



U.S. CHAMBER
Institute for Legal Reform

Costs and Compensation

of the U.S. Tort System

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U.S. CHAMBER
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Costs and Compensation of the U.S. Tort System

We estimate the costs and compensation paid in the U.S. tort system using insurance data and estimated uninsured costs. We find that in 2016 the costs and compensation paid in the tort system amounted to \$429 billion or 2.3 percent of U.S. gross domestic product (GDP). We further estimate that 57 percent of tort system costs were paid in compensation to plaintiffs. The remaining 43 percent covered the cost of litigation, insurance expenses, and risk transfer costs. These costs and compensation exhibit significant variations across states. Tort system costs and compensation in the most expensive states are up to 2.1 times larger than in the least expensive states.

Executive Summary

The legal system in the United States provides individuals and organizations with the means to obtain civil remedies for harm caused by others in the form of monetary damages, and sometimes penalties.

The legal basis for seeking damages arises from two principal sources of legal liability: (1) the common law, or court-made law, of torts, such as negligence and product liability; and (2) statutory protections established through legislation that expand on torts in the form of laws such as consumer protection acts, labor and employment law, and securities laws.

For purposes of this study, we¹ define the “compensation” and “costs” of the “tort system” as the aggregate amount of judgments, settlements, and the legal and administrative costs of adjudicating the associated private claims and enforcement actions. We also include market-determined gross profits for insurers as costs of the tort system. These costs are required to entice insurance companies to willingly bear the transferred liability risks.²

The tort system may be described as playing two important economic roles in society: (1) to compensate for harm actually incurred; and (2) to prevent future harm by encouraging responsible behavior. However, the costs and compensation paid in the tort system are not routinely measured and reported.

In this study, we develop consistent and transparent measures of costs and compensation using data on liability insurance premiums in the United States, and estimates of the liability exposure of businesses and individuals that are self-insured and do not purchase liability insurance. Our estimate of self-insured liability includes both individuals and corporations with explicit arrangements and risk management programs, as well as those who assume risk passively by choosing to be uninsured.³

“ [W]e define the ‘compensation’ and ‘costs’ of the ‘tort system’ as the aggregate amount of judgments, settlements, and the legal and administrative costs of adjudicating the associated private claims and enforcement actions. ”

The liabilities included in our definition of the tort system are those that are insurable in the market (at least to some extent). The principle categories of liability included in this definition are:

- commercial and personal liability for personal injury, property damage, and in some cases consequential damages (associated with a wide range of torts);
- commercial disputes based on tort claims, such as negligence, bad faith, misappropriation, or tortious interference (including claims concerning intellectual property rights);
- automobile accident liability;
- product liability and certain environmental liabilities (self-insured or covered by specialty insurance lines);
- consumer protection liability (torts and statutory claims);
- professional liability, including medical malpractice;
- investor protection liability;
- labor and employment liability;
- civil rights (including disability, privacy and non-discrimination protections); and
- antitrust liability, such as for unfair competition (alleging collusion and monopolization).

“ The liabilities included in our definition of the tort system are those that are insurable in the market (at least to some extent). ”

Liability costs covered by the commercial insurance market can be directly estimated from the statutory reporting by insurance companies. More specifically, we use total earned premiums of liability insurance policies to estimate the size of the tort system. Earned premiums cover, on a present value basis: the aggregate amount of covered awards and settlements,⁴ the legal costs of administering and adjudicating claims, the costs of managing liability risks (including contributions to cover insurers' operating expenses), and insurers' profits for bearing risk.

We estimate self-insured costs and compensation paid in the tort system by using reported rates for commercially-available insurance to price hypothetical insurance based on estimates of self-insured risk exposures. We rely on a novel data source from ISO MarketStance, a leading provider of market intelligence to the insurance industry, that combines state-level regulatory reporting on insurance premiums and pricing by insurers with measures of liability exposure from the U.S. economic census.

“ We find that in 2016 the costs and compensation paid in the tort system amounted to \$429 billion or 2.3 percent of U.S. gross domestic product (GDP). ”

We find that in 2016 the costs and compensation paid in the tort system amounted to \$429 billion or 2.3 percent of U.S. gross domestic product (GDP). Of this amount, \$250 billion stemmed from general and commercial liability exposure, which covers a broad range of personal injury, consumer, and other litigation. Liability related to automobile accident claims accounted for \$160 billion of the total. Medical malpractice litigation accounted for the remaining \$19 billion in tort costs.

We further estimate that 57 percent of the tort system costs and compensation was paid in compensation to plaintiffs. The remaining 43 percent covered the cost of litigation of both sides, operating costs for the insurers, and profits to effectuate risk transfer.

We estimate the costs and compensation of the tort system in each state, as well as the percent of total expenditures in each state that are paid out as compensation (awards and settlements).

Our results reveal significant variations in estimated costs and compensation of the tort system across states. Tort system costs and compensation in the most expensive states are up to 2.1 times larger than in the least expensive states. For example, Florida has the highest tort system costs as a percentage of state GDP, at 3.6%, while Alaska, Washington, and Wyoming have among the lowest tort system costs (less than 1.8%). Tort costs per household are about \$2,000 in states such as Maine, North Carolina, and South Dakota, but over \$4,000 in states such as California, Florida, and New Jersey, and as high as \$6,066 in New York.

The following sections explain the motivation behind the creation of this metric of costs and compensation paid in the tort system; the scope of liabilities included in the definition of the tort system; the data and estimation approach used; the results of the analysis; and our conclusions.

A Consistent Measure of Tort Costs and Compensation is Needed to Assess Performance of the Tort System

The cost and efficiency of the tort system has been the subject of much research and debate, and the United States has been found to have significantly higher liability costs than other developed countries.⁵ However, the costs, compensation, and efficiency of the tort system are not routinely measured and reported by the courts, insurers, academics, or any independent and credible research groups.⁶

This study provides policymakers and researchers with consistent and transparent estimates of the costs and compensation paid in the tort system. We develop well-defined estimates of costs and compensation in the tort system in 2016 for the entire United States and for each state. These estimates may provide a foundation for research into the variation in liability costs across states; the effectiveness of legislative reforms in reducing the cost and increasing the efficiency of the tort system; and the economic impact of potential excesses in the tort system.

Factors contributing to differences in liability costs across states include: the comprehensiveness of the social safety net, availability of no-fault compensation schemes, extensiveness of private rights of action, forms of litigation funding (including contingency fees) and availability and abuses

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of the class action mechanism.⁷ Variation in liability costs across states has also been explained in part by differences in state legal environments, such as the number of lawyers, the perception of the competence of state judges, the strength of evidentiary rules, and the frequency of frivolous or abusive litigation.⁸

Excessive costs of the tort system can adversely affect businesses and individuals, and a number of studies have identified negative externalities of elevated liability risks. For example, the risk of frivolous or abusive litigation can discourage the development and sale of new products and can slow innovation. This apparent slowing of innovation is greatest in industries with the highest litigation risks, including the development of small aircraft and pharmaceuticals.⁹

High liability costs can also make businesses in the United States less competitive internationally. One study found that liability costs in the U.S. decrease manufacturing cost competitiveness by at least 3.2%.¹⁰ These factors have the potential to discourage foreign direct

investment by making the United States less attractive to foreign capital.¹¹

Ultimately, excesses in the tort system have been linked to lower worker productivity and employment,¹² and these effects can be severe in industries subject to widespread litigation. For example, excesses and abuse in asbestos-related personal injury claim litigation forced companies into bankruptcy, causing significant economic losses for employees.¹³

In addition to having a substantial aggregate cost, the tort system has been found to lack efficiency, with a large portion of the total expenditures going to prosecuting and defending claims and lawsuits rather than compensating claimants. One study of insured personal injury claims in Texas found that for every \$1.00 received by a claimant, an average of \$0.75 was paid in legal and administrative costs.¹⁴ Our own estimates of compensation paid to claimants relative to costs of litigation are similar.

Categories of Tort Liability

The tort system allows an individual who has been wronged or injured to seek compensation from the person or entity that caused the harm. The basis for imposing liability stems both from court-made, or common law, as well as statutory laws.

The system also includes a variety of individuals and institutions, both public and private, that are involved in adjudicating civil liability claims in federal, state and local courts or through arbitration and mediation; lawyers that represent the litigants; and the litigants themselves. We refer to these laws, institutions, and persons collectively as the “tort system.”

Compensation for damages in the tort system depends on the type of claim. In personal injury cases, for example, damages cover economic losses (such as medical expenses and lost wages) as well as subjective noneconomic damages (such as pain and suffering).¹⁵ In other litigation, claimants may seek damages for property damage, financial losses or amounts set by statute (statutory damages). They may also seek punitive damages.¹⁶

For practical reasons, our definition of the “tort system” includes only categories of liability that are insurable.¹⁷ This assumption

makes it possible to estimate the compensation provided by the tort system and the costs of delivering compensation using insurance data. It consists of two major sources of liability: (1) traditional common law torts (that are not the result of deliberate acts);¹⁸ and (2) certain additional insurable statutory sources of civil liability that are imposed through private rights of action or regulatory enforcement. However, our definition of the “tort system” does not overlap exactly with any formal legal definition. For example, harms caused by intentional actions are typically uninsurable but would be considered torts within the legal system.

Compensation for Common Law Torts

Traditional torts are common law causes of action to redress harm caused by others due to a negligent or careless act or omission, or other wrongful conduct.¹⁹

The insurable tort liability claims resolved in the “tort system” include:

- commercial and personal tort claims for personal injury or property damage (and in some cases consequential damages);
- commercial disputes based on tort claims, such as negligence, bad faith, misappropriation, or tortious interference (including disputes concerning intellectual property rights);
- automobile accident liability (personal and commercial);
- consumer protection liability (e.g., misrepresentation or negligence);
- professional liability, including medical malpractice; and
- product liability and certain environmental toxic torts (self-insured or covered by specialty insurance lines).

The largest category of insurable tort liability claims arises from automobile accidents. Other significant categories of insurable tort claims are those brought by individuals for personal injury or property damage.²⁰

A major category of commercial claims arises from contract disputes concerning alleged failures to abide by the terms or fulfill obligations made in private agreements. While these are, by definition, not tort claims, in many instances claimants may invoke parallel common law tort claims in connection with the same conduct, such as allegations of bad faith, fair dealing, misrepresentation or tortious interference.²¹ Doing so allows claimants to benefit from the ability of defendants to draw on insurance policies that would not respond

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to alleged intentional acts such as breach of contract. Negligence in the provision of professional services is another significant category of insurable tort liability and includes medical malpractice.

Product liability and environmental toxic torts are significant categories of liability. The risk of products or industrial pollution causing bodily injury or property damage to others was widely covered by insurance until 1985. Thereafter, pollution and asbestos exclusions were largely adopted across the United States.²² As a consequence, environmental liability exposures are generally self-insured, or covered by specialty environmental liability lines of insurance.²³

Environmental liabilities that are self-insured or covered by specialty lines are included in our estimates of costs and compensation.²⁴ Asbestos liability costs arising from exposures after 1985 are excluded from our estimates but are small relative to the total size of the tort system.²⁵

Product liability-related insurance coverage is available both indirectly through general liability and umbrella policies, and through specialty coverage. Product liability “mass torts” are a significant category of liability. Historically, this included pharmaceutical and medical device cases, whereas torts alleging harmful exposure to products containing asbestos generally have been brought as environmental workplace liability claims, not product claims. Product liability costs are insurable tort liabilities and are included in our estimates of the size of the tort system.

Compensation for Statutory Liability

The additional categories of statutory civil liability,²⁶ imposed either through private rights of action or regulatory enforcement, that constitute the second major source of liability underlying claims resolved in the tort system,²⁷ include:

- labor and employment laws;
- consumer protection laws, including general unfair and deceptive practices acts;
- civil rights laws, including disability, privacy and non-discrimination protections;
- antitrust laws; and,
- securities laws.

These sources of civil liability arise from a combination of sometimes overlapping federal, state, or local statutes that give rise to claims for compensation, investments in remediation, or injunctive relief and penalties. These statutory protections arose in part from a process of reinforcing and codifying tort law in certain areas and consequently also overlap and coexist with tort law protections.

Consumer protection statutes common at the state and federal levels reinforce common law misrepresentation, product liability, and toxic tort protections. We do not separately estimate the liability costs arising from these common law claims and statutory consumer protection claims. Both are insurable and included in our tort system estimates.

Liabilities arising from labor and employment laws, civil rights laws (including disability, privacy and non-discrimination protections) and antitrust laws are included in our definition of the tort system, since they are generally insurable.²⁸ However, workers’ compensation liabilities are typically handled outside the tort system and consequently are excluded from this analysis.

Costs of the Tort System

The costs of the tort system include the compensation paid to claimants, whether through adjudicated judgments or settlements, and the costs of adjudication.

It should be noted that our measure of direct economic costs of the tort system does not include the costs of running and administering the institutions of the tort system, such as the costs of operating state and federal courts, the cost of regulatory enforcement staff, or the productivity and wages lost by individuals who serve on juries.

For liabilities covered by insurance, the costs of administering insurance claims are considered an element of tort system costs

(we include these with legal costs of defense, reported together in insurer loss adjustment expenses). For liabilities that are self-insured (or uninsured), similar defense and administrative costs are assumed to be incurred to manage and administer the liability risks directly without the help of an insurer. However, amounts paid in insurance premiums to cover commissions and other selling costs are included as a cost of the tort system for liabilities covered by insurance, but are assumed to be avoided by self-insuring.²⁹

This study does not capture certain direct and indirect costs of the tort system. First, we do not attempt to quantify any non-economic costs of the tort system, including the psychological costs and stresses of legal disputes, and the pain and suffering of parties alleging injury, to the extent those costs are not compensated in the awards they receive. We also do not attempt to quantify any of the negative externalities of the tort system, including the effects on innovation, the availability of products or services, foreign direct investment, and the economy as a whole. Similarly, we do not attempt to quantify any positive effects that the tort system may have in preventing and deterring harms, and in providing just outcomes for injured parties.

“ *The costs of the tort system include the compensation paid to claimants, whether through adjudicated judgments or settlements, and the costs of adjudication.* ”

Model of Costs of the Tort System

We estimate the costs and compensation paid in the tort system based on the total premium expense that would be required to fully insure against all claims arising in the tort system.³⁰ The earned premiums cover, on a present value basis, the aggregate amount of covered awards and settlements,³¹ the costs of managing liability risks (including contributions to insurers' operating expenses and profits), claims administration costs, and legal costs of adjudication.

For companies that purchase liability insurance, a portion of their premium is used to fund awards, settlement, defense, and legal costs, while the remaining margin is kept by the insurance company and used to meet operating costs and earn a profit. Because companies that purchase insurance actually pay the full premium that includes insurers' operating costs and profit margins, we include this cost in our estimate of the costs and compensation in the tort system. This is the cost that businesses and individuals must pay to transfer their liability risk to a third party ("the cost of risk transfer").

Some companies and individuals may decide to self-insure because they believe their cost of risk is lower than the cost of insurance, even though insurance companies have a number of advantages over individual policyholders that allow them to defend and pay claims more efficiently (discussed further in Appendix A). For self-insured businesses and individuals, we exclude from our estimate of aggregate tort liabilities the cost of risk transfer, but assume that the awards and settlements, costs of administering claims, and legal costs are the same as for the insured businesses and individuals.³²

Estimates are developed by state for 2016—the most current annual dataset that exists at the time of this study. The economic cost is estimated separately for liabilities relating to commercial liability, personal liability, automobile liability, and medical malpractice liability. We discuss the estimation of the direct costs and total compensation paid for each of these segments below.

Commercial Liability

The largest components of U.S. liability costs are covered by commercial liability insurance. We rely on estimates of the size of the market for liability insurance developed by ISO MarketStance (MarketStance), a leading provider of information and analytics to the insurance industry, to compute the costs and compensation paid for commercial liability.³³ MarketStance uses data on the cost of liability insurance based on review of rate filings and detailed information about the number and size of businesses from the economic census to compute the total amount of insurable risks within each state.

Based in part on survey data, MarketStance then estimates the percent of exposures that are retained either by companies

choosing to self-insure, or through deductibles and exposures in excess of carried limits. MarketStance scales the estimated insured exposures (for the largest liability insurance lines) from the survey to match total premiums written into each state by domestic and alien insurance companies using data collected by the National Association of Insurance Commissioners (NAIC). The same scaling factor is then used to develop estimates of self-insured liabilities for all lines. The resulting dataset provides detailed state level estimates of the amount of insurance premiums written in each state by line, as well as the self-insured liability estimates of exposure priced using the cost of insurance from the rate filing review. This methodology is described in more detail in the following pages.

INSURED COMMERCIAL LIABILITY COSTS

Commercial liability costs can be either insured or uninsured. All insurance companies are required to report financial data, including premiums, to state and federal regulators, and this information is widely available. These data are aggregated by NAIC and reported by a number of data providers, including AM Best and SNL Financial.³⁴ Table 1 shows the specific lines of insurance included in MarketStance's estimates.

TABLE 1: LINES OF INSURANCE INCLUDED IN COMMERCIAL LIABILITY ESTIMATES

Type of Insurance	NAIC Line	Tort Category
Operating Liability		
Commercial General Liability	17.0001	General/Professional
Completed Operations	17.0002	General/Professional
Environmental Pollution Liability	17.0011	General/Professional
Personal Injury Liability	17.0017	General/Professional
Premises and Operations (OL&T and M&C)	17.0018	General/Professional
Umbrella and Excess (Commercial)	17.0020	General/Professional
Cyber Liability	17.0028	General/Professional
Other Liability Lines	17*	General/Professional
Product Liability	18.0000	General/Professional
Commercial Multiple Peril (Liability Portion)	5.2000	General/Professional
Farm Owners (Liability Portion)	3.0000	General/Professional
Employers Liability (within Workers Comp)	16.0002	General/Professional
Equipment Breakdown (Liability Portion)	27.0000	General/Professional
Professional Liability		
Directors & Officers Liability	17.0006	General/Professional
Employment Practices Liability	17.0010	General/Professional
Professional Errors and Omissions Liability	17.0019	General/Professional
Fiduciary Liability	17.0029	General/Professional

***Notes:** Other liability lines include: 17.0004 Contractual Liability, 17.0005 Day Care Centers, 17.0007 Elevators and Escalators Liability, 17.0008 Employee Benefit Liability, 17.0009 Employers Liability, 17.0012 Fire Legal Liability, 17.0013 Kidnap & Ransom Liability, 17.0014 Liquor Liability, 17.0015 Municipal Liability, 17.0016 Nuclear Energy Liability, 17.0022 Other, 17.0023 Veterinarian, 17.0024 Internet Liability, 17.0025 Provider Excess Stop Loss, 17.0026 Excess Stop Loss, and 17.0027 Other Excess Stop Loss.

The NAIC data do not separately report the cost of liability coverage included in aviation, ocean, and marine insurance policies, and these liability costs are excluded from the estimates of tort costs and compensation. While aviation, ocean, and marine policies provide some liability coverage, they are relatively small lines and predominantly cover property losses.

Therefore, these excluded exposures are small relative to the aggregate amount of tort costs and compensation.

For purposes of estimating tort costs and compensation in 2016, we are interested in direct premiums earned, which include the portion of premiums that relate to coverage for the 2016 calendar year.³⁵

However, MarketStance computes direct premiums written in its estimates of insurance liability exposure. On average, earned premiums were approximately two percent lower than written premiums in 2016. Accordingly, we scale down the estimates from MarketStance by two percent to be equivalent to premiums earned.

SELF-INSURED COMMERCIAL LIABILITY COSTS

Aggregate premium data provides an estimate of the costs and compensation paid in the tort system for those businesses and individuals that purchase insurance. However, not all companies and individuals purchase insurance, and not all losses are covered. At the smaller end of the market, many individuals and businesses retain a significant amount of risk by not purchasing insurance or having low limits.

At the other end of the market, many larger companies self-insure by choosing high deductibles, or by setting aside funds and developing their own risk management programs. The liabilities covered by these activities are not tracked by NAIC but are a significant part of the market. We refer to uninsured exposures and exposures not covered by formal risk management programs as the self-insured segment.

MarketStance develops estimates of the self-insured commercial liability costs. The key steps in the methodology for commercial liability lines are as follows: computing the total liability exposure, estimating the percent of the exposure that is insured and self-insured, and determining

“ We refer to uninsured exposures and exposures not covered by formal risk management programs as the self-insured segment. ”

the premium cost of insuring the exposure based on total reported insured premiums. These steps are discussed in detail in the sections that follow.

Computing Total Exposure

In addition to statutory financial data, insurance companies are required to submit rate filings with their regulators which describe how their premiums are set. Many of these rate filings are available from NAIC's System for Electronic Rates and Forms Filing (SERFF). Rate filings can provide valuable information on the cost of liability insurance within each state and identify the risk factors that insurance companies use to price liability insurance. These risk factors and the associated pricing provide a measure of the exposure that each business has to liability risk.

The exact weights and pricing depend on the specific insurer and line of coverage, but risk factors often include: the location of the business operations, the industry in which the business operates, the number of employees, amount of sales, total

payroll, or square footage of business operations. MarketStance separately estimates exposure based on business data reported by the U.S. Census and other federal government sources. Included in these estimates are exposures for employee businesses, non-employee businesses, farms, and state and local governments. MarketStance explicitly models exposure for the following liability lines of coverage (“modeled categories of exposure”):

- Premises and Operations;
- Products Liability;
- Umbrella & Excess (Commercial);
- Business Owners (Liability Portion);
- Professional Errors & Omissions Liability;
- Directors & Officers Liability;
- Employment Practices Liability;
- Fiduciary Liability; and
- Cyber Liability.

For each modeled category of exposure, MarketStance combines their analysis of pricing information in rate filings with data on business demographics to estimate the total liability exposure for businesses in each state.

Estimating the Percent of Exposure That is Self-Insured

The percent of exposure that is self-insured varies greatly across businesses with different demographic characteristics. For instance, larger companies are more likely to retain risk through formal risk management programs, whereas smaller companies are more likely to be entirely

uninsured. In addition, businesses in different industries are exposed to different types of risk which can greatly affect which lines of insurance they purchase and which risks they retain.

MarketStance estimates the percent of the total exposure that is insured based on surveys of companies’ propensity to purchase insurance, such as the RIMS benchmark survey, and the amount of risk that they retain for each modeled category of exposure. The RIMS survey collects data reported by North American corporate risk managers on hundreds of organizations across 14 distinct industry groups and ten different insurance coverage lines.³⁶ In part, MarketStance considers the RIMS survey in connection with estimating the amount of exposure that is self-insured for large and mid-market companies for each industry and modeled category of exposure.

In addition to the RIMS study, MarketStance considers information based on surveys of smaller companies and brokers in modeling how the amount of self-insurance varies for smaller companies that are not represented in the RIMS survey.³⁷ Based on its analysis of the business surveys, MarketStance models the amount of self-insured exposure across industry, business size, and modeled category of exposure.

Determining Premium Cost of Exposure

For each modeled category of exposure, MarketStance combines its estimates of total exposure and self-insurance to compute how much exposure in each state is insured. As shown in Table 1, there are over thirty different lines of liability insurance including a number of specialty

lines for which MarketStance does not separately model exposure. MarketStance takes all of the insured written premiums, including the specialty lines of coverage, and allocates them to the nine modeled categories of exposure. For each modeled category of exposure, MarketStance then scales the insured exposure to equal the allocated written premiums.

Using the same scaling factors, MarketStance computes written premiums equivalents for the self-insured exposures. While MarketStance does not explicitly model each specialty line of insurance, they are included in insured written premiums, which are used to impute self-insured premiums. Accordingly, MarketStance’s estimate of imputed self-insured premiums includes a provision for the specialty lines of coverage.

Personal Liability Insurance

Personal liability exposure is estimated from the costs of homeowners’ (private homes and condos) or renters’ insurance policies. Most individuals only carry general liability insurance as a part of homeowners’ or renters’ insurance policies. Using rate filings from SERFF that separately report property and liability premiums, we estimate the fraction of homeowners’, condominium owners’, and renters’ insurance premiums that are for liability coverage.

As shown in Table 2, most of the home and condominium owners’ insurance premiums are for property damage, and only four or five percent of the premiums go to cover personal liability exposure. In contrast, for renters’ and tenants’ insurance policies, where the value of the insured property is much less, liability coverage accounts for 20 percent of the total premiums.

TABLE 2: ESTIMATED PORTION OF HOMEOWNERS INSURANCE THAT RELATES TO LIABILITY COVERAGES

	Average Portion of Premium for Liability Coverage	Range Across States
Homeowners	3.9%	2.7%-4.8%
Renters/Tenants	19.8%	14.0%-24.7%
Condominium/Unit Owner	4.7%	3.2%-5.7%

Source: SERFF filings.

We apply these percentages to total homeowners’, renters’, and condominium insurance premiums reported by NAIC to estimate personal liability insurance premiums. While a number of individuals do not carry homeowners’ or renters’

liability insurance, the majority of such individuals are likely judgment proof because they do not possess the wealth necessary to make payments to potential claimants. Therefore, we assume that uninsured personal costs are not material.

Auto Liability

Individuals are required to carry automobile liability insurance, and liability from drivers that are uninsured or underinsured is covered by uninsured/underinsured motorist coverage (a form of first party insurance that covers the insured's own losses) designed to fill that gap. We assume that all personal automobile liability is insured either directly or through uninsured/underinsured insurance.³⁸ NAIC reports the total earned liability premiums (including coverage for uninsured and underinsured motorists) in its Auto Insurance Database Reports.³⁹ The automobile liability premiums include the following coverages:

- bodily injury liability;
- property damage liability;
- BI/PD combined single limits;
- personal injury protection;
- uninsured/underinsured motorist;
- medical payments; and
- other liability.

Businesses are also required to carry commercial automobile liability insurance unless they are sufficiently large that they can be exempt and self-insure. This requirement means that most small companies that own cars and trucks will carry commercial liability insurance. Larger companies will frequently retain some or all of the commercial automobile liability risk. Total premiums earned for commercial automobile liability insurance are reported in NAIC statutory filings. Uninsured costs are estimated based on the RIMS survey which has information on the fraction of commercial automobile liability that is retained.⁴⁰

Medical Malpractice Liability

Medical malpractice insurance protects doctors and hospitals from liability arising from allegations of negligence, purportedly resulting in the injury or death of patients.⁴¹ Medical malpractice insurance is generally carried by hospitals as well as individual physicians. Many physician groups and hospital systems are largely or fully self-insured. This limits the usefulness of aggregate statistics on medical malpractice insurance premiums reported in NAIC statutory filings.⁴² Accordingly, we develop a bottom-up estimate of the cost of insuring all medical malpractice exposures.

Medical malpractice insurance is purchased both by individual physicians on a per-physician rate basis and by hospitals where prices are typically quoted on a per-bed basis. Data on the number of physicians by specialty in each state in 2016 are available from the Association of American Medical Colleges.⁴³ Carrier-based rate filings are used to compute average rates per physician specialty. Similarly, the number of hospital beds in each state in 2016 is reported in the American Hospital Directory, and carrier-based rate filings provide an estimate of the rate per hospital bed of medical malpractice insurance.⁴⁴ For rate filings in which the premiums vary across counties, population data from the economic census are used to compute an average premium across the state.

Insurance companies in most states are required to report the rates that they charge for medical malpractice insurance to NAIC via SERFF.⁴⁵ Using the filed rates for the largest insurance companies in each state, we compute the average rate by doctor, controlling for medical specialty, and the

average hospital rate normalized by the number of hospital beds. For both physician and hospital rate filings, we use rates for coverage with limits of \$1 million per occurrence. In instances when the rates are quoted on a claims-made basis, we use the rate for fully mature exposures (i.e., five or more years of exposure). We then multiply the average rates by the number of doctors and hospital beds in each state⁴⁶ to estimate the total medical malpractice liability premiums.

Some rate data are unavailable for some states and are thus estimated based on the rates that are available, accounting for variations in rates due to different risk factors using regression analysis. Two factors that we expect to affect medical malpractice premiums are the cost of healthcare and the cost of legal liability. Medical malpractice often results in personal injuries that require additional medical procedures and expense. Economic damages for medical malpractice claims include incurred medical expenses; therefore, all else being equal, we expect

malpractice insurance rates to be higher in states with more expensive medical care. Medical expenditures per capita from the Centers for Medicare and Medicaid Services (CMS) provide an estimate of the cost of medical care in each state.

In addition to medical costs, states have different legal environments that affect the level of awards to claimants. For example, some states have laws that limit awards and can lead to lower settlements for medical malpractice claims. These differences would be expected to affect the cost of commercial liability insurance as well as medical malpractice insurance. Commercial liability insurance premiums as a percent of state GDP provide an estimate of the overall cost of the legal liability system in each state.

For states and years in which no rates are available, we run a regression controlling for specialty, the coverage year, medical expenditures per capita, and commercial liability insurance cost as a percent of sales.⁴⁷

Formally, we specify the following regression for state i , specialty s , and year t :

$$\ln(\text{rate}_{i,s,t}) = \alpha + \vec{\gamma}_s \cdot \vec{\delta}_s + \beta_1 \ln(\text{liability}_i) + \beta_2 \ln(\text{healthcare}_i) + \beta_3 t + \varepsilon_{i,s,t}$$

- $\text{rate}_{i,s,t}$ = annual medical malpractice premium per physician
- liability_i = commercial liability as a percent of sales in state i
- healthcare_i = healthcare expenditures per capita in state i
- $\vec{\delta}_s$ = vector of fixed effects for medical specialties s
- t = linear time trend
- $\varepsilon_{i,s,t}$ = residual error for state i , specialty s , and year t
- $\alpha, \vec{\gamma}_s, \beta_1, \beta_2,$ and β_3 = regression coefficients

As shown in Table 3, healthcare expenditures and liability premiums are highly significant factors in explaining medical malpractice rates. We also find that a linear time trend that

accounts for inflation in medical malpractice insurance rates is significant. Medical malpractice rates increased at about five percent per year between 2011 and 2018.

TABLE 3: REGRESSION OF MEDICAL MALPRACTICE RATES

Independent variable		Coefficient	Std. error	T-statistic
ln(healthcare expenditures)	[A]	0.52	0.07	7.40
ln(liability premium)	[B]	0.64	0.09	6.84
Year	[C]	0.05	0.01	6.81
Specialty fixed effects	[D]	(41 fixed effects omitted)		
Constant		-89.17	14.28	-6.24
Observations	1,475			
R-squared	0.61			
Adjusted R-squared	0.60			

Sources and Notes:

Regression of the natural logarithm of medical malpractice insurance rates on the specified independent variables.

[A]: Calculated per capita from CMS state health expenditure accounts.

[B]: Calculated from MarketStance data.

[C]: Year in which rates were effective.

[D]: Fixed effects estimated for 41 medical specialties. Coefficients are not displayed.

We use the regression coefficients to predict physician medical malpractice rates for years and states where we were unable to locate rate filings in SERFF. Assuming similar percent impacts on the per-bed hospital rates, we use the state and year effects measured by the regression to predict hospital rates in states and years where rate filings were unavailable.

We do not separately estimate insured and uninsured medical malpractice costs. Instead we use the rates reported (or estimated) in each state to estimate tort costs for all physicians and hospitals in each state, whether they insure or self-insure.⁴⁸ This implicitly assumes that the costs and compensation of medical malpractice liability for self-insured hospitals and physicians are the same as the cost of purchasing medical malpractice insurance, which includes the cost of risk transfer.

Results

Costs and Compensation Paid in the Tort System

We estimate that the aggregate costs and compensation paid in the tort system amounted to \$429 billion in 2016. Table 4 breaks out the liability exposure by line and source of exposure. As shown in Table 4,

the bulk of the costs and compensation of the tort system (i.e., \$250 billion) were from liabilities covered by commercial and personal liability claims. In contrast, liabilities arising from automobile claims (commercial and personal) were \$160 billion, and liabilities relating to medical malpractice exposures were \$19 billion.

TABLE 4: SUMMARY OF COSTS AND COMPENSATION BY SOURCE OF EXPOSURE (\$ BILLIONS)

	Commercial/ Personal Liability	Medical Malpractice	Automobile	Total
	[A]	[B]	[C]	[D]
Commercial Liability	246	19	35	300
<i>Operating Liability</i>	54	-	24	79
<i>Professional Liability</i>	22	19	-	41
<i>Self-Insured</i>	170	-	11	180
Personal Liability/Auto	4	-	125	129
Total	250	19	160	429

Sources and Notes:

- [A]: Includes commercial liability and individual homeowners liability.
- [B]: Sourced from SERFF physician and hospital rate filings.
- [C]: Includes personal and commercial auto liability.
- [D] = [A] + [B] + [C]

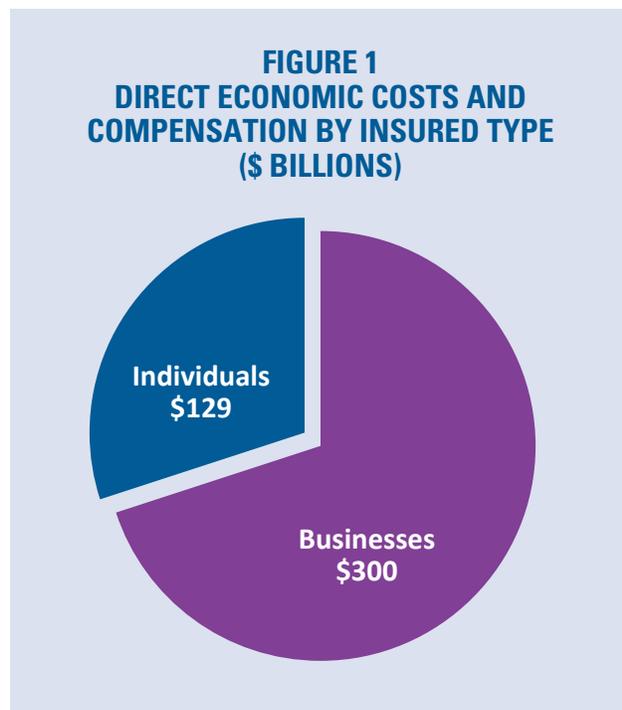
Of the \$300 billion commercial liability, \$246 billion relates to liabilities covered by general liability and professional liability, while \$19 billion relates to medical malpractice liability, and \$35 billion to commercial automobile liability. Approximately two-thirds of the total commercial liability relates to self-insured exposures, which shows that many businesses choose not to purchase

insurance. Of the insured exposures, \$22 billion relate to professional liability lines, which include: directors and officers liability, employment practices liability, and professional errors and omissions liability.

The \$54 billion of other insured liability lines, (commercial operating liability in the table above) primarily includes coverages that relate to commercial property,

commercial general liability, and product liability lines. Personal liabilities covered by homeowners', renters', and condominium insurance only account for \$3.5 billion, a small fraction of the tort system. In contrast, personal auto liability was significant in 2016, accounting for \$125 billion in total costs and compensation.

As shown in Figure 1, 70 percent of the costs and compensation, or \$300 billion, relates to liability faced by businesses and \$129 billion by individuals.



As shown in Figure 2, \$250 billion in costs and compensation are attributable to general and professional liability claims; \$160 billion to automobile claims; and \$19 billion to medical malpractice claims.

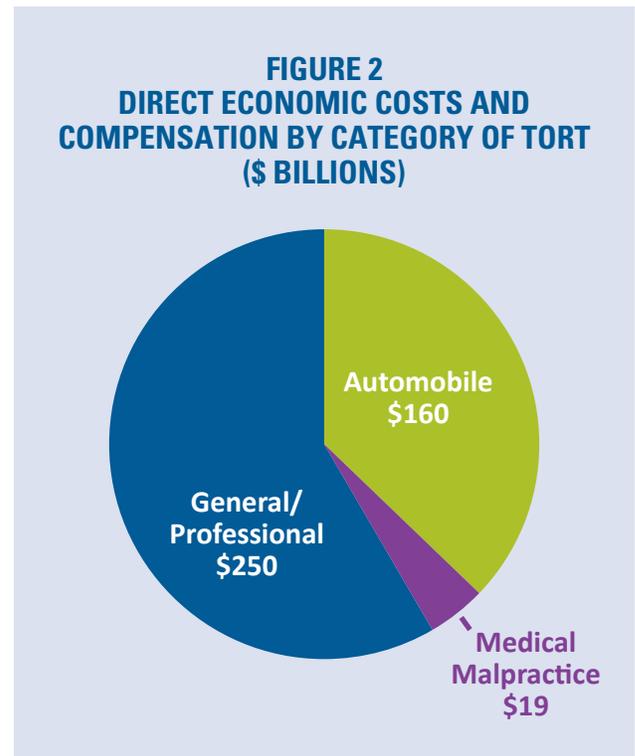


Table 5 reports our estimates of the annual costs and compensation paid in the tort system in 2016 by state as a percent of GDP and per household. Tort costs and compensation vary greatly across states, ranging from \$598 million in Wyoming to over \$56 billion in California. When viewed as a percent of GDP within each state, there is a great deal of variation in tort costs across states.

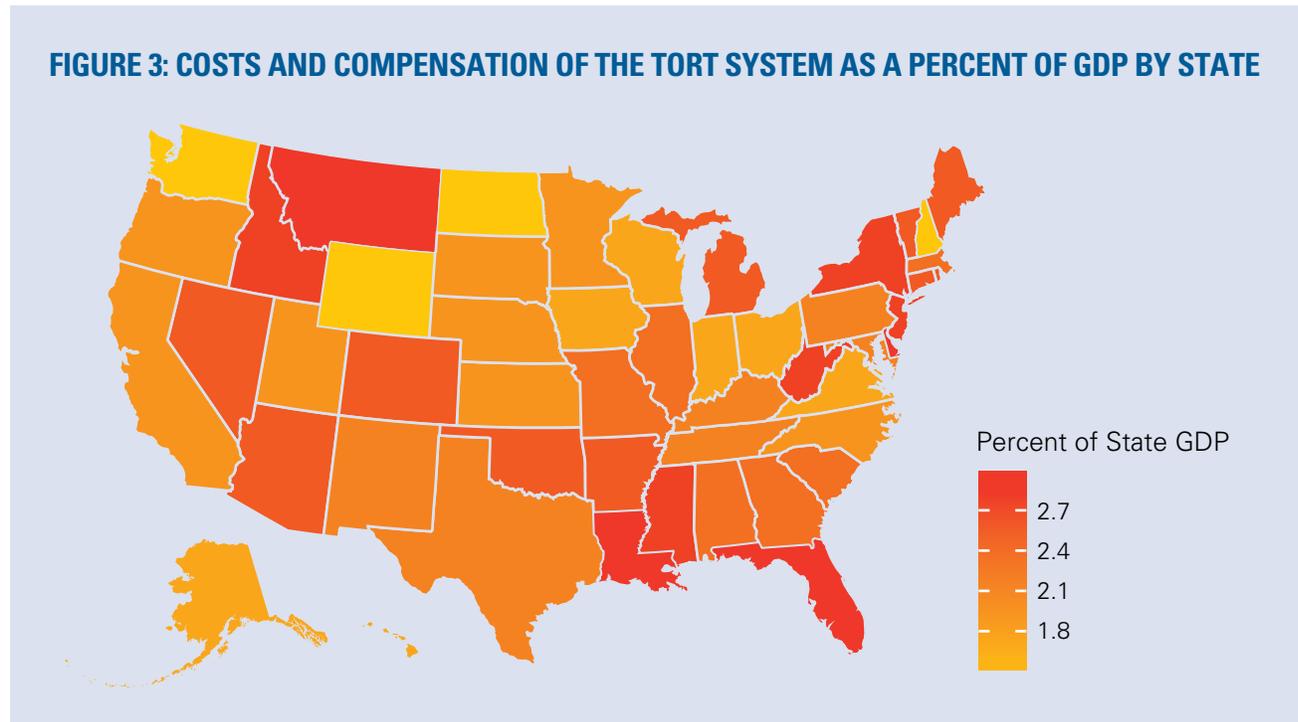
TABLE 5: COSTS AND COMPENSATION PAID IN THE TORT SYSTEM IN 2016 (\$ MILLIONS)

State	General/ Professional	Medical Malpractice	Automobile	Total	Tort costs as % of state GDP	Tort costs per household (\$)
	[1]	[2]	[3]	[4]	[5]	[6]
AL	2,894	157	2,071	5,122	2.5%	2,765
AK	390	39	342	771	1.5%	3,105
AZ	3,733	309	3,081	7,122	2.3%	2,827
AR	1,915	86	1,264	3,265	2.7%	2,857
CA	36,452	1,723	17,791	55,966	2.1%	4,324
CO	4,448	353	2,871	7,672	2.4%	3,638
CT	3,794	265	2,150	6,209	2.4%	4,574
DE	1,141	61	687	1,890	2.7%	5,383
DC	1,382	155	222	1,760	1.4%	6,257
FL	17,403	1,228	15,014	33,645	3.6%	4,442
GA	7,173	506	5,705	13,384	2.5%	3,631
HI	1,014	81	534	1,629	1.9%	3,573
ID	865	32	622	1,519	2.2%	2,486
IL	11,500	1,257	5,269	18,026	2.3%	3,738
IN	3,841	198	2,605	6,644	1.9%	2,623
IA	2,113	104	1,099	3,316	1.8%	2,657
KS	1,528	101	1,114	2,744	1.8%	2,471
KY	2,055	213	2,211	4,479	2.3%	2,608
LA	3,260	253	3,396	6,909	2.9%	4,015
ME	608	59	496	1,163	2.0%	2,187
MD	4,006	730	3,295	8,032	2.1%	3,360
MA	5,824	627	3,528	9,980	2.0%	3,869
MI	5,168	456	6,222	11,846	2.4%	3,050
MN	3,489	294	2,391	6,173	1.8%	2,873
MS	1,469	140	1,312	2,921	2.7%	2,676
MO	4,514	331	2,507	7,352	2.5%	3,099
MT	792	60	477	1,329	2.9%	3,195
NE	1,211	84	808	2,103	1.8%	2,813
NV	2,571	154	1,783	4,507	3.0%	4,272
NH	777	97	531	1,405	1.8%	2,698
NJ	10,176	977	6,581	17,734	3.1%	5,551
NM	1,146	138	990	2,273	2.4%	2,998
NY	30,476	2,305	10,948	43,730	2.9%	6,066
NC	4,894	318	3,688	8,900	1.7%	2,292
ND	466	26	315	806	1.5%	2,557
OH	6,118	679	4,369	11,166	1.8%	2,414
OK	2,291	169	1,786	4,246	2.3%	2,890
OR	2,589	161	2,129	4,879	2.1%	3,105
PA	11,394	1,044	5,936	18,374	2.5%	3,721
RI	920	69	671	1,660	2.9%	4,066
SC	2,510	175	2,576	5,261	2.5%	2,802
SD	431	37	323	791	1.6%	2,369
TN	4,344	244	2,615	7,204	2.2%	2,818
TX	18,586	1,341	13,776	33,704	2.1%	3,535
UT	1,848	125	1,313	3,285	2.1%	3,483
VT	519	29	232	780	2.5%	3,061
VA	4,497	426	3,516	8,439	1.7%	2,704
WA	4,422	382	3,697	8,501	1.8%	3,071
WV	1,034	149	836	2,019	2.8%	2,796
WI	3,496	105	2,133	5,734	1.8%	2,464
WY	323	29	246	598	1.6%	2,675
National	249,813	19,078	160,076	428,966	2.3%	3,329

Sources and Notes: [1]: Includes general/professional and homeowners' liability. [2]: Sourced from SERFF physician and hospital rate filings. [3]: Includes personal and commercial automobile liability. [4] = [1] + [2] + [3]. [5]: 2016 state household estimates from the U.S. Census.

Figure 3 shows how the tort costs and compensation as a percent of GDP varies across states. Florida has the highest tort system costs and compensation as a percent of GDP (i.e., 3.6%), which is more

than two times higher than Alaska, Washington, and Wyoming, which have among the lowest tort system costs and compensation as a percent of GDP (i.e., less than 1.8%).



We also compute the total costs and compensation paid in the tort system as a percent of the number of households. On average, the costs and compensation paid in the tort system amounts to \$3,329 per household. Costs and compensation per household varies significantly across states. Total tort liabilities are over \$6,000 per household in New York, while the liabilities in the least expensive states are one-third that amount.

“ On average, the costs and compensation paid in the tort system amounts to \$3,329 per household. ”

“ [W]e estimate that 43 percent of the aggregate costs and compensation of the tort system go toward the payment of legal fees and other costs of the tort system, and only 57 percent of the total expenditures go toward compensating parties with alleged injuries.”

Efficiency of the Tort System

Insurance data provide not just an estimate of the cost of the tort system, but also offer a basis to assess its efficiency in terms of the portion of total expenditures in the tort system that are paid as compensation to parties alleging injury. In addition to premiums, insurance companies report losses and loss adjustment expenses. Losses include estimates of all payments made to parties alleging injury on behalf of policyholders. In the tort system, plaintiffs' legal fees are typically paid on a contingent fee basis out of the award received by the plaintiffs.⁴⁹ Accordingly, insurance losses include both the plaintiffs' legal costs as well as the compensation that plaintiffs receive for their claims. Loss adjustment expenses include defendants' legal costs, including all of the costs of investigating, defending, and adjusting claims.⁵⁰

We estimate the portion of losses that are used to pay plaintiffs' legal costs based on a prior study that found that the costs to bring and prosecute claims, including the

plaintiffs' lawyers' contingency fees, are approximately 33 percent larger than the costs of defending those claims.⁵¹ Accordingly, we compute that plaintiffs' legal costs are a third larger than the loss adjustment expenses. The remaining portion of the losses are paid as compensation to plaintiffs. We define efficiency as the extent to which the tort system minimizes the costs of adjudicating and administering claims, relative to the net compensation received by plaintiffs.

Using data from the NAIC statutory filings, we compute losses and loss adjustment expenses as a percent of earned premiums for the relevant lines of insurance. By assuming similar levels of efficiency for insured and uninsured costs, we estimate that 43 percent of the aggregate costs and compensation of the tort system go toward the payment of legal fees and other costs of the tort system, and only 57 percent of the total expenditures go toward compensating parties with alleged injuries. See Table 6 and Figure 4 for details.

TABLE 6: SOURCE OF TORT COSTS (\$ BILLIONS)

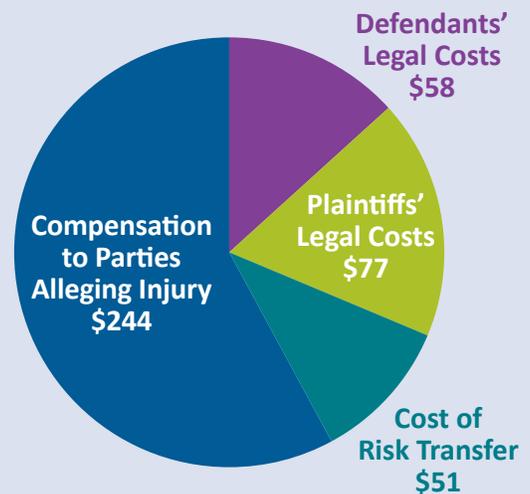
	Losses			LAE	Insurer Margin	Total
	Plaintiffs' Compensation	Plaintiffs' Legal Costs	Total Award	Defendants' Legal Costs	Cost of Risk Transfer	
	[1]	[2]	[3]	[4]	[5]	[6]
Commercial/ Personal Liability	129	61	189	45	15	250
Insured	34	16	51	12	14	76
Self-Insured	92	44	137	33	0	170
Homeowners	2	0	2	0	2	4
Automobile	109	11	121	8	31	160
Commerical Auto (Insured)	15	3	18	2	5	24
Commercial Auto (Self-Insured)	8	2	10	1	0	11
Personal Auto	87	7	93	5	26	125
Medical Malpractice	6	5	11	4	5	19
Total	244 57%	77 18%	320 75%	58 13%	51 12%	429 100%

Notes:

- [1]: = [3] - [2]
- [2]: = [4] x (4/3)
- [3]: = [6] x (Incurred Losses/Earned Premiums)
- [4]: = [6] x (Loss Adjustment Expenses Incurred/Earned Premiums)
- [5]: = [6] - [3] - [4]
- [6]: Total estimated cost and compensation.

The 43 percent of the aggregate costs and compensation of the tort system that are not paid in compensation go towards the payment of legal costs of plaintiffs and defendants, and the cost of risk transfer to insurance companies.⁵² This cost goes to pay insurance companies' additional operating costs and profit margins in excess of the losses and loss adjustment expenses paid incurred on claims. This "cost of risk transfer" represents 12 percent of the aggregate cost of the tort system.

FIGURE 4: SOURCE OF TORT COSTS (\$ BILLIONS)



Conclusion

We estimate that in 2016 the costs and compensation paid in the U.S. tort system amounted to \$429 billion or 2.3 percent of U.S. gross domestic product.

These costs and compensation exhibit significant variations across states, ranging from over \$6,000 a household in New York to just over \$2,000 in the least expensive states.

Variations in costs across states are significant, reflecting differences in risk exposure, legal liability, and efficiency in each state.

The aggregate amount of costs and compensation paid in the tort system is large and accounts for a significant portion of the GDP in the U.S. Moreover, the tort system is relatively inefficient in delivering compensation.

We further estimate that 57 percent of the expenditures in the tort system were paid in compensation to plaintiffs. The remaining 43 percent covered the cost of litigation, insurance expenses, and risk transfer costs.

“ We further estimate that 57 percent of the expenditures in the tort system were paid in compensation to plaintiffs. The remaining 43 percent covered the cost of litigation, insurance expenses, and risk transfer costs. ”

We hope that the objective, clear definition of tort costs and transparent cost estimation methodology will provide a basis for research and improved performance management of the tort system in the future.

Appendix A: Use of Insurance Data to Estimate Tort Costs and Compensation

Liability insurance protects policyholders from civil claims for damages as a result of harm allegedly caused by policyholders. While certain tort liabilities are excluded from standard coverage, the largest sources of liability risk imposed by the tort system are insurable, and the cost of liability insurance provides a reasonable basis on which to estimate the size of the tort system.

For those claims that are not paid by insurance, the price of insurance coverage can be used to estimate the associated self-insured costs. Thus the aggregate cost of the tort system can be estimated using insurance data, even though some of the associated liability is not insured.

Our methodology for estimating the cost of the tort system involves:

- identification of relevant lines of liability insurance;
- computation of the aggregate insured costs by state and line;

- estimation of the extent of uninsured exposure to the same risks by line in each state (using U.S. Census data); and
- pricing this exposure using insurance rate filings based on exposure characteristics in each state.

We use data on the total amount of premiums earned to estimate the size of the tort system.⁵³ The premiums insurance companies collect cover: (1) the expected present value of future losses; (2) the expected present value of defending and administering future claims; and (3) a margin that covers the insurers' selling expenses, overhead, and a competitive profit.

Insurance companies set the premiums they charge on liability insurance so that there will be enough money to pay for future claims, overhead, administrative, and selling expenses and provide for sufficient profits to compensate for the risks they assume. Premiums represent a valid estimate of the cost of insured tort liabilities. Individuals and organizations pay insurance premiums to protect themselves from claims made in the tort system. Hence, for those that are fully insured, the entire cost of purchasing liability insurance represents their exposure to legal liability claims in the tort system. The price of liability insurance is set in a competitive marketplace,⁵⁴ consequently, liability premiums paid by policyholders represent the market cost of transferring legal liability to another party.

In addition, while premiums include selling expenses and insurer profits, insurance companies have several important advantages that allow them to administer and pay claims more efficiently than individual policyholders. Some of the advantages that insurance companies hold over individual policyholders include: the pooling of risks, the realization of economies of scale in defending and administering claims, and the beneficial tax treatment of expected future losses.⁵⁵ For these reasons it can be less expensive for a policyholder to pay a premium that includes the insurance company's selling expenses, overhead, and profits than to go without coverage and be self-insured. Accordingly, estimates of the total premiums paid for liability insurance provide a reasonable basis to estimate the total direct costs and compensation paid in the tort system by fully insured individuals and organizations.

Endnotes

- 1 Paul Hinton is a Principal and David McKnight is a Senior Associate at The Brattle Group. Lars Powell is the Director of the Alabama Center for Insurance Information and Research at the Culverhouse College of Business. This study was developed for the U.S. Chamber Institute for Legal Reform (ILR). We would like to acknowledge the contributions of those who commented on earlier drafts, in particular Oriana Senatore, Senior Vice President, Policy and Research, ILR; Judyth Pendell, an independent consultant; and our colleague Bin Zhou. Laura Hu, Rebecca Kaufmann, and Theresa Wong provided research assistance.
- 2 Throughout this study, we refer to this transfer as the “cost of risk transfer”—a term meant to fully describe what policyholders are paying for when they pay their insurance premiums. The cost of risk transfer is the market cost of transferring legal liability to an insurance company, after deducting the direct costs of paying and defending claims. It includes the money required to pay for the insurer’s overhead and administrative expenses, and to provide profit to compensate for the risk the insurance company assumes.
- 3 Uninsured costs also include insurance deductibles and exposures excluded or in excess of insured limits.
- 4 Awards, whether compensatory or punitive, arising from a finding of intentional wrongdoing are generally excluded from liability coverage.
- 5 David L. McKnight & Paul J. Hinton, *International Comparisons of Litigation Costs: Europe, the United States and Canada* (U.S. Chamber Institute for Legal Reform) (2013).
- 6 Prior studies have provided liability cost estimates to various degrees, but these are now outdated. Schotter and Ordover (1986) estimated the administrative and litigation costs that were incurred in the process of resolving disputes arising through legal liability; however, this study did not estimate the amount of compensation paid to parties alleging injury. Andrew Schotter, Janusz A. Ordover, & Lewis A. Kornhasuer, *The Cost of the Tort System* (New York University) (1986). Kakalik and Pace (1986) estimated the total costs of tort litigation, but excluded cases that were resolved outside of state and federal courts. James S. Kakalik & Nicholas Michael Pace, *Costs and Compensation Paid in Tort Litigation* (RAND Institute for Civil Justice) (1986). Towers Watson published an annual report estimating the size of the U.S. tort system for many years, but has not done so since 2011. *U.S. Tort Costs Trends 2011 Update* (Towers Watson) (2012).
- 7 See generally, Mark J. Browne & Joan T. Schmit, *Litigation Patterns in Automobile Bodily Injury Claims 1977-1997: Effects of Time and Tort Reforms*, 75 J. Risk & Ins., 83 (2008). We presented a review of the literature on the impact of tort reforms, much of which relies on insurance data in our 2012 study on the determinants of tort costs across states. See Paul Hinton et al., *Determinants of State Tort Costs: The Predictive Power of the Harris State Liability Systems Ranking Study* (U.S. Chamber Institute for Legal Reform) (Oct. 2011).
- 8 For example, research has found evidence of fraudulent or exaggerated automobile accident claims, which raises the cost of automobile insurance. See Stephen J. Carroll et al., *The Costs of Excess Medical Claims for Automobile Personal Injuries* (RAND Corporation) (1995).
- 9 Peter W. Huber & Robert E. Litan, *The Liability Maze: The Impact of Liability Law on Safety and Innovation* 16 (Brookings Inst. Press) (1991).
- 10 Jeremy A. Leonard, *How Structural Costs Imposed on U.S. Manufacturers Harm Workers and Threaten Competitiveness* 16 (prepared for The Manufacturing Institute of the National Association of Manufacturers) (2003).

- 11 See Robert E. Litan, *Through Their Eyes: How Foreign Investors View and React to the U.S. Legal System* (U.S. Chamber Institute for Legal Reform) (2007); see also U.S. Department of Commerce, *The U.S. Litigation Environment and Foreign Direct Investment: Supporting U.S. Competitiveness by Reducing Legal Costs and Uncertainty* (Oct. 2008).
- 12 Campbell et al., *The Causes and Effects of Liability Reform: Some Empirical Evidence* (NBER Working Paper No. 4989) (1995).
- 13 Joseph E. Stiglitz, Jonathan M. Orszag & Peter R. Orszag, *The Impact of Asbestos Liabilities on Workers in Bankrupt Firm* (Sebago Associates) (Dec. 2002).
- 14 Joni Hersch & Kip Visxusi, *Tort Liability Litigation Costs for Commercial Claims* 27, *Vand. U. Law Sch., Law and Econ., Working Paper 07-16* (2007).
- 15 *U.S. Tort Costs: 2003 Update, Trends and Findings on the Costs of the U.S. Tort System* (Tillinghast-Towers Perrin) (2003) (finding awards for noneconomic loss are the greatest portion of tort costs).
- 16 In some states, certain intentional torts and punitive damages are not insurable because shifting responsibility away from an individual for his or her own bad acts would create moral hazard (an incentive to act badly). Whether torts were committed deliberately is often in question, so insurance will often respond to a wider range of claimed torts because doing so does not involve admitting or denying wrongdoing. Furthermore, claimants typically include a negligence theory to ensure coverage, thus allowing them to draw on insurance resources. For example, a deliberate fraud allegedly committed by an employee may be restated as a failure to supervise.
- 17 Although state and federal governments enjoy sovereign immunity, the Federal Tort Claims Act and similar state laws allow lawsuits against them but with damage limits or higher evidentiary burdens than tort claims against private parties. These sources of liability, at least for states and municipalities, can be insured. We include government tort liabilities in our estimates and definition of the tort system.
- 18 We note that although insurance coverage is not generally available for intentional torts, “there are an array of intentional torts for which insurance coverage is expressly provided under liability policies. For example, insurance coverage is available for defamation, disparagement, trademark infringement, misappropriation of style of doing business, unfair competition, infringement of copyright, title or slogan, false imprisonment, employment discrimination, wrongful termination, wrongful eviction, malicious prosecution, and invasion of privacy.” See Christopher French, *Debunking The Myth that Insurance Coverage is Not Available or Allowed for Intentional Torts or Damages*, 8 *Hastings Bus. L.J.* 65 (2012).
- 19 Torts generally fall into three categories: (1) intentional torts, such as assault, battery, trespass, conversion, and defamation; (2) negligent torts involving the violation of a duty of care; and (3) strict/product liability torts.
- 20 Bodily injury and property damage are the principal coverages in industry standard general liability policies.
- 21 Other sources of potential tort liability include slander and defamation.
- 22 Today, commercial general liability (CGL) policies contain a broad pollution exclusion that provides very little coverage for injury, remediation, or cleanup from pollutants. The clause excludes claims for “‘bodily injury’ or ‘property damage’ arising out of the actual, alleged or threatened discharge, dispersal, seepage, migration, release or escape of ‘pollutants.’” Examples of “pollutants” include asbestos, benzene, chemical fumes, DDT, gasoline, heating oil, insecticide, lead paint, and TCE.
- 23 Environmental liability exposure of nuclear power generators is excluded from our estimates of tort system liability. This consists of two components, spent fuel rod storage containment risk, and nuclear power plant incident risk. The annual liability costs of the former can be gauged by the aggregate annual amount of the U.S. Department of Energy Nuclear Waste Fund Fee assessments, notionally capitalizing safe storage facility construction costs. At a historical rate of \$1 per MWh, this amounts to an approximate annual

industry-wide cost of about \$800 million. See Statista (Sept. 21, 2018), <https://www.statista.com/topics/3736/nuclear-energy-in-the-us/>. The tort liability cost for smaller commercial power reactors of a nuclear incident is capped at \$560 million and for larger reactors at \$450 million + premium charges up to about \$12.36 billion based on assessment of \$121.255 million for each nuclear reactor (102 as of June 2017) at the time of the nuclear accident. OECD NEA *“Nuclear Operators’ Third Party Liability Amounts and Financial Security Limits”* (April 2018).

- 24 The ISO MarketStance estimates of self-insured exposure include environmental liability. Self-insured exposures are estimated by scaling up the premiums for specialty line environmental liability coverage by the same self-insured proportion as estimated for the largest liability lines using the results of the RIMS survey. This procedure is described further on page 15.
- 25 The impact of the asbestos exclusion can be assessed by considering the size of the aggregate loss payments on insured legacy (1985 and prior) asbestos exposures. In the United States in 2016, insured asbestos losses were \$3.2 billion according to AM Best. Uninsured post-1985 exposures are excluded from this estimate but would be expected to be less costly than the claims arising from 1985 and prior exposures, which pre-dated occupational controls and the discontinuation of the use of asbestos. Relative to the estimated aggregate size of the tort system, this source of current liabilities is small. See *Asbestos Claims Payments Show No Sign of Slowing Down Despite Drop in Incurred Losses*, Best’s Special Report (Nov. 2017).
- 26 Some of these statutes also provide for criminal liability but criminal liabilities are outside our definition of the tort system.
- 27 Statutory environmental protections expand liability to cover environmental clean-up costs and costs of compliance with emissions controls, however, these are excluded from our definition of the tort system liabilities. Related private litigation, including class actions, can be brought to recover compensation, for example, for bodily injury and property value diminution associated with alleged violations of environmental laws. These liability costs are included in our tort cost estimate. Statutory environmental liabilities arise largely through government enforcement of obligations under the 1980 “Superfund” legislation (CERCLA) for cleanup of sites contaminated with hazardous substances and pollutants, the 1963 Clean Air Act to reduce air pollution and comply with emissions standards, and other environmental laws. In 2017, the EPA won injunctive relief, largely to control air pollution, totaling approximately \$20 billion; Superfund commitments from responsible parties of roughly \$1.5 billion; and administrative and civil judicial penalties of about \$1.6 billion. The EPA also obtained fines and restitution of \$3 billion in criminal enforcement matters in 2017. *Enforcement Annual Results for Fiscal Year 2017*, EPA (Sep. 21, 2018), <https://www.epa.gov/enforcement/enforcement-annual-results-fiscal-year-2017>. These measures of compensation or social benefits of the enforcement efforts do not include the costs of prosecuting and defending the cases.
- 28 Antitrust liabilities that arise through the process of mergers and acquisition approval represent first party costs and would not be included in our insurance estimates based on third party liability coverage. Exclusion from coverage of intentional acts would eliminate liability protection from proven actions of collusion. But collusion allegations would not necessarily preclude coverage.
- 29 The apparent reduction in liability costs to the self-insured from assuming liability risk themselves is a simplifying assumption. Although the self-insured do not pay insurance premiums that include a markup for commissions and other selling costs, neither do they have to finance the costs of paying compensation, defending and administering claims. Whether the liability risks of the self-insured segment in aggregate are lower due to selection bias that could attract higher risk individuals and firms to buy insurance is not clear. But this reduction in imputed liability cost could accommodate any differential in liability risk not priced-out by MarketStance using exposure metrics from the economic census.

- 30 See Appendix A for a discussion of the use of premiums as a measure of the costs and compensation paid in the tort system.
- 31 Awards, whether compensatory or punitive, arising from a finding of intentional wrongdoing are generally excluded from liability coverage.
- 32 We compute a ground up estimate of the total exposure to medical malpractice claims. Accordingly, we do not separately identify self-insured medical malpractice liability costs, and do not exclude the cost of risk transfer for self-insured medical malpractice liabilities.
- 33 Intellistance d/b/a MarketStance was acquired by the Insurance Services Office, Inc. (ISO) in 2016.
- 34 See e.g., *Best's Aggregates & Averages: Property-casualty*, AM Best Company (2017).
- 35 While premiums for annual policies are often paid in advance, those premiums are “earned” throughout the policy term.
- 36 *2017 RIMS Benchmark Survey*, RIMS/Advisen (2017).
- 37 See e.g., Chubb, *Top Risks for Private Companies in the U.S. – Highlights from Chubb's Private Company Risk Survey* (2018).
- 38 Because of the mandatory coverage and inclusion of uninsured losses, we assume auto insurance premiums reported by NAIC represent 100 percent of personal automobile liability. In fact, uninsured motorists coverage is not mandatory in most states, leaving some level of uninsured costs.
- 39 *Auto Insurance Database Report 2014/2015*, National Association of Insurance Commissioners (Dec. 2017), https://www.naic.org/prod_serv/AUT-PB-14.pdf.
- 40 The RIMS survey is focused on large and mid-market firms. We rely on the survey published for 2016.
- 41 We note that one study of closed claims alleging medical malpractice found that in a large percent of lawsuits filed, medical errors were not responsible for the claimed injuries. See David M. Studdert et al., *Claims, errors, and compensation payments in medical malpractice litigation 2024-2033*, 19 *New England Journal of Medicine* 345 (2006).
- 42 Eric Nordman et al., *Medical malpractice insurance report: A study of market conditions and potential solutions to the recent crisis*, Kansas City, MO: National Association of Insurance Commissioners (2004).
- 43 *2017 State Physician Workforce Data Book*, Association of American Medical Colleges, <https://www.aamc.org/data/workforce/reports/484392/2017-state-physician-workforce-data-report.html>.
- 44 *Hospital Statistics by State*, American Hospital Directory, https://www.ahd.com/state_statistics.html.
- 45 *System for Electronic Rates and Forms Filing (“SERFF”) Database*, National Association of Insurance Commissioners, <https://www.serff.com>.
- 46 *Supra* note 44.
- 47 Commercial liability insurance as a percentage of sales in each state is from ISO MarketStance. Medical expenditures per capita are from the Centers for Medicare and Medicaid Services (CMS), *Projections of National Health Expenditures: Methodology and Model Specification*, <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/ProjectionsMethodology.pdf>.
- 48 *Supra* note 43.
- 49 See James S. Kakalik & Nicholas Michael Pace, *Costs and Compensation Paid in Tort Litigation* 37 (RAND Institute for Civil Justice) (1986).
- 50 See e.g., *Statutory Issue Paper No. 55 Unpaid Claims, Losses and Loss Adjustment Expenses* (National Association of Insurance Commissioners) (June 1998).
- 51 *Supra* note 49. This study provides a comparison of the costs of prosecuting and defending a wide range of claims in the tort system. Most tort litigation is financed through contingent fee arrangements, which have averaged about 33 percent of total awards since 1986. See Lester Brickman, *The Market for Contingent Fee*

Financed Tort Litigation: Is it Price Competitive 65, *Cardozo L. Rev.* 25 (2003); Eric Helland et al., *Contingent Fee Litigation in New York City* 1971, *Vand. L. Rev.* 20 (2017). Moreover, defense costs, as measured by loss adjustment expenses, have been around 15 percent of total awards since 1986. Given the relative stability of contingent fee rates and defense costs as a percent of the total awards, we assume that the average aggregate costs of bringing claims relative to defending claims in 2016 is similar to what it was in 1986.

- 52 The estimated costs of the tort system implicitly include the cost of risk transfer for self-insured medical malpractice liability.
- 53 Insurance premiums written in 2016 are used by MarketStance to develop their estimates.

- 54 While there are differences across states and product, insurance markets are quite competitive by traditional measures and returns are lower than those of other industries. See National Association of Insurance Commissioners, *2016 Competition Database Report* (2017), https://www.naic.org/prod_serv/CLR-OPS-17.pdf; see also *Report on Profitability by Line by State in 2016* (National Association of Insurance Commissioners) (2017), https://www.naic.org/prod_serv/PBL-PB-17.pdf.
- 55 Richard MacMinn & James Garven, *On the Demand for Corporate Insurance: Creating Value*, *Handbook of Insurance*, at 487-516 (July 2013).



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