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Rhetoric and Reality: Tort Reform and the Uncertain Future of General Aviation

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I. INTRODUCTION

A. POLICY ANALYSIS

POLICY MAKERS frequently find themselves looking for historical analogues to policies currently on the agenda. Previous changes in laws and regulations provide important lessons for the formulation and implementation of new policies. These examples can provide political ammunition during the policy debate as supporters or opponents point to the results of previous efforts as "strong" or "compelling" evidence to support their respective positions. Supporters search for evidence to suggest that their favored policy is likely to result in positive outcomes, while opponents hope to find examples that demonstrate the failure of similar policies, or at least negative ramifications from earlier, similar decisions.

A recent article by Boswell and Coats in this Journal entitled, *Saving the General Aviation Industry: Putting Tort Reform to the Test,*

follows this approach.[1] The authors offer a simple analytical framework for understanding or testing tort reform. They argue that "[d]uring the 1980s tort lawsuits decimated the general aviation industry."[2] This is the same straightforward statement of cause and effect voiced by aircraft manufacturers and their major industry group—the General Aviation Manufacturers Association (GAMA).[3] Indeed, the industry's campaign against the products liability system was so effective that it has become the conventional wisdom for many commentators, including Boswell and Coats.[4] According to the liability crisis thesis, the onslaught of tort lawsuits caused the demise of America's general aviation industry. Boswell and Coats conclude that general aviation is "an ideal laboratory for tort reform."[5] That is, the causal links between tort lawsuits and the demise of the industry are so clear that a reform of the tort laws in the case of the general aviation industry will provide a good model for other industries and segments of the economy. We disagree.

In this Paper we assess the assumptions and biases of arguments like the one presented by Boswell and Coats. Assumptions and biases are important because they shape both the analytical framework and the conclusions of the research. If the assumptions are based on misinterpretations of the empirical evidence or the normative interests of the researcher the conclusions are likely to mislead. In the case of policy analysis, such conclusions can lead to unwarranted political, economic, and social costs.

Before any lessons about tort reform are learned in the wake of the General Aviation Revitalization Act[6] (GARA), it is important to examine the changing economic and political environment of the 1970s and early 1980s. Without a clear understanding of other factors affecting both the decline of the industry and its possible revitalization, it is nothing short of dangerous to conclude that we really can learn anything about tort reform. For example, if the assumption is that tort claims exclusively caused the demise of the industry, then other explana-

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[1] John H. Boswell & George A. Coats, *Saving the General Aviation Industry: Putting Tort Reform to the Test*, 60 J. AIR L. & COM. 533 (1994).

[2] *Id.* at 535.

[3] *See, e.g.*, GENERAL AVIATION MANUFACTURERS ASS'N, LIABILITY REFORM FOR GENERAL AVIATION: A NEED AT THE POINT OF CRISIS 1 (1992) [hereinafter GAMA].

[4] Boswell & Coats, *supra* note 1, *passim*.

[5] *Id.* at 536.

[6] 49 U.S.C. § 40101 (Supp. V 1993).

tions are ignored. Similarly, if this assumption is carried forward and the industry revives after the passage of GARA and other tort reform efforts, then other explanations for its recovery are likely to be ignored or overlooked.

These kinds of conclusions are problematic for at least two reasons. If tort lawsuits are given too much blame for the demise and tort reform is given too much credit in the event of a revival, then the root problems affecting the industry and the real sources of its revival are ignored. The same can be said if the industry fails to revive despite tort reform. Without a better understanding of other factors affecting the health of the industry, tort reform might be unfairly labeled a failure. Given the economic and social importance of tort reform efforts, such a conclusion would have consequences well beyond the debate about the fate of America's general aviation manufacturers.

It is not our intention to suggest that products liability lawsuits did not have detrimental effects on America's general aviation industry. It is, however, our contention that the effects of products liability on the decline of the industry and the ramifications of tort reform in this area are not well understood. We merely caution against using general aviation as a test for the efficacy of broader tort reform efforts that have been the subject of much debate in Congress recently.[7] In the balance of this study, we present a number of alternative explanations for the demise of the industry and suggest several factors that are likely to affect the industry's future. We begin with a brief description of the general aviation industry and a review of the "liability crisis" as it is called by industry officials and their supporters. We attempt to offer a balanced account by presenting cases often cited by tort reform advocates as well as some information that the industry and its supporters successfully kept out of the debate.

[7] On May 10, 1995, the U.S. Senate passed a products liability bill that would set new federal limits on lawsuits against manufacturers and distributors of faulty products. Whether the bill becomes law remains a wide-open question to be determined by House-Senate conferees and eventually the President, who has promised to veto the stronger House version that would place caps on punitive damage awards in all civil suits. *See* Richard B. Schmitt, *Product-Liability Bill Heads to Conferees*, WALL ST. J., May 11, 1995, at B6.

B. The American General Aviation Industry

General aviation is an important part of the transportation sector and the broader economy.[8] Operators of general aviation aircraft provide a variety of aviation services, such as pilot training, crop-dusting, and emergency medical evacuation that are not efficiently provided by alternative modes of transportation. General aviation aircraft also provide passenger service in areas that commercial airlines are unwilling or unable to service.[9]

The importance of the industry does not stop with the kinds of service provided by the operators of single and multi-engine aircraft. The industry is a major contributor to the nation's economy through the production, sale, and service of an enormous fleet of aircraft that serves over 120 million people annually.[10] When finance, flight instruction, insurance, maintenance, and other services are included, the industry contributes over $40 billion to the national economy and provides more than 540,000 jobs.[11] Approximately seventy-five percent of the world's light aircraft operate in the United States of America.[12]

C. Products Liability

The field of products liability law developed almost exclusively in the United States over the last half-century.[13] The generally accepted legal definition of the term is the "liability of a manufacturer or seller of a chattel which is defective and/or unreasonably dangerous and causes injuries to persons."[14] There are at least four objectives of liability law: to compensate victims of accidents, to deter injurers, to spread risk equitably, and to fos-

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[8] *See, e.g.*, Alexander T. Wells, Air Transportation: A Management Perspective (2d ed. 1984).

[9] *Id.*

[10] *Industry, NASA, the FAA, and Universities Join Forces to Revitalize the General Aviation Industry*, Agate Flier, Aug. 1994, at 1.

[11] FAA, Proceedings of the Second Annual FAA General Aviation Forecast Conference (1992).

[12] R.L. Swanda, *Light General Aviation*, *in* Future Aviation Activities: Proceedings of the Sixth International Workshop of the Transportation Research Board (1990).

[13] The Liability Maze: The Impact of Liability Law on Safety and Innovation 1 (Peter W. Huber & Robert E. Litan eds., 1991) [hereinafter Liability Maze].

[14] William L. Prosser, Handbook of the Law of Torts 641 (4th ed. 1971).

ter innovation and safety.[15] These goals are interrelated in complex ways making it difficult to sort out the relationships. One legal theory that provides the basis for the nation's liability system is that injurers will be deterred from producing goods or services that may be unsafe because of the threat of liability lawsuits.[16] However, if injurers must compensate victims for injuries associated with the use of their products, victims bear little risk and will themselves have less incentive to avoid accidents.[17] On the other hand, an injurer that has liability insurance theoretically has a reduced incentive to deter accidents.[18] Thus, the twin goals of accident prevention and risk spreading are often in unavoidable conflict. Furthermore, the massive costs associated with litigation make the deterrent effects of liability very expensive, prompting many observers of the nation's liability system to argue that "first party" accident insurance is a superior method of compensating victims than "third party" liability insurance.[19] Despite this argument, third party products liability is a central feature of the modern civil justice system.[20] Manufacturers and sellers of goods traditionally purchased liability insurance to protect themselves from potential damages that might arise from the use of their products, and to spread the risks associated with these goods.[21] The enormous costs associated with insurance premiums and products liability litigation caused a massive lobbying campaign by business groups to promote the need for reform of the civil justice system.[22] Products liability laws are at the top of reformers' list of actions needed to curb the alleged abuses.[23]

According to Huber and Litan, "[w]e know much more about how the liability system works than about what it achieves."[24] In that regard, it was historically accepted that liability rules pro-

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[15] *See, e.g.*, LIABILITY: PERSPECTIVES AND POLICY 3-5 (Robert E. Litan & Clifford Winston eds., 1988) [hereinafter Litan & Winston].

[16] *Id.* at 3.

[17] *See, e.g., id.*; PROSSER, *supra* note 14.

[18] *See, e.g.*, PROSSER, *supra* note 14.

[19] *See, e.g.*, PETER W. HUBER, LIABILITY: THE LEGAL REVOLUTION AND ITS CONSEQUENCES (1988); Litan & Winston, *supra* note 15.

[20] HUBER, *supra* note 19, at 8.

[21] *See, e.g.*, HUBER, *supra* note 19; Litan & Winston, *supra* note 15.

[22] *See, e.g.*, Richard B. Schmitt, *Senate Acts to Salvage Product Bill By Abandoning Punitive-Damages Cap*, WALL ST. J., May 9, 1995, at A3.

[23] *Id.*

[24] LIABILITY MAZE, *supra* note 13, at 1.

mote safety.[25] The logic is simple: Third party liability laws that impose costs on manufacturers will raise the price of design and/or process defects to unacceptable levels.[26] In theory, in order to avoid these costs, manufacturers will be more vigilant in product research and development and produce safer products.[27] This is the standard argument made by the plaintiff's bar in favor of the products liability system.[28]

The long term safety record of general aviation seems to give credence to this argument, although the efficacy of the tort system in promoting safety and innovation is the subject of considerable debate as we discuss elsewhere in this article.[29] Despite this debate, the scope of liability has expanded substantially over the past thirty years based upon this logic.[30]

D. Negligence and Strict Liability Rules

The traditional common law doctrine of liability was the simple theory of negligence, whereby the injurer is liable only if he or she failed to take reasonable care.[31] Under the negligence rule, for one party to be liable to another, the party had to be at fault.[32] The theory of negligence was satisfactory until recently when proof of negligence became unworkable because of the complexity of products being manufactured and the difficulty of proving a manufacturer negligent.[33] As a result, the Supreme Court of California embraced the rule of strict liability, whereby the injurer is held liable for damages even if reasonable care was taken.[34] Under strict liability standards, the fact that the injurer's behavior was reasonable and free of fault is not a de-

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[25] *Id.*

[26] *Id.* at 1-2.

[27] *See, e.g.*, PROSSER, *supra* note 14.

[28] *See, e.g., The General Aviation Product Liability Standards Act of 1991: Hearings on S. 645 Before the Senate Comm. on Commerce, Science, and Transportation*, 102d Cong., 1st Sess. 8 (1991) (statement of Robert B. Creamer). For an opposing view, see HUBER, *supra* note 19, at 170-71.

[29] *See infra* notes 35-39 and accompanying text.

[30] Carl Shapiro, *Symposium on the Economics of Liability*, J. ECON. PERSP., Summer 1991, at 3.

[31] GAMA, *supra* note 3, at 2.

[32] *Id.*

[33] Wayne E. Ferrell, Jr., *Aircraft Manufacturer's Liability*, 17 ANNALS AIR & SPACE L. 97, 99 (1992).

[34] *See* Greenman v. Yuba Power Prods., Inc., 377 P.2d 897 (Cal. 1963) (landmark decision recognizing the imposition of strict liability).

fense.[35] Under strict liability rules, consumers did not have to prove a manufacturer was negligent.[36]

According to Ferrell, the accepted definition of strict liability is stated in Section 402-A, Restatement (Second) of Torts.

> The requirements to hold the manufacturer liable are that: the manufacturer or seller be engaged in the business of selling the product; the product reaches the consumer without substantial change in the condition from the time when it was sold; the product is in a defective condition; (and/or) the product was unreasonably dangerous to the consumer or to the consumer's property; and, the defective condition or unreasonably dangerous condition was a contributing proximate cause of the injury.[37]

As a theoretical concept, strict liability standards are actually a special application of the negligence rule in which the reasonable care standard is set so high that no manufacturer can meet it.[38] Nevertheless, courts across the nation adopted the rule of strict liability in the 1960s and 1970s, shifting a greater burden toward manufacturers.[39]

E. Products Liability in General Aviation

During this period, aviation manufacturers became targets of attack under the new strict liability regime.[40] In the aviation context products liability refers to the question of who bears the risks associated with accidents. Since aircraft must be designed and manufactured to very high standards, almost all aviation products liability cases have involved claims of defective design.[41] Initially, products liability for general aviation was seen as a problem limited to California, because of its affluence and geography, and because almost fifteen percent of all general aviation aircraft registered in the United States are based in that state.[42] By the mid-1970s, however, manufacturers of general aviation aircraft began to appreciate the enormous potential threat that strict liability posed. Annual liability premiums for

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[35] Ferrell, *supra* note 33, at 98.

[36] *Id.* (citing Restatement (Second) of Torts § 402-A (1965)).

[37] *Id.*

[38] Shapiro, *supra* note 30, at 6.

[39] *See, e.g.*, Davis v. Wyeth Labs., Inc., 399 F.2d 121 (9th Cir. 1968); Barker v. Lull Eng'g Co., 573 P.2d 443 (Cal. 1978); Turner v. General Motors Corp., 514 S.W.2d 497 (Tex. Civ. App.—Houston [14th Dist.] 1974, writ ref'd n.r.e.).

[40] GAMA, *supra* note 3, at 1-4.

[41] *Id.*

[42] Robert Martin, *General Aviation Manufacturing: An Industry Under Siege*, *in* Liability Maze, *supra* note 13, at 481.

the defense of an increasing number of liability cases quickly reached proportions of several million dollars each for the three largest general aviation aircraft manufacturers.[43] In addition, suppliers of power plants, avionics, instruments, and parts also became targets for liability suits.[44]

General aviation aircraft manufacturers made a strategic decision to vigorously defend virtually every case, despite the circumstances of the case or the risks involved.[45] According to one commentator, general aviation aircraft manufacturers suffer from "undue pride in their products," which can lead to sorry results that include large verdicts, bad precedents, a proliferation of similar claims, increases in insurance rates, and even cancellation of insurance. Unwavering commitment to their products is not surprising from a commercial perspective, since consumer confidence is especially important. No aircraft manufacturer can afford to have its name associated with crashes. Admission of even the smallest defect may lead to lost sales and a damaged reputation.

In addition to a strong defense, general aviation manufacturers and other groups with a vested interest in general aviation mounted a well-financed lobbying campaign to reform the na-

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[43] Gregory P. Wells, Comment, *General Aviation Accident Liability Standards: Why the Fuss?*, 56 J. AIR L. & COM. 895 (1991).

[44] GAMA, *supra* note 3, at 4.

[45] A former defense lawyer and current Appellate Court Justice explains why:

> It must be noted that defense trial counsel is placed in a dilemma in many cases involving products liability. It is very difficult, perhaps impossible, for manufacturers and their regular corporate counsel to recognize, let alone accept, the state of the law as it exists in the field of products liability. The relationship between the engineering and executive personnel of manufacturers and their attorneys is often inimical to an open, frank discussion of legal responsibility. Defense trial counsel may become the object of criticism if he forthrightly advises the manufacturer and the manufacturer's corporate counsel that the case does not appear to be factually or legally defensible and that the exposure to damages is very high, and that settlement . . . is indicated. He may not be retained in future cases, *even if he is able to effect a prudent, money-saving settlement.* On the other hand, if he "goes along" (with the manufacturer and its corporate attorneys), he is more likely to "get along."

1984 TRIAL LAWYER'S GUIDE 464 (John J. Kennelly ed.) (emphasis in original); Blevins v. Cessna Aircraft Co., 728 F.2d 1576 (10th Cir.), *cert. dismissed*, 468 U.S. 1228 (1984).

tion's liability laws.[46] As part of this campaign they charged, as Boswell and Coats argue in their article, that "a rash of tort lawsuits based on wildly improbable factual backgrounds plagued the general aviation industry."[47] The proponents of tort reform use cases involving general aviation accidents to support the charge that the nation's legal system is out of control. Boswell and Coats provide several of the most widely cited and outrageous cases[48] including *Cleveland v. Piper Aircraft Corp.*,[49] *Datskow v. Teledyne Continental Motors Aircraft Products*,[50] *Guarnere, Haper & Cannuli v. Cessna*,[51] and *Hill v. Piper*.[52]

II. CASES SUPPORTING THE INDUSTRY

In addition to those cases cited by Coats and Boswell, several other cases were also used as evidence to support industry claims of a judicial system run amok.

A. *BYBEE V. CESSNA AIRCRAFT*

The industry used other cases such as *Bybee v. Cessna*[53] for evidence to support their thesis. In *Bybee*, Cessna was sued and ordered to pay $1 million to a severely injured passenger after a pilot defaulted on a $750,000 judgment because he failed to inform his insurance company of the accident. The pilot, who had illegally overloaded his aircraft, lost control and crashed into a building at a California airport. The injured passenger, the third occupant in a two seat trainer aircraft, was a small boy illegally occupying the aircraft without a seat or restraint system who sustained a brain injury when he ejected through the windshield and struck his head on a steel beam inside the building.

B. *STEWART V. CESSNA*

Another case used by supporters of products liability reform is *Stewart v. Cessna*.[54] In *Stewart*,

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[46] Barbara Carton, *Cessna Says It Will Make More Small Airplanes*, WALL ST. J., Mar. 14, 1995, at B1.

[47] Boswell & Coats, *supra* note 1, at 542.

[48] *Id.* at 542-46.

[49] 985 F.2d 1438 (10th Cir.), *cert. denied*, 114 S. Ct. 291 (1993).

[50] 826 F. Supp. 677 (W.D.N.Y. 1993).

[51] Boswell & Coats, *supra* note 1, at 545.

[52] *Id.* at 546.

[53] GAMA, *supra* note 3, at 8.

[54] *Id.* at 9.

> Unison paid $20,000 to settle its portion of a case where a plane crashed with a large bird's nest in the engine's air intake. Prior to takeoff at a New Jersey airport, witnesses said the pilot conducted an excessively long engine run-up. The engine backfired. Black smoke billowed from its exhaust stack. Still, the pilot elected to take off. He and his four passengers were seriously injured. A National Transportation Safety Board investigation showed a failure to discover the bird's nest during pre-flight inspection.[55]

These and other cases provide powerful ammunition to use in the industry's campaign to reform the American legal system, at least as it is applied to the general aviation industry. To a public that is generally very suspicious of trial lawyers, these cases simply verify the conventional wisdom: that the nation's civil justice system is out of control. What many commentators, including Boswell and Coats, fail to present are cases and information that demonstrate the lengths that the general aviation industry would go to cover up safety problems. Careful scrutiny of products liability cases and related materials uncovered a variety of fraudulent actions on the part of aircraft manufacturers that portray the nation's liability system and the industry in a very different light.

III. CASES AND INFORMATION DAMAGING THE INDUSTRY ACCOUNT

A. *CARLUCCI V. PIPER AIRCRAFT CORPORATION*

For example, in *Carlucci v. Piper Aircraft Corp.*,[56] the court ruled that Piper forfeited its right to defend itself on the merits of the case because of its gross and deliberate abuse of the discovery process over a six-year period. *Carlucci* involved the fatal crash of a Piper Cheyenne Turbo-prop at Shannon International Airport in Ireland which resulted in the death of four passengers, all of whom were business executives. In the course of preparing a wrongful death suit against Piper on behalf of survivors' families, plaintiffs' attorneys amassed considerable damaging evidence that the aircraft's design was flawed. Their investigation revealed several safety and longitudinal instability problems—including a propensity to move in a direction opposite from what the control stick indicated. The investigation also revealed that the serious longitudinal instability problems were

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[55] *Id.*

[56] 102 F.R.D. 472, 486 (S.D. Fla. 1984).

well known to Piper. The court's scathing forty-five page order imposed heavy sanctions against Piper for its flagrant abuse of the discovery process which included willful misconduct such as concealment and manipulation of evidence, stalling, and intentional alteration, substitution, and destruction of incriminating evidence.[57] After the ruling, the only matter left to be tried was the question of damages. *Carlucci* was settled when Piper entered a $10 million consent judgment in the district court in West Palm Beach, Florida, waving its right to appeal.[58]

B. *BEYER V. BEECH*

Without a doubt the most infamous case of general aviation products liability is *Beyer v. Beech Aircraft Co.*[59] *Beyer* involved one of Beech's most popular airplanes—the V-Tail Bonanza. A brief review of the background of the Bonanza is required before turning to the specifics of *Beyer.* Beech introduced the 35-series Bonanza with its distinctive "V" or butterfly tail in 1947. This particular version of the Bonanza is the only production plane in the United States with this unusual design. The Bonanza is very popular; more than 10,000 V-tailed models have been produced and sold.[60] The airplane has a history of in-flight airframe failures as more than 500 persons have died as a result of crashes in which 250 of these planes have come apart in the air.[61] This record earned the V-Tail Bonanza the ignoble nickname among general aviationists of "the split-tail doctor killer," because so many doctors own them.[62]

In-flight airframe failures are rare events, responsible for causing only about one percent of all general aviation accidents; yet apparently twenty-five percent of V-Tail Bonanza accidents have involved airframe failures according to Department of Transportation investigation.[63] An average of seven V-tails come apart during flight every year.[64] No one has survived.[65]

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[57] *Id.*; *see also* Thomas F. Lambert, *Default Sanction Against Piper Aircraft for Discovery Misconduct,* 27 ATLA L. REP. 194-95 (1984).

[58] Lambert, *supra* note 57.

[59] Beyer v. Beech Aircraft Co., CV 81-2120 (10th Jud. Cir. Ala. Sept. 1985).

[60] The account presented here relies heavily on R. Ben Hogan III, *The V-Tail Bonanza: A Turbulence Trap,* TRIAL, June 1986, at 68-72.

[61] *See, e.g.,* Brent Silver, *The V-Tail Bonanza—Breaking of a Legend,* AVIATION CONSUMER, Feb. 1, 1980.

[62] Hogan, *supra* note 60, at 68.

[63] *Id.* (citing TRANSPORTATION SYS. CTR., U.S. DEP'T OF TRANSP., TASK FORCE REPORT, V-TAIL BONANZA INVESTIGATION 79 (Mar. 1985)).

[64] Hogan, *supra* note 60, at 68.

The official position of Beech Aircraft has been that there is nothing wrong with the design of the Bonanza, rather, the fault is with pilots who allow the aircraft to get into overspeed conditions that causes structural breakdown.[66] However, Beech also produces a Bonanza model that is identical in every way, except for the V-tail.[67] According to a study by the National Transportation Safety Board (NTSB) only three Bonanza's with conventional tails have experienced in-flight failures in its history—a rate less than one-twentieth as high as the V-tail's.[68] With this background, we can now turn to *Beyer.*

On May 23, 1979, Joseph Beyer was asked to transport a V-Tail Bonanza from his base in Florida to its new owner in Mississippi. The aircraft was produced in 1956 but it had less than 3,000 hours of airframe time, making it a "young" aircraft by Bonanza standards.[69] Records show that while en route, Beyer, a professional instrument-rated pilot, stopped in Tallahassee to refuel and check weather conditions to his destination, Vicksburg. Beyer filed an Instrument Flight Rules (IFR) plan that would have taken him directly from Tallahassee to Mobile where he was to turn onto another IFR airway to Vicksburg. Computer records of the aircraft's path reveal that Beyer flew a straight line to Mobile where he made an unexpected turn and disappeared from radar. *Beyer* was unusual in that there were eyewitnesses on the ground who say that they saw the plane descending from 3,000 feet relatively level but "floundering." They reported that the wings and tail suddenly broke off from the fuselage in what appeared to be an explosion; the fuselage subsequently crashed onto a blacktop parking lot, killing Beyer.

Beyer's descendants filed suit against Beech in the circuit court of Jefferson County, Birmingham, Alabama, contending that (1) defective tail design led to the failure of the aircraft and (2) Beech was negligent for failing to warn pilots of the higher rate of in-flight breakups of the V-Tail Bonanza over its sister conventional-tail model.

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[65] *Id.*

[66] *Id.*

[67] *Id.* at 71.

[68] Hogan, *supra* note 60, at 68 (citing NATIONAL TRANSP. SAFETY BD., BUREAU OF TECHNOLOGY, REPORT NO. NTSB-AAS-79-1 (May 31, 1979)).

[69] Hogan, *supra* note 60, at 68.

1. V-Tail Design History

In the early 1950s, Beech attempted to reduce the known tail-wagging properties of the Bonanza by increasing the size of the stabilizers.[70] The aircraft makers added six inches of sheet metal to the leading edge of each stabilizer (the V-tail surfaces).[71] But the spars that hold the tail to the fuselage were not moved forward at the time the leading edge was increased.[72] In the modified tail, present in the Beyer Bonanza and all other post-1951 models, the front spar remained in the middle of the tail.[73] In essence, the front fifteen inches of the tail are not connected to the airplane.[74] According to expert testimony, it is the V-tail design and flawed modifications that can result in complete in-flight breakup of the aircraft.[75]

Thus, evidence of the defect was known to Beech officials as early as the mid-1950s. The aircraft, however, was enormously popular and in 1956 Beech introduced the Model 35C Bonanza, which featured increased horsepower and engine size to improve performance.[76] In the fall of 1957 a group of concerned Bonanza owners requested that engineers design an add-on structural modification to cure the defect.[77] The engineers completed their work and sent the appropriate materials to FAA and NTSB officials.[78] The FAA recommended that Beech investigate the efficacy of the proposed structural modification to the tail.[79] The company, however, declined to make any structural changes.[80] Despite clear evidence of the defect, no action was taken by Beech to address the tail problem.

The number of crashes involving Bonanzas with apparent structural problems began to mount.[81] The Civil Aeronautics

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[70] *Id.* at 68.

[71] *Id.*

[72] *Id.*

[73] *Id.*

[74] *Id.*

[75] *Hearings on General Aviation Revitalization Act of 1993 Before the Subcomm. on Economic and Commercial Law of the House Comm. on the Judiciary*, 103d Cong., 2d Sess. 41-151 (1994) (statement of Ronald O. Stearman, Bettie Margaret Smith Professor in Engineering, Department of Aerospace Engineering and Engineering Mechanics, The University of Texas at Austin) [hereinafter Stearman].

[76] *Id.*

[77] *Id.*

[78] *Id.*

[79] *Id.*

[80] Stearman, *supra* note 75.

[81] *Id.*

Agency (CAA), predecessor to the FAA, was responsibile for investigating these accidents. Troubling reports began to surface that provided seemingly powerful evidence that the Bonanza was seriously flawed.[82] For example, CAA investigator Robert F. Wedberg concluded in a report to his supervisor that "in view of the accident record of the Bonanza involving tail failures, it is recommended that the tail be redesigned by moving the front spar of the stabilizer forward."[83] Another investigator submitted the following report:

> Once again there had been a fatal accident in the region involving a Beech Bonanza tail failure and the question again arises regarding the strength of the tail . . . . As in previous cases which we have investigated, the sequence of failures started with the tail which failed torsionally downward . . . . The torsional failure is due, as you know, to the fact that the stabilizer front spar is located too far aft at 50% of the stabilizer chord. We note in your memorandum . . . that the effect of the torsional deflection on the stabilizer airload distribution (CAR3.171b) was not taken into account during the static tests . . . . [I]t is felt that [further] test[s] should be made . . . . We realize that there will be considerable opposition from Beech to retesting the tail as their personnel have been adamant during accident investigations in maintaining that the tail does not fail first. However, we feel that there are good and sufficient reasons for checking the tail.[84]

This strong language provides compelling evidence of concerns voiced by safety investigators regarding the Beech Bonanza tail. It is both astonishing and disturbing that company executives did not see fit to address the investigators' recommendations. These reports raise serious questions over the efficacy of safety regulations and the relationship between regulators and the industry. By 1958 Beech management completed an internal study entitled "Comparison of the Model 35 V-tails vs. Model 95 Conventional Tail."[85] The report indicated that:

> Much of the advertising on the Model 35 has been directed toward the advantages of the V-tail; its contribution to the in-

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[82] *Id.*

[83] Hogan, *supra* note 60, at 70 (quoting Memorandum from Robert F. Wedberg, Design Evaluation Engineer, to the Chief, Airframe and Equipment Branch CAA (May 1, 1956) (discussing partial failure of left stabilizer on V-tail of Beech Bonanza Model C35 Tail)).

[84] *Id.* (quoting Memorandum from N.N. Shapter, Chief, Airframe and Equipment Branch, to Region 3 Administrator, CAA (May 23, 1958) (refering to Beech Bonanza Model C35 Tail)).

[85] *Id.* at 71.

> creased useful load of the airplane due to its lighter weight; and higher performance available due to its lower drag. Another item not advertised but much discussed within the plant has been its lower manufacturing cost which thereby increases our profit potential . . . . If the K-35 (Serial 5796 and after) were to be built with a Model 95 tail surfaces (conventional tail) instead of the Model 35 tail surfaces, the airplane would be affected as follows: (A) Beech cost would be increased about $1,047 per airplane per production cost alone based on 300th Model 95 tail versus unit time on present Model 35 tail. These figures do not include amortization of any tooling or development costs for licensing the new airplane.[86]

Management concluded that the V-Tail Bonanza had a proven market appeal and the unusual design saved the company more than $1,000 per plane in production costs.[87] Despite a steady rise in fatal accidents and growing concern among Bonanza owners and associated groups, Beech continued to deny any defect with the V-tail design.[88] The aircraft maker mounted vigorous defenses and won all suits—until *Beyer*.[89]

2. *The Trial*

Beyer was filed in the State of Alabama Circuit Court in Birmingham. Beech neither seek to move to federal court nor contested venue in Jefferson County. Beech hired a former president of the Alabama Bar Association as its chief counsel. As expected, Beech denied that any defect in the V-tail caused the fatal accident and did not offer a settlement. Instead, the defense utilized its proven defense theory: the pilot error scenario. Beech hired professional experts who speculated that Beyer probably became spatially disoriented at about 8,000 feet and allowed the plane to go into a high-speed dive condition that stressed the aircraft beyond its designed limits. It was a theory that had been successful in the past.[90] But, in *Beyer*, several eyewitnesses testified that they had watched as the plane disintegrated, beginning at the tail.[91]

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[86] *Id.* (quoting K.W. Rix, Beech Aircraft Corporation Memorandum, Report 2452 (1958)).

[87] *Id.*

[88] Stearman, *supra* note 75.

[89] *Id.*

[90] *Id.*

[91] Hogan, *supra* note 60, at 71.

At the end of a three-week trial and a two-day jury deliberation, the jury was deadlocked 9-3 in favor of the plaintiffs.[92] A mistrial was declared.[93] In the second trial Beech hired additional experts to testify. Nevertheless, after a two-week trial and a two-hour deliberation the jury came back with a determination that the defective design of the V-tail was the cause of Beyer's death, resulting in a landmark award for the Beyer estate.[94] The floodgates were opened.

Only after *Beyer* and another important Bonanza crash involving a well-known American Bonanza Society member[95] did Beech take action to remedy the structural design problems associated with the V-tail.[96] It took more than twenty-five years of denials, cover-ups, and stonewalling before Beech was willing to address a problem it had been well aware of since the mid-1950s. This is well beyond the eighteen-year repose period contained in GARA. Interestingly, the products liability system placed significant economic pressure on American aircraft manufacturers. The industry's response is also instructive: it attacked the trial lawyers and mounted a vigorous campaign to reform an out-of-control civil justice system.

C. Measuring the Financial Impact of Products Liability

A steady escalation of loss and defense costs continued into the 1980s.[97] As insurers incurred mounting losses, they increased liability premiums.[98] As a result, aircraft manufacturers were forced to divert a greater proportion of capital and other corporate resources to insurance premiums and costs of defending liability lawsuits.[99] The price of new airplanes reached the point that they were beyond the means of the average purchaser of light piston aircraft.[100] A 1987 study conducted by Beech at the request of the House Aviation Subcommittee concluded that the average cost to the manufacturer (the total of losses and defense expenses) for each accident was $530,000, while the average amount claimed per occurrence was approximately $10

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92 Beyer v. Beech Aircraft Co., CV 81-2120 (10th Jud. Cir. Ala. Sept. 1985).
93 *Id.*
94 Hogan, *supra* note 60, at 71.
95 Stearman, *supra* note 75.
96 *Id.*
97 Martin, *supra* note 42, at 483.
98 *Id.*
99 *Id.*
100 GAMA, *supra* note 3, at 4.

million.[101] By 1987, "the three [largest general aviation] manufacturers calculated that their annual costs for product liability ranged from $70,000 to $100,000 per unit built and shipped during the year."[102] Of course, these studies provided just the type of evidence that aircraft manufacturers wanted to present as part of their broad calls for reform of the liability system.

It is important to consider precisely how these costs are calculated. Assume that a manufacturer has a fleet of 100,000 aircraft in active service in a given year. Furthermore, assume that the same manufacturer produces only 200 units during the year. Finally, assume that its liability insurance premiums total $20 million per year. If the manufacturer divides its insurance cost ($20M) by the number of units produced and sold in a given year (200), the resulting insurance cost is $100,000 per each unit of production. This is precisely how Cessna, Piper, and Beech arrive at such cost figures. It is important to recognize that each one of the 100,000 outstanding aircraft represents a potential liability suit. Any accounting system or costing scheme that allocates these costs to current production dramatically (and artificially) increases the cost, and perhaps the selling price, of airplanes at a time when they are already facing difficult market conditions. Such cost figures, however, can be very effective as evidence in a campaign to demonstrate that the liability system is out of control. This is part of the industry's long effort to significantly limit its products liability exposure.

The point of this extensive review of general aviation products liability law is not to promote one side or the other of the debate over the efficacy of the civil justice system. Rather, it is to caution against merely accepting the general aviation industry's case without a critical examination, as Boswell and Coats appear to have done. We do not deny that products liability has caused serious problems for American aircraft manufacturers. The essence of public policy behind the products liability law is the concept that those who manufacture products and place them in the stream of commerce ought to bear the burden of defective units and compensate those who are injured by defective units.[103] In addition, under Civil Aeronautics Regulations, once products have been placed into commerce, aircraft manufacturers have a duty to warn consumers of any unsafe part or charac-

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[101] Martin, *supra* note 42, at 485.

[102] *Id.* at 484.

[103] PROSSER, *supra* note 14, at 641.

teristic and to produce a safer design.[104] In other words, according to Hogan, if a dangerous defect comes to the attention of a manufacturer after a plane is sold, the manufacturer has a duty to either remedy the defect, or, if a remedy is not feasible, to give users reasonable warnings and instructions about how to minimize the danger.[105] Unfortunately, while we believe that the majority of American light aircraft are safe and reliable planes, considerable evidence exists to suggest that several other models manufactured by the Big Three are afflicted with design defects—including the Cessna 210, Cessna 411, and Piper Cherokee.[106] Moreover, there is ample evidence to suggest that the industry is guilty of refusing to accept and admit design and/or manufacturing defects as well as going so far as to cover up their knowledge of the defects.[107]

We are equally convinced that there is ample evidence to support the industry's contention that it is the victim of far too many frivolous and enormously expensive lawsuits. Clearly, the political winds have shifted recently toward this view as demonstrated by the passage of GARA. There is no question that a federal system that establishes a single law providing a uniform general aviation products liability law will add an element of predictability into the milieu. Our purpose here has been to place the "liability crisis" thesis under more critical scrutiny. The remainder of this Paper examines the liability thesis in more detail to assess the degree to which the liability crisis affected the general aviation industry. Before moving to our analysis we must address the question of the impact that the liability system has had on safety and innovation.

D. Safety and Innovation

The primary argument in favor of the liability system is that it promotes safety.[108] Not surprisingly, the link between liability and safety is complex. The general aviation industry uses its excellent safety record as its primary evidence to support its contention that it has been unfairly targeted.[109] It cites federal

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104 Hogan, *supra* note 60, at 70.

105 *Id.* at 71.

106 *Hearings on S. 640 Before the Senate Comm. on Commerce, Science, and Transportation*, 101st Cong., 1st Sess. 12 (1989) (statement by Mr. Charles T. Hvass, Jr., partner, Hvass, Weisman, & King) [hereinafter Hvass].

107 Stearman, *supra* note 74.

108 Liability Maze, *supra* note 13, at 1.

109 GAMA, *supra* note 3, at 1.

reports which conclude that ninety-three percent of aircraft accidents are caused by pilot error, poor maintenance, or bad weather.[110] Aircraft manufacturers also contend that a number of products have been developed to increase air safety but that their makers have been reluctant to introduce such improvements as a direct result of fears of exposure to liability suits.[111] Boswell and Coats, as well as many other industry observers, apparently without qualification, accept the argument that, perversely, strict products liability has damaged safety.[112]

In a widely publicized study published by the Brookings Institution, researcher Robert Martin uses a simple regression analysis of fatal accident rates in two twenty-year time periods to prove that the "product liability crisis" has stifled research and development efforts to promote safety.[113] Martin shows that the decline in fatal accidents from 1950 to 1969 was significantly better than in the twenty-year period from 1970 to 1989 "after the intervention of strict liability and the litigation it[ ] spawned."[114] The Brookings study concludes that "[s]trict liability, as applied to general aviation, has proved a dismal failure, both as a reparations system and as a devise to encourage innovation, product improvement, and aviation safety."[115]

This is not convincing. One glaring deficiency that Martin (and others) fails to incorporate into the analysis is the maturing of the aviation industry. In the 1950s, the industry was in its infancy and developments in safety improvement occurred rapidly. By the mid-1970s the general aviation industry was in the mature stage and about to enter a stage of decline. Of course, it is much more difficult to continuously improve safety rates as the base from which the rates are calculated is reduced. The marginal costs of achieving the next increment of safety tends to increase, especially for mature products. In these cases, product liability may only work to maintain levels of safety. While the general aviation industry's safety record does not show dramatic improvement during the products liability crisis, there is evidence that its safety record was maintained.

In any event, others suggest that the picture is more complex. For instance, a study conducted by Andrew Craig designed to

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110 *Id.*

111 *Id.*

112 Boswell & Coats, *supra* note 1, at 551-53.

113 Martin, *supra* note 42, at 494.

114 *Id.* at 493.

115 *Id.* at 497.

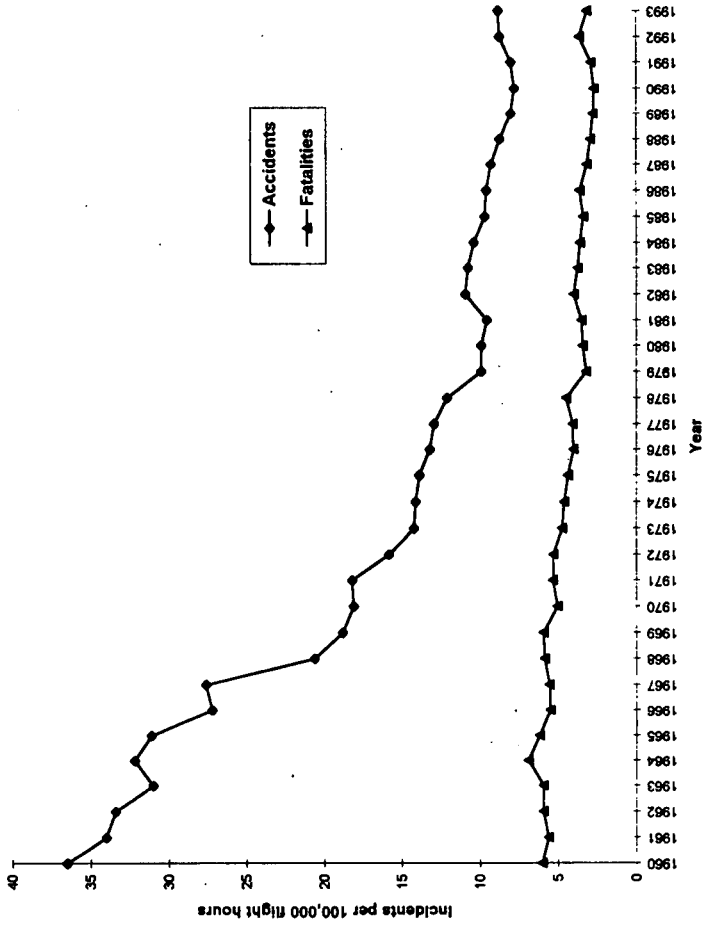

Figure 1
Accidents and Fatalities in General Aviation

Source: Federal Aviation Administration

determine the extent to which recent liability trends have affected safety in the aircraft sector found that the number of lawsuits and the number of accidents per year stayed nearly constant.[116] Craig examined the industry's fatality record during the period 1962-86 and concluded that the rate remained unchanged.[117] Although it is beyond the scope of this article to elaborate, Craig developed a "general aviation system" model that illustrates the complexity and interaction between the "regulation block" and the "liability block," each with its own internal elements.[118] Craig concludes that the task of measuring the relationship between products liability and safety is made difficult by the complexity of the relationships between the various public and private actors involved in general aviation.[119]

In 1993 the FAA reported that "general aviation has become safer in the last two decades, and especially in the last decade."[120] The FAA's data revealed that total general aviation accidents declined from 3,500 in 1981 to only 2,022 in 1993, a 42% improvement.[121] In addition, a 1995 report by the AOPA Safety Foundation says that NTSB statistics indicate that the number of general aviation accidents in 1994 was the lowest since before World War II.[122] As illustrated in Figure 1, the long run trend towards greater safety is measured by total accidents and by accidents per 100,000 hours flown. The debate whether products liability laws promotes safety or stifles innovation is indeterminant. The rhetoric surrounding this issue seems to support Mile's Law which states, "where you stand depends upon where you sit."[123]

Despite these unanswered questions, the general aviation industry has been very successful at framing the issue as an industrial and competitive disaster of monumental proportions caused primarily by a failed legal doctrine and a liability system that benefited the trial lawyers at the expense of the public in-

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[116] Andrew Craig, *Product Liability and Safety in General Aviation, in* LIABILITY MAZE, *supra* note 13, at 457.

[117] *Id.* at 457-58.

[118] *Id.* at 458.

[119] *Id.* at 475-76.

[120] FAA, U.S. DEP'T OF TRANSP., GENERAL AVIATION ACTION PLAN 11 (1994).

[121] *Id.*

[122] *GA Accidents Now at Lowest Level Since Before WWII*, AOPA PILOT, Mar. 1995, at 8.

[123] GEORGE BERKLEY & JOHN ROUSE, THE CRAFT OF PUBLIC ADMINISTRATION 109 (6th ed. 1994).

terest.[124] Its ability to influence public opinion as well as the behavior of politicians was demonstrated by passage of the General Aviation Revitalization Act. The law was hailed by general aviation enthusiasts, who said that it would stimulate a renaissance in the nation's civil aviation.[125]

IV. REASSESSING THE PAST

A. Health and Performance of the General Aviation Industry Prior to 1979

Boswell and Coats suggest that "the American general aviation industry served as a model to the world" in the late 1970s.[126] Without citing relevant production figures they offer the conventional story about the robust health of the industry prior to the "tort onslaught."[127] This version of general aviation history is more romantic than realistic. The industry did indeed reach fantastic levels of production in the late 1970s that, to some observers, signalled the dawning of a new age where owning and operating a general aviation aircraft would come within the reach of the average American.[128] Unfortunately, these observations were premature. The industry began a precipitous decline in the early 1980s and continues in the doldrums today.[129]

It is seemingly taken as an article of faith by Boswell and Coats and a number of other commentators that the industry was without problems.[130] These observers see the surge in production as the product of increased demand for aircraft by a public that wanted desperately to fly.[131] As Boswell and Coats suggest: "The dream of flight was a realizable goal for *most* Americans thanks to the general aviation industry."[132]

This view of the industry is not supported by the evidence from the bigger picture of the industry or the reasons for the surge in production that peaked in 1978. A more critical look at the industry's production levels suggests that the general avia-

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[124] *See, e.g., Liability Reform Puts Limits on Lawsuits, Will Boost General Aviation Industry and Create Jobs*, PR Newswire, Aug. 17, 1994, at 1.

[125] General Aviation Mfrs. Ass'n, Annual Industry Review 3 (1994).

[126] Boswell & Coats, *supra* note 1, at 539.

[127] *Id.* at 539-42. The authors provide one production figure: "In 1978, American manufacturers produced 14,389 single-engine aircraft . . . ." *Id.* at 542.

[128] *Id.* at 540.

[129] *Id.* at 535.

[130] *Id.* at 539.

[131] *Id.* at 540.

[132] *Id.* (emphasis added).

tion industry is not very different than other industries at or near the end of the product cycle where further innovation is stifled for one reason or another.[133] Industries whose primary products are near the end of the cycle tend to operate in an increasingly cyclical pattern of booms and busts.[134] In the general aviation industry, for example, manufacturers experienced a surge in production in the 1960s that rivals the surge in the 1970s (See Figure 2).[135] It is not surprising that industry supporters rarely point this out in discussions about the impact of products liability lawsuits. After peaking at nearly 16,000 units in 1966, production fell to under 8,000 in 1970.[136] It is important to note that the industry experienced booms and busts as a function of its *normal* operations in a politically and economically complex environment. It is equally important to recognize that just as no single cause can explain the surge and decline in the 1960s, no single cause, such as products liability lawsuits, can explain the decline in the 1980s. To understand what happened to the American general aviation industry one must examine several other factors that affected the health of the industry during the upswing in the 1970s and the subsequent decline in the 1980s and beyond.

B. The Surge in General Aviation in the 1970s

Proponents of the products liability crisis argument tend to focus solely on the industry's decline in the 1980s. One reason for this focus is that it is very persuasive to show a chart of declining production starting in 1979 when the crisis is generally said to have started. The single-cause products liability argument is bolstered by such use of the data because it seemingly supports the claim that all was well until the greedy trial lawyers began to view general aviation manufacturers as an attractive deep pocket. As we describe elsewhere in this Paper,[137] we do not dispute the fact that many of the lawsuits filed against the general aviation industry were frivolous and damaging. It is critical, however, not to let this bias an analysis of the decline of the industry. Popular accounts of greedy trial lawyers and anecdotal

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[133] *See, e.g.*, Raymond Vernon, Sovereignty at Bay: The Multinational Spread of U.S. Enterprises 65-77 (1971).

[134] *Id.*

[135] General Aviation Mfrs. Ass'n, General Aviation Statistical Handbook (1994).

[136] *Id.*

[137] *See supra* notes 18-20 and acommpanying text.

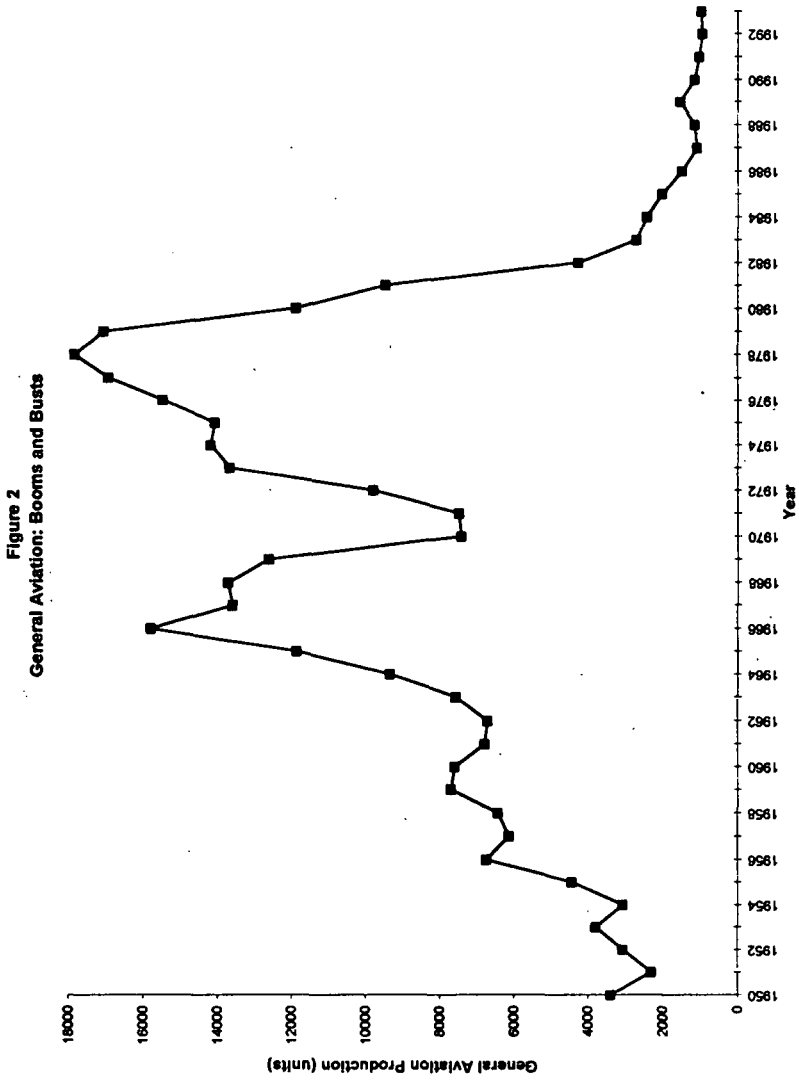

Figure 2
General Aviation: Booms and Busts

Source: Federal Aviation Administration

evidence of outrageous settlements are useful lobbying tools, but not the basis for good analysis.

The decline cannot be understood without a reasonable understanding of the preceding surge in production. Achieving a better understanding of the boom in the 1970s allows for more complete analysis of the causes of the subsequent decline. Most accounts of the general aviation industry's decline omit discussion of the sustainability, or lack thereof, of the fantastic production volumes in 1977 and 1978.[138] If these production figures overestimated the actual demand for general aviation aircraft, then the surge in production itself likely played some role in the downward pressure in the early 1980s. There is good evidence to suggest that for a number of reasons, manufacturers and others involved in the sale of aircraft misjudged the market and set the industry up for a bust.

Two factors, inflation and changes in GI Bill flight training benefits, seem to support the argument that the surge in production created an unsustainable production volume that eventually depressed the demand for the production of new aircraft in the 1980s. First, brokers and retailers believed the relatively high inflation rates of the late 1970s afforded them speculative opportunities for the resale of new aircraft.[139] Thus, speculation brought on by inflation artificially increased demand. Second, the perceived increases in demand were exacerbated by the possibility that GI Bill flight training benefits, which allowed veterans to obtain subsidized flight training, were going to be discontinued.[140] This prospect had the effect of creating a "run" on flight training programs, whose managers ordered additional aircraft to meet the anticipated increase. Information concerning the expected surge in demand comes from industry representatives and data from the Federal Aviation Administration. Figure 3 shows how student pilot starts surged in the late 1970s.

The combination of the manufacturers' optimism about the future of air travel and the demand brought on by speculation and the flight training boom flooded the market at perhaps the worst possible time in terms of macroeconomic conditions. The subsequent decline in the market for single-engine aircraft was

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[138] *See, e.g.*, GAMA *supra* note 3 (discussing decline in production as a result of liability suits, but making no mention of market saturation as a mitigating factor).

[139] Information regarding speculation during this period comes from interviews with industry representatives.

[140] Bill Worthington, *New GI Bill Will Spark Flight Training Business*, AIRPORT SERVICES, July-Aug. 1990, at 39.

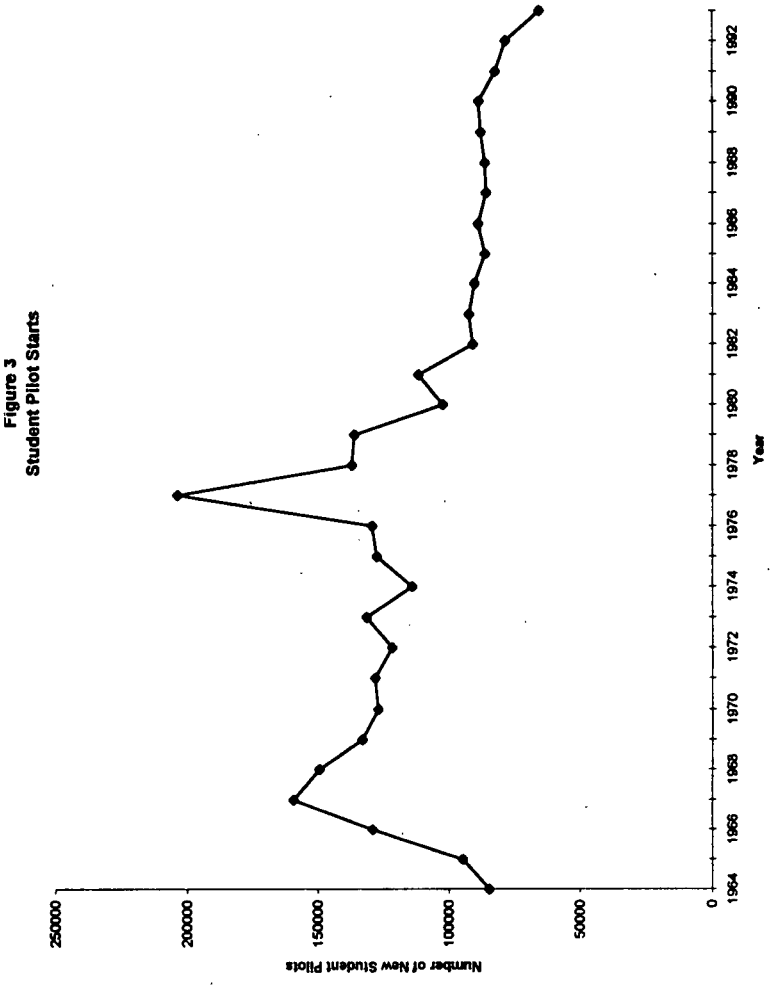
Figure 3
Student Pilot Starts
Number of New Student Pilots
250000
200000
150000
100000
50000
0
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
Year

Source: GAMA

fostered in part by the industry's apparent success in the 1970s. Before his organization got caught up in the manufacturers' products liability rhetoric, Mr. John Baker, President of the Aircraft Owners & Pilots Association, admitted as much in a letter dated September 29, 1988:

> [P]roduct liability judgments are not the cause of the new aircraft shortage in which we find ourselves. It is merely a symptom. The cause of the problem was clearly some unbelievable bad business decisions by the manufacturers 15 to 20 years ago, which is compounded by some lousy products. If the industry was annually producing the 20-25,000 quality products at an affordable price that the marketplace would absorb, then the per-unit product liability insurance costs would not be significantly greater than they mere in the mid-70s.[141]

The next section outlines the various economic forces that turned against the general aviation industry at a time when its own overbuilding left it commercially vulnerable.

V. THE DECLINE OF AMERICAN GENERAL AVIATION: ALTERNATIVE FACTORS

Increased production at the end of the 1970s was not met by a commensurate surge in actual demand. This is not to say that the manufacturers misinterpreted the desire of the American public to learn to fly and possibly own general aviation aircraft. All indications are that the public remained enamored with flying.[142] Unfortunately for the manufacturers, brokers, and retailers the large surpluses of new aircraft coincided with deteriorating general economic conditions.[143] Figure 4 shows how poor economic conditions followed on the heels of the surge in production. Fuel prices skyrocketed in 1979, the prime lending rate reached a high of nineteen percent in 1981, and the nation's economy experienced negative growth in 1982. All three of these occurrences and a number of related economic factors made buying and operating general aviation aircraft increasingly beyond the reach of even wealthier consumers.

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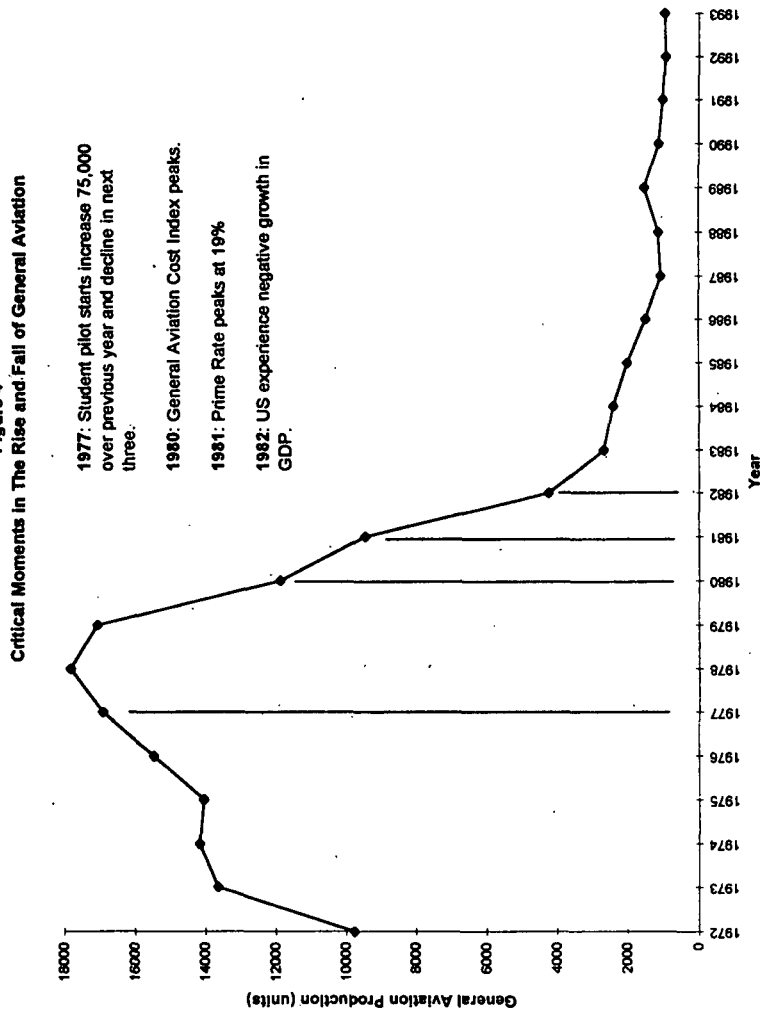
[141] Letter from John Baker, President of the Aircraft Owners & Pilots Association to John Howie (Sept. 29, 1988) (on file with author).

[142] *See, e.g.*, DAVID RUBIN & REGINA VANDUZEE, THE DEMAND FOR SINGLE ENGINE PISTON AIRCRAFT (1987).

[143] ECONOMIC INDICATORS HANDBOOK: TIME SERIES, CONVERSIONS, DOCUMENTATION (Arsen J. Darnay ed., 1992).



Source: General Aviation Manufacturers Association, Federal Aviation Administration, Economic Indicators Handbook

A. Interest Rates and Other Important Factors

The industry could not have foreseen the dramatic increase in fuel prices or the other traumatic economic conditions that plagued the nation in the early 1980s, but its actions in the late 1970s set the stage for a bigger fall. The surge in production left a considerable surplus of aircraft. Increased costs of operation and generally bad economic conditions made ownership less attractive.[144] Interest rates had a double barrel effect on the industry. High interest rates reduced the number of potential aircraft purchasers. Perhaps more importantly, the aircraft the manufacturers managed to sell during the period were frequently sold with the aid of "creative financing packages" that offered consumers deeply discounted loan rates and low down payments. Of course, the costs of these subsidized rates were reflected in the manufacturers' profit and loss statements.[145]

The lesson here is that even without a products liability crisis the general aviation industry would have likely suffered through a dramatic downturn. Its own commercial strategy of flooding the market in the late 1970s combined with the disastrous general economic conditions of the early 1980s to wreak havoc on the industry. This situation was exacerbated by products liability lawsuits at the very time when aircraft manufacturers were forced to spread the cost of defending themselves across a dwindling number of new aircraft. The next section assesses the interaction of products liability suits and the general commercial condition of the industry described above.

B. Reassessing the Effect of Products Liability Claims on the General Aviation Industry

It is difficult to isolate the impact of products liability lawsuits on the general aviation industry. Systematic attempts at studying the industry through statistical analysis have met with limited success because of the lack of good data and the difficulty of conceptualizing the cause and effect relationship of the various factors that play some role in shaping the industry.[146] In the absence of rigorous analysis of the issue, the public debate has been guided by two opposing groups, both of whom are biased because of their close connections with the industry and the

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[144] FAA, Aviation Forecasts Fiscal Years 1991-2002 (1991).

[145] Information concerning financing comes from interviews with industry representatives.

[146] *See, e.g.*, Rubin & VanDuzee, *supra* note 142.

legal profession. The high political and economic stakes in the debate over the issue of tort reform in general aviation created a situation in which industry supporters overstated the health of the industry and its safety record.[147] On the opposing side the trial lawyers and consumer advocates down played the damage that frivolous lawsuits have on industry and stressed the potential danger of owning and operating single-engine aircraft manufactured in an environment where manufacturers were not threatened by the prospect of products liability claims against them for defective aircraft.[148]

Our conclusion is that products liability claims against the general aviation manufacturers were not the sole or even the most important cause of the decline of the industry. These claims combined with existing problems within the industry and generally bad economic conditions to make the decline more pronounced and perhaps longer than it might have been otherwise. Having recognized this, we turn our attention to the reform of products liability statutes in general aviation, specifically the General Aviation Revitalization Act (GARA) and its potential impact.

VI. THE FUTURE OF GENERAL AVIATION

A. UNDERSTANDING THE IMPACT OF TORT REFORM ON GENERAL AVIATION

Just as it is impossible to fully understand the reasons for the decline of the American general aviation industry in the 1980s without looking at the reasons for the surge in production in the 1970s, it is unreasonable to expect the changes in the industry in the wake of the passage of the GARA to tell us much about the impact of tort reform unless we understand the other changes in the industry prior to and after the passage of the statute of repose. Boswell and Coats suggest that general aviation offers an "ideal laboratory for tort reform."[149] Such claims conjure up images of experiments and systematic analysis based on scientific principles. The laboratory analogy is problematic and potentially dangerous. It is problematic because even basic elements of careful research design are not followed by those who suggest that the GARA is a good test of the efficacy of tort

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[147] *See, e.g., Senatorts*, WALL ST. J., Mar. 9, 1994, at A12.

[148] *See, e.g.*, Creamer, *supra* note 28.

[149] Boswell & Coats, *supra* note 1.

reform efforts. It is dangerous because it suggests that this case should serve as an example or model for future reform efforts.

The basic research question in the case of tort reform in general aviation is whether the industry will rebound after receiving some measure of relief from products liability claims. The statute of repose implemented in the GARA effectively limits the manufacturer's liability exposure by reducing the responsibility of the manufacturer from the life of the aircraft to eighteen years from the time of manufacture.[150] The Act will dramatically reduce exposure since aircraft produced during the last boom of the 1970s will soon slip beyond the eighteen year period. An optimistic view of the likely impact of the GARA is that the industry will rebound once this unfair burden is lifted. As industry supporters imply, the manufacturers can get back in the business of making planes and out of the business of defending themselves against outrageous suits.

This is a superficial and short-sighted view of the research problem. It effectively ignores both positive and negative changes that have occurred over the past decade. If these changes are not included in the analysis, the lessons drawn from tort reform in general aviation are likely to be at best incomplete and at worse dangerously misleading. The next section outlines a number of changes in the industry that must be considered in any analysis of the ramifications of tort reform in general aviation.

B. Commercial and Political Changes Affecting General Aviation

As one might expect, the traditional general aviation manufacturers sought relief from the cost of products liability claims against them.[151] The legal strategies have been discussed elsewhere in this Paper.[152] The political and commercial strategies are equally important. The manufacturers and their supporters began working in the early 1980s to achieve some legislative reform for tort laws as they applied to general aviation.[153] Stories of stonewalling by the House Judiciary Committee in an effort to keep the reform effort from reaching a public vote in the House

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[150] *See* 49 U.S.C. § 40101 (Supp. V 1993).

[151] For a historical summary of the GAMA effort, see Erwin Saba, Wichita Bus. J., Aug. 26, 1994, at A3.

[152] *See supra* notes 16-17 and accompanying text.

[153] Saba, *supra* note 151, at A3.

of Representatives are well known and will not be recounted here.[154] It is important to note, however, that the effort to reform tort laws was an arduous process that involved a series of compromises during the almost fifteen years that it took to get a bill to a vote in Congress.[155] Even though the bill eventually passed, it is important to note that it took many years, a good deal of political horse trading,[156] and an unusual legislative maneuver known as the dispatch petition[157] before the industry received relief.[158]

A number of important changes occurred in American general aviation beyond those discussed above. These changes were in part a function of the products liability crisis, but also a function of changes in the technologies associated with developing and producing single-engine aircraft. As traditional manufacturers adjusted to the burden of tort claims against them, new firms entered the market.[159] The transformation of the market is likely to have a lasting impact.

C. Changes in Market Structure

Industry supporters frequently point to declining production of single-engine aircraft as their primary indicator of the damage of the product liability crisis.[160] When data on the decline are taken together with data on company earnings for members of the General Aviation Manufacturers Association (GAMA) an interesting picture about the health and structure of America's general aviation industry emerges.[161] While production of single-engine aircraft plummeted, total billings increased for mem-

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154 *See, e.g.*, Daniel R. Levine, *How the Trial Lawyers Finally Met Defeat*, READER'S DIG., Nov. 1994, at 127; David Field, *Small-Plane Industry Finally Wins One as a New Law Clips Attorney's Wings*, WASH. TIMES, Aug. 18, 1994, at B9. Levine uses general aviation as an example to show how trial lawyers are killing the American economy with the aid of fellow lawyers in Congress.

155 Levine, *supra* note 154, at 127.

156 The legislation only received support from labor interests after they were assured the legislation would not limit the right of employees to sue their employers. *See, e.g.*, WICHITA BUS. J., *supra* note 151.

157 Levine, *supra* note 154.

158 *Id.*

159 GENERAL AVIATION MFRS. ASS'N, GENERAL AVIATION STATISTICAL HANDBOOK (1994) [hereinafter GAMA STATISTICAL HANDBOOK].

160 *See, e.g.*, Howard Banks, *Cleared for Takeoff: Congress Took Big Step Toward Tort Reform Last Month, and Cessna Aircraft Co. Looks Like a Big Winner*, FORBES, Sept. 12, 1994, at 115-16.

161 GAMA STATISTICAL HANDBOOK, *supra* note 159.

ber firms (See Figure 5).[162] The explanation for this seemingly contradictory finding is worth exploring because it sheds considerable light on one of the major changes in the general aviation industry.

As noted earlier, the bulk of products liability lawsuits against the manufacturers involved single-engine aircraft.[163] These light aircraft tend to be owned and operated by private individuals who use them for business and/or recreational flying.[164] In contrast to the executive or business segment of the industry that uses professional pilots, the light aircraft segment involves private individuals whose skills as pilots are sometimes suspect.[165] Given that the majority of crashes in general aviation are attributable to pilot error as the primary cause, it is not surprising that most of the crashes, hence most of the lawsuits, come from the single-engine category.[166] As it turns out, the light aircraft category also offers the slimmest profit margin for the manufacturers when compared to the business and executive segment.[167] The manufacturers quickly recognized the two-fold problems of being in the single-engine aircraft business and wisely chose to move the bulk of their development and production efforts into the up-scale business aircraft market, which includes multi-engine, turbo-prop, and small jet aircraft.[168] The move limited their future exposure to the kinds of lawsuits they most frequently defended themselves against and placed them in a market where profit margins were more attractive.[169]

D. The Emerging Kitplane Market

The exit from the single-engine segment by the traditional manufacturers created a void in the market. The demand for such aircraft persisted, but many consumers refused to pay the premium prices for the few aircraft being produced by the tradi-

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162 *Id.*

163 *See, e.g.*, H.W. Lewis, Technological Risk (1990). In a broader discussion of the risk associated with the operation of small aircraft, Lewis notes that the National Transportation Safety Board lists the pilot as the probable cause of fatal accidents in 90% of its cases, with weather contributing to about 35%. *Id.* at 23.

164 *Id.*

165 *Id.*

166 *Id.*

167 Information concerning profit margins comes from discussions with industry representatives and interpretation of GAMA published data.

168 GAMA Statistical Handbook, *supra* note 159.

169 Information on profits and firm strategies comes from interviews with industry representatives and published firm data.

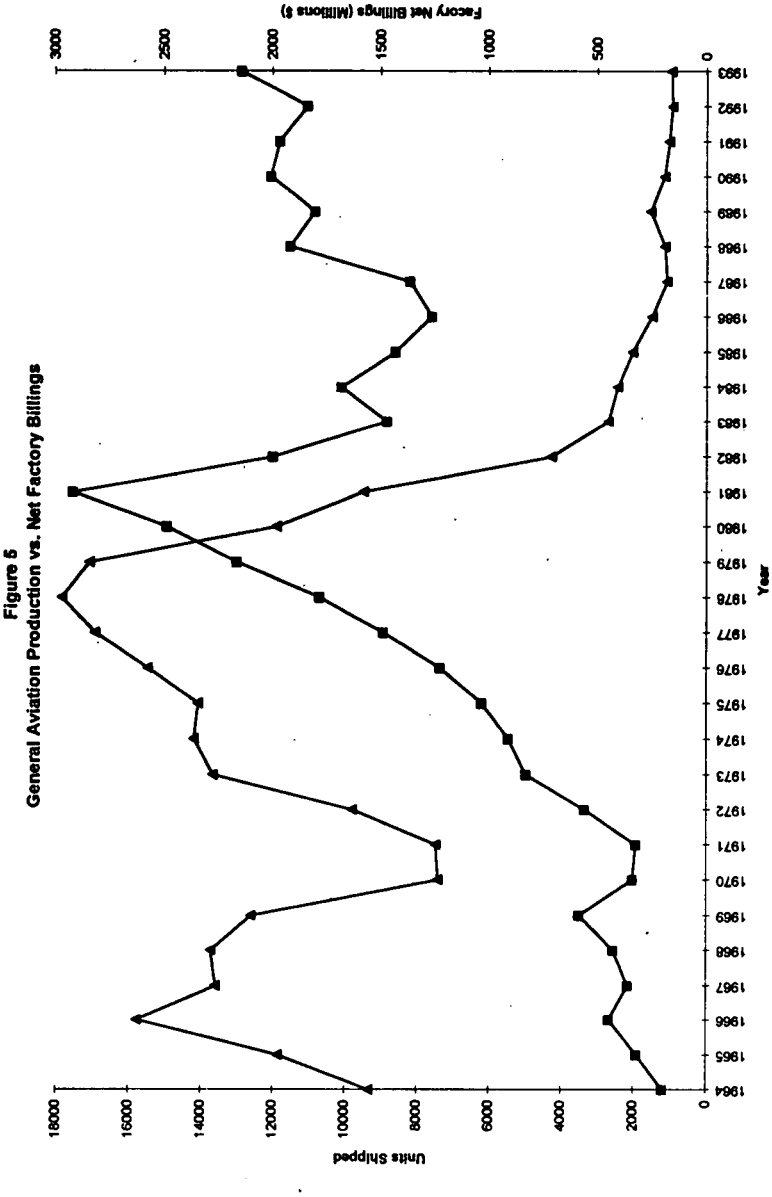

Figure 6
General Aviation Production vs. Net Factory Billings

Source: GAMA

tional manufacturers, turning their attention instead to an emerging and increasingly important segment of the market—the kitplane.[170] Kitplanes offer the consumer a cost-effective alternative to traditionally manufactured planes.[171] In many cases kitplanes offer better performance, more flexibility in terms of avionics, and other options not offered by traditional single-engine aircraft.[172]

The retreat by traditional manufacturers to the higher end of the market and the emergence of new competition in the form of kitplanes must be included in any assessment of the effects of tort reform on general aviation. The GARA was passed to provide relief to traditional manufacturers who have considerable exposure because of their large fleets of existing aircraft.[173] Those manufacturers are no longer the major players in the single-engine market.[174] It is not clear how strong a commitment the big three manufacturers are willing to make to this segment of the market in the face of what appears to be serious competition from experimental and kitplane manufacturers.

Supporters of the industry and those who fought hard for the passage of the statute of repose will quickly point out that traditional manufacturers, most notably Cessna, are already moving back into the market by building new production lines and working in the development of improved products.[175] The question remains, however, whether Cessna's efforts are a product of some optimistic view of the future for traditionally manufactured single-engine planes or a function of political bargains struck during and after the effort to pass the GARA.

E. Political and Economic Incentives

It is difficult to believe that the primary sponsors of the relief legislation did not strike some bargain with Cessna and the other manufacturers to open new production facilities and provide new jobs as part of the package for their support. Even if

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[170] William J. Cook, *The Takeoff in the Small Plane Market After Years on the Ground, the Industry Looks Up*, U.S. News & World Rep., Aug. 21, 1995, at 50.

[171] *See, e.g.*, Philip Gold, *A Time to Sue, a Time to Fly*, Wash. Times, Sept. 29, 1994, at A19.

[172] *See Interview with David Hinson, Administrator of the FAA*, Airport Magazine, Sept.-Oct. 1994, at 25.

[173] *See, e.g.*, Casey Gilmore, *Preparing for Takeoff: Aviation Bill Will Mean Thousands of Jobs*, Kan. City Bus. J., Aug. 26, 1994, at 1.

[174] GAMA Statistical Handbook, *supra* note 159. The traditional manufacturers face competition from foreign manufacturers and kit-plane firms.

[175] Carton, *supra* note 46, at B1.

explicit deals were not made, the decision for Cessna to reenter the single-engine market was sweetened considerably by deals with state and local governments that include free land, property tax abatement, $20 million in cash, and subsidized worker training programs.[176] While this does not exclude the possibility that Cessna is fully committed to the single-engine market segment, it does suggest that Cessna's success in this endeavor will be shaped by more than tort reform.

F. New Research and Development Efforts

Other factors that may confound the analysis are likely to stem from governmental efforts to give the industry an economic boost. These efforts include a research and development consortium headed by NASA that is concerned primarily with developing and implementing new technologies, production techniques, management skills, and marketing programs for America's general aviation industry.[177] As part of its Advanced Subsonic Technology Program, NASA and member firms and institutions joined together to create the Advanced General Aviation Experiments or AGATE program.[178] This program was initiated by policy makers and industry representatives who recognized that the industry needs more than just economic incentives, tort reform, and political favors to succeed. The program seeks to bring NASA and the aviation research communities' skills and experience to bear on the problems of general aviation.[179]

It is too early to tell whether the consortium or its various programs will produce positive results, but the concept is appealing since it recognizes the need to improve the technologies in general aviation which have remained virtually unchanged or only marginally improved over the last three decades. This program also recognizes that products liability reform will likely to be insufficient to revitalize the industry.

G. Marketing Initiatives

Industry itself has also finally recognized that the statute of repose is insufficient. Industry groups created programs over

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176 *Id.*

177 NASA, General Aviation Task Force Report (Sept. 1993).

178 NASA, Joint Sponsored Research Agreement, Agate Alliance for Advanced General Aviation Transport Experiments (1994).

179 *Id.*

the last few years to address what they believe is a critical demographic problem facing the industry and general aviation.[180] Pilots from the World War II cohort are slowly hanging up their wings and no new group is emerging to replace them in the market.[181] The trials and tribulations of the industry through the 1980s and into the 1990s left the general population with the impression that aircraft are too expensive and potentially dangerous. Wisely, the industry and its supporters are venturing into schools and other places where they can sell the message about the joy and, perhaps more importantly, the accessibility of flying general aviation aircraft.[182]

Despite the rhetoric of the industry's tort reform lobbying effort, some representatives of the industry recognize that other issues must be addressed if the traditional general aviation manufacturers are to emerge from their current predicament. GAMA President Edward Stimson notes that while "passage of the General Aviation Revitalization Act of 1994 was an important step . . . implementation of FAA's Policy Statement and Action Plan is equally important."[183]

VII. CONCLUSION

It is far too early to tell what will happen to the American general aviation industry. Too many features of the industry are up in the air to project effectively even the next few years. Needless to say, it would be beneficial to the nation's economic future if the industry regains a healthy and productive position in the general economy. The industry has the potential to serve as a generator of new technologies and production techniques that could be adopted by other industries. Moreover, the jobs associated with the development and production of aircraft are exactly the kinds of jobs Americans desire.

On the subject of tort reform, the picture is much less clear. Setting aside the important questions concerning the societal

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[180] *See, e.g.*, Dick Koenig, *Learn to Fly Program, in General Aviation: Building for the Future on its Strengths & Diversity*, 4TH ANNUAL FAA GENERAL AVIATION FORECAST AND CONFERENCE PROCEEDINGS 111 (1994); John Olcott, *No Plane, No Gain, in General Aviation Building for the Future on its Strengths & Diversity*, 4TH ANNUAL FAA GENERAL AVIATION FORECAST AND CONFERENCE PROCEEDINGS 97 (1994).

[181] GAMA STATISTICAL HANDBOOK, *supra* note 175.

[182] FAA FORECAST, *supra* note 144; *see also* RUBIN & VANDUZEE, *supra* note 142, at 2-12 (discussing the industry's failure to market its products effectively in previous years).

[183] Carton, *supra* note 46, at B1.

benefits of strong products liability laws, the question remains whether tort reform will even achieve the desired results of returning the general aviation industry to its former glory, whether real or imagined.

The general aviation case not only fails to offer a solid case for testing or experimenting with tort reform policies, it presents a dangerous case. The battle over tort reform for the general aviation industry was highly charged by the broader political and economic questions surrounding it. Its high-profile character makes it an excellent illustrative case for whichever side believes it can get the most political mileage. If the industry fails to rebound and for whatever reason new single-engine aircraft experience some design or technical problems resulting in crashes, tort reform efforts in other industries and sectors of the economy might be killed. On the other hand, if the industry rebounds and the new planes live up to expectations, supporters of tort reform may incorrectly attribute the industry's success to the reform effort and use the general aviation case as a cudgel to force reform in other sectors of the economy.

If the industry fails to rebound it may be that statutes of repose do not really work to stimulate business. But it could be because the market changed sufficiently between the time the lobbying effort began and the passage of the bill that the opportunity for revitalization of the traditional manufacturers was lost. On the other hand, if the industry does rebound, it may be impossible to separate the positive impact of the various economic incentives thrown at Cessna from the positive influence of the tort reform effort. In either case, the conclusions are likely to be muddied by other factors that condition the health and shape of the industry.

There are many lessons to be learned from the experience of the general aviation industry over the last two decades. It is critical that these lessons be drawn only after a careful consideration of all relevant factors, not just those that fit the political rhetoric of the day. To do otherwise is to make bad policy and unnecessarily jeopardize America's legal and economic future.

Comments