involve one of the earlier accidents and to have lower economic loss to survivors—both factors associated with a higher fee percentage.
<table>
<thead>
<tr>
<th>State Limit on Compensation</th>
<th>Number of Cases</th>
<th>Litigation Expenditures as a Percent of Compensation</th>
<th>Average Compensation per Death</th>
<th>Average Litigation Expenditures per Death</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>1,867</td>
<td>21.1</td>
<td>387,663</td>
<td>81,904</td>
</tr>
<tr>
<td>Yes</td>
<td>116</td>
<td>18.0</td>
<td>240,730</td>
<td>43,319</td>
</tr>
</tbody>
</table>
V. DEFENDANTS' LITIGATION EXPENDITURES

We have thus far examined air accident litigation processes and costs from the plaintiffs' side. In this section, we turn our attention to the defendants. We begin by characterizing the defendants and their system of handling aviation accident cases, then we describe defendants' litigation expenditures and how they vary as a function of the characteristics of the accidents, the cases, and the litigation.

OVERVIEW

In air accident litigation, the defense is usually unified and highly coordinated. The airline's insurer takes the lead in the litigation.

The defendants rarely dispute liability with the plaintiffs, and nearly all the trials concern the amount of compensation, not whether it will be paid. Often the defendants simply decide among themselves how liability will be apportioned; only half of the accidents in this study involved major disputes among the defendants.

Compensation is often paid before the defendants settle the liability issue. Defendants may sign an interim contract that specifies each defendant's share of compensation and litigation costs, or the airline's insurer may pay all the compensation and subsequently file a suit against the other defendants for reimbursement.

For the cases in our study, defendants' litigation expenditures averaged $49,000—about 14 percent of total compensation. The distribution of expenditures across accidents is quite skewed, in part because only some accidents involve liability disputes among defendants, and in part because the fraction of cases that involve lawsuits and trials varies markedly across accidents. Our statistical analysis, done at the accident level, shows that defendants' litigation expenditures vary with characteristics of the accident and of the litigation itself. Different factors influence expenditures for liability and compensation litigation:

- **Liability litigation expenditures** are higher for accidents with higher economic loss.
- **Compensation litigation expenditures** are higher for accidents (1) that involve a larger fraction of lawsuits, (2) that have a larger fraction of plaintiffs' attorneys who are not aviation specialists, and (3) in which the insurer directly negotiates compensation.
DEFENDANTS' LITIGATION EXPENDITURES: DETAILED DISCUSSION

We begin our detailed discussion by describing our approach and data sources. We then discuss the defendants' system for handling aviation accident cases. We conclude by reporting defendants' litigation expenditures and examining the factors that influence them.

Approach and Data Sources

Types of Expenditures. Defendants incur two types of litigation expenditures: those allocated directly to a specific accident and those that are unallocated. We include both types in our analysis. Allocated expenditures include fees and expenses paid to defense lawyers who are not direct employees of the defendants or their insurers, court fees, travel, stenographic expenses for depositions and trials, and expert witness fees. These expenses are allocated to the accident rather than to individual plaintiff claims because some of the litigation concerns the accident. Unallocated expenditures are allocated neither to individual plaintiff's claims nor to individual accidents. These unallocated expenses include insurer claims-processing expenses and litigation supervisors, administrators, and managers—for example, insurance claims clerks and administrators, data processors, and lawyers who supervise outside counsel. Defendants' discovery-related expenditures are usually allocated, while defendants' litigation oversight and management expenditures usually are unallocated.

Defense expenditures for each accident can be grouped into various categories based on the purpose of the expenditure. For purposes of this study, we were interested in expenses relating to (1) determining the division of liability among the defendants and (2) determining compensation for deaths of passengers and ground victims.¹ Because insurer records often do not distinguish between these two types of expenditures, we asked the insurance companies and lawyers who actually did the work to estimate how they divided their time and other expenses between these two issues.²

¹The other four categories of defense expenses are determining compensation (1) for injuries, (2) for on-duty crew members, (3) for the aircraft hull, and (4) for property damage on the ground; since our study concerns passenger and ground deaths, expenditures for these other four categories were excluded (based on data provided by the defendants and their insurers).

²While the total defense legal fees and expenses were precisely known, the division between liability litigation and compensation litigation expenditures usually was estimated.
Data Sources. We collected defense litigation expenditure data from the insurance companies, the defendants, and the U.S. Department of Justice. All dollar figures have been adjusted to a constant March 1986 value. Details of our data sources and collection methods are given in App. A.

We had direct access to accounting records of U.S. companies that were primary insurers for airlines and aircraft manufacturers. For cases where the primary insurer was in London, we obtained data from the primary lawyer hired in the United States by the insurer. These records provided total expenditures incurred by the defendant and its insurers for each accident.³

For those accidents in which the U.S. government was a defendant, we obtained information from a variety of sources, including interviews with all senior lawyers in the Department of Justice who handle major aviation accident litigation and government personnel timekeeping and expense records. We have estimated the salaries, fringe benefits, and overhead for the government lawyers who handled the litigation.⁴

We used multiple-regression techniques to identify the features of the accidents and the litigation that were significantly related to defense litigation expenditures.

The Aviation Insurance Market

To understand the defense of aviation accident litigation, we need to know some things about the aviation insurance market. The aviation insurance business is highly concentrated. For example, two U.S.
insurers that specialize in aviation were the direct insurers for the airlines in 16 of the 25 accidents; the direct insurers of the airline in the remaining 9 accidents were in the London aviation insurance market. The direct insurer of the aircraft manufacturer for 24 of the 25 accidents was located in London; the direct insurer for the manufacturer in the other accident was one of the same two U.S. aviation insurers.

Aviation insurers also typically spread risk through reinsurance. For example, today, one insurer may be the direct insurer for airline X, but that insurer will retain only a portion of the risk; he will reinsure the rest with the other major aviation insurers. These airline reinsurers may themselves be the direct insurers of the aircraft manufacturer for airline X or of an airline involved in some other recent accident. Compared with the direct insurers, the reinsurers spend relatively little time on the accident litigation.

The typical method of handling aviation accident claims and lawsuits in the London insurance market differs somewhat from the method currently used by the U.S. insurers. The London aviation insurance market consists of Lloyd's of London, a collection of submarkets made up of a large number of independent syndicates comprising individual risk-takers, and a number of unaffiliated insurance companies. The Lloyd's syndicates and the unaffiliated insurance companies actually provide the insurance, which is placed with them by a number of London insurance brokers. In a typical aviation accident situation involving a major U.S. airline that is directly insured in the London market, there will be one insurance broker and a total of perhaps 15 to 25 Lloyd's syndicates and unaffiliated insurance companies actually providing the insurance. Of the 15 to 25 syndicates and companies involved, one will take the lead and be involved with the accident litigation, along with the broker. Of the remaining syndicates and insurance companies involved, perhaps 2 to 4 will pay some significant amount of attention to the litigation. The London broker, in cooperation with the lead syndicate or insurer and a few others, will retain the lead counsel in the United States, maintain files, monitor the activity of the U.S. lawyers and others, review reports submitted by the lawyers, review and approve settlement amounts, issue checks, and confer with the insured defendant about the general approach to the accident litigation that will be adopted. In addition, the broker will periodically report to all of the various syndicates and insurers involved. Usually London personnel will not attend trials or directly conduct negotiations regarding compensation payments. Investigations, negotiations, and trials generally are the responsibility of the lawyers the insurers hire. The amount of time spent by insurance
personnel in London is relatively low because their role is primarily management and monitoring rather than direct involvement in the day-to-day litigation and settlement process.

This London approach contrasts with the approach taken by insurers in the United States, particularly after the early 1970s. The U.S. insurers now have their own claims personnel (who may be lawyers) performing much of the claim investigation and settlement negotiation work that London insurers hire outside lawyers to perform. However, even if the U.S. insurer handles much of the work in-house, outside defense lawyers still may be hired for pleadings and filings, trying cases that cannot be settled, and providing counsel concerning the overall accident litigation strategy.

Characteristics of the Defense

Coordination. In air accident litigation, the defense is usually unified, highly coordinated, and relatively routine compared with the defense in other mass torts. The concentration of insurance with a few aviation specialist insurers facilitates this coordination. The attorneys for the major defendants’ insurers and the attorneys for the U.S. Department of Justice (who participate when the U.S. government is a defendant) usually know each other and have worked together on prior accidents.

When a major aviation accident occurs involving a U.S. airline, the airline and its direct insurer send an experienced team to the location immediately. These airline and insurer representatives help the surviving passengers and relatives and friends of decedents to identify the victims and make transportation and funeral arrangements. They may advance funds to cover expenses. The insurer also begins to collect information on the cause of the accident and the identity of people who may file claims for compensation.

In aviation accident litigation, unlike litigation in many other kinds of torts, plaintiffs and their lawyers do not face negotiations with several different defendants. The airline’s insurer takes the lead, and potential claimants for compensation usually see only one organization acting on behalf of all defendants. Direct contact with the airline generally ceases soon after the accident, and there is almost never any direct contact with other defendants, even if they also pay some compensation for the passenger death. Other potential defendants may go to the scene of the accident to help investigate its cause, but they generally do not get directly involved with potential claimants.

Nearly all legal work related to the accident is done through the insurance companies. When defendants receive notice of a lawsuit or a
claim regarding the accident, they immediately forward it to their insurers. The defendants monitor the progress of the litigation, usually through their own in-house lawyers. The insurers usually pay all the of the defendants’ litigation-related expenses.

When the U.S. government is a defendant, government lawyers also leave negotiations with claimants over compensation to the lawyers for the airline’s insurer once an agreement has been reached on the division of liability and responsibility for payments. The government lawyers devote very little attention to monitoring the airline’s insurer in the compensation negotiations; they spend about 90 percent of their time on liability issues.

**Tactics.** Defendants employ certain tactics that they believe might influence the amount of compensation paid. For example, in about two-thirds of the cases of death, defendants contacted plaintiffs with an early offer without waiting for the plaintiff to make a demand. A similar tactic used in about one-third of the cases after 1977 was to send a special letter to family members immediately after the accident, offering general condolences and indicating that the defendants would be making an offer of compensation. The letter also usually suggested that there was nothing to be gained from filing a lawsuit immediately and that the plaintiff might obtain the help of an attorney based on a fee for the work involved rather than on a percentage of the settlement or award. Plaintiffs’ lawyers have argued that these letters were an attempt to get plaintiffs to settle early without the aid of counsel.

**Liability Agreement Among Defendants.** Major aviation accident cases differ from many other wrongful death cases in that compensation is always paid if a legally eligible claimant exists. According to the aviation defendants we interviewed, there is virtually always someone who is liable for an aviation accident. The uncertainty concerns how much compensation will be paid and which defendants will pay how much of the total. Thus, any liability fight is usually among the defendants. Nearly all of the 196 trials in our database that involved plaintiffs focus on the amount of compensation; only six accidents had a contested liability trial. The liability issue is decided

---

5With the exception of certain cases involving on-duty crew members, government lawyers usually do not negotiate or try cases concerning damages. The costs associated with any on-duty crew deaths and injuries handled by the government have, like those costs for other defendants, been excluded from our calculations of the costs of resolving litigation over passenger and ground deaths.


7In three of the accidents with liability trials, the major issue was the allocation of liability and responsibility for payment among the defendants. In the other three, the
at the accident level, while the amount of compensation to be paid is
decided separately at the individual decedent level.

Typically, the defendants either agree among themselves about how
to divide expenditures for compensation and litigation, or they agree to
let the outcome of one trial decide the division of liability. That trial
may be about the death of one of the passengers, about payment for
the aircraft hull, or about whether some defendants should reimburse
other defendants for all or part of the compensation paid. According
to the defense lawyers we interviewed, the defendants evolved this sys-
tem as a way to reduce legal fees and avoid other undesirable effects of
multiple trials—for example, unwanted publicity. The defendants'
agreement about liability in a specific accident may be facilitated by
information from the investigative work of the NTSB into the cause of
the accident. It also may be facilitated by the ongoing economic rela-
tionship of the manufacturers and the airlines who purchase their
products.

Whether or not the defendants have agreed about apportioning lia-
bility, the airline’s insurer usually begins immediately to negotiate and
pay compensation on behalf of all defendants. The defendants may
sign an interim contract that specifies what fraction of the compensa-
tion and litigation fees and expenses is to be paid by each defendant on
all claims, with the final fraction to be decided later by agreement or
trial. Alternatively, the airline’s insurer may pay total compensation
on behalf of all defendants, with the intent of filing a lawsuit against
those other defendants for subsequent reimbursements.

Average Expenditures

Based on information from each of the 25 accidents in this study, we
estimate that a total of $60,257,032 was spent by all defendants com-
bined to resolve the issue of liability for death cases. The average was
$27,045 for each of the 2,228 deaths, or $2,410,281 for each of the 25
accidents (see Table 5.1). Of this total, 49 percent was spent on legal
fees, 38 percent on in-house personnel costs of defendants and insurers
(including government lawyers if the government was a defendant),
and 13 percent on other expenses. The amount spent per accident
depended heavily on whether there was a dispute over liability. The
average was more than $4 million for the 13 accidents that involved a
liability dispute (usually among the defendants) and less than $1 mil-
lion for those without disputes.

issue was whether the Warsaw-Montreal treaty $75,000 limitation could be exceeded
because of alleged willful misconduct on the part of the airline.
### Table 5.1
**Defendants’ Litigation Expenditures, Per Death and Per Accident**
(1986 dollars)

<table>
<thead>
<tr>
<th>Type of Litigation Expenditure</th>
<th>Defendants’ Average Litigation Expenditures as a Percent of Average $362,343</th>
<th>Average Expenditures per Accident for Death and Injury Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liability litigation</td>
<td>27,045</td>
<td>2,410,281</td>
</tr>
<tr>
<td>Compensation litigation</td>
<td>22,245</td>
<td>1,982,501</td>
</tr>
<tr>
<td>All combined</td>
<td>49,290</td>
<td>4,392,782</td>
</tr>
</tbody>
</table>

*Total defendants’ liability litigation expenditures for all passenger and ground death and injury cases, divided by the number of accidents.

*Total defendants’ compensation litigation expenditures for all passenger and ground death and injury cases, plus an estimate of the future litigation expenditures required to close the 30 cases that were still open as of May 1986.

The defendants did not account for defense legal fees and other expenses separately for death cases. However, they could estimate the total amount of money spent for each accident to resolve the issue of liability for all death and injury cases combined. We allocated those defense expenses for resolution of the liability issue between death and injury cases in proportion to the total amount of compensation paid on all death cases versus the total amount of compensation paid on all injury cases for the accident. The allocation for injury cases was $6 million.\(^8\)

The resolution of the issue of how much compensation was to be paid for each decedent cost all the defendants combined $49,562,520, or an average of $22,245 per death case (see Table 5.1). Of this total, 55 percent was spent on legal fees, 29 percent on in-house costs, and 16 percent on other expenses.

The defendants’ records showed us only the total amount of money spent for each accident to determine the amount of compensation. We supplemented this information by interviewing defendants, insurers, and

---

\(^8\)Use of any other reasonable method of allocating these liability expenditures between death and injury cases would not have changed the overall conclusions of this study substantially.
and lawyers to determine how the total should be divided between death and injury cases. Some interviewees told us the division could be determined by the amount of work time spent on typical cases of various types. Other interviewees were able to estimate the relative amount of work time spent on death cases versus major injury cases versus minor injury cases. For some accidents, the division of the expenditures between death cases and injury cases also was based on whether the case was easy to settle, was hard to settle (required depositions), or was tried. The actual information used to divide expenses between death and injury cases varied from accident to accident, based on the information the insurers or lawyers could provide.

We learned that resolving the amount of compensation to be paid in the average major injury case usually required at least as much effort as resolving the amount for the average death case for the same accident, but not more than twice as much. On the other hand, a case involving minor injuries usually required less time to resolve than a death case. Additional details about the costs and compensation for injury cases can be found in App. D.

The total spent by all defendants and their insurers per passenger and ground death, including both compensation and defense litigation expenditures, was estimated to be $412,233. The $49,290 of defense expenditures was about 13.6 percent of the average $362,943 compensation per death. Expenditures were about equally divided between resolving liability and resolving compensation.9

### Distribution of Expenditures Across Accidents

Table 5.2 shows the distribution of defendants' litigation expenditures across the various accidents. Note that the defendants' average compensation litigation expenditures per death (averaged for the accident) had a median of $16,000 but ranged from less than $1,000 to more than $80,000. The skewedness of the distribution is, in part, explained by the fraction of the deaths in an accident that resulted in lawsuits and trials. In some accidents, many claimants filed suit and a

---

9These defendants' expenditures include all expenditures for legal fees, "in-house" costs of defendants' and insurers' employees, and other expenses. The in-house employees include executives, lawyers, claims personnel, and others employed by the airlines, the aircraft manufacturers, the U.S. government (which uses government lawyers to handle the litigation), and any other defendants, plus each of their insurance companies and brokers. (Unfortunately, we do not have parallel data on the amount of time the plaintiffs spent on the litigation, e.g., time spent talking with their lawyers or collecting information needed by them.)

The defense expenses other than legal fees include travel, telephone, computer litigation support systems, discovery expenses, duplication of documents, expert fees, court fees, and court reporters.
Table 5.2
DISTRIBUTION OF DEFENDANTS' LITIGATION EXPENDITURES
(1986 dollars)

<table>
<thead>
<tr>
<th>Percentile</th>
<th>Defendants’ Average Compensation Litigation Expenditures per Death</th>
<th>Defendants’ Death and Injury Liability Litigation Expenditures per Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>&lt; 1,000</td>
<td>&lt; 200,000</td>
</tr>
<tr>
<td>25</td>
<td>11,000</td>
<td>658,000</td>
</tr>
<tr>
<td>50</td>
<td>16,000</td>
<td>1,394,000</td>
</tr>
<tr>
<td>75</td>
<td>25,000</td>
<td>3,445,000</td>
</tr>
<tr>
<td>100</td>
<td>&gt; 80,000</td>
<td>&gt; 12,000,000</td>
</tr>
<tr>
<td>Average</td>
<td>22,245</td>
<td>2,655,548</td>
</tr>
</tbody>
</table>

relatively high percentage of them went to trial; in other accidents, many cases were settled without a suit.

The median of defendants’ death and injury liability litigation expenditures per accident was $1,394,000, but it ranged from less than $200,000 to more than $12 million per accident. The distribution was largely determined by whether there was a significant liability dispute, usually among the defendants. About half the accidents had none. For cases that involved a dispute, the average liability litigation expenditure by all defendants was $4,349,974.

VARIATION IN DEFENDANTS’ LITIGATION EXPENDITURES

In our statistical analysis, we investigated how defense expenditures per accident vary as a function of some of the characteristics of the accidents, of the aggregate case outcomes, and of the litigation. The analysis was done at the accident level because defendants keep records of their litigation expenditures only at the accident level, not by individual death case.

Approach

We examined three sets of factors that we thought might significantly influence defense litigation expenditures. These factors are the
following:  

- Accident Characteristics
  - Total deaths in accident
  - Economic loss to survivors of all decedents in the accident
  - Year of the accident
  - Whether weather or terrorism was a factor in the accident

- Aggregate Case Outcome Characteristics
  - Fraction of deaths with no lawsuit filed
  - Fraction of deaths with trials
  - Average compensation per death
  - Median time to case disposition

- Litigation Characteristics
  - Whether there was a liability dispute
  - Percent of decedents with attorneys specializing in aviation accidents
  - Whether insurer negotiated compensation
  - Percent of decedents with lawsuits in federal court
  - Whether state law or treaty limiting compensation applied to most deaths in the accident
  - Number of defendants
  - Defendants' litigation tactics

Accident variables were studied because defense expenditures might increase with the size of the accident, a rising time trend might exist, or the cause of the accident might influence defense expenditures. Defense expenditures also are influenced, in part, by factors we did not study that are idiosyncratic to individual accidents (such as the specific cause of the accident and the working styles of the defense lawyers involved).

We used multiple-regression analysis to estimate the independent relationship of each factor when all other factors are held constant. We analyzed liability-related expenditures separately from expenditures related to compensation because these issues are usually litigated separately in major aviation accidents, and because different factors may influence each kind of defense expenditure.

---

10 For a discussion of factors that influence the amount of time spent by lawyers on other types of civil litigation, see David M. Trubek et al., Civil Litigation Research Project Final Report: Vol. 1, Studying the Civil Litigation Process: The CLRP Experience, University of Wisconsin Law School, Madison, Wis., March 1983, and David M. Trubek et al., Civil Litigation Research Project Final Report: Vol. 2, Civil Litigation as the Investment of Lawyer Time, University of Wisconsin Law School, Madison, Wis., March 1983.
Results

We explored different specifications of multivariate models of defense liability and compensation litigation expenditures, using linear-regression techniques. The specifications with the best statistical fit to the data for the defense liability and compensation litigation expenditures are presented in Tables 5.3 and 5.4, respectively.

The only statistically significant variable in predicting defendants' liability litigation expenditures for an aviation accident is the total economic loss to all survivors of decedents in the accident. Defendants spend more fighting about the liability issue for accidents with high stakes.

Table 5.3

REGRESSION RESULTS FOR THE LOGARITHM OF DEFENDANTS' LIABILITY LITIGATION EXPENDITURES PER AVIATION ACCIDENT
(1986 dollars)

<table>
<thead>
<tr>
<th>Accident Characteristic</th>
<th>Coefficient</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant*</td>
<td>7.3106</td>
<td>2.275</td>
</tr>
<tr>
<td>Accident year (1970)</td>
<td>0.0263</td>
<td>0.505</td>
</tr>
<tr>
<td>Natural logarithm of total economic loss to survivors for all decedents in accident</td>
<td>0.4284</td>
<td>2.234</td>
</tr>
<tr>
<td>Weather was a factor</td>
<td>0.3988</td>
<td>0.825</td>
</tr>
<tr>
<td>Terrorism was a factor</td>
<td>-1.3156</td>
<td>-1.350</td>
</tr>
<tr>
<td>State law limited compensation for most decedents</td>
<td>-1.4012</td>
<td>-1.713</td>
</tr>
<tr>
<td>Warsaw-Montreal treaty limited compensation for most decedents</td>
<td>0.2507</td>
<td>0.319</td>
</tr>
<tr>
<td>Insurer negotiated compensation</td>
<td>-0.0275</td>
<td>-0.769</td>
</tr>
<tr>
<td>Number of named defendants -1.0</td>
<td>-0.0422</td>
<td>-0.197</td>
</tr>
</tbody>
</table>

R² = 0.517
F = 2.141
N = 25

*The benchmark case used for this OLS regression analysis is based on an accident that occurred in 1970, in which total economic loss to survivors of all decedents was $1.00, neither weather nor terrorism was a factor, there was one named defendant, compensation was not negotiated directly by the insurer, and compensation for most decedents was not limited by either state law or the Warsaw-Montreal treaty. The coefficients shown here are increments associated with accident characteristics that differ from the benchmark. The constant term in the regression equation has been corrected for the retransformation bias associated with loglinear-regression models so that the average of the defendants' liability litigation expenditures per accident predicted by the model is the same as the average of the actual defendants' liability litigation expenditures for the accidents in our study.
Table 5.4
REGRESSION RESULTS FOR THE NATURAL LOGARITHM OF AVERAGE DEFENDANTS’ COMPENSATION LITIGATION EXPENDITURES PER DECEDED IN THE ACCIDENT

<table>
<thead>
<tr>
<th>Accident Characteristic</th>
<th>Coefficient</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>7.4069</td>
<td>2.271</td>
</tr>
<tr>
<td>Accident year (0 = 1970)</td>
<td>-0.0102</td>
<td>-0.224</td>
</tr>
<tr>
<td>Natural logarithm of total economic loss to survivors for the accident</td>
<td>0.2022</td>
<td>1.125</td>
</tr>
<tr>
<td>Number of defendants who paid compensation -1.0</td>
<td>0.1617</td>
<td>0.840</td>
</tr>
<tr>
<td>Fraction of cases that were tried</td>
<td>1.9608</td>
<td>1.296</td>
</tr>
<tr>
<td>Fraction of cases that were not lawsuits</td>
<td>-3.9018</td>
<td>-3.436</td>
</tr>
<tr>
<td>Fraction of cases with an aviation specialist plaintiff’s attorney</td>
<td>-2.6963</td>
<td>-2.745</td>
</tr>
<tr>
<td>State law limited compensation for most decedents</td>
<td>-0.3570</td>
<td>-0.477</td>
</tr>
<tr>
<td>Warsaw-Montreal treaty limited compensation for most decedents</td>
<td>0.1897</td>
<td>0.391</td>
</tr>
<tr>
<td>Insurer negotiated compensation</td>
<td>0.7612</td>
<td>2.830</td>
</tr>
</tbody>
</table>

\[ R^2 = 0.750 \]
\[ F = 4.989 \]
\[ N = 25 \]

*The benchmark case used for this OLS regression analysis is based on an accident that occurred in 1970, in which total economic loss to survivors of all decedents combined was $1.00, one defendant paid compensation, compensation was not negotiated directly by the insurer, compensation was not limited for most decedents by state law or by the Warsaw-Montreal treaty, no cases were tried, all cases involved a lawsuit, and no aviation specialist plaintiffs’ attorneys were involved. The coefficients shown measure increments associated with case characteristics that differ from the benchmark. The regression analysis was conducted with the data on the defendants’ average compensation litigation expenditures per decedent in the accident weighed by the number of decedents in the accident. The constant term in the regression equation has been corrected for the retransformation bias associated with loglinear-regression models so that the average of the defendants’ compensation litigation expenditures per death (for all deaths in all 25 accidents combined) predicted by the model is the same as the average of the actual defendants’ compensation litigation expenditures per death.*
Only three variables were significantly related to the average amount of money defendants spend per death resolving the compensation issue: (1) the fraction of cases that settle without filing a lawsuit, (2) the fraction of cases with a plaintiffs' attorney who specializes in aviation accidents, and (3) whether the insurer negotiates the compensation.

None of the other factors that we analyzed was statistically significant. In the remainder of this section, we discuss the significant variables. Discussion and data on the variables that were not statistically significant are presented in App. C.

Factors That Influence Defendants' Liability Litigation Expenditures

Total Economic Loss to Survivors. One might assume that the liability litigation expenses per accident would increase as the magnitude of the accident increases. We explored several ways of measuring the magnitude of an accident and the effect of magnitude on defense litigation expenditures. We found that the best indicator of average liability litigation expenditures was the amount of money at stake, as measured by total economic loss to all the decedents' survivors.

---

12Decisions to file suit or go to trial may be influenced by other variables (such as economic loss) included in the “defendants’ compensation litigation expenditure” equation shown in Table 5.4. We estimated a reduced-form equation (not shown in this report), in which the “fraction ... not lawsuits” and “fraction ... trials” variables were omitted to examine their influence on the coefficients of the other variables. The statistical significance, or lack thereof, of all the variables remained the same except that the “fraction ... with aviation specialist plaintiffs’ attorney” variable was not statistically significant, and the “state law limited compensation for most decedents” variable became significant (with coefficient -1.98 and t=-2.7). The coefficient on the significant “insurer negotiated compensation” variable changed very little (dropping from 0.76 to 0.67). R² dropped to 0.54. We also examined several other independent variables in the reduced-form analysis, but none was found to be statistically significant.

13Because we have defense litigation expenditure data for only 25 accidents, we have less confidence in the robustness of our estimates than we would have with a larger sample of accidents. Variables that may be important determinants of defense expenditures but are not statistically significant with our relatively small sample might be statistically significant if we had data from more accidents or from individual death cases. Our ability to analyze the amount of defendants' compensation litigation expenditures would have been greatly enhanced if defendants had kept data on those defense expenditures for each decedent instead of keeping aggregate data at the accident level. Defendants' compensation litigation expenditures should be strongly related to the characteristics of individual decedents and their families, their lawyers, and whether the case went to trial.

Given our limited database, we did not explore a simultaneous-equations approach to modeling litigation expenditures, compensation, or other related variables.

14We did not use the total compensation paid per accident as an indicator of the financial magnitude of the accident, for two reasons: (1) Compensation paid and defendants' litigation expenditures are potentially mutually dependent—by spending more on litigation, the defendants may achieve lower average compensation payments; and (2)
Table 5.5 shows the variation in defendants' litigation expenditures by total economic loss to survivors of all decedents.\(^{14}\) Note that the average defense liability litigation expenditures per accident increase from about a half million dollars each for accidents with relatively low economic loss (less than $25 million) to over $6 million for accidents with $100 million or more in economic loss to survivors of decedents. We estimate that if all other factors are equal, doubling the total economic loss for an accident results in a 35 percent increase in defense liability litigation expenditures.\(^{15}\)

Factors That Influence Defendants' Compensation Litigation Expenditures

Fraction of Cases That Settle Without a Lawsuit. In our sample, the higher the percentage of cases that settled without a suit, the lower the compensation litigation expenditures. For example, if less than 25 percent of the cases settled without a suit, the average defense compensation litigation expenditure per death was $36,610; in contrast, if more than 50 percent settled without filing a lawsuit, as happened in seven accidents, the average dropped to $11,051 per death (see Table 5.6). We estimate that, holding other factors constant, if the fraction of people who do not file suit drops from 50 percent to 25 percent, the average defense expenditures per death for compensation litigation will increase by a 2.65 multiplier. These differences suggest that there are some fundamental differences in litigation behavior by attorneys on both sides in accidents with a relatively small fraction of lawsuits. Filing a lawsuit certainly entails more legal work, but it also generally connotes a higher level of dispute among the parties.\(^{16}\)

Fraction of Cases with a Plaintiffs' Attorney Specializing in Aviation Accidents. As noted in Sec. IV, we identified 14 plaintiffs' law firms in the United States that handled most of the cases in the accidents studied. Table 5.7 shows the variation in defense litigation expenditures by the percentage of decedents in an accident whose cases were handled by an attorney specializing in aviation accidents.

\(^{14}\)For a discussion of how economic loss to survivors was calculated, see King and Smith, *Computing Economic Loss in Cases of Wrongful Death*, op. cit.

\(^{15}\)\(2^{\frac{25 - 50}{50 - 25}} = 1.346\)

\(^{16}\)That fact that the fraction of cases settled without suit was not significantly related to liability litigation expenditures per accident is consistent with our interview data, which indicated that the issues of liability and compensation are usually resolved separately in major aviation accidents.
<table>
<thead>
<tr>
<th>Total Economic Loss to Survivors from the Accident (millions of 1986 dollars)</th>
<th>Number of Accidents</th>
<th>Average Total Compensation per Death (1986 dollars)</th>
<th>Average Compensation Litigation Expenses per Death*</th>
<th>Compensation Expenses as a Percent of Total Compensation per Death</th>
<th>Average Liability Litigation Expenses per Accident#</th>
<th>Liability Litigation Expenses as a Percent of Total Compensation per Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-24</td>
<td>5</td>
<td>157,874</td>
<td>17,773</td>
<td>11.3</td>
<td>588,489</td>
<td>6.8</td>
</tr>
<tr>
<td>25-49</td>
<td>6</td>
<td>283,884</td>
<td>18,942</td>
<td>6.5</td>
<td>3,076,367</td>
<td>10.8</td>
</tr>
<tr>
<td>50-99</td>
<td>11</td>
<td>360,073</td>
<td>15,922</td>
<td>4.3</td>
<td>2,376,994</td>
<td>5.8</td>
</tr>
<tr>
<td>100+</td>
<td>3</td>
<td>502,025</td>
<td>41,920</td>
<td>8.4</td>
<td>6,379,972</td>
<td>7.3</td>
</tr>
<tr>
<td>All combined</td>
<td>25</td>
<td>362,943</td>
<td>22,245</td>
<td>6.1</td>
<td>2,655,548</td>
<td>7.2</td>
</tr>
</tbody>
</table>

*Total defendants' compensation litigation expenditures paid plus their estimate of the future litigation expenditures required to close the cases that were still open, divided by the total number of deaths.

#Total defendants' liability litigation expenditures for all passenger and ground death and injury cases, divided by the number of accidents.
<table>
<thead>
<tr>
<th>Percent of Deaths with No Lawsuit Filed</th>
<th>Number of Accidents</th>
<th>Average Total Compensation per Death (1986 dollars)</th>
<th>Average Compensation Litigation Expenses as a Percent of Total Compensation per Death</th>
<th>Average Liability Litigation Expenses as a Percent of Total Compensation per Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 25</td>
<td>10</td>
<td>451,667</td>
<td>36,610</td>
<td>8.1</td>
</tr>
<tr>
<td>25-50</td>
<td>8</td>
<td>317,255</td>
<td>15,766</td>
<td>5.0</td>
</tr>
<tr>
<td>&gt; 50</td>
<td>7</td>
<td>303,834</td>
<td>11,051</td>
<td>3.6</td>
</tr>
<tr>
<td>All combined</td>
<td>25</td>
<td>362,943</td>
<td>22,245</td>
<td>6.1</td>
</tr>
</tbody>
</table>

\(^a\) Total defendants' compensation litigation expenditures paid plus their estimate of the future litigation expenditures required to close the cases that were still open, divided by the total number of deaths.

\(^b\) Total defendants' liability litigation expenditures for all passenger and ground death and injury cases, divided by the number of accidents.
Table 5.7
DEFENDANTS' LITIGATION EXPENDITURES, BY PERCENT OF DECEDEENTS
WITH ATTORNEYS SPECIALIZING IN AVIATION ACCIDENTS

<table>
<thead>
<tr>
<th>Percent of Decedents with Attorneys Specializing in Aviation Accidents</th>
<th>Average Total Compensation per Death (1986 dollars)</th>
<th>Average Litigation Expenses per Death (1986 dollars)</th>
<th>Compensation Expenses as a Percent of Total Compensation per Death</th>
<th>Average Liability Litigation Expenses per Accident (1986 dollars)</th>
<th>Liability Litigation Expenses as a Percent of Total Compensation per Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-25</td>
<td>10</td>
<td>315,574</td>
<td>13,038</td>
<td>4.1</td>
<td>1,928,167</td>
</tr>
<tr>
<td>26-50</td>
<td>12</td>
<td>412,764</td>
<td>34,700</td>
<td>8.4</td>
<td>2,270,344</td>
</tr>
<tr>
<td>51-100</td>
<td>3</td>
<td>359,075</td>
<td>8,997</td>
<td>2.5</td>
<td>6,620,969</td>
</tr>
<tr>
<td>All combined</td>
<td>25</td>
<td>362,943</td>
<td>22,245</td>
<td>6.1</td>
<td>2,655,548</td>
</tr>
</tbody>
</table>

*a*Total defendants' compensation litigation expenditures paid plus their estimate of the future litigation expenditures required to close the cases that were still open, divided by the total number of deaths.

*b*Total defendants' liability litigation expenditures for all passenger and ground death and injury cases, divided by the number of accidents.
The involvement of lawyers from these firms had a statistically significant effect on defense expenditures: The larger the fraction of cases handled by one of these aviation accident specialists, the lower the defense compensation expenditures per death. For example, if the fraction of cases with an aviation specialist plaintiffs' attorney was to change from 25 to 50 percent while all other factors remained constant, the average defense compensation litigation expenditures per death would be cut in half. The reduction in defense expenditures may stem from the fact that the air accident specialist plaintiffs' attorneys know and are known by the defense attorneys; each side has worked with the other and knows what to expect and when contentions are untenable. Both plaintiffs' attorneys and defendants' attorneys told us that they were more likely to concentrate on central issues and dispose of a case if they knew and respected their adversaries.

**Whether Insurer Negotiated Compensation.** In 15 of the accidents, the insurer's employees conducted negotiations directly, with a resulting average compensation per death of $322,559 and average defense compensation litigation expenditures of $25,132. For the other 10 accidents, the insurers delegated the primary responsibility for conducting negotiations to outside defense lawyers who were not direct employees of the insurer. Whether the insurer's employees or outside defense lawyers negotiated compensation was determined by the airline's insurer, not by any characteristics of the accident. When outside defense lawyers were primarily responsible, the average compensation per death was higher ($455,125) but the average defense compensation litigation expenditures per death were lower ($15,519), as shown in Table 5.8.

We estimate that if all other factors are held constant, the policy of having the insurer negotiate compensation will increase the defense compensation litigation expenditures by 114 percent. On the other hand, whether the insurer or outside lawyers negotiated compensation had no statistically significant effect on liability litigation expenditures per accident.

We investigated the components of these defense expenditures. First, we considered the average expenditures on outside lawyers per death; we found an average of $12,19617 if the insurer was primarily responsible for negotiating compensation and $12,300 if an outside lawyer was primarily responsible. Even though the insurer was actively handling the negotiations, the insurer still utilized outside counsel extensively and spent essentially the same amount on outside lawyers.

---

17If we exclude data from one accident that had very high defense compensation litigation expenditures, this figure is less than $8,000.
Table 5.8

DEFENDANTS' LITIGATION EXPENDITURES, BY WHETHER INSURER NEGOTIATED COMPENSATION

<table>
<thead>
<tr>
<th>Primary Negotiator for the Accident</th>
<th>Types of Number of Accidents</th>
<th>Average Compensation per Death (1986 dollars)</th>
<th>Average Litigation Expenses as a Percent of Total Compensation per Death</th>
<th>Compensation Litigation Expenses as a Percent of Total Litigation Expenses per Accident (1986 dollars)</th>
<th>Liability Litigation Expenses as a Percent of Total Compensation per Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insurer's employee</td>
<td>15</td>
<td>322,559</td>
<td>25.132</td>
<td>7.8</td>
<td>2,684,633</td>
</tr>
<tr>
<td>Outside lawyer</td>
<td>10</td>
<td>455,125</td>
<td>15.519</td>
<td>3.4</td>
<td>2,611,920</td>
</tr>
<tr>
<td>All combined</td>
<td>25</td>
<td>362,943</td>
<td>22.245</td>
<td>6.1</td>
<td>2,555,548</td>
</tr>
</tbody>
</table>

*Total defendants' compensation litigation expenditures paid plus their estimate of the future litigation expenditures required to close the cases that were still open, divided by the total number of deaths.

bTotal defendants' liability litigation expenditures for all passenger and ground death and injury cases, divided by the number of accidents.
Second, we considered the personnel costs of all the defendants' and insurers' employees combined per death; we found an average of $8,730 if the insurer was primarily responsible for negotiating compensation and $1,066 if an outside lawyer was primarily responsible. The cost of using insurer personnel is subject to uncertainty because of imprecise personnel time estimates, but these in-house personnel time costs clearly are substantial. The third and final component we considered was the "other expenses," which are primarily nonpersonnel items such as travel, court fees, and expert fees; we found an average of $4,206 per death if the insurer was primarily responsible for negotiating compensation and $2,153 if an outside lawyer was primarily responsible.

18Since insurers do not keep personnel time records in such a way that they can separately identify time spent on individual accidents, the estimates of such personnel time provided to RAND by insurance executives are necessarily somewhat imprecise. After this report was drafted, an executive of one major insurer reevaluated his original estimate of personnel time, which we used in preparing this report, and suggested an alternative estimate that was half as large. Use of his alternative estimate would have reduced the overall average defense litigation expenditures per death to about $3,000 below the figures presented in this report.

19If we exclude data from one accident that had high defense compensation litigation expenditures, the average cost for "other expenses" was less than $2,000.
VI. A COMPARISON OF COMPENSATION AND COSTS FOR AIR ACCIDENTS AND OTHER TORTS

In the preceding chapters, we painted a general picture of aviation accident litigation—the characteristics of the decedents, the amount of compensation paid to their survivors, the transactions costs for both plaintiffs and defendants, and the factors that influence those costs. In this section, we compare compensation and transactions costs for aviation accidents with other types of torts.

This approach has certain inherent limitations. First, the most appropriate comparison would be aviation accident death cases with other death cases litigated in the tort system; however, we do not have separate data for other types of death cases. Second, the data available for other types of tort cases are not fully comparable with the aviation data because they differ in terms of the nature of the injuries, the volume of cases, and the average amount of money at stake. Finally, we cannot assess the relative "efficiency" of the aviation accident litigation system in providing compensation because we lack data to compare the current tort system with either revisions to the current system or alternatives to it that might provide similar benefits.

Two previous ICJ studies of transaction costs provide the available basis for comparison: (1) a study of costs and compensation for all tort litigation concluded in 1985, and (2) a study of costs and compensation in asbestos worker injury litigation from 1980 to 1982. The first study provides a benchmark that reflects the broad range of tort litigation, much of which involves modest injuries. The study of asbestos worker injury suits provides information on a type of tort that many regard as an upper bound on transaction costs in relation to compensation, reflecting the complexities of the liability disputes and loss calculations in toxic tort litigation.

AIR ACCIDENT LITIGATION: COMPENSATION AND COSTS

Over $1 billion was paid in compensation and litigation expenditures on passenger and ground deaths and injuries in the 25 aviation

\(^{1}\text{Kakalik and Pace, Costs and Compensation Paid in Tort Litigation, op. cit., and Kakalik et al., Variation in Asbestos Litigation Compensation and Expenses, op. cit.}\)
accidents in this study—an average of $42 million per accident, not counting the cost of resolving on-duty crew and property damage claims and not including the cost of the aircraft. Of the total spent on death cases, 29 percent went for transaction costs.

The average compensation paid for the 2,198 aviation accident passenger and ground deaths with closed cases was $362,943.

Plaintiffs who hired an attorney paid an average of 21.0 percent of compensation in litigation expenditures, or $79,555 per decedent. If we average in the 10 percent of the plaintiffs who did not use a lawyer, the average plaintiffs' litigation expenditures were $71,773 per decedent (see Table 6.1).

The defense expenditures by all defendants combined for death cases (including expenditures for resolution of the issues of liability and the amount of compensation to be paid) were $49,290 per death, or 13.6 percent of the average total compensation per death. A little over half of the defense litigation expenditures were for resolving the issue of liability; the rest were for resolving the issue of the amount of compensation to be paid. The total spent by defendants and their insurers per passenger and ground death, including both compensation and defense litigation expenditures, was $412,233.

Figure 6.1 shows the distribution of the $412,233 paid by defendants and their insurers for the average aviation accident death. From the average total compensation of $362,943, the plaintiffs paid $71,773 in legal fees and related expenses and took home $291,170 in net compensation. Defendants' litigation expenditures amounted to $49,290 per death. Thus, of the total $412,233 in expenditures per death, the plaintiffs received 71 percent in net compensation, while the litigation expenditures for both sides combined totaled $121,063 per death.

For the 10 percent of the cases without plaintiffs' attorneys, the net compensation was $214,214 (see Fig. 6.2). Plaintiffs with lawyers had much higher litigation expenditures, but they also received more net compensation, $299,513.

Net compensation has changed over time (Fig. 6.3), increasing from $248,582 for deaths in 1970–1976 to $337,725 for deaths in 1977–1982. Plaintiffs' litigation expenditures stayed at about the same dollar amount ($72,725 versus $70,728) and so were a declining percentage of the growing compensation level. Defense litigation expenditures grew from $45,959 per death in 1970–1976 to $52,908 in 1977–1982 but were also a declining percentage of total expenditures, since compensation grew faster. Overall, the combined litigation expenditures for both sides declined from 32 percent in 1970–1976 to 27 percent in 1977–1982, while the plaintiffs' net compensation increased from 68 to 73 percent of total expenditures.
Table 6.1
COMPARISON OF COMPENSATION AND LITIGATION EXPENDITURES PER AVIATION ACCIDENT DEATH
(1986 dollars)

<table>
<thead>
<tr>
<th>Case Characteristic</th>
<th>Number of Closed Cases</th>
<th>Average Total Compensation</th>
<th>Average Plaintiffs' Litigation Expenditures</th>
<th>Average Net Compensation&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Average Defendants' Litigation Expenditures</th>
<th>Average Total Payment by Defendants&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970-1976 cases (including those without attorneys)</td>
<td>1,148</td>
<td>321,317</td>
<td>72,725 19.8%</td>
<td>248,592 67.7%</td>
<td>45,859 12.5%</td>
<td>367,276 100%</td>
</tr>
<tr>
<td>1977-1982 cases (including those without attorneys)</td>
<td>1,050</td>
<td>406,453</td>
<td>70,728 15.3%</td>
<td>337,725 73.2%</td>
<td>52,908 11.5%</td>
<td>461,361 100%</td>
</tr>
<tr>
<td>Cases that had or probably had attorneys&lt;sup&gt;c&lt;/sup&gt;</td>
<td>1,983</td>
<td>379,068</td>
<td>78,555 18.6%</td>
<td>299,513 68.9%</td>
<td>49,789 11.6&lt;sup&gt;d&lt;/sup&gt;</td>
<td>428,857 100%</td>
</tr>
<tr>
<td>Cases that probably did not have attorneys</td>
<td>215</td>
<td>214,214</td>
<td>Approx. 0 0%</td>
<td>214,214 82.8%</td>
<td>44,572 17.2&lt;sup&gt;d&lt;/sup&gt;</td>
<td>258,786 100%</td>
</tr>
<tr>
<td>All combined</td>
<td>2,198</td>
<td>362,943</td>
<td>71,773 17.4%</td>
<td>291,170 70.6%</td>
<td>49,290 12.0&lt;sup&gt;d&lt;/sup&gt;</td>
<td>412,233 100%</td>
</tr>
</tbody>
</table>

<sup>a</sup>After deduction of plaintiffs' litigation expenditures.
<sup>b</sup>Total compensation plus defendants' litigation expenditures.
<sup>c</sup>Includes 1,843 cases that had an attorney and 140 cases that probably had an attorney.
<sup>d</sup>Because we have data on defense litigation expenditures only at the accident level rather than the decedent level, defense litigation expenditures for the accident were prorated equally to each decedent in an accident. While defense accident liability litigation expenditures do not usually depend on individual decedents cases, the defense compensation litigation expenditures should be higher for death cases with plaintiffs' lawyers. Hence, this methodology somewhat understates the amount of defense litigation expenditures for cases with plaintiffs' lawyers and overstates them for cases without plaintiffs' lawyers.
Fig. 6.1—Comparison of litigation expenditures and compensation for the average aviation accident death (1986 dollars)

Fig. 6.2—Litigation expenditures and compensation for the average aviation accident death for cases with and without plaintiffs' attorneys (1986 dollars)
COMPARISON OF AVIATION ACCIDENT AND OTHER TORT CASES

Compensation Paid

Recent RAND work provides a context for these numbers. A study of all tort litigation terminated in the United States in 1985 found that the average compensation paid was between $24,300 and $29,300. \(^2\) These tort cases primarily involved injury rather than death. (Data are not available separately for death cases.) Another RAND study found that compensation in asbestos personal injury lawsuits closed between 1980 to August 1982 averaged $78,200. \(^3\) Both of these figures are substantially lower than the $362,943 for an aviation accident death, but those other cases are not limited to wrongful death. The most comparable data we could locate for other tort cases was in a survey conducted by The RAND Corporation of all jury verdicts in California and Cook County, Illinois. From that database, we selected only the 51 wrongful death tort cases in which the defendant was a large business and liabil-

\(^2\) All data in this section are in 1986 value dollars. See Kakalik and Pace, Costs and Compensation Paid in Tort Litigation, op. cit.

\(^3\) Kakalik et al., Variation in Asbestos Litigation Compensation and Expenses, op. cit.
ity was clear or not contested. The average jury verdict for winning plaintiffs in 1980 through 1984 for those tort cases was $795,000. For aviation accident deaths in our study, the average amount actually paid for the 196 cases that began trial was $599,032. Since the amount actually paid is sometimes less than the verdict because of posttrial remittiturs or settlements, and since the aviation accident deaths include an earlier time period beginning in 1970 when average verdicts were lower in real (inflation-adjusted) dollars, the average death compensation for tried air accident death cases appears similar to the average for tried cases for all types of wrongful death.

The costs of providing that compensation are examined below.

Plaintiffs’ Litigation Expenditures

A RAND study of all tort litigation terminated in the United States in 1985 found that the average plaintiffs’ legal fees and related expenses were 30 percent of total compensation. For asbestos cases closed between 1980 and August 1982, plaintiffs’ litigation expenditures averaged 39 percent of total compensation. The comparable number for aviation mass disasters between 1977 and 1982 was 18.4 percent for cases with lawyers; the downward trend over time might reduce the figure for 1985 even more.

Litigation expenditures as a percentage of compensation for mass air disasters are lower than they are for all torts for several reasons, including the relatively high average compensation paid for air accident death cases ($362,943) as compared to all tort cases ($24,300 to $29,300) and asbestos cases ($78,200), the relatively frequent stipulation by air accident defendants not to contest liability with plaintiffs, and the relatively intense competition among plaintiffs’ attorneys for air accident cases.

Although plaintiffs’ legal fees and related expenses as a percentage of compensation are lower for aviation mass accidents than for all tort cases, their average dollar expenditures are much higher ($71,773 for air accident cases versus $7,400 to $8,900 for all tort cases terminated in 1985 and $30,600 per asbestos case closed in 1980–1982). The average compensation paid in aviation accident death cases is higher than compensation for other torts, and the contingent fee charged by plaintiffs’ attorneys is a lower percentage of compensation.

---

4Special analysis of The RAND Corporation Institute for Civil Justice jury verdict database, conducted by Nicholas Pace and Mark Peterson in 1987.
5Kaksilik and Pace, Costs and Compensation Paid in Tort Litigation, op. cit.
6Kaksilik et al., Variation in Asbestos Litigation Compensation and Expenses, op. cit.
Defendants' Litigation Expenditures

For the average aviation accident death case, the defendants spent $49,290 for litigation and related expenses, or 14 percent of the average $362,943 compensation paid.

In comparison, the average defense litigation expenditure for all tort litigation terminated in the United States in 1985 was estimated to be between $3,300 and $11,600, about 39 percent of the estimated average $24,300 to $29,300 compensation paid. The average defense expenditures per aviation accident death are five times greater in dollars than those for the average tort case, but only about one-third as large in terms of a percentage of compensation paid. We know from our previous research that the average tort case involves an injury that is substantially less serious than death. We also know that defense expenditures rise with the amount of money at stake in tort litigation but do not rise in proportion to compensation, so defense expenditures usually are a lower percentage of the higher-compensation cases.

Asbestos personal injury litigation provides a second comparison. In asbestos cases closed before August 1982, defendants’ expenditures averaged $45,200 per injured person, or 58 percent of the average $78,200 compensation paid. Although the asbestos injury cases had substantially lower average compensation than air accident death cases, the asbestos defendants' litigation expenditures were nearly as high, because of some basic differences between air accident and asbestos litigation:

- Asbestos defendants vigorously contest liability with the plaintiffs and fight among themselves about the division of responsibility; air accident defendants usually do not seriously contest liability with the plaintiff, and they often simply agree among themselves about how to divide responsibility for paying compensation.
- In asbestos injury cases, future medical costs, personal care costs, pain and suffering, and disability are difficult to predict; the air accident cases studied were all death cases.
- In asbestos litigation before 1983, an average of 20 defendants each had separate legal teams participating in the litigation with each plaintiff; the air accident defendants present a unified defense led by the lawyer for the airlines' insurer.

---

7Including defense legal fees and expenses, claims processing costs, and the value of defendant's time and other expenses. (Kakalik and Pace, Costs and Compensation Paid in Tort Litigation, op. cit.)
8Ibid.
9Kakalik et al., Variation in Asbestos Litigation Compensation and Expenses, op. cit.
SUMMARY OF COMPARISON OF NET COMPENSATION
AND TRANSACTIONS COSTS

Figure 6.4 summarizes the comparison of net compensation and transactions costs in the average tort, air accident, and asbestos cases.

Average Tort Cases

In average tort cases, defendants paid about $37,300, of which $18,700 (50 percent) was net compensation to the plaintiffs and $18,600 (50 percent) was for litigation expenditures for both sides combined. This distribution differs slightly for automobile and nonautomobile cases. In the former, the plaintiffs' net compensation as a percentage of the total expenditures was 54 percent; in the latter, it was 47 percent.10 This difference primarily reflects higher defendants' litigation costs for nonautomobile torts.11 The volume of these cases is very high. In 1985, about 886,000 tort lawsuits closed in courts of general jurisdiction,12 about half involving motor vehicles. Automobile torts also accounted for about half the compensation paid on all torts. Data were not available separately for wrongful death cases.

Air Accident Cases

There are fewer than 200 U.S. airline major accident cases in the average year, constituting only a tiny fraction of the total tort case load. The average air accident death case resulted in $412,233 in payments by defendants, of which $291,170 (71 percent) was net compensation to the plaintiffs and $121,063 (29 percent) was for litigation expenditures for both sides combined.

Asbestos Cases

An average of over 5,000 asbestos claims are filed each year. In the average case closed in 1980–1982, defendants paid $123,400 in 1986 value dollars. Plaintiffs received $47,600 (39 percent) in net compensation, and $75,800 (61 percent) was for litigation expenditures for both sides combined. We do not have data for more recent asbestos case closures, and they may differ.

10 Kakaliak and Pace, Costs and Compensation Paid in Tort Litigation, op. cit. The expenditures presented have been adjusted to 1986 value dollars, and the percentages have been adjusted to exclude expenditures by the court system and the value of plaintiffs' time spent on the litigation.
11 Ibid.
12 Ibid.
Fig. 6.4—Comparison of litigation expenditures and compensation per case for aviation accident, asbestos, and all tort cases (1986 dollars)

(Numbers may not sum exactly to totals due to rounding)
CONCLUSIONS

Compared with other tort litigation, airline accident litigation has a lower ratio of transactions costs to total expenditures. Average transactions costs constitute only 20 percent of total outlays in aviation cases, about half the average in all tort cases combined (50 percent) and in asbestos cases (61 percent). Plaintiffs in air accident cases receive a much larger portion of the total expenditures.13

However, aviation accident cases involve larger absolute transactions costs than other torts. The average air accident death case resulted in $121,000 in transactions costs, compared with $76,000 in the average asbestos case and $19,000 in the average tort case.

Why are the transactions costs as a percentage of compensation substantially lower for airline accident litigation than they are for all tort litigation combined and for asbestos litigation? We cannot answer this question conclusively; however, we can offer some hypotheses. First, in air accident cases, a unified defense is led by the airline's insurer. Second, defendants agree among themselves as to the apportionment of liability in many accidents and often have no significant contest over liability with plaintiffs. Third, because air accident death cases are relatively high-value cases and defense litigation expenditures do not increase proportionally with the amount of compensation at stake, defense litigation expenditures in air accident cases tend to constitute a lower percentage of compensation paid. Fourth, many of these cases are settled without a lawsuit. Fifth, experienced aviation accident specialists attorneys often work on these cases, and the plaintiffs' lawyers often use a committee to coordinate work on an accident. Sixth, the relatively high value of the air accident cases and the fact that nearly every case results in payment of compensation make it possible for plaintiffs' lawyers to charge a substantially reduced contingent fee percentage and still make a reasonable income. And finally, competition among plaintiffs' lawyers for clients may have put downward pressure on the contingent fee percentage.

Why are the transactions costs substantially higher in aviation accident litigation than they are for all tort litigation combined and for asbestos litigation? Again, we can offer only hypotheses. The aviation accident cases in our study involve wrongful death; thus, compared with the typical tort case involving a much less serious injury, air cases

13General-aviation accident litigation, not part of this study, may be different from airline major accident litigation. In general-aviation accident litigation, liability may be more frequently contested with plaintiffs, and the dynamics of the claim process and litigation may be quite different; hence, litigation expenditures may be a higher fraction of the total. General-aviation accident cases may resemble other wrongful death tort litigation more closely than airline major accident cases do.
may be more costly to prepare and to value. Second, air accident cases usually involve multiple defendants. Although defendants have increasingly shown a unified front to plaintiffs, disputes among defendants have resulted in average defense liability litigation costs per death that are more than the defense expenditures to resolve the issue of the amount of compensation per death. What is at stake in these liability disputes is not only who pays compensation but also the market-related future of airlines, airplane manufacturers, and other defendants. Third, under the contingency fee system, higher-value cases result in higher plaintiffs' litigation expenditures. Fourth, the higher compensation at stake in the litigation process may lead to larger transactions costs as both sides work to protect their interests.
Appendix A

DATA SOURCES

OVERVIEW OF DATA SOURCES

This study used various distinct kinds of data. The first, specific to individual air accident decedents and accidents, was derived from a RAND survey of the claims and accident files of insurance carriers and defense lawyers for each of the 25 accidents in this study. We obtained data on each of the deaths from these accidents, with the exception of 30 whose cases had not been closed when data collection stopped in May 1986. Data collected by RAND personnel from the files of insurance carriers and defense law firms\(^1\) included characteristics of the decedents, the claimants, the lawsuits, and the accidents; compensation data; expert economists' evaluations; and litigation expenditures by defendants. The data also included information on legal fees and related expenses paid by plaintiffs, to the extent that the files contained such information.\(^2\)

The second kind of data was drawn from key participants in aviation accident litigation. We supplemented the claims and accident file data with information from personal interviews by the authors with plaintiffs' attorneys who are aviation specialists, including attorneys in 13 of the 14 law firms in the United States which our records show handled the most cases in the accidents studied; a mail survey of a random sample of plaintiffs' attorneys who handled relatively few cases in our study; personal interviews with representatives of every airline and aircraft manufacturer, the U.S. Department of Justice, every primary insurer, and the person primarily responsible for negotiating liability and damage compensation for the defendants in each accident; and published statistics on accidents.

DATA SOURCES FOR DECEDECEDT AND ACCIDENT CHARACTERISTICS AND COMPENSATION

Compensation data and descriptive data about decedents, claimants, and accidents were obtained from the files of insurers and defense law firms.

---

\(^1\)In one of the accidents, an employee of the primary defense lawyers was supervised by RAND personnel as he extracted the information.

\(^2\)The RAND personnel do not know the names of the decedents and claimants.
Compensation Data

The insurer and defense law firm files contained information on total compensation paid to all claimants for a decedent in all but two closed cases. The information was available from releases signed by the plaintiffs and from accounting records. Information obtained from the individual decedent's files and from the accounting records of the insurance companies was cross-checked to verify the accuracy of the data coding.

We know the total amount of compensation paid to all claimants for each death, but do not know the fraction paid by individual defendants. In our data collection efforts, we carefully verified that the numbers we obtained included any and all contributions made by the airline, the aircraft manufacturer, the government, and any other defendants.

---

3The two deaths with missing compensation data occurred in 1970, and despite multiple searches of the insurance company and defense lawyers' records, we were unable to locate the data. In both cases, there were a number of similar decedents on the same plane, and after discussions with the defense lawyers, we estimated the compensation paid for those two deaths based on consideration of other decedents with similar characteristics and other information from the defense lawyers. While we do not know the exact amount of compensation for those two deaths, the pattern of payments for the accident strongly suggests that the amounts are within $20,000 of our estimate. As such, the missing compensation data for the two deaths does not significantly affect the findings of this study.

Where more than one member of the same family was killed in an accident, claimants sometimes received a lump sum payment as compensation for more than one death. This occurred for 309 deaths. We always know the total amount that was paid for those deaths. For purposes of analysis of differences in compensation for decedents with different characteristics, we split the total among the different deceased family members using the following rules: If the insurance company claims files contained information concerning the division of compensation among the different members of the same family who died, as those files usually did, we split the total compensation in accordance with that information. If the files did not contain information about the exact split among the different deceased family members, we looked at the offers made by the insurance company and split the total compensation in proportion to the economic expert's evaluations. In the few cases (less than 30) where none of the above types of information existed in the file, we split the total compensation for different deceased members of the same family, using information on compensation paid for decedents with similar characteristics who died in the same accident. It is important to note that we know the exact total paid for each family that died and that in over 90 percent of these cases there was information in the file to make a meaningful division of that total compensation among the different family members.

For most accidents, the airline's insurer made the total payment and received reimbursement from other defendants for their share of the liability; for cases from those accidents, the data found in the airline's insurer and attorney files and accounting systems gave the total compensation paid. In some accidents, however, the claimants received checks from more than one defendant rather than having all funds funneled through the airline's insurer; for those cases, we sought and obtained the total amount paid by all defendants combined.
did not specifically collect data on the division of liability among the different defendants. Since this is a study of total compensation and litigation costs in relation to plaintiffs' economic loss, we did not need the division among defendants. Also, some of the defendants were willing to participate in the study only on the condition that we collect information about the total but not the amount they had contributed to the total.

Decedent and Claimant Data

Descriptions of the characteristics of decedents and their families are based on information from the original individual claimant files of the lead insurance companies and their lawyers. The insurance companies or their lawyers maintained a file for each decedent in each accident. These files still exist for all but 61 of the decedents in the study (as discussed below). RAND had complete access and freedom to collect all data directly from these files, with the exception of the individual decedents' and claimants' names. The files provided us with the necessary data, including age, income, family characteristics, health, and other factors, to derive descriptive statistics and to make calculations of economic loss for decedents. To insure the accuracy and completeness of the information, these data were collected by RAND personnel, usually on-site at the insurance companies' or lawyers' offices. We collected the following general types of data:

Accident Information

- Date and location of the accident
- Whether the accident was in a foreign location
- Whether the accident was in a big city
- Number of deaths and injuries
- Identity of defendants and insurers
- Nature and extent of liability dispute
- Length of time to resolve liability dispute
- Number of defendants who paid compensation
- Defense litigation expenditures

---

6RAND personnel extracted the information directly from insurer and lawyer files in 24 of the accidents. In one of the accidents, an employee of the primary defense lawyer was trained and supervised by RAND personnel as he extracted the information; to verify the accuracy of the information he extracted, RAND staff members checked certain key variables against reliable information available from other sources.

7The data collection instrument used is reproduced in Kakalik et al., Aviation Accident Litigation Survey Data Collection Forms, op. cit.
- Whether defendants said they contacted plaintiffs early with an offer
- Whether insurers or lawyers negotiated
- Whether weather was a factor
- Whether terrorism was a factor

Decedent and Claimant Information

- Sex
- Age
- Race
- Country or state of residence
- Citizenship
- Marital status
- Health status
- Length of time decedent survived after accident
- Whether multiple members of the same family were killed
- Number of juvenile children of decedent surviving
- Age of each juvenile child
- Number of adult children of decedent surviving
- Total number of dependents and degree of dependency of each
- Total number of claimants
- Whether the person was killed as a passenger or on the ground
- Employment status
- Occupation (for decedent if adult, for parents if juvenile)
- Anticipated occupation (if juvenile)
- Military or not; rank and service of military personnel
- Income (for decedent if adult, for parents if juvenile)
- Fringe benefit rate
- Education (for decedent if adult, for parents if juvenile)
- Anticipated education (if juvenile)
- Economic loss estimate by experts

Litigation Information

- Name of plaintiff's attorney
- Whether a lawsuit was filed
- Whether it was filed in a federal, state, or foreign court
- Whether a trial was held
- The length of trial
- The manner of disposition of the case
- The total compensation received
- The presence of a structured settlement
• The length of time to close the case
• The presence of an international treaty limitation
• The presence of a state limitation on compensation
• The volume of cases handled by the plaintiff’s attorney
• Plaintiff’s litigation expenditures as a percentage of compensation

Of the 2,228 deaths in this study, we were unable to locate detailed files for only 57, plus 4 for which no claim was ever filed. While we do not know the characteristics of these decedents or claimants, we do know the total compensation paid for all but one of the 57 claims. The one claim for which the exact compensation is missing is known to have compensation of less than $100,000. All of the missing claims files are old—they are from five separate accidents that occurred in 1974 or earlier. The missing 57 files represent 15 percent of the 379 deaths for these five accidents.8

The average compensation paid for deaths with missing files was $218,000 (valuing the dollar as of the date of payment); this is 20 percent higher than the $181,000 average compensation for all deaths in the same accidents. The highest compensation paid for a death with a missing file was $950,000 (again valuing the dollar as of the date of payment). Of the 57 cases with missing files, 9 involved trials. Thus, 16 percent of the cases with missing files went to trial, in contrast to the 9 percent of all death claims that went to trial.

The important points are, first, that the number of missing files is relatively small. Second, we know how much compensation was paid for all but one of these deaths, and we believe as a result of substantial checking that these few missing claims files have been randomly lost or discarded in the normal course of business. Consequently, we believe our economic loss and decedent characteristics data are not significantly affected by the absence of this relatively small number of detailed claims files.

---

8The insurance companies and lawyers who handled these claims have searched for the files in various locations where they might have been stored. Old files are discarded and a certain number of files are lost in the course of the normal conduct of insurance and legal business. The reasons the detailed files are missing vary. For one accident, 11 cases that settled earliest had their files destroyed as a part of a routine old-file destruction program. For another accident, whole rolls of microfilm containing 23 claim files have been misplaced or lost. For two other accidents, one or two files have been misplaced and lost. For one accident, 20 claim files have been misplaced, and finding them would have meant going through over 2,000 stored boxes file by file.
Accident Data

Part of the information we needed was at the accident level rather than the decedent level. This information was obtained by RAND personnel from the accident-level files maintained by the lead insurer or the defense lawyer for the airline involved in the accident. We also conducted personal interviews with representatives of every airline, every relevant aircraft manufacturer, the U.S. Department of Justice, and every primary insurer of these defendants.

DATA SOURCES FOR PLAINTIFFS' LITIGATION EXPENDITURES

For the analysis of plaintiffs' litigation expenditures, we used three sources of information plus the references cited throughout Sec. IV:9

1. Data were collected from the files of insurance carriers and defense law firms, as noted above. For 408 cases, these defense files contained information about the total litigation fees and other expenses paid by the plaintiffs. This information was available either from releases signed by the plaintiffs, separate checks paid to the plaintiffs' lawyers, or papers submitted to the court that gave information on total plaintiffs' fees and expenses. We only used data from defense files that gave the exact amount; we never used defense attorneys' speculations concerning what plaintiffs' attorney fees and other expenses might have been. The insurers' files usually also provided the name of the plaintiff's lawyer.

2. Personal interviews were conducted with 18 plaintiffs' attorneys who are aviation law specialists, including attorneys in 13 of the 14 law firms in the United States whom our records showed handled the most cases in the accidents studied, i.e., those firms we knew were involved with 20 or more deaths.10 These interviews produced sufficient information on how legal

---

9Because litigation compensation, fee, and other expense data are sensitive, we assured all participating plaintiffs' lawyers that we would not identify them by name in this report, would not attribute information to them individually in this report, would not present data separately in this report for individual participants, and would neither obtain nor attempt to identify the names of particular decedents or claimants. This study would not have been possible without such assurances of confidentiality and privacy.

10If a plaintiffs' attorney who specialized in aviation accident cases was involved with a case, but his or her name did not appear in the case file (perhaps because a referring attorney filed all papers), we did not know of the specialists' involvement. This might result in the exclusion of perhaps one or two specialists' law firms from the interviews.
fees and expenses have changed over time, and how they are affected by factors such as whether a case is tried or not; we were able to estimate the total legal fees and expenses charged by these aviation accident specialist attorneys for 629 deaths in our study. These estimates are based on the attorney’s description of how fees were determined for a typical death action for a particular year or accident. Other factors were also used in making the estimates, depending on the particular attorney, such as whether the case was tried, how long it took to close the case, or the number of death cases the attorney handled for the accident. The estimates are not exact because in most cases the plaintiffs’ attorneys were not asked to give case-specific data. However, we believe the estimates are reasonably accurate on average, because the average estimate we made based only on interview data was very close to the average of the exact data we had on individual cases (details are presented in Sec. IV).

3. We conducted a mail survey of a random sample of those plaintiffs’ attorneys with relatively few cases in our study, i.e., those firms that we thought were involved with fewer than 20 deaths. Mail survey responses were received from 49 plaintiffs’ attorneys who handled 102 of the cases. If a plaintiffs’ attorney who specialized in aviation accidents was known to be involved in representing claimants for a death in our study, then any referring attorney who also was involved was not surveyed. For those deaths with which no aviation specialist attorney was involved, we selected a random sample of lawyers/law firms as follows: We surveyed all U.S. lawyers known to have handled 3 or more cases in our study, and we surveyed a randomly selected sample of 25 percent of the lawyers who handled 1 or 2 death cases in our sample. A total of 744 law firms each handled fewer than 20 of the cases in this study. Using the sample selection process described above, 235 attorneys were selected. Due to address problems, we actually surveyed 195, of which 49 responded. The

\(^{11}\) Two of the attorneys we interviewed did not provide information on their fees. Hence, for an additional 45 deaths with aviation accident specialist attorney involvement, we had no fee information.

\(^{12}\) The questionnaire is reproduced in Kakalik et al., Aviation Accident Litigation Survey Data Collection Forms, op. cit.

\(^{13}\) If two attorneys were involved with the case and neither was a specialist in aviation accidents, we used the name of the one who appeared to be the primary attorney on the case.
relatively low response rate (25 percent) probably resulted from the sensitive nature of attorney fee information and the fact that some of these cases were closed as long as 15 years ago. We did two follow-up mailings to enhance the response rate.

Since we sometimes had data or an estimate from more than one source for a case, we used the best available information: We used exact data from case files if available; otherwise we used mail survey or interview data. The result was plaintiffs' litigation expenditure data for 950 cases, 43 percent of the 2,198 closed cases in the study.

On the defense side, the release of data for the 2,228 claims by defendants, insurance carriers, and defense law firms required the consent of relatively few organizations. On the plaintiff side, we did not ask individual plaintiffs' attorneys to obtain consents from the numerous individual clients they represented. To do so would have entailed an extensive expenditure of time on the attorneys' part, as well as a potentially intrusive inquiry among surviving spouses, children, and next of kin of accident victims. In a few instances, plaintiffs' attorneys asserted an attorney-client privilege for claim-specific data, although most were willing to discuss typical fee and expense arrangements and how they have changed over time.¹⁴

DATA SOURCES FOR DEFENDANTS' LITIGATION EXPENDITURES

The sources of defendants' litigation expenditure data were the insurance companies, the U.S. government, and the other defendants themselves to the extent that they had additional expenditures not paid for by the insurers.

Insurers' Defense Expenditure Data

We had access to the accounting records of airlines' and aircraft manufacturers' primary insurers that were in the United States. If the direct insurer was in London, we obtained the expenditure data from the primary lawyer hired in the United States by the insurer. Data

¹⁴In some instances, there are court records of plaintiff fee and expense data, for example, when the amounts being charged to the guardian of the minor child of an accident victim are presented to a probate court for approval. We did not examine such court records because such an inquiry would have required substantial resources as well as investigation at numerous courts and would have yielded only partial and limited checks of the data we obtained.
from the lawyers were verified by inspection of bills and "accident summary" letters where possible, and by interviewing the insurer in London if we had any question about the quality of the information the lawyer in the United States was able to provide.

We also arranged interviews with a few representatives of U.S. and London insurers and brokers to learn what "in-house" time and expenses had been incurred in processing aviation accident claims—time and expenses above expenditures on outside lawyers' fees and expenses.

We generally knew the total expenditures incurred by a defendant and its insurers for an accident. We did not know defense expenditures for individual claims because defense records are not kept that way; much of the work has to do with the accident in general and applies to all claims, e.g., the work on liability determination.

To divide the total legal fees and other expenses among determination of liability, determination of the amount of compensation for deaths, and determination of the amount of compensation for injuries, we relied on interviews with the insurance companies and lawyers who actually did the work. We used their estimates of the amount of time they had spent on various types of activities. They were always able to tell us approximately how they divided their time between resolution of the liability and compensation issues. Sometimes the defense lawyers were unsure of how the average amount of time spent on death case compensation differed from the average amount of time spent on injury case compensation; in those instances, we used time factors from other accidents that were as comparable as possible.

**Airline and Other Defendants' Defense Expenditure Data**

We wanted to know the total defense litigation expenditures by all defendants and insurers for each accident, but we did not want to double-count any of the expenditures. Consequently, we asked all major and most other defendants for the following breakdown of expenditures for each accident:16

1. Total legal fees and expenses paid through the airline's lead insurer.
2. Total legal fees and expenses paid by each defendant and its insurers that did not go through the airline's lead insurer.

---

16For seven peripheral defendants who paid either very little or no compensation for the 25 accidents, we estimated defense expenses using data from other defendants in the same or comparable accidents. These few estimated defense expenditures were only about 1.2 percent of all defense expenditures by all the defendants combined.
3. Approximate amount or percentage of item 2 that went for claims by working airline employees (this is a study of passengers and ground claims, and we did not want data related to on-duty crew deaths and injuries).

4. Approximate amount or percentage of item 2 that went for determination of each defendant's share of the overall accident liability.

5. Approximate amount or percentage of item 2 that went for the aircraft hull loss litigation.

6. For accidents where litigation was still ongoing, an estimate of the approximate amount above item 2 that would be needed to finish the litigation.

7. The amount of "in-house" defendant personnel time spent on the accident litigation, but only to the extent that the cost of that time was not reimbursed by the defendants' insurer. To value the time, we also sought information on average salaries for various types of personnel, fringe benefits, and overhead.

Since this study is concerned with passenger and ground death litigation, each of the defendants was asked to exclude the following:

1. Nonlitigation costs of determining the cause of the accident (this is a grey area, but we tried to exclude everything to do with determining the cause of the accident except legal fees and other litigation expenditures).

2. Costs at the scene of the accident that were not related to litigation or claims for compensation.

U.S. Government Defense Expenditure Data

Information on government defense expenditures was obtained from four primary sources: interviews with all senior lawyers in the Department of Justice who handle major aviation accident litigation, including one who spent several years doing the same type of work at the FAA; telephone calls from the Department of Justice lawyers to the FAA lawyers to obtain additional information; timekeeping records that have been kept since the early 1980s on personnel time spent on each accident; and records of expenses that have been kept since the early 1980s. When we interviewed these lawyers about time spent prior to the initiation of the government timekeeping system, we asked them to make estimates of the amount of time spent on various types of activities for each of the accidents with which they were involved. We then converted the estimated time into dollars by multiplying by the average salaries for the different levels of government employees.
involved, and added fringe benefits and overhead based on factors provided by the Department of Justice.

The government was not a defendant in 8 of the 25 accidents in this study and so incurred no costs. Using information from the interviews, we were able to make reasonably accurate estimates of the amount of government personnel time spent for 9 of the 17 accidents in which the government was a defendant.

The lawyers who had handled 8 of the accidents were no longer with the government. For those accidents, we made an estimate using data from the 9 accidents for which we did have reliable information. To estimate the amount of time spent on damage issues, we multiplied the average amount of government personnel time spent per death or injury by the number of deaths or injuries in the 8 accidents. To estimate the amount of time spent on liability issues for each of the 8 accidents based on the intensity and duration of the liability dispute, we grouped the 8 accidents into three categories: (1) those with no significant dispute among the defendants over liability; (2) those with a small dispute that was settled relatively quickly without trial; and (3) those with a large and protracted dispute over the division of liability. We then averaged the amount of time spent resolving liability in comparable accidents from among the 9 for which we did have data and used those averages to estimate time for the 8 for which we had limited information. The estimates of the amount of time spent in different years were converted to dollars based on the average government lawyer’s salary plus fringe benefits and overhead in those years. The dollars were then inflated to 1986 value dollars using the change in the average senior government lawyer’s salary between the time the costs were incurred and March 1986.

We also asked our interviewees to estimate the average number of full-time-equivalent personnel of various types that had worked on all major accidents of the type in this study since 1970. This provided us with the ability to compare two types of calculations: (1) the sum of the costs of individual accidents and (2) the cost of all 17 accidents combined based on the average number of staff working per year over the time span of the study. The aggregate totals using both methods were approximately 10 percent different; this relatively small difference gives us confidence that the interview information we obtained was quite accurate.
Appendix B

ADDITIONAL DATA ON COMPENSATION PAID

This appendix presents tables showing compensation payments, by decedent characteristics (such as sex, age, citizenship, and work status), by claimant characteristics (such as type of surviving dependents), by accident characteristics (such as location and whether terrorism was a factor), and by litigation characteristics (such as the type of court and whether there was a liability dispute). These data may be of interest to some readers, and they have been unavailable until now.

Table B.1

TOTAL COMPENSATION PAID PER DEATH, BY SEX
(1996 dollars)

<table>
<thead>
<tr>
<th>Sex</th>
<th>Percent of Death</th>
<th>Number of Closed Cases</th>
<th>Average</th>
<th>10th Percentile</th>
<th>Median</th>
<th>90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>58.7</td>
<td>1,290</td>
<td>446,133</td>
<td>70,684</td>
<td>246,149</td>
<td>1,031,871</td>
</tr>
<tr>
<td>Female</td>
<td>38.6</td>
<td>848</td>
<td>230,594</td>
<td>52,985</td>
<td>145,098</td>
<td>489,505</td>
</tr>
<tr>
<td>Don't know</td>
<td>2.7</td>
<td>60</td>
<td>445,599</td>
<td>36,554</td>
<td>193,256</td>
<td>1,306,130</td>
</tr>
<tr>
<td>All combined</td>
<td>100.0</td>
<td>2,198</td>
<td>362,943</td>
<td>61,977</td>
<td>178,971</td>
<td>882,856</td>
</tr>
</tbody>
</table>

NOTE: Twelve cases closed with zero compensation are included, but 30 open cases that had not been tried or settled are excluded.

The data in this and subsequent tables in this report are for all 2,198 closed cases. King and Smith (Economic Loss and Compensation in Aviation Accidents), present slightly different numbers that are based on an analysis of the 2,118 cases for which we had sufficient data to estimate economic loss.
Table B.2
TOTAL COMPENSATION PAID PER DEATH, BY AGE RANGE
(1986 dollars)

<table>
<thead>
<tr>
<th>Age Range (years)</th>
<th>Percent of Death Cases</th>
<th>Number of Closed Cases Average</th>
<th>10th Percentile</th>
<th>Median</th>
<th>90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>1.9</td>
<td>41</td>
<td>164,837</td>
<td>30,833</td>
<td>88,365</td>
</tr>
<tr>
<td>5-9</td>
<td>1.7</td>
<td>37</td>
<td>103,811</td>
<td>18,007</td>
<td>78,440</td>
</tr>
<tr>
<td>10-17</td>
<td>4.0</td>
<td>88</td>
<td>211,307</td>
<td>28,770</td>
<td>94,482</td>
</tr>
<tr>
<td>18-22</td>
<td>8.1</td>
<td>178</td>
<td>197,263</td>
<td>61,977</td>
<td>127,916</td>
</tr>
<tr>
<td>23-29</td>
<td>12.1</td>
<td>265</td>
<td>273,269</td>
<td>75,506</td>
<td>179,550</td>
</tr>
<tr>
<td>30-39</td>
<td>18.6</td>
<td>430</td>
<td>521,018</td>
<td>82,506</td>
<td>335,812</td>
</tr>
<tr>
<td>40-49</td>
<td>16.4</td>
<td>360</td>
<td>694,328</td>
<td>90,583</td>
<td>440,912</td>
</tr>
<tr>
<td>50-59</td>
<td>15.5</td>
<td>341</td>
<td>384,675</td>
<td>91,109</td>
<td>258,510</td>
</tr>
<tr>
<td>60-64</td>
<td>5.8</td>
<td>127</td>
<td>208,270</td>
<td>61,906</td>
<td>146,320</td>
</tr>
<tr>
<td>65 and over</td>
<td>12.0</td>
<td>263</td>
<td>130,181</td>
<td>45,494</td>
<td>106,397</td>
</tr>
<tr>
<td>Don't know</td>
<td>3.1</td>
<td>68</td>
<td>404,211</td>
<td>7,071</td>
<td>182,092</td>
</tr>
<tr>
<td>All combined</td>
<td>100.0</td>
<td>2,198</td>
<td>362,943</td>
<td>61,977</td>
<td>178,971</td>
</tr>
</tbody>
</table>

NOTE: Twelve cases closed with zero compensation are included, but 30 open cases that had not been tried or settled are excluded.

Table B.3
TOTAL COMPENSATION PAID PER DEATH, BY WHETHER DECEDENT WAS A JUVENILE
(1986 dollars)

<table>
<thead>
<tr>
<th>Juvenile Decedent</th>
<th>Percent of Death Cases</th>
<th>Number of Closed Cases Average</th>
<th>10th Percentile</th>
<th>Median</th>
<th>90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>86.1</td>
<td>1,593</td>
<td>385,186</td>
<td>73,454</td>
<td>199,698</td>
</tr>
<tr>
<td>Yes</td>
<td>10.8</td>
<td>237</td>
<td>173,456</td>
<td>31,884</td>
<td>95,715</td>
</tr>
<tr>
<td>Don't know</td>
<td>3.1</td>
<td>58</td>
<td>404,211</td>
<td>7,072</td>
<td>182,092</td>
</tr>
<tr>
<td>All combined</td>
<td>100.0</td>
<td>2,198</td>
<td>362,943</td>
<td>61,977</td>
<td>178,971</td>
</tr>
</tbody>
</table>

NOTE: Twelve cases closed with zero compensation are included, but 30 open cases that had not been tried or settled are excluded.

* A juvenile is defined as a person less than 18 years old or a full-time student less than 23 years old.
Table B.4
TOTAL COMPENSATION PAID PER DEATH, BY RACE
(1986 dollars)

<table>
<thead>
<tr>
<th>Race</th>
<th>Percent of Death</th>
<th>Number of Closed Cases</th>
<th>Average Compensation</th>
<th>10th Percentile</th>
<th>Median Compensation</th>
<th>90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>55.0</td>
<td>1,237</td>
<td>406,202</td>
<td>73,717</td>
<td>218,890</td>
<td>950,921</td>
</tr>
<tr>
<td>Nonwhite*</td>
<td>6.3</td>
<td>182</td>
<td>301,448</td>
<td>56,131</td>
<td>180,567</td>
<td>860,560</td>
</tr>
<tr>
<td>Don’t know</td>
<td>32.7</td>
<td>719</td>
<td>311,191</td>
<td>46,651</td>
<td>146,320</td>
<td>804,290</td>
</tr>
<tr>
<td>All combined</td>
<td>100.0</td>
<td>2,198</td>
<td>362,943</td>
<td>61,977</td>
<td>178,971</td>
<td>882,856</td>
</tr>
</tbody>
</table>

NOTE: Twelve cases closed with zero compensation are included, but 30 open cases that had not been tried or settled are excluded.

*Nonwhite includes black, Asian/Pacific islander, and other, but does not include Hispanic.

Table B.5
TOTAL COMPENSATION PAID PER DEATH, BY LEVEL OF EDUCATION
(1986 dollars)

<table>
<thead>
<tr>
<th>Level of Education</th>
<th>Percent of Death</th>
<th>Number of Closed Cases</th>
<th>Average Compensation</th>
<th>10th Percentile</th>
<th>Median Compensation</th>
<th>90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>High school or less</td>
<td>20.3</td>
<td>447</td>
<td>281,122</td>
<td>39,560</td>
<td>154,353</td>
<td>637,823</td>
</tr>
<tr>
<td>Technical/vocational school</td>
<td>2.4</td>
<td>53</td>
<td>346,295</td>
<td>57,933</td>
<td>263,979</td>
<td>751,231</td>
</tr>
<tr>
<td>Some college</td>
<td>9.7</td>
<td>213</td>
<td>344,487</td>
<td>72,580</td>
<td>176,362</td>
<td>824,141</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>12.4</td>
<td>272</td>
<td>565,820</td>
<td>100,902</td>
<td>541,656</td>
<td>1,185,741</td>
</tr>
<tr>
<td>Graduate school</td>
<td>8.8</td>
<td>194</td>
<td>664,430</td>
<td>103,878</td>
<td>490,859</td>
<td>1,382,554</td>
</tr>
<tr>
<td>Don’t know</td>
<td>45.4</td>
<td>1,019</td>
<td>292,006</td>
<td>60,073</td>
<td>152,254</td>
<td>752,142</td>
</tr>
<tr>
<td>All combined</td>
<td>100.0</td>
<td>2,198</td>
<td>562,943</td>
<td>61,977</td>
<td>178,971</td>
<td>882,856</td>
</tr>
</tbody>
</table>

NOTE: Twelve cases closed with zero compensation are included, but 30 open cases that had not been tried or settled are excluded.
Table B.6
TOTAL COMPENSATION PAID PER DEATH, BY WORK STATUS
(1986 dollars)

<table>
<thead>
<tr>
<th>Work Status in Year of Accident</th>
<th>Percent of Death Cases</th>
<th>Number of Closed Cases</th>
<th>Average</th>
<th>10th Percentile</th>
<th>Median</th>
<th>90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed, nonmilitary</td>
<td>62.0</td>
<td>1,362</td>
<td>453,544</td>
<td>85,949</td>
<td>272,211</td>
<td>1,002,830</td>
</tr>
<tr>
<td>Employed, military</td>
<td>5.0</td>
<td>110</td>
<td>381,875</td>
<td>69,442</td>
<td>214,525</td>
<td>976,913</td>
</tr>
<tr>
<td>Full-time homemaker</td>
<td>8.6</td>
<td>189</td>
<td>212,148</td>
<td>52,777</td>
<td>145,363</td>
<td>438,172</td>
</tr>
<tr>
<td>Unemployed</td>
<td>2.0</td>
<td>43</td>
<td>154,062</td>
<td>43,371</td>
<td>134,416</td>
<td>319,334</td>
</tr>
<tr>
<td>Retired</td>
<td>7.9</td>
<td>173</td>
<td>119,160</td>
<td>43,517</td>
<td>106,016</td>
<td>177,162</td>
</tr>
<tr>
<td>Full-time student, post high school</td>
<td>3.5</td>
<td>78</td>
<td>171,885</td>
<td>61,977</td>
<td>115,240</td>
<td>430,485</td>
</tr>
<tr>
<td>Student, high school or under</td>
<td>5.5</td>
<td>120</td>
<td>177,256</td>
<td>22,532</td>
<td>84,863</td>
<td>338,335</td>
</tr>
<tr>
<td>Preschooler</td>
<td>2.2</td>
<td>49</td>
<td>155,611</td>
<td>30,482</td>
<td>88,365</td>
<td>497,862</td>
</tr>
<tr>
<td>All employed</td>
<td>67.0</td>
<td>1,472</td>
<td>448,189</td>
<td>83,458</td>
<td>288,935</td>
<td>1,001,642</td>
</tr>
<tr>
<td>All nonemployed</td>
<td>29.7</td>
<td>652</td>
<td>168,156</td>
<td>39,788</td>
<td>114,851</td>
<td>333,556</td>
</tr>
<tr>
<td>Don't know</td>
<td>3.4</td>
<td>74</td>
<td>383,457</td>
<td>21,425</td>
<td>160,800</td>
<td>1,151,039</td>
</tr>
<tr>
<td>All combined</td>
<td>100.0</td>
<td>2,198</td>
<td>362,943</td>
<td>61,977</td>
<td>178,971</td>
<td>882,856</td>
</tr>
</tbody>
</table>

NOTE: Twelve cases closed with zero compensation are included, but 30 open cases that had not been tried or settled are excluded.

Table B.7
TOTAL COMPENSATION PAID PER DEATH, BY EARNED INCOME OF DECEDENT
(1986 dollars)

<table>
<thead>
<tr>
<th>Earned Income of Decedent (annual rate for year of accident)</th>
<th>Percent of Death Cases</th>
<th>Number of Closed Cases</th>
<th>Average</th>
<th>10th Percentile</th>
<th>Median</th>
<th>90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>29.2</td>
<td>842</td>
<td>168,728</td>
<td>41,121</td>
<td>115,000</td>
<td>333,556</td>
</tr>
<tr>
<td>1-9,999</td>
<td>3.5</td>
<td>76</td>
<td>257,593</td>
<td>59,024</td>
<td>154,080</td>
<td>454,275</td>
</tr>
<tr>
<td>10,000-19,999</td>
<td>16.4</td>
<td>360</td>
<td>235,351</td>
<td>60,206</td>
<td>151,450</td>
<td>466,198</td>
</tr>
<tr>
<td>20,000-29,999</td>
<td>11.6</td>
<td>254</td>
<td>302,832</td>
<td>83,414</td>
<td>197,294</td>
<td>736,271</td>
</tr>
<tr>
<td>30,000-49,999</td>
<td>16.7</td>
<td>366</td>
<td>452,918</td>
<td>96,261</td>
<td>369,454</td>
<td>933,052</td>
</tr>
<tr>
<td>50,000-99,999</td>
<td>12.6</td>
<td>274</td>
<td>735,267</td>
<td>118,894</td>
<td>695,640</td>
<td>1,400,871</td>
</tr>
<tr>
<td>100,000 and up</td>
<td>5.8</td>
<td>128</td>
<td>862,932</td>
<td>121,784</td>
<td>458,558</td>
<td>1,870,504</td>
</tr>
<tr>
<td>Don't know</td>
<td>4.5</td>
<td>98</td>
<td>318,862</td>
<td>20,058</td>
<td>132,579</td>
<td>1,017,418</td>
</tr>
<tr>
<td>All combined</td>
<td>100.0</td>
<td>2,198</td>
<td>362,943</td>
<td>61,977</td>
<td>178,971</td>
<td>882,856</td>
</tr>
</tbody>
</table>

NOTE: Twelve cases closed with zero compensation are included, but 30 open cases that had not been tried or settled are excluded.
### Table B.8
TOTAL COMPENSATION PAID PER DEATH, BY WAGE-BASED OCCUPATION GROUP
(1986 dollars)

<table>
<thead>
<tr>
<th>Wage-Based Occupation Groupa</th>
<th>Percent of Death Cases</th>
<th>Number of Closed Cases</th>
<th>Average Cases</th>
<th>10th Percentile</th>
<th>Median</th>
<th>90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Doctors, lawyers, pilots, natural scientists</td>
<td>3.5</td>
<td>77</td>
<td>637,302</td>
<td>120,137</td>
<td>500,000</td>
<td>1,414,123</td>
</tr>
<tr>
<td>2. Engineers, professors, and kindred</td>
<td>23.7</td>
<td>522</td>
<td>599,681</td>
<td>90,070</td>
<td>397,397</td>
<td>1,272,117</td>
</tr>
<tr>
<td>3. Scientists, managers, and high craftsmen</td>
<td>10.9</td>
<td>240</td>
<td>388,284</td>
<td>89,209</td>
<td>249,158</td>
<td>866,776</td>
</tr>
<tr>
<td>4. Foremen, paraprofessionals</td>
<td>7.6</td>
<td>168</td>
<td>399,038</td>
<td>74,834</td>
<td>267,003</td>
<td>908,175</td>
</tr>
<tr>
<td>5. Middle clerical, mechanics</td>
<td>4.0</td>
<td>87</td>
<td>329,248</td>
<td>71,635</td>
<td>236,919</td>
<td>695,919</td>
</tr>
<tr>
<td>6. High operatives, middle craftsmen</td>
<td>4.0</td>
<td>89</td>
<td>277,302</td>
<td>66,650</td>
<td>211,089</td>
<td>634,211</td>
</tr>
<tr>
<td>7. Low clerical and craftsmen</td>
<td>3.1</td>
<td>68</td>
<td>284,323</td>
<td>96,187</td>
<td>189,818</td>
<td>665,013</td>
</tr>
<tr>
<td>8. Operatives, service workers</td>
<td>1.8</td>
<td>39</td>
<td>251,487</td>
<td>35,271</td>
<td>177,514</td>
<td>565,828</td>
</tr>
<tr>
<td>9. Laborers</td>
<td>0.7</td>
<td>15</td>
<td>275,299</td>
<td>102,807</td>
<td>266,533</td>
<td>552,406</td>
</tr>
<tr>
<td>10. Don’t know</td>
<td>49.6</td>
<td>886</td>
<td>219,738</td>
<td>43,548</td>
<td>120,867</td>
<td>457,904</td>
</tr>
<tr>
<td>All combined</td>
<td>100.0</td>
<td>2,198</td>
<td>362,943</td>
<td>61,977</td>
<td>178,971</td>
<td>882,856</td>
</tr>
</tbody>
</table>

NOTE: Twelve cases closed with zero compensation are included, but 30 open cases that had not been tried or settled are excluded.

For a complete description of these wage-based occupation groups, see F. Welch and L. Maclennan, *The Census Occupational Taxonomy: How Much Information Does It Contain?* The RAND Corporation, R-1849-HEW/DOL, September 1976, Table 5.

### Table B.9
TOTAL COMPENSATION PAID PER DEATH, BY CITIZENSHIP
(1986 dollars)

<table>
<thead>
<tr>
<th>Citizenship</th>
<th>Percent of Death Cases</th>
<th>Number of Closed Cases</th>
<th>Average Cases</th>
<th>10th Percentile</th>
<th>Median</th>
<th>90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td>79.4</td>
<td>1,745</td>
<td>597,701</td>
<td>78,611</td>
<td>208,653</td>
<td>939,117</td>
</tr>
<tr>
<td>Foreign</td>
<td>14.7</td>
<td>322</td>
<td>166,908</td>
<td>20,665</td>
<td>115,705</td>
<td>323,629</td>
</tr>
<tr>
<td>Don’t know</td>
<td>6.0</td>
<td>131</td>
<td>381,213</td>
<td>37,152</td>
<td>178,270</td>
<td>1,169,057</td>
</tr>
<tr>
<td>All combined</td>
<td>100.0</td>
<td>2,198</td>
<td>362,943</td>
<td>61,977</td>
<td>178,971</td>
<td>882,856</td>
</tr>
</tbody>
</table>

NOTE: Twelve cases closed with zero compensation are included, but 30 open cases that had not been tried or settled are excluded.
### Table B.10

**TOTAL COMPENSATION PAID PER DEATH, BY HEALTH STATUS OF DECEDEENT AT TIME OF ACCIDENT**

(1986 dollars)

<table>
<thead>
<tr>
<th>Health Status</th>
<th>Percent of Death Cases</th>
<th>Number of Closed Cases</th>
<th>10th Percentile</th>
<th>Median</th>
<th>90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>59.4</td>
<td>1,305</td>
<td>401,482</td>
<td>79,750</td>
<td>199,145</td>
</tr>
<tr>
<td>Disease/disorder‡</td>
<td>3.0</td>
<td>65</td>
<td>422,245</td>
<td>88,247</td>
<td>328,272</td>
</tr>
<tr>
<td>Don't know</td>
<td>37.7</td>
<td>828</td>
<td>297,454</td>
<td>39,623</td>
<td>150,647</td>
</tr>
<tr>
<td>All combined</td>
<td>100.0</td>
<td>2,198</td>
<td>362,943</td>
<td>61,977</td>
<td>178,971</td>
</tr>
</tbody>
</table>

*NOTE: Twelve cases closed with zero compensation are included, but 30 open cases that had not been tried or settled are excluded.*

‡Includes diseases or disorders that allegedly interfered with ability to work or that shortened life expectancy.

### Table B.11

**TOTAL COMPENSATION PAID PER DEATH, BY MARITAL STATUS**

(1986 dollars)

<table>
<thead>
<tr>
<th>Marital Status Before Accident</th>
<th>Percent of Death Cases</th>
<th>Number of Closed Cases</th>
<th>Average</th>
<th>10th Percentile</th>
<th>Median</th>
<th>90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>58.9</td>
<td>1,294</td>
<td>481,968</td>
<td>92,315</td>
<td>299,149</td>
<td>1,066,032</td>
</tr>
<tr>
<td>Separated</td>
<td>1.0</td>
<td>22</td>
<td>361,879</td>
<td>99,970</td>
<td>282,439</td>
<td>954,094</td>
</tr>
<tr>
<td>Divorced</td>
<td>5.4</td>
<td>118</td>
<td>208,720</td>
<td>61,757</td>
<td>138,345</td>
<td>464,209</td>
</tr>
<tr>
<td>Widowed</td>
<td>4.6</td>
<td>106</td>
<td>119,024</td>
<td>36,717</td>
<td>96,503</td>
<td>235,932</td>
</tr>
<tr>
<td>Engaged or living together</td>
<td>1.0</td>
<td>21</td>
<td>190,919</td>
<td>64,589</td>
<td>156,373</td>
<td>309,082</td>
</tr>
<tr>
<td>Never married</td>
<td>20.7</td>
<td>455</td>
<td>178,370</td>
<td>38,997</td>
<td>115,032</td>
<td>342,535</td>
</tr>
<tr>
<td>Don't know</td>
<td>8.3</td>
<td>182</td>
<td>240,149</td>
<td>35,519</td>
<td>122,540</td>
<td>620,122</td>
</tr>
<tr>
<td>All combined</td>
<td>100.0</td>
<td>2,198</td>
<td>362,943</td>
<td>61,977</td>
<td>178,971</td>
<td>882,856</td>
</tr>
</tbody>
</table>

*NOTE: Twelve cases closed with zero compensation are included, but 30 open cases that had not been tried or settled are excluded.*
<table>
<thead>
<tr>
<th>Multiple Deaths in Same Family</th>
<th>Percent of Death Cases</th>
<th>Number of Closed Cases</th>
<th>Average</th>
<th>10th Percentile</th>
<th>50th Percentile</th>
<th>90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>60.0</td>
<td>1,318</td>
<td>452,952</td>
<td>71,594</td>
<td>237,886</td>
<td>1,037,890</td>
</tr>
<tr>
<td>No, but spouse injured</td>
<td>0.9</td>
<td>19</td>
<td>517,052</td>
<td>89,266</td>
<td>368,611</td>
<td>1,230,433</td>
</tr>
<tr>
<td>Yes, spouse but no juvenile children died</td>
<td>23.6</td>
<td>519</td>
<td>231,048</td>
<td>82,295</td>
<td>146,671</td>
<td>466,399</td>
</tr>
<tr>
<td>Yes, spouse and one or more juvenile children died</td>
<td>4.9</td>
<td>107</td>
<td>197,347</td>
<td>20,549</td>
<td>69,214</td>
<td>243,866</td>
</tr>
<tr>
<td>Yes, one or more juvenile children died</td>
<td>5.7</td>
<td>126</td>
<td>275,148</td>
<td>53,088</td>
<td>157,957</td>
<td>645,158</td>
</tr>
<tr>
<td>Yes, but none of the above categories</td>
<td>5.0</td>
<td>109</td>
<td>228,108</td>
<td>37,231</td>
<td>121,642</td>
<td>516,854</td>
</tr>
<tr>
<td>All combined</td>
<td>100.0</td>
<td>2,198</td>
<td>362,943</td>
<td>61,977</td>
<td>178,971</td>
<td>882,856</td>
</tr>
</tbody>
</table>

NOTE: Twelve cases closed with zero compensation are included, but 30 open cases that had not been tried or settled are excluded.

<table>
<thead>
<tr>
<th>Decedent Survived Accident for Some Time</th>
<th>Percent of Death Cases</th>
<th>Number of Closed Cases</th>
<th>Average</th>
<th>10th Percentile</th>
<th>50th Percentile</th>
<th>90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>97.8</td>
<td>2,149</td>
<td>369,670</td>
<td>61,977</td>
<td>176,923</td>
<td>876,905</td>
</tr>
<tr>
<td>Yes</td>
<td>2.2</td>
<td>49</td>
<td>504,911</td>
<td>103,351</td>
<td>303,618</td>
<td>1,210,396</td>
</tr>
<tr>
<td>All combined</td>
<td>100.0</td>
<td>2,198</td>
<td>362,943</td>
<td>61,977</td>
<td>178,971</td>
<td>882,856</td>
</tr>
</tbody>
</table>

NOTE: Twelve cases closed with zero compensation are included, but 30 open cases that had not been tried or settled are excluded.
### Table B.14
**TOTAL COMPENSATION PAID PER DEATH, BY TYPE OF SURVIVING DEPENDENTS**
(1986 dollars)

<table>
<thead>
<tr>
<th>Surviving Dependents</th>
<th>Percent of Death Cases</th>
<th>Number of Closed Cases</th>
<th>Average (1986 dollars)</th>
<th>10th Percentile</th>
<th>Median (1986 dollars)</th>
<th>90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spouse and juvenile</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>children only</td>
<td>18.7</td>
<td>412</td>
<td>842,509</td>
<td>249,876</td>
<td>742,223</td>
<td>1,512,206</td>
</tr>
<tr>
<td>Spouse, juvenile</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>children, and others</td>
<td>2.4</td>
<td>53</td>
<td>779,024</td>
<td>124,451</td>
<td>706,004</td>
<td>1,425,386</td>
</tr>
<tr>
<td>Spouse only</td>
<td>10.5</td>
<td>231</td>
<td>405,128</td>
<td>107,964</td>
<td>335,506</td>
<td>834,617</td>
</tr>
<tr>
<td>Spouse and others</td>
<td>1.9</td>
<td>41</td>
<td>446,010</td>
<td>122,334</td>
<td>364,015</td>
<td>969,616</td>
</tr>
<tr>
<td>Juvenile children</td>
<td>7.5</td>
<td>155</td>
<td>409,907</td>
<td>123,431</td>
<td>284,474</td>
<td>757,538</td>
</tr>
<tr>
<td>Juvenile and others</td>
<td>2.9</td>
<td>64</td>
<td>386,608</td>
<td>128,422</td>
<td>308,476</td>
<td>718,702</td>
</tr>
<tr>
<td>Other dependents</td>
<td>16.3</td>
<td>359</td>
<td>151,644</td>
<td>49,007</td>
<td>119,560</td>
<td>279,375</td>
</tr>
<tr>
<td>None</td>
<td>35.9</td>
<td>783</td>
<td>155,384</td>
<td>48,061</td>
<td>118,498</td>
<td>288,722</td>
</tr>
<tr>
<td>Don't know</td>
<td>3.9</td>
<td>85</td>
<td>332,211</td>
<td>5,829</td>
<td>98,013</td>
<td>1,091,289</td>
</tr>
<tr>
<td>All combined</td>
<td>100.0</td>
<td>2,198</td>
<td>362,943</td>
<td>61,977</td>
<td>176,971</td>
<td>882,856</td>
</tr>
</tbody>
</table>

**NOTE:** Twelve cases closed with zero compensation are included, but 30 open cases that had not been tried or settled are excluded. An other dependent is anyone other than a spouse or a juvenile child.

### Table B.15
**TOTAL COMPENSATION PAID PER DEATH, BY FOREIGN OR U.S. ACCIDENT LOCATION**
(1986 dollars)

<table>
<thead>
<tr>
<th>Accident Location</th>
<th>Percent of Death Cases</th>
<th>Number of Closed Cases</th>
<th>Average (1986 dollars)</th>
<th>10th Percentile</th>
<th>Median (1986 dollars)</th>
<th>90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign</td>
<td>29.8</td>
<td>655</td>
<td>147,567</td>
<td>35,271</td>
<td>116,890</td>
<td>290,697</td>
</tr>
<tr>
<td>U.S.</td>
<td>70.2</td>
<td>1,543</td>
<td>454,320</td>
<td>74,413</td>
<td>270,328</td>
<td>1,039,328</td>
</tr>
<tr>
<td>All combined</td>
<td>100.0</td>
<td>2,198</td>
<td>362,943</td>
<td>61,977</td>
<td>176,971</td>
<td>882,856</td>
</tr>
</tbody>
</table>

**NOTE:** Twelve cases closed with zero compensation are included, but 30 open cases that had not been tried or settled are excluded.
Table B.16
TOTAL COMPENSATION PAID PER DEATH, BY WHETHER WEATHER WAS A FACTOR IN THE ACCIDENT
(1986 dollars)

<table>
<thead>
<tr>
<th>Weather Factor</th>
<th>Percent of Death Cases</th>
<th>Number of Closed Cases</th>
<th>Average</th>
<th>10th Percentile</th>
<th>Median</th>
<th>90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>48.9</td>
<td>1,074</td>
<td>371,070</td>
<td>49,329</td>
<td>173,138</td>
<td>906,679</td>
</tr>
<tr>
<td>Yes</td>
<td>51.1</td>
<td>1,124</td>
<td>355,109</td>
<td>74,991</td>
<td>186,037</td>
<td>825,570</td>
</tr>
<tr>
<td>All combined</td>
<td>100.0</td>
<td>2,198</td>
<td>362,943</td>
<td>61,577</td>
<td>178,971</td>
<td>882,856</td>
</tr>
</tbody>
</table>

NOTE: Twelve cases closed with zero compensation are included, but 30 open cases that had not been tried or settled are excluded.

Table B.17
TOTAL COMPENSATION PAID PER DEATH, BY WHETHER TERRORISM WAS A FACTOR IN THE ACCIDENT
(1986 dollars)

<table>
<thead>
<tr>
<th>Terrorism Factor</th>
<th>Percent of Death Cases</th>
<th>Number of Closed Cases</th>
<th>Average</th>
<th>10th Percentile</th>
<th>Median</th>
<th>90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>95.1</td>
<td>2,091</td>
<td>376,362</td>
<td>65,882</td>
<td>191,961</td>
<td>904,583</td>
</tr>
<tr>
<td>Yes</td>
<td>4.9</td>
<td>107</td>
<td>99,988</td>
<td>9,690</td>
<td>90,070</td>
<td>217,791</td>
</tr>
<tr>
<td>All combined</td>
<td>100.0</td>
<td>2,198</td>
<td>362,943</td>
<td>61,577</td>
<td>178,971</td>
<td>882,856</td>
</tr>
</tbody>
</table>

NOTE: Twelve cases closed with zero compensation are included, but 30 open cases that had not been tried or settled are excluded.
### Table B.18
TOTAL COMPENSATION PAID PER DEATH, BY TYPE OF LIABILITY DISPUTE
(1986 dollars)

<table>
<thead>
<tr>
<th>Type of Liability Dispute</th>
<th>Percent of Death Cases</th>
<th>Number of Closed Cases</th>
<th>Average Compensation</th>
<th>10th Percentile</th>
<th>Median</th>
<th>90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>No significant dispute</td>
<td>45.1</td>
<td>991</td>
<td>249,640</td>
<td>60,807</td>
<td>134,834</td>
<td>549,971</td>
</tr>
<tr>
<td>Significant dispute</td>
<td>54.9</td>
<td>1,207</td>
<td>463,358</td>
<td>64,021</td>
<td>275,585</td>
<td>1,069,172</td>
</tr>
<tr>
<td>All combined</td>
<td>100.0</td>
<td>2,198</td>
<td>362,943</td>
<td>61,977</td>
<td>178,971</td>
<td>882,856</td>
</tr>
</tbody>
</table>

NOTE: Twelve cases closed with zero compensation are included, but 30 open cases that had not been tried or settled are excluded.

### Table B.19
TOTAL COMPENSATION PAID PER DEATH, BY TYPE OF COURT
(1986 dollars)

<table>
<thead>
<tr>
<th>Type of Court</th>
<th>Percent of Death Cases</th>
<th>Number of Closed Cases</th>
<th>Average Compensation</th>
<th>10th Percentile</th>
<th>Median</th>
<th>90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal</td>
<td>41.2</td>
<td>906(^a)</td>
<td>387,071</td>
<td>65,725</td>
<td>194,270</td>
<td>854,294</td>
</tr>
<tr>
<td>State</td>
<td>19.6</td>
<td>431</td>
<td>487,112</td>
<td>84,223</td>
<td>300,000</td>
<td>1,096,935</td>
</tr>
<tr>
<td>Foreign</td>
<td>1.0</td>
<td>22</td>
<td>72,727</td>
<td>35,519</td>
<td>90,070</td>
<td>90,070</td>
</tr>
<tr>
<td>None</td>
<td>34.2</td>
<td>752</td>
<td>254,128</td>
<td>43,583</td>
<td>136,722</td>
<td>652,708</td>
</tr>
<tr>
<td>Don’t know</td>
<td>4.0</td>
<td>87</td>
<td>510,476</td>
<td>55,730</td>
<td>247,436</td>
<td>1,383,302</td>
</tr>
<tr>
<td>All combined</td>
<td>100.0</td>
<td>2,198</td>
<td>362,943</td>
<td>61,977</td>
<td>178,971</td>
<td>882,856</td>
</tr>
</tbody>
</table>

NOTE: Twelve cases closed with zero compensation are included, but 30 open cases that had not been tried or settled are excluded.

\(^a\)Of the 906 cases, 870 were involved in the federal court “multidistrict litigation” process. The average compensation for those 870 cases was $395,361.
Table B.20
TOTAL COMPENSATION PAID PER DEATH, BY WHETHER STATE LAW LIMITING COMPENSATION APPLIED TO THE CASE
(1986 dollars)

<table>
<thead>
<tr>
<th>State Limitation on Total Compensation</th>
<th>Percent of Death Cases</th>
<th>Number of Closed Cases</th>
<th>Average</th>
<th>10th Percentile</th>
<th>Median</th>
<th>90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>64.3</td>
<td>2,073</td>
<td>270,793</td>
<td>61,766</td>
<td>176,223</td>
<td>905,491</td>
</tr>
<tr>
<td>Yes</td>
<td>5.7</td>
<td>125</td>
<td>232,147</td>
<td>61,977</td>
<td>257,869</td>
<td>498,348</td>
</tr>
<tr>
<td>All combined</td>
<td>100.0</td>
<td>2,198</td>
<td>362,943</td>
<td>61,977</td>
<td>178,971</td>
<td>882,856</td>
</tr>
</tbody>
</table>

NOTE: Twelve cases closed with zero compensation are included, but 30 open cases that had not been tried or settled are excluded.

Table B.21
TOTAL COMPENSATION PAID PER DEATH, BY NUMBER OF NAMED DEFENDANTS
(1986 dollars)

<table>
<thead>
<tr>
<th>Number of Named Defendants</th>
<th>Percent of Death Cases</th>
<th>Number of Closed Cases</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 or 2</td>
<td>9.5</td>
<td>209</td>
<td>117,419</td>
</tr>
<tr>
<td>3</td>
<td>27.3</td>
<td>599</td>
<td>366,511</td>
</tr>
<tr>
<td>4</td>
<td>48.9</td>
<td>1,074</td>
<td>391,772</td>
</tr>
<tr>
<td>5</td>
<td>9.5</td>
<td>209</td>
<td>531,218</td>
</tr>
<tr>
<td>6 or more</td>
<td>4.9</td>
<td>107</td>
<td>203,769</td>
</tr>
<tr>
<td>All combined</td>
<td>100.0</td>
<td>2,198</td>
<td>362,943</td>
</tr>
</tbody>
</table>

NOTE: Twelve cases closed with zero compensation are included, but 30 open cases that had not been tried or settled are excluded. Accidents with 1 or 2 named defendants and with 6 or more named defendants have been combined to avoid presenting data for single accidents.
Table B.22
TOTAL COMPENSATION PAID PER DEATH, BY NUMBER OF DEFENDANTS WHO PAID COMPENSATION
(1986 dollars)

<table>
<thead>
<tr>
<th>Number of Defendants Who Paid Compensation</th>
<th>Percent of Death Cases</th>
<th>Number of Closed Cases</th>
<th>Average</th>
<th>10th Percentile</th>
<th>Median</th>
<th>90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>33.0</td>
<td>726</td>
<td>266,869</td>
<td>35,271</td>
<td>140,145</td>
<td>648,471</td>
</tr>
<tr>
<td>2</td>
<td>38.1</td>
<td>638</td>
<td>488,275</td>
<td>81,294</td>
<td>259,924</td>
<td>1,114,431</td>
</tr>
<tr>
<td>3</td>
<td>10.9</td>
<td>240</td>
<td>398,756</td>
<td>71,612</td>
<td>239,145</td>
<td>907,435</td>
</tr>
<tr>
<td>4</td>
<td>17.9</td>
<td>394</td>
<td>261,394</td>
<td>80,621</td>
<td>138,131</td>
<td>653,275</td>
</tr>
<tr>
<td>All combined</td>
<td>100.0</td>
<td>2,198</td>
<td>362,943</td>
<td>61,977</td>
<td>178,971</td>
<td>882,856</td>
</tr>
</tbody>
</table>

NOTE: Twelve cases closed with zero compensation are included, but 30 open cases that had not been tried or settled are excluded.

Table B.23
TOTAL COMPENSATION PAID PER DEATH, BY WHETHER INSURER OR LAWYER CONDUCTED NEGOTIATIONS OVER COMPENSATION
(1986 dollars)

<table>
<thead>
<tr>
<th>Who Conducted Primary Negotiations</th>
<th>Percent of Death Cases</th>
<th>Number of Closed Cases</th>
<th>Average</th>
<th>10th Percentile</th>
<th>Median</th>
<th>90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insurer's employee</td>
<td>69.6</td>
<td>1,529</td>
<td>322,559</td>
<td>55,740</td>
<td>156,373</td>
<td>805,830</td>
</tr>
<tr>
<td>Outside lawyer</td>
<td>30.4</td>
<td>669</td>
<td>455,125</td>
<td>71,514</td>
<td>284,766</td>
<td>1,065,932</td>
</tr>
<tr>
<td>All combined</td>
<td>100.0</td>
<td>2,198</td>
<td>362,943</td>
<td>61,977</td>
<td>178,971</td>
<td>882,856</td>
</tr>
</tbody>
</table>

NOTE: Twelve cases closed with zero compensation are included, but 30 open cases that had not been tried or settled are excluded.
Table B.24
TOTAL COMPENSATION PAID PER DEATH AND LIKELIHOOD OF A LAWSUIT, BY WHETHER DEFENDANTS CONTACTED PLAINTIFFS WITH AN EARLY OFFER
(1986 dollars)

<table>
<thead>
<tr>
<th>Early Offer by Defendants</th>
<th>Percent of Death Cases</th>
<th>Percent with Lawsuits</th>
<th>Number of Closed Cases</th>
<th>Average Compensation</th>
<th>10th Percentile</th>
<th>Median</th>
<th>90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>34.2</td>
<td>71</td>
<td>752</td>
<td>350,686</td>
<td>35,181</td>
<td>153,484</td>
<td>948,317</td>
</tr>
<tr>
<td>Yes</td>
<td>65.8</td>
<td>62</td>
<td>1,446</td>
<td>369,259</td>
<td>78,474</td>
<td>195,531</td>
<td>865,112</td>
</tr>
<tr>
<td>All combined</td>
<td>100.0</td>
<td>65</td>
<td>2,198</td>
<td>362,943</td>
<td>61,977</td>
<td>178,971</td>
<td>882,856</td>
</tr>
</tbody>
</table>

NOTE: Twelve cases closed with zero compensation are included, but 30 open cases that had not been tried or settled are excluded.

Table B.25
TOTAL COMPENSATION PAID PER DEATH AND LIKELIHOOD OF A LAWSUIT, BY WHETHER A SPECIAL LETTER WAS SENT TO FAMILY MEMBERS IMMEDIATELY AFTER THE ACCIDENT
(1986 dollars)

<table>
<thead>
<tr>
<th>Special Letter Sent to Family</th>
<th>Percent of Death Cases</th>
<th>Percent with Lawsuits</th>
<th>Number of Closed Cases</th>
<th>Average Compensation</th>
<th>10th Percentile</th>
<th>Median</th>
<th>90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>64.9</td>
<td>65</td>
<td>1,427</td>
<td>367,797</td>
<td>52,961</td>
<td>192,671</td>
<td>906,463</td>
</tr>
<tr>
<td>Yes</td>
<td>35.1</td>
<td>66</td>
<td>771</td>
<td>353,860</td>
<td>86,313</td>
<td>165,172</td>
<td>851,224</td>
</tr>
<tr>
<td>All combined</td>
<td>100.0</td>
<td>65</td>
<td>2,198</td>
<td>362,943</td>
<td>61,977</td>
<td>178,971</td>
<td>882,856</td>
</tr>
</tbody>
</table>

NOTE: Twelve cases closed with zero compensation are included, but 30 open cases that had not been tried or settled are excluded. The special letter was used in five accidents beginning in 1977, when compensation tended to be higher than in prior years.
Table B.26
TOTAL COMPENSATION PAID PER DEATH, BY WHETHER TEST CASES WERE TRIED TO RESOLVE CERTAIN ISSUES
(1986 dollars)

<table>
<thead>
<tr>
<th>Test Case Trial(s) to Resolve Legal Issues</th>
<th>Percent of Death Cases</th>
<th>Number of Closed Cases</th>
<th>10th Percentile</th>
<th>Median</th>
<th>90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>74.8</td>
<td>1,843</td>
<td>305,333</td>
<td>56,815</td>
<td>155,124</td>
</tr>
<tr>
<td>Yes</td>
<td>25.2</td>
<td>555</td>
<td>533,251</td>
<td>85,547</td>
<td>328,335</td>
</tr>
<tr>
<td>All combined</td>
<td>100.0</td>
<td>2,198</td>
<td>362,343</td>
<td>61,977</td>
<td>178,571</td>
</tr>
</tbody>
</table>

NOTE: Twelve cases closed with zero compensation are included, but 30 open cases that had not been tried or settled are excluded.
Appendix C

ADDITIONAL DATA ON DEFENDANTS’ LITIGATION EXPENDITURES

This appendix presents some additional information about factors that were found to be not statistically significant.

VARIATION BY ACCIDENT CHARACTERISTICS

Total Deaths in the Accident

We found that the sum total of economic loss to survivors of all decedents in an accident was a better predictor of liability litigation expenditures than the total number of deaths and the average economic loss to survivors per death in the accident. Our analysis indicated that when both the total number of deaths and the financial magnitude of the accident (as measured by economic loss to survivors) are considered, the total number of deaths is not statistically significant for predicting liability litigation expenditures.

Tables C.1 and C.2 show the variation in litigation expenditures by defendants as a function of the average economic loss to survivors per death and the number of deaths in the accident.\(^1\)

The size of an accident is not a good predictor of compensation litigation expenditures per death. The average compensation litigation expenditures by defendants range from $11,085 per death for accidents with relatively low average economic loss to survivors per death (less than $250,000) and rise to $42,709 for accidents with average loss to survivors of $1,250,000 or more. However, this apparent increase in compensation litigation expenditures is not statistically significant. When other variables are considered (such as the fraction of cases involving lawsuits, the fraction of the cases involving aviation specialist plaintiffs’ attorneys, and whether the insurer directly negotiated compensation), those other factors explain the increase in compensation defense expenditures (see Table 5.4). We tried various formulations in

\(^1\)The number of dead and injured combined was not a particularly useful variable because, for some accidents, the sum of the dead and injured contains many relatively minor injury cases and hence is not a reliable indicator of the magnitude of the harm caused by the accident.
<table>
<thead>
<tr>
<th>Average Economic Loss to Survivors (1986 dollars)</th>
<th>Number of Accidents</th>
<th>Average Total Compensation per Death (1986 dollars)</th>
<th>Average Compensation Litigation Expenses (1986 dollars)</th>
<th>Compensation Expenses as a Percent of Total Compensation per Death</th>
<th>Average Liability Litigation Expenses (1986 dollars)</th>
<th>Liability Litigation Expenses as a Percent of Total Compensation per Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 250,000</td>
<td>3</td>
<td>160,585</td>
<td>11,085</td>
<td>6.9</td>
<td>750,687</td>
<td>2.0</td>
</tr>
<tr>
<td>250,000-499,000</td>
<td>7</td>
<td>262,744</td>
<td>12,513</td>
<td>4.8</td>
<td>3,203,267</td>
<td>12.2</td>
</tr>
<tr>
<td>500,000-749,000</td>
<td>7</td>
<td>365,854</td>
<td>25,557</td>
<td>7.2</td>
<td>1,047,627</td>
<td>3.5</td>
</tr>
<tr>
<td>750,000-1,249,000</td>
<td>5</td>
<td>500,832</td>
<td>15,648</td>
<td>3.1</td>
<td>3,227,397</td>
<td>7.9</td>
</tr>
<tr>
<td>1,250,000 and up</td>
<td>3</td>
<td>526,757</td>
<td>42,709</td>
<td>8.1</td>
<td>6,081,132</td>
<td>7.0</td>
</tr>
<tr>
<td>All combined</td>
<td>25</td>
<td>362,943</td>
<td>22,245</td>
<td>6.1</td>
<td>2,655,548</td>
<td>7.2</td>
</tr>
</tbody>
</table>

*Total defendants' compensation litigation expenditures paid plus their estimate of the future litigation expenditures required to close the cases that were still open, divided by the total number of deaths.

**Total defendants' liability litigation expenditures for all passenger and ground death and injury cases divided by the number of accidents.

*If we exclude data from one accident with one of the most expensive liability fights of all the accidents in this study, this figure drops to about $2 million.
Table C.2
DEFENDANTS' LITIGATION EXPENDITURES, BY TOTAL DEATHS IN ACCIDENT

<table>
<thead>
<tr>
<th>Total Passenger and Ground Deaths in Accident</th>
<th>Average Total Compensation per Death (1986 dollars)</th>
<th>Average Compensation Litigation Expenses as a Percent of Total Compensation per Death</th>
<th>Average Liability Litigation Expenses as a Percent of Total Compensation per Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Accidents</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50 or less</td>
<td>7</td>
<td>333,433</td>
<td>26,115</td>
</tr>
<tr>
<td>51-99</td>
<td>12</td>
<td>354,904</td>
<td>14,071</td>
</tr>
<tr>
<td>100 or more</td>
<td>6</td>
<td>376,787</td>
<td>28,599</td>
</tr>
<tr>
<td>All combined</td>
<td>25</td>
<td>362,943</td>
<td>22,245</td>
</tr>
</tbody>
</table>

*Total defendants' compensation litigation expenditures paid plus their estimate of the future litigation expenditures required to close the cases that were still open, divided by the total number of deaths.

**Total defendants' liability litigation expenditures for all passenger and ground death and injury cases divided by the number of accidents.
the multivariate analysis, including total deaths and average economic loss to survivors; none were shown to be statistically significant in predicting defense compensation litigation expenditures per death.

Year of the Accident

Defense expenditures for all tort cases combined increased about 15 percent per year between 1980 and 1985 for nonautomobile tort claims. We investigated the aviation accident defense litigation data to see if a similar time trend existed between 1970 and 1982. We cannot present data on a year-by-year basis because in some years in the study there was only one accident, and this report does not present any information for single accidents. We did use individual accident-year data in the analysis, however, and found that there was no statistically significant time trend in either the average liability litigation expenditures per accident or the average compensation litigation expenditures per death. Nevertheless, it is possible that a time trend may be included in time-related changes in other variables in the analysis.

As shown in Table C.3, the average liability litigation expenditure per accident rose from $2.2 million for accidents that occurred between 1970 and 1976 to about $3.7 million for accidents occurring between 1977 and 1982. The average compensation litigation expenditures per death rose from about $17,000 for aviation accident deaths occurring in 1970 through 1976 to about $28,000 for aviation accident deaths occurring in 1977 through 1982. Although the defense expenditures have been increasing with time, when other variables (such as the amount of money at stake measured in terms of the economic loss to survivors of decedents) are taken into account, those other factors explain the apparent increase over time, and time itself is not statistically significant. In other words, if all other factors had been held constant over time, we apparently would not have observed an increase in defendants’ litigation expenditures. Whether this apparent lack of a time trend will persist in the future is unknown.

Whether Weather or Terrorism Was a Factor in the Accident

Although we did not collect information on the causes of the accidents, we did know whether weather or terrorism was a factor. We thought that the amount of money defendants spent litigating liability might be dependent on these factors. Weather might increase disputes over liability, because issues such as aircraft or engine failure, pilot error, and controller/weather information problems might be more prevalent. Terrorism might decrease disputes over liability among
Table C.3
DEFENDANTS' LITIGATION EXPENDITURES, BY TIME PERIOD

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Number of Accidents</th>
<th>Average Total Compensation per Death (1986 dollars)</th>
<th>Average Compensation Litigation Expenses per Death&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Compensation Litigation Expenses as a Percent of Total Compensation per Death</th>
<th>Average Liability Litigation Expenses per Accident&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Liability Litigation Expenses as a Percent of Total Compensation per Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970-1972</td>
<td>7</td>
<td>362,617</td>
<td>18,579</td>
<td>5.1</td>
<td>1,783,426</td>
<td>6.6</td>
</tr>
<tr>
<td>1973-1976</td>
<td>10</td>
<td>298,286</td>
<td>15,705</td>
<td>5.3</td>
<td>2,417,738</td>
<td>9.9</td>
</tr>
<tr>
<td>1977-1982</td>
<td>8</td>
<td>408,380</td>
<td>28,126</td>
<td>6.9</td>
<td>3,715,919</td>
<td>6.1</td>
</tr>
<tr>
<td>All combined</td>
<td>25</td>
<td>362,943</td>
<td>22,245</td>
<td>6.1</td>
<td>2,665,548</td>
<td>7.2</td>
</tr>
</tbody>
</table>

<sup>a</sup>Total defendants' compensation litigation expenditures paid plus their estimate of the future litigation expenditures required to close the cases that were still open, divided by the total number of deaths.

<sup>b</sup>Total defendants' liability litigation expenditures for all passenger and ground death and injury cases divided by the number of accidents.
defendants if the only basis for liability was insufficient security (see Tables C.4 and C.5 for weather and terrorism data, respectively). When we incorporated these two variables in the multivariate analysis shown in Tables 5.3 and 5.4, however, we were unable to show a statistically significant relationship between them and defense litigation expenditures, using data from the 25 accidents in the study.

VARIATION BY AGGREGATE CASE OUTCOME CHARACTERISTICS

Fraction of Deaths with Trials

Trial began for about 9 percent of the closed cases. Only six of the accidents had over 10 percent tried cases. Most of these trials were relatively short, involving less than one week of trial activity and focusing on resolution of the compensation issue. However, the defense expenditures for the typical trial still amounted to several thousand dollars, and this trial variable probably has a statistically significant relationship to defense compensation litigation expenditures for individual deaths. Unfortunately, we have data on defense litigation expenditures only at the accident level (see Table C.6).

The fraction of cases in each accident that went to trial was not statistically significant for either defense compensation litigation or liability litigation expenditures when all other factors were held constant (see Table 5.4).

Average Compensation per Death. Defendants' litigation expenditures are shown in Table C.7 as a function of the average compensation paid per death. Note that the defendants' liability litigation expenditures per accident amounted to 7.2 percent of compensation paid per accident, and the defendants' compensation litigation expenditures were 6.1 percent of total compensation paid per death. Table C.7 shows an increase in average compensation litigation expenses per death from approximately $16,000 for the relatively low-compensation accidents to $35,000 for the relatively high-compensation accidents. There is also a corresponding increase in liability litigation expenditures per accident, from about $400,000 per accident for the relatively low-compensation accidents to over $4 million per accident for the highest-average-compensation accidents. Not surprisingly, accidents with higher average compensation per death also usually have higher average economic loss to survivors per death. For the reasons discussed in Sec. V, we used economic loss rather than compensation in our multivariate analysis.
Table C.4
DEFENDANTS' LITIGATION EXPENDITURES, BY WHETHER WEATHER WAS A FACTOR IN THE ACCIDENT

<table>
<thead>
<tr>
<th>Weather Factor</th>
<th>Number of Accidents</th>
<th>Average Total Compensation per Death (1986 dollars)</th>
<th>Average Compensation Litigation Expenses per Death</th>
<th>Compensation Litigation Expenses as a Percent of Total Compensation per Death</th>
<th>Average Liability Litigation Expenses per Accident (1986 dollars)</th>
<th>Liability Litigation Expenses as a Percent of Total Compensation per Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>15</td>
<td>371,070</td>
<td>28,111</td>
<td>7.6</td>
<td>2,041,975</td>
<td>6.5</td>
</tr>
<tr>
<td>Yes</td>
<td>10</td>
<td>355,109</td>
<td>16,747</td>
<td>4.7</td>
<td>3,575,907</td>
<td>7.9</td>
</tr>
<tr>
<td>All combined</td>
<td>25</td>
<td>362,943</td>
<td>22,245</td>
<td>6.1</td>
<td>2,655,548</td>
<td>7.2</td>
</tr>
</tbody>
</table>

*A Total defendants' compensation litigation expenditures paid plus their estimate of the future litigation expenditures required to close the cases that were still open, divided by the total number of deaths.

*B Total defendants' liability litigation expenditures for all passenger and ground death and injury cases divided by the number of accidents.
# Table C.5

DEFENDANTS' LITIGATION EXPENDITURES, BY WHETHER TERRORISM WAS A FACTOR IN THE ACCIDENT

<table>
<thead>
<tr>
<th>Terrorism a Factor</th>
<th>Number of Accidents</th>
<th>Average Total Compensation per Death (1986 dollars)</th>
<th>Average Compensation Litigation Expenses per Death$^a$ (1986 dollars)</th>
<th>Compensation Litigation Expenses as a Percent of Total Compensation per Death</th>
<th>Average Liability Litigation Expenses per Accident$^b$ (1986 dollars)</th>
<th>Liability Litigation Expenses as a Percent of Total Compensation per Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>23</td>
<td>376,362</td>
<td>22,362</td>
<td>5.9</td>
<td>2,552,083</td>
<td>7.2</td>
</tr>
<tr>
<td>Yes</td>
<td>2</td>
<td>99,988</td>
<td>19,928</td>
<td>19.9</td>
<td>395,627</td>
<td>6.8</td>
</tr>
<tr>
<td>All combined</td>
<td>25</td>
<td>362,343</td>
<td>22,245</td>
<td>6.1</td>
<td>2,655,548</td>
<td>7.2</td>
</tr>
</tbody>
</table>

$^a$Total defendants' compensation litigation expenditures paid plus their estimate of the future litigation expenditures required to close the cases that were still open, divided by the total number of deaths.

$^b$Total defendants' liability litigation expenditures for all passenger and ground death and injury cases divided by the number of accidents.
Table C.6
DEFENDANTS' LITIGATION EXPENDITURES, BY FRACTION OF DEATHS WITH TRIALS

<table>
<thead>
<tr>
<th>Percent of Deaths for Which Trial Began</th>
<th>Average Total Compensation per Death (1986 dollars)</th>
<th>Average Compensation Litigation Expenses per Death(^a) (1986 dollars)</th>
<th>Compensation Litigation Expenses as a Percent of Total Compensation per Death</th>
<th>Average Liability Litigation Expenses per Accident(^b) (1986 dollars)</th>
<th>Liability Litigation Expenses as a Percent of Total Compensation per Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 or less</td>
<td>19</td>
<td>324,058</td>
<td>14,645</td>
<td>4.5</td>
<td>1,924,799</td>
</tr>
<tr>
<td>More than 10</td>
<td>6</td>
<td>439,267</td>
<td>36,810</td>
<td>8.4</td>
<td>4,969,587</td>
</tr>
<tr>
<td>All combined</td>
<td>25</td>
<td>362,943</td>
<td>22,245</td>
<td>6.1</td>
<td>2,655,848</td>
</tr>
</tbody>
</table>

\(^a\)Total defendants' compensation litigation expenditures paid plus their estimate of the future litigation expenditures required to close the cases that were still open, divided by the total number of deaths.

\(^b\)Total defendants' liability litigation expenditures for all passenger and ground death and injury cases divided by the number of accidents.
<table>
<thead>
<tr>
<th>Average Compensation per Death in Accident</th>
<th>Number of Accidents</th>
<th>Average Total Compensation per Death (1986 dollars)</th>
<th>Average Litigation Compensation per Death (1986 dollars)</th>
<th>Compensation Expenses as a Percent of Total Compensation per Death</th>
<th>Average Liability Litigation Expenses per Accident (1986 dollars)</th>
<th>Liability Litigation Expenses as a Percent of Total Compensation per Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-99,999</td>
<td>2</td>
<td>81,487</td>
<td>15,861</td>
<td>19.5</td>
<td>404,138</td>
<td>9.0</td>
</tr>
<tr>
<td>100,000-199,999</td>
<td>6</td>
<td>154,834</td>
<td>11,369</td>
<td>7.7</td>
<td>1,146,562</td>
<td>6.0</td>
</tr>
<tr>
<td>200,000-299,999</td>
<td>3</td>
<td>213,890</td>
<td>15,339</td>
<td>7.1</td>
<td>3,972,917</td>
<td>25.8</td>
</tr>
<tr>
<td>300,000-399,999</td>
<td>4</td>
<td>338,333</td>
<td>17,457</td>
<td>5.2</td>
<td>2,236,207</td>
<td>6.8</td>
</tr>
<tr>
<td>400,000-499,999</td>
<td>3</td>
<td>462,281</td>
<td>27,120</td>
<td>5.9</td>
<td>2,436,913</td>
<td>3.6</td>
</tr>
<tr>
<td>500,000 and up</td>
<td>7</td>
<td>606,056</td>
<td>34,901</td>
<td>5.8</td>
<td>4,360,945</td>
<td>7.3</td>
</tr>
<tr>
<td>All combined</td>
<td>25</td>
<td>362,943</td>
<td>22,245</td>
<td>6.1</td>
<td>2,655,548</td>
<td>7.2</td>
</tr>
</tbody>
</table>

*Total defendants' compensation litigation expenditures paid plus their estimate of the future litigation expenditures required to close the cases that were still open, divided by the total number of deaths.

bTotal defendants' liability litigation expenditures for all passenger and ground death and injury cases divided by the number of accidents.
Median Time to Case Disposition

The median time to resolve the compensation issue for decedents in each accident was included in our multivariate analysis. Table C.8 indicates that the defendants spent almost twice as much for compensation litigation expenditures per death for accidents in which it took over 18 months to close at least half the cases. However, the median time to case disposition was not statistically significant in predicting the average defense compensation litigation expenditures if all other characteristics of the accident were held constant.

VARIATION BY LITIGATION CHARACTERISTICS

Whether There Was a Liability Dispute

About half of the accidents in the study had no significant liability dispute according to the defendants we interviewed. This means that the issue of liability (including the division of responsibility for compensation payments) was resolved among the defendants in less than one year or involved liability litigation expenditures of less than $1,000,000. For the other half of the accidents, the defendants indicated that there was a significant liability dispute; the average liability litigation expenditures by all defendants combined were $4,349,974 (see Table C.9). Six of the accidents with significant liability disputes required a trial to resolve the issue.

The multivariate analysis of defendants' liability litigation expenditures shown in Table 5.3 indicated that the only statistically significant predictor of those expenditures for which we had data was the total economic loss suffered by survivors of decedents.²

Table C.10 shows that the defendants' liability litigation expenses increase substantially with the amount of time it takes to resolve the liability issue. Those expenditures averaged $796,835 for accidents for which liability was resolved in less than one year, but $5,009,865 for accidents for which liability was not resolved for two or more years.

²We also conducted multivariate analyses of the probability of a liability fight and the length of time it took to resolve the liability issue. Again, the only statistically significant independent variable was the total economic loss to survivors of decedents. We present the multivariate analysis of liability litigation expenditures in this report, since that variable contains more information than the variable of liability fight or the length of time to agreement. The amount of liability litigation expenditures obviously is highly dependent on whether there is a fight and how long it takes to resolve it. The only statistically significant variable for predicting each of these three variables was economic loss to survivors, and that variable was included in the model of liability litigation expenditures. There was no statistically significant variation in average compensation litigation expenditures by whether or not there was a liability dispute.
<table>
<thead>
<tr>
<th>Median Time to Case Disposition</th>
<th>Number of Accidents</th>
<th>Average Total Compensation per Death (1986 dollars)</th>
<th>Average Compensation Litigation Expenses per Death (1986 dollars)</th>
<th>Compensation Litigation Expenses as a Percent of Total Compensation per Death</th>
<th>Average Liability Litigation Expenses per Accident (1986 dollars)</th>
<th>Liability Litigation Expenses as a Percent of Total Compensation per Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 18 months</td>
<td>8</td>
<td>362,297</td>
<td>14,255</td>
<td>3.9</td>
<td>2,394,716</td>
<td>4.7</td>
</tr>
<tr>
<td>18 months or more</td>
<td>17</td>
<td>365,211</td>
<td>27,897</td>
<td>7.6</td>
<td>2,778,293</td>
<td>9.1</td>
</tr>
<tr>
<td>All combined</td>
<td>25</td>
<td>362,943</td>
<td>22,245</td>
<td>6.1</td>
<td>2,655,548</td>
<td>7.2</td>
</tr>
</tbody>
</table>

aTotal defendants’ compensation litigation expenditures paid plus their estimate of the future litigation expenditures required to close the cases that were still open, divided by the total number of deaths.

bTotal defendants’ liability litigation expenditures for all passenger and ground death and injury cases divided by the number of accidents.
<table>
<thead>
<tr>
<th>Liability Dispute</th>
<th>Number of Accidents</th>
<th>Average Compensation per Death (1986 dollars)</th>
<th>Average Litigation Expenses per Death</th>
<th>Compensation Litigation Expenses as a Percent of Total Compensation per Death</th>
<th>Average Liability Litigation Expenses per Accident (1986 dollars)</th>
<th>Liability Litigation Expenses as a Percent of Total Compensation per Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td>No significant dispute</td>
<td>12</td>
<td>240,640</td>
<td>18,290</td>
<td>7.6</td>
<td>819,920</td>
<td>3.4</td>
</tr>
<tr>
<td>Significant liability dispute</td>
<td>13</td>
<td>463,358</td>
<td>25,561</td>
<td>5.5</td>
<td>4,349,974</td>
<td>8.9</td>
</tr>
<tr>
<td>All combined</td>
<td>25</td>
<td>362,943</td>
<td>22,245</td>
<td>6.1</td>
<td>2,655,548</td>
<td>7.2</td>
</tr>
</tbody>
</table>

*Total defendants' compensation litigation expenditures paid plus their estimate of the future litigation expenditures required to close the cases that were still open, divided by the total number of deaths.

Total defendants' liability litigation expenditures for all passenger and ground death and injury cases divided by the number of accidents.
<table>
<thead>
<tr>
<th>Years to Agreement on Liability</th>
<th>Number of Accidents</th>
<th>Average Total Compensation per Death (1986 dollars)</th>
<th>Average Litigation Expenses per Death(^a) (1986 dollars)</th>
<th>Compensation Expenses as a Percent of Total Compensation per Death</th>
<th>Average Liability Litigation Expenses per Accident(^b) (1986 dollars)</th>
<th>Liability Litigation Expenses as a Percent of Total Compensation per Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than one</td>
<td>8</td>
<td>288,800</td>
<td>22,027</td>
<td>7.6</td>
<td>796,835</td>
<td>3.5</td>
</tr>
<tr>
<td>One but less than two</td>
<td>8</td>
<td>340,139</td>
<td>16,729</td>
<td>4.9</td>
<td>1,865,654</td>
<td>4.9</td>
</tr>
<tr>
<td>Two or more</td>
<td>9</td>
<td>428,439</td>
<td>26,526</td>
<td>6.2</td>
<td>5,009,865</td>
<td>10.3</td>
</tr>
<tr>
<td>All combined</td>
<td>25</td>
<td>362,943</td>
<td>22,245</td>
<td>6.1</td>
<td>2,655,548</td>
<td>7.2</td>
</tr>
</tbody>
</table>

\(^a\)Total defendants' compensation litigation expenditures paid plus their estimate of the future litigation expenditures required to close the cases that were still open, divided by the total number of deaths.

\(^b\)Total defendants' liability litigation expenditures for all passenger and ground death and injury cases divided by the number of accidents.
Percent of Decedents with Lawsuits in Federal Court

It was hypothesized that cases filed in federal court involve higher defense litigation expenditures (see Table C.11). However, when all other factors were held constant in our multivariate analysis, the percentage of decedents with lawsuits in federal court was not statistically significant in predicting defense litigation expenditures. Nor was the use of multidistrict litigation procedures in federal court significant.

Whether State Law or Treaty Limitations on Total Compensation Applied for Most Deaths in the Accident

Although some states currently prohibit or put a ceiling on compensation for certain types of noneconomic loss, no state law currently limits total compensation in aviation accident deaths. Such was not true in the past, and in two accidents in our study, state law limited total compensation for most decedents. We hypothesized that such a limitation might result in lower defense expenditures. While Table C.12 shows that the defense litigation expenditures for those two accidents were lower than the average for the other 23 accidents, the multivariate analysis indicated that this difference was not statistically significant. However, the effect of the state limitation on total compensation may be captured in the regression analysis by another variable such as the percent of the cases without lawsuits. Our multivariate analysis results are given in Tables 5.3 and 5.4.

Total compensation actually was subject to a ceiling because of the Warsaw-Montreal treaty tickets held by over 75 percent of the decedents in four accidents. As explained in Sec. III, even if a passenger is flying with a Warsaw-Montreal treaty ticket, the total compensation is not limited to $75,000 for a majority of the deaths, for a number of reasons (including payment of compensation by more than one defendant and willful misconduct by the airline). Tables C.13 and C.14 show the variation in defense litigation expenditures by the fraction of decedents who had a Warsaw-Montreal treaty ticket and whether total compensation was actually subject to a ceiling by those tickets for over 75 percent of the victims.

Our multivariate analyses, shown in Tables 5.3 and 5.4 indicate that there is no statistically significant relationship between Warsaw-Montreal treaty tickets or limitations and the amount of money defendants spend litigating, when all other factors about the accidents are held equal. Again, as with all other variables, such a statistically significant relationship might have been demonstrable if we had had data on more than 25 accidents.

---

3Information provided by the lead defense attorney for the accidents.
Table C.11
DEFENDANTS' LITIGATION EXPENDITURES, BY PERCENT OF DECEDENTS
WITH LAWSUITS IN FEDERAL COURT

<table>
<thead>
<tr>
<th>Percent of Decedents with Lawsuits in Federal Court</th>
<th>Number of Accidents</th>
<th>Average Total Compensation per Death (1986 dollars)</th>
<th>Average Compensation Litigation Expenses as a Percent of Total Compensation per Death</th>
<th>Average Liability Litigation Expenses as a Percent of Total Compensation per Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-25</td>
<td>8</td>
<td>362,370</td>
<td>16,884</td>
<td>4.7</td>
</tr>
<tr>
<td>25-50</td>
<td>10</td>
<td>346,643</td>
<td>26,263</td>
<td>7.6</td>
</tr>
<tr>
<td>More than 50</td>
<td>7</td>
<td>397,236</td>
<td>19,043</td>
<td>4.8</td>
</tr>
<tr>
<td>All combined</td>
<td>25</td>
<td>362,943</td>
<td>22,245</td>
<td>8.1</td>
</tr>
</tbody>
</table>

*Total defendants' compensation litigation expenditures paid plus their estimate of the future litigation expenditures required to close the cases that were still open, divided by the total number of deaths.

bTotal defendants' liability litigation expenditures for all passenger and ground death and injury cases divided by the number of accidents.
Table C.12

DEFENDANTS' LITIGATION EXPENDITURES, BY WHETHER STATE LAW LIMITING TOTAL COMPENSATION APPLIED FOR MOST DEATHS IN ACCIDENT

<table>
<thead>
<tr>
<th>State Limitation on Total Compensation for Most Deaths in Accident</th>
<th>Number of Accidents</th>
<th>Average Compensation Per Death (1986 dollars)</th>
<th>Average Litigation Expenses per Death*</th>
<th>Compensation Expenses as a Percent of Total Compensation per Death</th>
<th>Average Liability Litigation Expenses per Accident*</th>
<th>Liability Litigation Expenses as a Percent of Total Compensation per Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>23</td>
<td>370,793</td>
<td>23,306</td>
<td>6.3</td>
<td>2,801,421</td>
<td>7.4</td>
</tr>
<tr>
<td>Yes</td>
<td>2</td>
<td>232,147</td>
<td>7,830</td>
<td>3.4</td>
<td>978,013</td>
<td>3.6</td>
</tr>
<tr>
<td>All combined</td>
<td>25</td>
<td>362,943</td>
<td>22,245</td>
<td>6.1</td>
<td>2,655,548</td>
<td>7.2</td>
</tr>
</tbody>
</table>

*Total defendants' compensation litigation expenditures paid plus their estimate of the future litigation expenditures required to close the cases that were still open, divided by the total number of deaths.

*Total defendants' liability litigation expenditures for all passenger and ground death and injury cases divided by the number of accidents.
Table C.13
DEFENDANTS' LITIGATION EXPENDITURES, BY PERCENT OF DECEDEXT
WHO HAD A WARSAW-MONTREAL TREATY TICKET

<table>
<thead>
<tr>
<th>Percent of Decedents Who Had a Warsaw-Montreal Treaty Ticket</th>
<th>Number of Accidents</th>
<th>Average Compensation per Death (1986 dollars)</th>
<th>Average Compensation Litigation Expenses per Death a (1986 dollars)</th>
<th>Compensation Litigation Expenses as a Percent of Total Compensation per Death</th>
<th>Average Liability Litigation Expenses per Accident b (1986 dollars)</th>
<th>Liability Litigation Expenses as a Percent of Total Compensation per Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>11</td>
<td>407,856</td>
<td>18,585</td>
<td>4.6</td>
<td>1,841,591</td>
<td>6.2</td>
</tr>
<tr>
<td>1-49</td>
<td>5</td>
<td>588,216</td>
<td>38,340</td>
<td>6.9</td>
<td>4,750,797</td>
<td>6.1</td>
</tr>
<tr>
<td>50-99</td>
<td>4</td>
<td>226,352</td>
<td>17,626</td>
<td>7.8</td>
<td>2,255,971</td>
<td>10.4</td>
</tr>
<tr>
<td>100</td>
<td>5</td>
<td>174,405</td>
<td>11,703</td>
<td>6.7</td>
<td>2,671,386</td>
<td>10.9</td>
</tr>
<tr>
<td>All combined</td>
<td>25</td>
<td>362,943</td>
<td>22,245</td>
<td>6.1</td>
<td>2,655,548</td>
<td>7.2</td>
</tr>
</tbody>
</table>

aTotal defendants' compensation litigation expenditures paid plus their estimate of the future litigation expenditures required to close the cases that were still open, divided by the total number of deaths.

bTotal defendants' liability litigation expenditures for all passenger and ground death and injury cases divided by the number of accidents.
### Table C.14
DEFENDANTS' LITIGATION EXPENDITURES, BY WHETHER THE WARSAW-MONTREAL LIMITATION ON TOTAL COMPENSATION APPLIED FOR MOST DECEDETS

<table>
<thead>
<tr>
<th>Warsaw-Montreal Treaty Tickets Limited Total Compensation for Over 75 Percent of Decedents</th>
<th>Number of Accidents</th>
<th>Average Compensation per Death (1986 dollars)</th>
<th>Average Compensation Litigation Expenses as a Percent of Total Compensation per Death (1986 dollars)</th>
<th>Average Liability Litigation Expenses per Accident (1986 dollars)</th>
<th>Liability Litigation Expenses as a Percent of Total Compensation per Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>21</td>
<td>399,599</td>
<td>23,359</td>
<td>5.8</td>
<td>2,940,144</td>
</tr>
<tr>
<td>Yes</td>
<td>4</td>
<td>106,790</td>
<td>14,205</td>
<td>13.3</td>
<td>1,181,417</td>
</tr>
<tr>
<td>All combined</td>
<td>25</td>
<td>362,949</td>
<td>22,245</td>
<td>6.1</td>
<td>2,655,548</td>
</tr>
</tbody>
</table>

*Total defendants' compensation litigation expenditures paid plus their estimate of the future litigation expenditures required to close the cases that were still open, divided by the total number of deaths.*

*Total defendants' liability litigation expenditures for all passenger and ground death and injury cases divided by the number of accidents.*
Number of Defendants

Since compensation litigation usually is handled by the airlines' insurer on behalf of all defendants, we did not expect any statistically significant relationship between the compensation litigation expenditures and the number of defendants, and we found none in our multivariate analyses.

On the other hand, we thought that a larger number of named defendants (or a larger number of defendants who actually paid compensation) might increase the defense liability litigation expenditures for each accident. However, our multivariate analysis (see Tables 5.3 and 5.4) found that the number of named defendants and the number of defendants who paid compensation were not statistically significant in predicting defense liability litigation expenditures. Tables C.15 and C.16 show defense litigation expenditures by the number of named defendants and by the number of defendants who paid compensation, respectively.

Defendants' Litigation Tactics

Defendants employ certain litigation tactics, some of which we could objectively measure, that may affect their litigation expenditures. For example, in 13 accidents, defendants indicated they contacted plaintiffs soon after the accident to make an offer of settlement without waiting for a demand for compensation (see Table C.17). This tactic was not statistically significant in predicting either defense liability litigation or compensation litigation expenditures.

Another tactic used in five accidents by defendants, starting in 1977, was to send a special letter to family members immediately after the accident.4 This letter offered condolences to surviving family members and indicated that the defendants would be making an offer of compensation (see Table C.18). Most of the letters also discussed the plaintiff's use of an attorney. These letters were not statistically significant in predicting either defense liability litigation or compensation litigation expenditures.

A third tactic used in four accidents was to take one or two test cases to trial to resolve certain legal and/or compensation issues (see Table C.19). Like the two other litigation tactics, trials of test cases were not statistically significant in predicting either defense liability litigation or compensation litigation expenditures.

### Table C.15
DEFENDANTS' LITIGATION EXPENDITURES, BY NUMBER OF NAMED DEFENDANTS

<table>
<thead>
<tr>
<th>Number of Named Defendants</th>
<th>Number of Accidents</th>
<th>Average Total Compensation per Death (1986 dollars)</th>
<th>Average Compensation Litigation Expenses per Death(a)</th>
<th>Average Compensation Litigation Expenses as a Percent of Total Compensation per Death</th>
<th>Average Liability Litigation Expenses per Accident(b)</th>
<th>Liability Litigation Expenses as a Percent of Total Compensation per Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 or 2</td>
<td>4</td>
<td>117,419</td>
<td>13,430</td>
<td>11.4</td>
<td>1,228,533</td>
<td>16.5</td>
</tr>
<tr>
<td>3</td>
<td>9</td>
<td>366,511</td>
<td>21,447</td>
<td>5.9</td>
<td>1,012,474</td>
<td>3.3</td>
</tr>
<tr>
<td>4</td>
<td>8</td>
<td>391,772</td>
<td>27,243</td>
<td>7.0</td>
<td>5,134,817</td>
<td>8.9</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>511,218</td>
<td>13,084</td>
<td>2.5</td>
<td>4,432,330</td>
<td>7.5</td>
</tr>
<tr>
<td>6 or more</td>
<td>2</td>
<td>293,709</td>
<td>11,746</td>
<td>5.8</td>
<td>1,299,540</td>
<td>7.2</td>
</tr>
<tr>
<td>All combined</td>
<td>25</td>
<td>362,943</td>
<td>22,245</td>
<td>6.1</td>
<td>2,555,548</td>
<td>7.2</td>
</tr>
</tbody>
</table>

(a) Total defendants' compensation litigation expenditures paid plus their estimate of the future litigation expenditures required to close the cases that were still open, divided by the total number of deaths.
(b) Total defendants' liability litigation expenditures for all passenger and ground death and injury cases divided by the number of accidents.
<table>
<thead>
<tr>
<th>Number of Defendants Who Paid Compensation</th>
<th>Number of Accidents</th>
<th>Average Total Compensation per Death (1986 dollars)</th>
<th>Average Compensation Litigation Expenses per Death</th>
<th>Compensation Litigation Expenses as a Percent of Total Compensation per Death</th>
<th>Average Liability Litigation Expenses per Accident</th>
<th>Liability Litigation Expenses as a Percent of Total Compensation per Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12</td>
<td>266,869</td>
<td>16,605</td>
<td>6.2</td>
<td>1,910,868</td>
<td>10.2</td>
</tr>
<tr>
<td>2</td>
<td>8</td>
<td>488,275</td>
<td>33,047</td>
<td>5.8</td>
<td>4,288,402</td>
<td>7.7</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>398,756</td>
<td>16,079</td>
<td>4.0</td>
<td>1,438,190</td>
<td>3.3</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>251,394</td>
<td>12,639</td>
<td>5.0</td>
<td>2,418,265</td>
<td>3.9</td>
</tr>
<tr>
<td>All combined</td>
<td>25</td>
<td>362,943</td>
<td>22,245</td>
<td>6.1</td>
<td>2,685,548</td>
<td>7.2</td>
</tr>
</tbody>
</table>

a. Total defendants' compensation litigation expenditures paid plus their estimate of the future litigation expenditures required to close the cases that were still open, divided by the total number of deaths.

b. Total defendants' liability litigation expenditures for all passenger and ground death and injury cases, divided by the number of accidents.
Table C.17
DEFENDANTS’ LITIGATION EXPENDITURES, BY WHETHER DEFENDANTS CONTACTED PLAINTIFFS WITH AN EARLY OFFER

<table>
<thead>
<tr>
<th>Early Offer by Defendants</th>
<th>Number of Accidents</th>
<th>Average Total Compensation per Death (1986 dollars)</th>
<th>Average Litigation Expenses per Death(^a) (1986 dollars)</th>
<th>Compensation Litigation Expenses as a Percent of Total Compensation per Death</th>
<th>Average Liability Litigation Expenses per Accident(^b) (1986 dollars)</th>
<th>Liability Litigation Expenses as a Percent of Total Compensation per Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>12</td>
<td>380,696</td>
<td>17,386</td>
<td>5.0</td>
<td>2,389,591</td>
<td>10.6</td>
</tr>
<tr>
<td>Yes</td>
<td>13</td>
<td>369,259</td>
<td>24,729</td>
<td>6.7</td>
<td>2,716,431</td>
<td>5.6</td>
</tr>
<tr>
<td>All combined</td>
<td>25</td>
<td>362,943</td>
<td>22,245</td>
<td>6.1</td>
<td>2,650,548</td>
<td>7.2</td>
</tr>
</tbody>
</table>

\(^a\)Total defendants’ compensation litigation expenditures paid plus their estimate of the future litigation expenditures required to close the cases that were still open, divided by the total number of deaths.

\(^b\)Total defendants’ liability litigation expenditures for all passenger and ground death and injury cases divided by the number of accidents.
### Table C.18
DEFENDANTS’ LITIGATION EXPENDITURES, BY WHETHER A SPECIAL LETTER WAS SENT TO FAMILY MEMBERS IMMEDIATELY AFTER THE ACCIDENT

<table>
<thead>
<tr>
<th>Special Letter</th>
<th>Number of Accidents</th>
<th>Average Total Compensation per Death (1986 dollars)</th>
<th>Average Compensation per Death (1986 dollars)</th>
<th>Compensation Litigation Expenses as a Percent of Total Compensation per Death</th>
<th>Average Liability Litigation Expenses as a Percent of Total Compensation per Accident</th>
<th>Liability Litigation Expenses as a Percent of Total Compensation per Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>20</td>
<td>367,797</td>
<td>16,425</td>
<td>4.5</td>
<td>2,459,361</td>
<td>8.1</td>
</tr>
<tr>
<td>Yes</td>
<td>5</td>
<td>353,860</td>
<td>32,656</td>
<td>9.2</td>
<td>3,440,297</td>
<td>5.5</td>
</tr>
<tr>
<td>All combined</td>
<td>25</td>
<td>362,943</td>
<td>22,246</td>
<td>6.1</td>
<td>2,655,548</td>
<td>7.2</td>
</tr>
</tbody>
</table>

*Total defendants’ compensation litigation expenditures paid plus their estimate of the future litigation expenditures required to close the cases that were still open, divided by the total number of deaths.

*Total defendants’ liability litigation expenditures for all passenger and ground death and injury cases divided by the number of accidents.

*All five of these accidents occurred in 1977 or later, when compensation tended to be higher than in prior years.
<table>
<thead>
<tr>
<th>Test Case Trial(s) to Resolve Issues</th>
<th>Number of Accidents</th>
<th>Average Total Compensation per Death (1986 dollars)</th>
<th>Average Compensation Litigation Expenses per Death</th>
<th>Compensation Litigation Expenses as a Percent of Total Compensation per Death</th>
<th>Average Liability Litigation Expenses per Accident (1986 dollars)</th>
<th>Liability Litigation Expenses as a Percent of Total Compensation per Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>21</td>
<td>305,333</td>
<td>15,095</td>
<td>4.9</td>
<td>2,162,011</td>
<td>7.6</td>
</tr>
<tr>
<td>Yes</td>
<td>4</td>
<td>533,351</td>
<td>42,573</td>
<td>7.9</td>
<td>5,246,617</td>
<td>6.4</td>
</tr>
<tr>
<td>All combined</td>
<td>25</td>
<td>362,943</td>
<td>22,245</td>
<td>6.1</td>
<td>2,555,548</td>
<td>7.2</td>
</tr>
</tbody>
</table>

aTotal defendants' compensation litigation expenditures paid plus their estimate of the future litigation expenditures required to close the cases that were still open, divided by the total number of deaths.

bTotal defendants' liability litigation expenditures for all passenger and ground death and injury cases divided by the number of accidents.
Appendix D

AVIATION ACCIDENT INJURIES

Although few passengers involved in major aviation accidents survive, there are some who are injured rather than killed. In the 25 accidents in this study, 582 people were injured but did not die. We did not conduct a detailed analysis of injury cases, because the data available to us in the lawyers' files often were not adequate to support any analysis. The files often contained conflicting information, which made it very difficult to assess the severity and permanence of the injury or to predict future economic loss to an injured person.

However, we did collect some information about injuries. This information is reported below.

COMPENSATION FOR INJURIES

Very severe injuries can and often do result in higher compensation than death would have, because of the high cost of future medical and personal care and the severe and ongoing pain and suffering that may result from the injury. However, in our study, the average compensation for an injury was substantially less than that for a death in an aviation accident, because many of the injuries were not major.

As shown in Table D.1, the average compensation paid to an injured person was $195,944. The median was significantly less, at $30,297. About 10 percent of the injured people received $500,000 or more with the maximum payment being over $4 million.

Table D.2 shows the percentage of the injury cases in various compensation ranges and the percent of injury compensation paid for people in those compensation ranges. About 35 percent of the injured people received less than $10,000 compensation and less than 1 percent of the total injury compensation paid. Many of these injured people suffered only relatively minor cuts, bruises, or sprains. They may have been on a plane where a few people were killed in an accident but most survived with relatively minor injuries. At the other extreme, there were some very severe injuries, most of them involving burns and permanent disability. Injuries resulting in compensation of $1 million and up constitute only about 6 percent of all the injuries, but about 48 percent of the injury compensation.
### Table D.1
DISTRIBUTION OF TOTAL COMPENSATION PAID PER INJURY

<table>
<thead>
<tr>
<th>Percentile</th>
<th>Compensation (1986 dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>1,559</td>
</tr>
<tr>
<td>25</td>
<td>5,434</td>
</tr>
<tr>
<td>50</td>
<td>30,227</td>
</tr>
<tr>
<td>75</td>
<td>161,789</td>
</tr>
<tr>
<td>90</td>
<td>543,711</td>
</tr>
<tr>
<td>100</td>
<td>&gt; 4,000,000</td>
</tr>
<tr>
<td>Average</td>
<td>195,944</td>
</tr>
</tbody>
</table>

### Table D.2
PERCENT OF INJURY CASES WITH VARIOUS LEVELS OF COMPENSATION

<table>
<thead>
<tr>
<th>Total Compensation Paid per Injury (1986 dollars)</th>
<th>Percent of Injury Cases</th>
<th>Percent of Injury Compensation</th>
<th>Number of Closed Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-9,999</td>
<td>35</td>
<td>1</td>
<td>204</td>
</tr>
<tr>
<td>10,000-49,999</td>
<td>22</td>
<td>3</td>
<td>127</td>
</tr>
<tr>
<td>50,000-99,999</td>
<td>8</td>
<td>3</td>
<td>48</td>
</tr>
<tr>
<td>100,000-199,999</td>
<td>13</td>
<td>9</td>
<td>76</td>
</tr>
<tr>
<td>200,000-299,999</td>
<td>5</td>
<td>6</td>
<td>27</td>
</tr>
<tr>
<td>300,000-399,999</td>
<td>4</td>
<td>7</td>
<td>23</td>
</tr>
<tr>
<td>400,000-499,999</td>
<td>3</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>500,000-999,999</td>
<td>5</td>
<td>18</td>
<td>28</td>
</tr>
<tr>
<td>1,000,000 and up</td>
<td>6</td>
<td>48</td>
<td>34</td>
</tr>
</tbody>
</table>
A total of 11 people who claimed injury had cases closed with zero total compensation paid—probably because the allegedly injured party was unable to adequately document the existence of an injury.

DEFENSE EXPENDITURES FOR INJURY CASES

We estimate that defendants spent a total of $6,131,835 to resolve the issue of liability for injury cases in aviation accidents. The average was $10,536 for each of the 582 injuries, or $245,273 for each of the 25 accidents. The defendants did not account for defense legal fees and other expenses separately for injury cases. However, they could estimate the total amount of money spent for each accident to resolve the issue of liability for all death and injury cases combined. We allocated those defense expenses for resolution of the liability issue between death and injury cases, in proportion to the total amount of compensation paid on all death cases versus the total amount of compensation paid on all injury cases for the accident.

The resolution of the issue of how much compensation was to be paid for each injury victim cost the defendants $9,759,396, or an average of $16,769 per injury case. The defendants provided us with information on the total amount of money spent for each accident for resolution of the issue of the amount of compensation to be paid on all cases combined, including both death and injury cases. We conducted interviews with the defendants to see how that total amount should be divided between death and injury cases. The defendants, insurers, and lawyers were able to tell us either the amount of work time spent on typical cases of various types or the relative amount of work time spent on death cases versus major injury cases versus minor injury cases. For some accidents, the division of the expenditures between death and injuries also was based on whether the case was easy to settle, was hard to settle (required depositions), or was tried. The actual information used to divide expenses between death and injury cases varied from accident to accident, based on the information the insurers or lawyers could provide.

The information we received was sufficiently different for each accident that we cannot present it in any meaningful way without violating our promise not to talk about the specifics of any accident. However, in general, we learned that resolution of the issue of the amount of compensation to be paid on the average major injury case usually required at least as much effort as that for the average death case for the accident, but not more than twice as much. The additional work required on an injury case involves ascertaining the true nature
and extent of the injury, and following the case over time while waiting for injuries to stabilize so that the degree of permanence of the injury or disability becomes clearer. On the other hand, a case involving minor injuries such as cuts and bruises usually requires less time to resolve than a death case.

In sum, the defense expenditures for injury cases (including expenditures for resolution of the issue of liability and the issue of the amount of compensation to be paid) add to a total of $15,891,231, or $27,305 in defense expenses per injury. Defense expenses were 14 percent of the average $195,944 compensation per injury. The total amount spent by defendants and their insurers per injury, including both compensation and defense expenses, was $223,246.

---

1 We did not collect information on the percentage of compensation that went for injured plaintiffs' legal fees and expenses.
ICJ Publications

Process: Courts


Priest, G. L., Regulating the Content and Volume of Litigation: An Economic Analysis, R-3084-ICJ, 1983.


Process: Lawyers and Litigants


Process: Juries


Process: Alternative Dispute Resolution


Costs


**Trends in Outcomes**


**Understanding Outcomes**


**Alternative Compensation Systems**


**Toxic Substances**


Interaction Between the Civil Justice System and the Economy


Legislative Testimony

Danzon, P. M., *The Effects of Tort Reforms on the Frequency and Severity of Medical Malpractice Claims: A Summary of Research Results*, P-7211-ICJ, 1986. (Testimony before the Committee on the Judiciary, U.S. Senate.)


———, *Summary of Research Results on the Tort Liability System*, P-7210-ICJ, 1986. (Testimony before the Committee on Commerce, Science, and Transportation, U.S. Senate.)

———, *Trends in California Tort Liability Litigation*, P-7287-ICJ, 1987. (Testimony before the Select Committee on Insurance, California State Assembly.)

Kakalik, J. S., and N. M. Pace, *Costs and Compensation Paid in Tort Litigation*, P-7243-ICJ, 1986. (Testimony before the Subcommittee on Trade, Productivity, and Economic Growth, Joint Economic Committee of the Congress.)

Syntheses and Policy Implications


———, What We Know and Don't Know About Court-Administered Arbitration, N-2444-ICJ, 1986.


A special bibliography (SB 1064) provides a list of other RAND publications in the civil justice area. To request the bibliography or to obtain more information about The Institute for Civil Justice, please write the Institute at this address: The Institute for Civil Justice, The RAND Corporation, 1700 Main Street, P.O. Box 2138, Santa Monica, California 90406-2138, (213) 393-0411.