P&C Focus

Part I Auto Coverage Focus

Chapter 1 Automobile Insurance Protection

The primary use of automobile insurance is to provide protection against losses incurred as a result of traffic accidents and against liability that could be incurred in an accident. It is coverage for the responsibility for injury or damage to others resulting from the ownership, maintenance, or use of a motor vehicle. Vehicle insurance can cover some or all of the following items; the insured party, the insured vehicle, third parties.

Most states require that drivers have at least some kind of car insurance. Before purchasing auto insurance, drivers must consider a variety of factors including what kind of car, driving record and the amount of money he or she is willing to pay. Understanding the basics of auto insurance is a fundamental part of operating a motor vehicle responsibly so that the car insurance policy will take care of the policyowner's needs in the event of an accident.

Essential Coverage

Everyone who drives needs car insurance, most states require it by law. When a motorist buys car insurance, the policy is based on a variety of factors including what kind of car he or she drives as well as what kind of insurance is chosen. Auto insurance policies are actually a package of different types of insurance coverage.
Step one in understanding an auto insurance policy is to learn the various types of coverage insurance companies offer. Some of this coverage may be required by state statute and some of the coverage may be optional.

The consumer may be protected with different coverage types depending on what coverage the insured purchases. Liability insurance covers claims against the policy holder and generally, any other operator of the insured vehicles provided, do not live at the same address as the policy holder, and are not specifically excluded on the policy. In the case of those living at the same address, they must specifically be covered on the policy. Thus it is necessary for example, when a family member comes of driving age they must be added on to the policy. Liability insurance sometimes does not protect the policy holder if they operate any vehicles other than their own. When someone drives a vehicle owned by another party, the driver is covered under that party's policy. Non-owners policies may be offered that would cover an insured on any vehicle they drive. This coverage is available only to those who do not own their own vehicle and is sometimes required by the government for drivers who have previously been found at fault in an accident.

Liability - This coverage pays for accidental bodily injury and property damages to others. Injury damages include medical expenses, pain and suffering and lost wages. Property damage includes damaged property and automobiles. This coverage also pays

defense and court costs. State laws determine how much liability coverage must be purchased, but one can always get more coverage than the state requires.

Liability coverage provides a fixed dollar amount of coverage for damages that an insured driver becomes legally liable to pay due to an accident or other negligence. For example, if an insured driver drives into a telephone pole and damages the pole, liability coverage pays for the damage to the pole. In this example, the drivers insured may also become liable for other expenses related to damaging the telephone pole, such as loss of service claims (by the telephone company). Liability coverage is available either as a combined single limit policy, or as a split limit policy:

Generally, liability coverage extends when a car is rented. Comprehensive policies ("full coverage") usually also apply to the rental vehicle, although this should be verified beforehand. Full coverage premiums are based on, among other factors, the value of the insured's vehicle. This coverage, however, cannot apply to rental cars because the insurance company does not want to assume responsibility for a claim greater than the value of the insured's vehicle, assuming that a rental car may be worth more than the insured's vehicle.

Combined Single Limit- A combined single limit combines property damage liability coverage and bodily injury coverage under one single combined limit. For example, an insured driver with a combine single liability limit strikes another vehicle and injures the driver and the passenger. Payments for the damages to the other driver's car, as well as payments for injury claims for the driver and passenger, would be paid out under this same coverage.

Split Limits- A split limit liability coverage policy splits the coverages into property damage coverage and bodily injury coverage. In the example given above, payments for the other driver's vehicle would be paid out under property damage coverage, and payments for the injuries would be paid out under bodily injury coverage.
Bodily injury liability coverage is also usually split like this as well-

- Maximum payment per person
- Maximum payment per accident

Collision - This coverage pays for vehicle damages caused by collision with another vehicle or object. Collision coverage provides coverage for an insured's vehicle that is involved in an accident, subject to a deductible. This coverage is designed to provide payments to repair the damaged vehicle, or payment of the cash value of the vehicle if it is not repairable. Collision coverage is optional. Collision Damage Waiver (CDW) is the term used by rental car companies for collision coverage.

Comprehensive - This coverage pays for loss or damage to the insured vehicle that doesn't occur in an auto accident. The types of damages comprehensive insurance covers include loss caused by fire, wind, hail, flood, vandalism or theft. Comprehensive (a.k.a. - Other Than Collision) coverage provides coverage, subject to a deductible, for an insured's vehicle that is damaged by incidents that are not considered Collisions. For example, fire, theft (or attempted theft), vandalism, weather, or impacts with animals are just some types of Comprehensive losses.

Medical Coverage - Pays medical expenses regardless of fault when the expenses are caused by an auto accident.

PIP - Personal Injury Protection (PIP) is required in some states. This coverage pays medical expenses for the insured driver, regardless of fault, for treatment due to an auto accident.

Uninsured Motorist - Pays for the car's damages when an auto accident is caused by a driver who doesn't have liability insurance.

Underinsured Motorist - Pays for the car's damages when an auto accident is caused by someone who has insufficient liability insurance.

Rental Reimbursement - This type of coverage will pay for a rental car if the insured vehicle is damaged due to an auto accident. Often this coverage has a daily allowance for a rental car.

Many insurance policies combine a number of these types of coverage. The first step in choosing insurance is to know the laws in a particular state. This job generally falls upon the agent, to clearly explain the minimum insurance needed for the car.

Underinsured Coverage- This is also known as UM/UIM, provides coverage if another at-fault party either does not have insurance, or does not have enough insurance. In effect, the insured’s insurance company acts as at fault party's insurance company. In the United States, the definition of an uninsured/underinsured motorist, and corresponding coverages, are set by state laws.

Loss of Use- This coverage, also known as rental coverage, provides reimbursement for rental expenses associated with having an insured vehicle repaired due to a covered loss.

Loan/Lease Payoff Coverage- This type coverage is also known as GAP coverage or GAP insurance. It was established in the early 1980's to provide protection to consumers based upon buying and market trends. Due to the sharp decline in value immediately following purchase, there is generally a period in which the amount owed on the car loan exceeds the value of the vehicle, which is called "upside-down" or negative equity. Thus, if the vehicle is damaged beyond economical repair at this point, the owner will still owe potentially thousands of dollars on the loan. The escalating price of cars, longer-term auto loans, and the increasing popularity of leasing gave birth to GAP protection. GAP waivers provide protection for consumers when a "gap" exists between the actual value of their vehicle and the amount of money owed to the bank or leasing company. In many instances, this insurance will also pay the deductible on the primary insurance policy. These policies are often offered at the auto dealership as a comparatively low cost add on that can be put into the car loan which provides coverage for the duration of the loan.

Consumers should be aware that a few states, including New York, require lenders of leased cars to include GAP insurance within the cost of the lease itself. This means that the monthly price quoted by the dealer must include GAP insurance, whether it is delineated or not. Nevertheless, unscrupulous dealers sometimes prey on unsuspecting individuals by offering them GAP insurance at an additional price, on top of the monthly payment, without mentioning the State's requirements. In addition, some vendors and insurance companies offer what is called "Total Loss Coverage." This is similar to

ordinary GAP insurance but differs in that instead of paying off the negative equity on a vehicle that is a total loss, the policy provides a certain amount, usually up to $5000, toward the purchase or lease of a new vehicle. Thus, to some extent the distinction makes no difference, i.e., in either case the owner receives a certain sum of money. However, in choosing which type of policy to purchase, the owner should consider whether, in case of a total loss, it is more advantageous for him or her to have the policy pay off the negative equity or provide a down payment on a new vehicle.

For example, assuming a total loss of a vehicle valued at $15,000, but on which the owner owes $20,000, is the "gap" of $5000. If the owner has traditional GAP coverage, the "gap" will be wiped out and he or she may purchase or lease another vehicle or choose not to. If the owner has "Total Loss Coverage," he or she will have to personally cover the "gap" of $5000, and then receive $5000 toward the purchase or lease of a new vehicle, thereby either reducing monthly payments, in the case of financing or leasing, or the total purchase price in the case of outright purchasing. So the decision, on which type of policy to purchase will, in most instances, be informed by whether the owner can pay off the negative equity in case of a total loss and/or whether he or she will definitively purchase a replacement vehicle.

Car Towing Insurance- This coverage is also known as Roadside Assistance coverage. Traditionally, automobile insurance companies have agreed to only pay for the cost of a tow that is related to an accident that is covered under the automobile policy of insurance. This had left a gap in coverage for tows that are related to mechanical breakdowns, flat tires and gas outages. To fill that void, insurance companies started to offer the Car Towing coverage, which pays for non-accident related tows.

Basis of Premium Charges

Depending on the jurisdiction, the insurance premium can be either mandated by the government or determined by the insurance company in accordance to a framework of regulations set by the government. Often, the insurer will have more freedom to set the price on physical damage coverages than on mandatory liability coverages. When the premium is not mandated by the government, it is usually derived from the calculations of actuarially based on statistical data. The premium can vary depending on many factors that are believed to have an impact on the expected cost of future claims. Those factors can include the car characteristics, the coverage selected (deductible, limit, covered perils), the profile of the driver (age, gender, driving history) and the usage of the car (work, school, pleasure).

Gender

Men average more miles driven per year than women do, and have a proportionally higher accident involvement at all ages. Insurance companies cite women's lower accident involvement in keeping the youth surcharge lower for young women drivers than for their male counterparts, but adult rates are generally unisex. Reference to the lower rate for young women as "the women's discount" has caused confusion that was evident in news reports on a recently defeated EC proposal to make it illegal to consider gender in assessing insurance premiums. Ending the discount would have made no difference to most women's premiums.

Age

Teenage drivers who have no driving record will have higher car insurance premiums. However young drivers are often offered discounts if they undertake further driver training on recognized courses, such as the Pass Plus system in the UK. In the U.S. many insurers offer a good grade discount to students with a good academic record and resident student discounts to those who live away from home. Generally insurance premiums tend to become lower at the age of 25. Senior drivers are often eligible for retirement discounts reflecting lower average miles driven by this age group.

Miles Driven

Some car insurance plans do not differentiate in regard to how much the car is used. However, methods of differentiation would include:

Reasonable Estimation- Several car insurance plans rely on a reasonable estimation of the average annual distance expected to be driven which is provided by the insured. This discount benefits drivers who drive their cars infrequently but has no actuarial value since it is unverified.

Odometer Based Systems- Cents Per Mile Now advocates classified odometer-mile rates. After the company's risk factors have been applied and the customer has accepted the per-mile rate offered, customers buy prepaid miles of insurance protection as needed, like buying gallons of gasoline. Insurance automatically ends when the odometer limit (recorded on the car's insurance ID card) is reached unless more miles are bought. Customers keep track of miles on their own odometer to know when to buy more. The company does no after-the-fact billing of the customer, and the customer doesn't have to estimate a "future annual mileage" figure for the company to obtain a discount. In the event of a traffic stop, an officer could easily verify that the insurance is current by comparing the figure on the insurance card to that on the odometer.

Critics point out the possibility of cheating the system by odometer tampering. Although the newer electronic odometers are difficult to roll back, they can still be defeated by disconnecting the odometer wires and reconnecting them later. However, as the Cents Per Mile Now website points out: "As a practical matter, resetting odometers requires equipment plus expertise that makes stealing insurance risky and uneconomical. For example, in order to steal 20,000 miles of continuous protection while paying for only the 2,000 miles from 35,000 miles to 37,000 miles on the odometer, the resetting would have to be done at least nine times to keep the odometer reading within the narrow 2,000-mile covered range. There are also powerful legal deterrents to this way of stealing insurance protection. Odometers have always served as the measuring device for resale value, rental and leasing charges, warranty limits, mechanical breakdown insurance, and cents-per-mile tax deductions or reimbursements for business or government travel. Odometer tampering—detected during claim processing—voids the insurance and, under decades-old state and federal law, is punishable by heavy fines and jail."

Under the cents-per-mile system, rewards for driving less are delivered automatically without need for administratively cumbersome and costly GPS technology. Uniform per-mile exposure measurement for the first time provides the basis for statistically valid rate classes. Insurer premium income automatically keeps pace with increases or decreases in driving activity, cutting back on resulting insurer demand for rate increases

and preventing today's windfalls to insurers when decreased driving activity lowers costs but not premiums.

GPS Based Systems- In 1998, Progressive Insurance started a pilot program in Texas in which volunteers installed a global positioning system (GPS) based technology called Autograph in exchange for a discount. The device tracked their driving behavior and reported the results via cellular phone to the company. Policyholders were reportedly more upset about having to pay for the expensive device than they were over privacy concerns. In 1996, Progressive filed for and obtained a US patent (US patent 5,797,134) on their process. Progressive has also filed corresponding patent applications in Europe and Japan.

OBDII-based system- In 2004, Progressive launched another pilot program to allow policyholders to earn a discount on their premiums by consenting to use its TripSense device. TripSense connects to a car's OnBoard Diagnostic (OBD-II) port, which exists in all cars built after 1996. The discount is forfeited if the device is disconnected for a significant amount of time.

Chapter 2 Development of Auto Liability Rating

A development that dramatically affected the insurance environment of the early twentieth century was the introduction of the “reasonably priced, reliable, and efficient” Model T by Henry Ford in 1908, only two years after the San Francisco fire and a few years prior to the Merritt committee and NCIC reports.

Auto Insurance and the American Experience

The automobile not only revolutionized the transportation system in this country, it also caused a major shift in the property-liability insurance industry as well, as automobile insurance soon replaced fire insurance as the largest line of business. The primary risk of automobile insurance was liability, not damage to the property itself. Also, automobiles were not subject to the fire peril or other catastrophic exposures to the same extent that buildings and their contents were.

Automobile Liability insurance can be traced back to about 1898 when two hundred cars were manufactured in the United States. It was first written in Great Britain about the same time as in the United States, or possibly a little earlier. English underwriters began with a public liability form called “Third Party Liability,” applicable only to autos of the pleasure type.

AUTOMOBILE LIABILITY RATING PRIOR TO 1932

The first policies in England covered only public liability with a total limit equivalent to $2,500. Since the premium was $50 regardless of the horsepower or type of car, the rate seemed to be purely arbitrary. In 1899, the public liability policy was broadened to provide a limit of $1,250 for a single accident with $5,000 as the limit under the policy for the year. The rate was $47.50 for pleasure cars of all horsepower. By 1900, the owners insured had slightly broader options on the coverage they wished. For a $20 premium, the insured could have limits of $500 for a single accident with $2,500 for the year. For $30, he could purchase limits of $1,250/2,500. In 1901, the first policy to include property damage liability along with public liability was issued. In the same year, the English underwriters were quoting premiums varying with the horsepower of the car. Since the rates quoted, however, were generally for cars under 12 horsepower, and since practically no cars over 12 horsepower were in operation at the time, a very meager classification system existed.

By 1902, the policies being issued in Great Britain included several coverages. For a stated premium, for example $75, the insured was covered for public liability and for property damage with limits of $1,250/$5,000, for collision with total policy limits of $500, and for fire and theft limits of $1,250; the coverage also included a $500 benefit upon death (if the car was not being driven by the owner) or for the loss of two limbs, a $250 benefit for the loss of one limb, and $1 per week for 26 weeks while the driver was disabled. In addition, there were owner's benefits of $2,500 for death or loss of two limbs, $1,250 for the loss of one limb, and $15.00 per week while the owner was disabled. The policy thus became a conglomeration of coverages based on a rate set entirely upon an arbitrary judgment basis. The underwriters, no doubt, hoped that premiums would exceed losses, and if losses were excessive, they planned to increase

premiums for the following year. The coverage was confined to private pleasure cars, although motorcycles were written for the first time at a discount of 20% per cent from the private car rate.

In 1903, the yearly policy limit for public liability and property damage was removed, and a 10 per cent reduction was allowed if the company's liability was limited to accidents occurring only while the car was being driven by the insured. Standard rates were now being quoted for private passenger cars of from 6 to 16 horsepower with a 20 per cent reduction for cars under this horsepower and special rates for cars that were over 16 horsepower. Policies with a single rate still maintained combined overages. Motorcycles were now being written at a 50 per cent reduction from the stated rates, a reduction which also applied if the insured paid the first $50.00 of every claim. In 1904, the horsepower ratings for a standard premium were increased from 16 to 20; and in 1905, the first classes of horsepower ratings appeared, such as from 6 to 9, 10 to 12,13 to 18,19 to 24, and 25 to 40. By 1906, the horsepower ratings were revised to 10 to 15, 16 to 25, and 26 to 50. This system provided the basis for English rate making for the next half dozen years, or until the United States became the center of the automobile economy.

Coverage Beginnings in the U.S.

Since the automobile was of slight importance in the United States prior to 1900, automobile liability insurance rating can be traced back only to that year. Actually, in the census of 1899, the manufacture of automobiles was reported only as a part of the carriage and wagon industry.

In 1898 two hundred automobiles were manufactured in the U.S. and this new means of conveyance entered the realm of underwriting. The first automobile insurance policy was issued to Dr. Truman Martin of Buffalo, NY, protecting him against liability for damages to the persons or property of others by reason of the operation of his auto. During the same year several other automobile owners indemnified themselves with similar policies. These policies evolved from “team forms,” those designed for the protection for the owners of teams of horses drawing or pulling wagons, carriages, carts, etc. Protection was for damages resulting from runaways, kicking or biting horses and the like. The team forms type of coverage had already existed for about 10 years in the United States. Insurers did not generally write casualty insurance at this time, but more and more car owners took out liability coverage. Eventually the owners began to seek coverage on the machines themselves. At the beginning of the 20th Century, United States Lloyd’s came out with a policy protecting automobiles against fire or theft at all times and places.

A good portion of insurers, however, were in favor of a boycott of insuring autos. The trade journal *Spectator* came out for an insurance boycott of the new contraptions-

> “The motormen-chauffeurs is the general term- driving automobiles are usually reckless, rushing madly past frightened teams [of horses] without attempting to slow down, or frequently coming up from behind and passing without giving any warning whatever. Nervous horses are sure to be alarmed at such apparitions… While they cannot prevent their policyholders form being run over by reckless chauffeurs…[underwriters] might serve the cause of public safety by refusing to insure anyone who has acquired the automobile habit.”

Despite such misgivings, in the year 1905, there were 25,000 cars made in the United States with a total of 78,000 in operation on the roads (such that they were). Policies were written to cover fire and theft, and in 1907 collision insurance was added. Theft rates of automobiles were low before the Great War. In those days an auto was a rich man’s toy. It was almost immune from theft being too conspicuous and too difficult for a thief to dispose of easily. Things had changed by the end of the World War in 1918. There were then six million motor cars on American roads

That the early automobile policies offered to the public were not rated through cooperative measures of the companies is not surprising, therefore. In fact, ruinous rate-cutting was common at the outset and became a disturbing feature of the business. According to the earliest records available, the first property damage policy in the United States was written about 1898. The original United States public liability coverage, taken care of under a teams form, had as its initial limits $ 5,000 for public liability for each accident to a single person and $10,000 for an accident in which more than one person might be injured; those limits are valid at the present time. The first liability insurance written in the United States seems to have been in 1898 on electric vehicles. Insurance on gasoline and steam cars followed in 1899. When steam cars were first protected, the underwriters were concerned about the additional hazard of explosion, a distinct possibility because of high boiler pressure. To protect himself against public liability and property damage caused by the explosion of the boiler, whether the car was occupied or not, the owner had to pay an additional premium. Thus, the basic policy excluded boiler explosion, and a complete coverage policy required the addition of the boiler endorsement.

In the beginning and for a number of years thereafter, the liability rates were far from being uniform or stable. The only uniformity lay in the common acceptance of horsepower as a basis for rates. The original basis was a flat premium for cars not exceeding a certain horsepower with an additional premium for each horsepower above the stated minimum. One of the early companies charged $50.00 for a 12 horsepower car, plus $5.00 for every horsepower increase over 12. Since few cars at that time were over 12 horsepower, the standard rate for 12 horsepower was normally applied. Companies had no conference or agreement of any kind on either the method of rating or the rates themselves or even the compilation of loss statistics. The rate promulgated by each company seemed to be based entirely on judgment and too often on the desire to underbid its competitors, with an eye to getting a larger share of the business. Initially, because of this extreme competition, the experience was unprofitable and several carriers were driven out of the market completely.

Drastic Changes

In the early 1900's the automobile carriers began to realize that with the huge increase in car production and with the drastic changes being made in the chassis of the automobiles, some cooperation was necessary. The first type of arrangement was a sort of "gentleman's agreement" among a few of the companies to uphold the rates they set and to compare their statistics in order to arrive at more accurate rates. Consequently, horsepower was adopted as the basis for rating, and a definite premium rate was set for each horsepower group; most of the larger companies adhered to this rate. In time, the automobile liability business was included in the Liability Conference, which was an association of leading casualty companies to compile statistics and hold rates at a stipulated level for a number of lines of insurance. After the advent of

workman's compensation insurance, the Conference became part of an organization known as the National Workmen's Compensation Service Bureau, which eventually developed into the National Bureau of Casualty Underwriters. In the beginning nearly all of the large stock casualty companies belonged to the Bureau. The National Workmen's Compensation Service Bureau was an agency for the promulgation of all types of liability and compensation rates including automobile coverage.

The Bureau's statisticians collected and prepared rate making data and submitted their conclusions to the "Automobile Committee," which made the final decisions. At that time about 85 per cent of the liability business was done by companies which adhered to the Bureau's rates. The current major rating bureau, the National Bureau of Casualty Underwriters is responsible through its Stock Company members for about 40 per cent of the annual liability premium volume. This figure includes business written by companies who are members or subscribers to the National Bureau. Apparently, as the automobile insurance market matured, fewer of the companies were able to agree on the proper rate making procedures. Even though early rate making in the field was admittedly crude, it was evidently acceptable to a surprisingly large number of companies.

In 1914, when the first countrywide automobile casualty manual was issued, a 25 horsepower automobile located anywhere in the state of Pennsylvania carried a public liability rate of $31.50 and a property damage rate of $10.75, whereas a 60 horsepower automobile carried rates of $66.50 and $20.75 respectively, regardless of whether the car was located in Philadelphia, Harrisburg, or Erie. The rates noted protected only the owner named under the policy. To insure the owner's wife or other drivers, additional premiums of 10, 12 1/2, or 15 per cent for one, two or three additional assureds had to be paid.

Territorial Differentiations

In 1917, some territorial differentiations began to appear. A year later, the additional charges for covering persons other than the owner were withdrawn. The territorial differentials may be clearly illustrated: In 1917 a 60 horsepower automobile in Philadelphia carried a rate of $66.50 for public liability and $19.90 for property damage in Pittsburgh, and $59.75 for public liability and $14.95 for property damage elsewhere in the state. For rate making purposes, the country was divided initially into 11 sections. The sections used were: (1) Greater New York; (2)Chicago and St. Louis territory; (3) Boston territory; (4) Philadelphia territory; (5) Providence; (6) Baltimore, District of Columbia, and Pittsburgh; (7) Detroit, Indianapolis, and Milwaukee; (8) St. Paul and Minneapolis; (9) the states of Alabama, Kentucky, and Tennessee; (10) Arkansas, portions of various other states, and certain specified cities; and (11) Arizona and other states. This division seems to be an attempt by the rate makers, presumably through the use of judgment only (since statistics of any value were rarely available), to divide the country into districts whose loss ratios were reasonably similar.

Grouped in Categories- The earliest system of classification for automobiles, once the territory had been established, included four classes. Vehicles were grouped as private pleasure cars, public vehicles, commercial motors, and manufacturers' and dealers' cars. The term private pleasure car was not an exact description of the category, since the rate makers found it advisable to include in the group cars which were used for professional purposes, such as physicians' cars. The public motor car division included

livery vehicles, taxicabs, sight-seeing cars, and cars of the "private pleasure" type used or rented for livery purposes, regardless of the frequency of use. The commercial vehicles were those used for transportation of goods or merchandise; a category which the rate makers had a difficult time properly defining. The manufacturers' and dealers' cars were those used primarily for demonstrating or testing purposes by factories, sales agencies, and garages. A distinction was made between gasoline and electric driven cars. For "private pleasure cars," our main concern, the following rating system was used.

The factors believed to be of some consequence in establishing the risk were, at the outset, motive power, the territory in which the car was used, and horsepower. The electric vehicles always seemed to enjoy lower rates than the gasoline cars. In fact, no rate distinction seems to have been made for electric cars on the basis of horsepower; the premiums charged were on a straight per-car basis. This position was justified by the belief that electric cars were capable of only an ordinary rate of speed, that they were more conservatively driven, and that they were used extensively for social purposes. These factors supposedly reduced the probability of frequent and severe accidents as compared with the hazard of gasoline driven cars. The distinction between gasoline and electric cars and the per-car method of rating seemed to have general acceptance during the period from 1910 to 1920. An example of the rates is shown in Table I.

Table I
Automobile Liability Rates- 1915 ST. LOUIS AND CHICAGO TERRRITORY

	Public Liability		Property Damage	
Horsepower	Gasoline	Electric	Gasoline	Electric
16	$22.50	---------	$ 5.65	---------
40	66.50	$17.50	$16.65	$4.40
60	86.50	--------	21.65	--------

Source: Robert C. Mead, The Making of Public Liability and Property Damage Rates, 1933

The scarcity of statistical data during that period raises the question of whether a correct premium ratio existed between the two classes of cars. For territorial distinctions, the following table indicates some of the rates in use. The rate makers recognized the differences in traffic conditions in various cities and in rural districts which affected the probability of injury to persons and property. The greater damages recoverable in some jurisdictions were also taken into account. The table indicates the rates for a 40 horsepower gasoline car.

Table II
Automobile Liability Rates by Territory – 1915

Territory	Liability	Property Damage
Greater New York	$83.50	$20.90
Chicago and St. Louis	66.50	16.65
Providence	54.50	17.25
Boston	54.50	13.65
Philadelphia	46.50	16.65
Baltimore and Pittsburgh	46.50	15.15
Arizona	44.75	11.20

Source: Robert C. Mead, The Making of Public Liability and Property Damage Rates, 1933

The last factor considered seemed to be the horsepower of the automobile as computed by a formula of the Society of Automotive Engineers; frequently this formula differed

from the advertised horsepower of the car. The following table indicates in the Chicago territory a typical increase in premium as horsepower rose.

Liability Rating- Beginning the Automobile Age

At the beginning of the Automobile Age, heavy criticism was leveled at the basis for rate making. Professor Robert Riegel, then of the University of Pennsylvania, suggested in an article in the “Journal of Political Economy” as far back as 1916, that each of the rating criteria was defective in one way or another. His criticism of motive power as a basis for rate making involved its dependence upon judgment, without statistics for support. Although he agreed that use of the gasoline-electric classification was probably correct, he disputed the differential between the two classes, because it was an estimate only. Similarly, he acknowledged the difference in traffic conditions in various territories, but he objected to the use of territory as a bases for rate making, because no statistics were available to indicate just how much more hazardous the conditions in New York were over those in Chicago. Nevertheless, information available indicated that the liability rates were reviewed periodically and thus were responsive to changing loss figures. The rate for public liability, the term at that time for what is now referred to as ‘liability’ insurance, for a 40 horsepower car was $86.00 in December, 1913, $73.50 in the early part of 1915, and $66.50 later in 1915. The fairly substantial reduction over a short period was probably due to the fact that the initial rates contained a substantial ‘safety’ factor, which was not needed after the experience was available.

Table III
Automobile Liability Rates by Territory – 1915
Chicago Territory

Horsepower	Liability	Property Damage
16	$22.50	$ 5.65
20	34.50	8.65
25	46.50	11.65
30	56.50	14.15
35	61.50	15.40
40	66.50	16.65
50	76.50	19.15
60 and over	86.50	21.65

Source: Robert C. Mead, The Making of Public Liability and Property Damage Rates, 1933

Certainly, some inequities resulted from the territorial classifications, but even in today’s territorial divisions, because of the need to establish limits for each classification group, inequalities are bound to occur. The problem has existed from the earliest days of automobile liability rating to the present. The use of horsepower as a rating device was also sharply criticized, since speed limits have some effect on a car's potential destructive force. Mr. Riegel maintained in his article that "almost any private pleasure car can attain a speed of 30 miles per hour and greater speeds are almost universally prohibited by law, which, it is argued, places practically all cars upon an equal basis." Nevertheless, statistics available for the period indicate some correlation between losses and horsepower.

Horsepower rating was also criticized on the assumption that high powered cars were usually expensive and often more carefully driven by professional chauffeurs. Thus, the need to make allowance for competent operation was recognized early, but the problem has defied solution to the present time; human qualities, the best possible basis for rating, are impossible to evaluate accurately. The entire history of automobile liability

insurance rate making has been the search for bases for rating which would parallel the unattainable goal of measuring individual operators' driving abilities and habits. A further criticism of the horsepower system, which Mr. Riegel pointed out as far back as 1920, was the omission of the distance traveled factor in computing the rate. He admitted the impracticality of trying to measure the distance traveled because of falsification of speedometer records; however, twenty years later a system was adopted which used a mileage qualification as an important part of the classifications. Here again, the factors affecting the premium were recognized, but a standard for measurement could not be achieved. Because of the complexities of measurement, mileage classification was abandoned after a few years of operation. Conversely, the current rating classification system does consider mileage to a small extent. Lastly, the horsepower standard was criticized, because horsepower was derived from a formula of the Society of Automotive Engineers, which measured only bore and the number of cylinders rather than the length of the stroke and thus was not accurate.

Basis of Rate Making

Beyond the necessity for sufficient statistics, a problem which was solved by building up years of data, the major problem of the early rate makers was to develop a theoretical basis for rate making. Before this theoretical basis could be constructed, experience had to be collected. In one of the first systems that went into effect for the policy year 1917, all experience data were based upon the year when the policy was issued, regardless of the time when the premium was received or the loss was paid. This was the beginning of the policy year system, which is still used to report loss data. Prior to this time reporting statistics was difficult because of variances between companies in handling insurance for fractional periods less than a year.

The system adopted at this time provided for the use of the "car-year" by which insurance for less than twelve months was reported as a corresponding fraction of a car year; for example, a car insured by the company for only four months was reported as one-third of a car year. The plan required members to furnish not only the exposure, premiums, and losses, but also a description of the risk to enable the Bureau (National Workmen's Compensation Service Bureau) to segregate the data. This procedure involved the breakdown of the data by type of coverage (public liability or property damage), by type of car (private pleasure, private pleasure occasionally commercial, commercial, livery, public other than livery, manufacturers' and dealers' on named-chauffeur or specified car basis, or manufacturers' and dealers' on payroll basis), by type of motive power (gasoline, steam, or electric), and by horsepower. Countrywide experience, as well as state and territory figures, was reported. Initially, to build a sufficient amount of experience by state or territory, the breakdown for these areas did not include the horsepower classification. Companies believed that national figures derived from the horsepower results could properly be applied to state and territory rates without compiling individual horsepower experience in those areas. This system, although not the most accurate, was necessary because of what would now be called the lack of credibility of state or territory data on horsepower.

Accuracy an Issue

Admittedly, the first system of rate making was not noted for its accuracy. Several valid criticisms of the plan were suggested by Professor Riegel. He felt that modifications of

the system were necessary to reduce discriminations which were unavoidable under the plan in use. He suggested the consideration of some hazards, not in the rating system, and also a more equitable allocation of expenses. The question of territory was difficult, because the boundary lines of the territories changed much more rapidly than the hazards changed. Mr. Riegel suggested an increase in the number of rating zones, with each zone large enough only to secure sufficient exposure and experience. He believed at that time (1920) that every "large" city in the United States (over 55,000 inhabitants) should be the center of a series of rate zones; the city itself would form the highest of these zones. A basis rate for the losses incurred in each of these cities could be secured by comparing the ratio of losses to exposure of all private pleasure cars in the particular city with the ratio of losses to exposure over the entire United States. The particular city's rates would then bear the same proportion to the average loss ratio of the United States. Thus, the Pittsburgh rate might be set at 140 per cent of the national average. Since the 1910 census listed only 100 cities of the specified population, and since a reasonable parallelism of experience could be expected among the cities, this classification and the subsequent reduction of rating zones was feasible; more grouping would be necessary where insufficient exposure was found. Smaller cities were to be grouped in a class and their rate determined in a manner similar to that used for setting the rates for the larger cities. Although such a system was not entirely equitable, as Mr. Riegel recognized, it would certainly be an improvement over the first system under which cities of 100,000 and 5,000 frequently had the same rate if they fell in the same territory.

Mr. Riegel next turned his attention to non-metropolitan areas, including suburban and rural districts. Here he proposed that each of the cities be considered as the center of a series of concentric circles. The geographic center of the city would be the common center and the circumferences of the circles would be considered the boundary lines of rate zones. Thus, the first circle, drawn with a radius of 25 miles and with the city as the center, would take a stated rate varying with horsepower. Outside this circle would be another circle with the same center but with a larger diameter. All cars between the circumference of this circle and that of the first one would take a rate, by some stated percentage, lower than the rate for the city zone. This reduction was to be allowed on the assumption that the farther a car is kept from the city, the less it will be used within city limits and the less accident exposure it will be subject to. The loss experience of a number of cities was to be used to determine a statistical basis for setting the percentage reduction for each circle.

The system proposed was defended on the grounds that its basic assumptions were logical and that it would lessen the discrimination resulting from the territorial divisions then in use. With the system being used, a distance of a half-mile could cause a considerable difference in rates, which would be removed by using the concentric circles whereby the percentage reduction from one circle to the next would be relatively small. Despite this assumption, the great variation between hazards inside this circle with a 25 mile radius and those directly outside would have required, in some instances, material rate differences. On the other hand, many of the ideas promulgated by Mr. Riegel were adopted, at least in part, in later revisions. As for other hazards, Mr. Riegel thought that some attention should be given to mileage covered and to competent driving. Although mileage driven was later used as a basis for rating, he came to the general conclusion that such factors, though desirable, were too difficult to measure and hence not worth the trouble involved.

Finally, proper allocation of expenses was recognized as a problem, second in importance only to ascertaining the correct pure premium. Another difficulty was the necessity for developing an efficient type of cost accounting for multiple line companies to insure fair allocation of expenses and to make the final rate as nearly equitable and non-discriminatory as possible. Professor Riegel's comments are presented as an indication of academic thinking on the rating problem. An evaluation of the merits of his suggestions is beyond the scope of this study, which is entirely historical.

Automobile Liability Rating 1915-1920

An example of rate calculations for the 1916 -1917 period is given by A. Ryder in a reprint of a speech he delivered in 1919 to the Insurance Society of New York. He reported that the National Workmen's Compensation Service Bureau asked its member companies each fall for the statistics of the past two or three completed policy-writing years, covering the entire United States on the various classes of automobile risks. A sample rate computation chart follows (Table IV). Charts were prepared separately for each state and city territory. The example given covers only private pleasure cars (gas and steam); all list prices, driver classifications, and use classifications have been combined. The figures for New York in 1916 -25,000 cars insured with losses of $1,500,000 -produce a pure premium cost of $60.00 per car. The 1917 pure premium cost was $65.00 per car with $62.73 as the combined pure premium for both policy-writing years. The same procedure was followed in each of approximately sixty territories. To determine the rate differential between private pleasure cars in New York City and those in the country as a whole, the New York pure premium of$62.73 was divided by the pure premium for the entire country.

Table IV
Automobile Liability Rate Computation Chart- 1918

Territories	New York City	Boston	Arizona	Entire Country
# of cars 1916	25,000	10,000	200	200,000
Losses 1916	$1,500,000	$300,000	$1,000	$4,000,000
# of cars 1917	30,000	11,000	250	250,000
Losses 1917	1,950,000	352,000	2,500	5,550,000
Total Cars 1916-17	55,000	21,000	450	5,550,000
Total Losses 1916-17	$3,450,000	$652,000	$3,500	$9,500,000
Pure Premium 1916	$60.00	$30.00	$ 5.00	$20.00
Pure Premium 1917	65.00	32.00	10.00	22.00
Pure Premium 1916-17	62.73	31.05	7.78	21.11
Territory Differential	2.97	1.47	.37	1.00

Source: A. Ryder, Principles of Automobile Rate Making, 1919.

A territorial differential of $2.97 was the result. Since the table produced above has only a territorial basis, the private pleasure gasoline experience had to be broken down according to the list price groups, with one table for the big cities, one for the medium sized cities, and one for the rest of the country. Allowances were made in areas where credibility seemed strained. For example in a state where only four or five hundred cars were insured so that a large loss would seriously affect the final figures, the grouping process was used. Normally, only adjacent territories were combined in order to produce a reliable average pure premium. Because of the normal underestimation of outstanding claims at the end of the year, a factor was computed for the more accurate

estimation of outstanding losses. In cases where rates had to be made for classes without reliable experience data, some personal judgment was used.

Rating Differentials

Prior to 1919-1920, automobiles had been rated for public liability and property damage on a horsepower basis, the rate increasing as the insurable horsepower increased. The S. A. E. horsepower formula was used to determine the insurable horsepower of each car manufactured; each make of car was listed, showing specifications, list price, and insurable horsepower. But manufacturers had been improving the engine design to such an extent that the S. A. E. horsepower formula was no longer even approximately correct. The formula produced the same horsepower for both the Mercer and the Ford, whereas the horsepower of the Mercer was actually twice that of the Ford. With horsepower becoming a selling point, many of the manufacturers began to advertise horsepowers which were higher on paper than in the automobile. The owners of those automobiles gained, along with prestige, unjustifiably higher insurance rates. One observant manufacturer began to undervalue the horsepower of his automobiles so the public could secure cheaper insurance rates. As a result of these practices, the companies soon found that the advertised horsepower was unreliable. Subsequently, they adopted what became known as the A.L.A.M. formula[1], which was based on the bore and stroke of the piston. With rapid changes and confusion in horsepower ratings, the shortcomings of any horsepower formula became apparent.

After much discussion, the companies established the list price system of figuring premiums. Other changes were made at the same time. Experience had shown that cars operated solely for pleasure purposes constituted less of a hazard than those operated for business purposes. Also, a car operated by the owner seemed less of a hazard than the same car operated by a chauffeur. So differentials of eight per cent from the so-called manual or standard rate were established if the car was limited to private pleasure purposes; a discount of 20 per cent was allowed if the driving of the car was limited to one named individual owner (not a chauffeur), and if the car was used for private pleasure purposes only.

Price Classification

The list price seemed, to the actuaries, a reasonable guide to the hazard involved; and the cars were classified into four general groups: $0 to $1,199, $1,200 to $2,499, $2,500 to $3,499, and $3,500 and over. Because list prices were continually changing and also because various types of bodies might be attached to a particular chassis model, this method was bogged down in less than one year. For example, a car listed for just under $2,500 might cost just over $2,500 if some small accessory were added, which would have little or no effect on the hazard involved but would increase the premium required. Subsequently, the symbol system of W, X, Y, Z was adopted, with the Z cars being the most expensive and having rates approximately 50 per cent above

[1] By this method the horsepower of the engine was determined by multiplying the square of the bore by the number of cylinders and dividing the result by 2.5. This was soon replaced by a different formula which used the length of the stroke of the motor in determining the horsepower. The new formula was referred to as follows:
Add the bore and the stroke;
Multiply this sum by the bore;
Multiply result by number of cylinders;
Multiply this result by .224.

those for the cheaper cars of Class W. In the 1920 revision, eight different territories were established, with the New York rates seven and eight times the rates in some other parts of the country. In 1919 and in the 1920 revision, the eight per cent reduction established for the car restricted to "private purposes" was continued. The 20 per cent reduction for driving restricted to the owner only and to "private purposes" was also continued in the 1920 revision.

Commercial Cars

For commercial cars the procedure was somewhat different. In the 1920 revision, commercial cars were rated not only in accordance with territory but also in accordance with the business of the insured. Earlier, seven general classes of risks placed ambulances and fire engines in the highest class and baggage transfer trucks in the next highest. Truckmen were rated in a lower class, coal dealers in a still lower class, followed by retail stores, and finally wholesale risks were in the lowest group of all. Experience, when available, indicated that cars used for wholesale delivery were costing just as much as cars used in retail delivery. Therefore, the 1920 manual changes reduced the number of classifications to three. Newspaper delivery cars, baggage transfer trucks, and all cars used in emergency work were rated highest. Coal dealers, truckmen, and certain other risks were written at a medium rate, and all of the retail and wholesale risks were put into the lowest rate group. For the first time in 1920, commercial cars were also rated in accordance with their load capacity, with the highest rate for heavy trucks over 3 1/2 tons and the lowest rate for light trucks with under one ton capacity. Electric powered vehicles were granted a 10 per cent reduction from the rates for gasoline-driven commercial cars. Public automobiles were divided into two general classes: the livery group and a combination of taxicabs, jitneys, and omnibusses, with the highest rate for the latter class. Jitneys and busses were rated according to seating capacity.

In setting territories for this revision, New York was placed in Schedule 1, New York suburban areas in Schedule 2, Boston in Schedule 3, and smaller cities were placed in succeeding classes. Eastern rural districts were in Schedule 7 and western and southern in Schedule 8. On the theory that the hazard was the same for a car kept in the suburbs as for a car kept in the city itself, each city territory was defined to include surrounding territory of about five or ten miles. Miscellaneous classes also were receiving consideration. For example, garage risks were covered on the payroll basis and the 1920 revision reduced the rates substantially, but the basis for computing payroll was changed so that a payroll figure higher than before was established. The 1919 manual placed a limit of $1,500 on the amount of salary to be used in the premium computations for anyone employee. The 1920 manual eliminated this maximum for most of the employees and used a flat $2,000 charge for owners, officers, automobile salesmen, and general managers.

Automobile Liability Rating 1920 -1932

For the rate revisions of 1923 and 1924, a new system of rate making was developed. For the first time sufficient statistics became available for a more systematic approach to rate making. Prior to this time, the establishment of rates was largely a matter of judgment, supplemented by a meager supply of data. As new classifications were introduced and rates promulgated, little, if any, statistical data were available. The rate makers set up statistical classifications to correspond to the underwriting classifications

being used in the hope that future results would either justify or show the error in the innovations adopted. With sufficient data finally available, the rates began to reflect the results of actual experience, and thus a relatively scientific basis for rate making which had not existed previously was established.

For rate making purposes, the United States was divided into a number of territorial schedules; 50 existed in 1925. Schedule 1, which included New York, had the highest rates, and schedule 50, which included the rural districts of the South and West, had the lowest rates. All automobiles were divided into four types, as private passenger, commercial, public, and automobile dealers' and garages'. These were, of course, broken down into various classifications. For example, the private passenger cars were listed as W, X, Y, or Z as previously indicated.

The relatively scientific approach being used to develop the rates made the proper compilation of statistics necessary. For statistical purposes, the 50 territorial schedules noted above were divided into 540 territorial divisions, which were condensed into 251 divisions for coding and tabulating. The data on each kind of coverage in each territorial division were further divided according to the types of risks and then according to the rating classifications. In addition to the four private passenger car classifications, 59 business and load capacity classifications for commercial cars were established. The statistical unit of exposure was the car year, except for the garage policy, for which the unit was $100.00 of payroll. Cars written for less than a year were counted as a fraction of a car year.

Data Tabulation Particulars

The data were tabulated by individual territories with all rating classifications combined, as well as by rating classifications with all territories combined. The tabulation was also made by rating classification for large cities, medium sized cities, small cities, and rural districts. The first tabulation was used to establish an average rate for a particular community, and this rate was broken down into rates for various classifications by the application of a set of differentials obtained from an analysis of the second tabulation. Statistics for three or four policy years, including the incomplete data of the most recent policy year, were used to set the rates. But the lag of one year between the latest experience and the year for which the rates were effective weakened the reliability of these rates.

Data for the incomplete policy year were converted to an earned basis by the application of earned factors to the exposure and premiums, which were reported on a written basis. The ratio of pure premiums reported at the end of 12 months to those reported at the end of 24 months provided the factor. Along with the earned factor reflected in such data was an increasing or decreasing cost factor, if present. For example, in Table V below, a decreasing cost factor is shown by the fact that the second 12 months' figures were slightly better than those of the first 12 months. Had the cost factor not been present, the normal earned factor would have been about 55 per cent from year to year. The inclusion of a cost factor tended to vary the earned factor from year to year.

The rate structure at this period was based on the belief that as soon as an individual community developed an experience of dependable volume, the rates should depend on that community's individual data; if possible, violent fluctuations in the rating

schedules, from year to year, should be avoided to give stability and permanence to the rates. To determine a dependable exposure, the mathematical probability where cars were insured against a hazard involving an accident frequency was calculated.

Credibility Factor- The experience rating method includes a credibility factor, which reflects the degree of confidence placed in the insured's past experience as a predictor of future experience. The greater the past exposures, the more credible the experience and the greater the impact past experience will have in raising or lowering the experience modification.

Approximately 5,000 cars made the experience data significant. Otherwise, individual data were not used and grouping made necessary the "rest of state" classifications for rural areas. The attempt to preserve stability of rates made necessary some departures from the experience shown in the various territories. If the experience indications were followed exactly from year to year, the radical annual fluctuations of rates, hardly conducive to stability, would present difficulties both to agents and to those insured.

Table V
Conversion of Incomplete Policy Year Data
To An Earned Basis - 1923

Policy Year	As of 12-31	Cars	Losses Incurred	Pure Premium	Ratio of (1) to (2) for Each Policy Year
1920	1920	530,403	$ 5,889,647	(1) $11.10	53.7
	1921	505,015	10,435,054	(2) 20.66	
1921	1921	675,554	7,035,048	(1) 10.41	56.9
	1922	647,597	11,852,942	(2) 18.30	
1922	1922	837,591	7,531,237	(1) 8.99	58.6
	1923	807,818	12,385,385	(2) 15.33	

Source: Proceedings of the Casualty Actuarial Society, Volume XI, 1924-1925.

An attempt was made, therefore, to eliminate the effect of any chance fluctuations of the data and to ascertain the significant trends. A compromise between the rate indicated by the latest experience and the rate then in force was the most reliable procedure. For example, credibility factors were developed for both the indicated rate and the current rate. If the credence were 50 per cent for the indicated rate, an indicated increase of $50.00 actually was considered only as $25.00. Thus, if the current rate was $100.00 and the rate indicated by the latest experience were $150.00, the new rate would be $125.00, the result of 50 per cent credence to the indicated figure. If future results indicated that the rate was inadequate, further increases could be made. Similar procedures were used when the indicated results showed that a rate decrease was necessary. From the statistical tabulation made by territories with all classifications combined, the average rates for individual territories were established. Before the process was completed, nine distinct steps were taken:

1.) Calculation of weighted average pure premiums -In an attempt to use as much statistical data as possible, the losses and exposure for the four latest policy years were combined for each individual territory, and weighted average pure premiums were then determined. The experience of the latest policy year was converted to an earned basis comparable to the results of the preceding three years. This procedure was followed in all but those cases in which a particular years' statistics had been affected by some situation unlikely to occur again. In that case, the results for that year were not included.

The omission of the figures was decided by the rate makers in conference before promulgating the rates.

2.) Selection of pure premiums -Once the average pure premium had been determined; the territory experience was reviewed to ascertain whether or not justified results of the hazard involved or if further modification was necessary to reflect any condition peculiar to that territory.

3.) Adjustment of the selected pure premium -When the pure premium was finally selected, it was adjusted to reflect the loss level of the latest available policy year. This adjustment was accomplished through the use of a factor developed as follows:

a. The written cars reported for the latest available policy year were reduced to earned cars by the application of a reduction factor.

b. The earned cars were multiplied by the selected pure premiums in the various territories, and the results were totaled to determine the countrywide losses which might be expected on the basis of the pure premium selected.

c. The losses indicated were compared with those actually incurred in the latest policy year.

d. If the indicated losses were higher than the actually incurred losses, horizontal reductions were made in all of the pure premiums; if they were lower, upward horizontal adjustments were made.

4.) Derivation of the indicated premiums -After the adjusted pure premiums were determined, the gross premium was computed by the use of the formula:

$$1 - \frac{\text{Pure Premium}}{\text{Expense Loading}}$$

Based on the New York State Casualty Experience Exhibit for 1923, the permitted expense loading for public liability and property damage is shown in Table VI.

Table VI
Automobile Liability Expense Loadings – 1923

	Public Liability	Property Damage
Unallocated Claim Expense	.07	.11
Administration Expense	.08	.08
Inspection and Bureau Expense	.005	.005
Taxes	.025	.025
Acquisition	.175	.20
Field Supervision	.075	.05
Total	.43	.47

Source: New York State Casualty Experience Exhibit, National Bureau of Casualty and Security Underwriters, 1923.

5.) Calculation of the actual departure -After the gross rate had been determined, the possibility of adjustments was still present. By calculating the actual departure, one could determine whether the l indicated rate was greater or less than the rate in force. The calculation was made by comparing the indicated rate established on the latest experience with the average rate in force. The average rate in force was determined by multiplying the distribution of cars both by classes and by the various territorial class rates.

6.) Establishment of credibility factors -To establish full credibility for a city, one had to determine the number of cars which would furnish reliable indications of the hazard

within the city. The figure chosen was 50,000 for public liability. If a territory had fewer than 50,000 cars, its credibility factor was developed from the following formula:

$$\frac{\sqrt{50{,}000}}{\sqrt{n}} = \frac{1.00}{credibility\_factor}$$

where *n* is the number of cars within the city or territory in question.

7.) Calculation of the allowable departure -The allowable departure, which was the amount added or subtracted from the existing average rate, was obtained by multiplying the actual departure by the credibility factor. If the existing average rate was $50.00 and the indicated rate was $60.00 and the credibility was 20 per cent, then the actual departure was plus $20.00 and the allowable departure was plus $2.00.
8.) Determination of the adjusted indicated rate -This rate was determined by adding to or subtracting from the rate in force, the allowable departure.
9.) Final adjustment of rates -This final adjustment was necessary because the use of credibility factors tended to raise the level of rates in cases where the experience might have indicated the need for a decrease and tended to keep the rate down when an increase might have been indicated, By comparing the expected countrywide premium income on the basis of the indicated rates with the actually needed countrywide income on the basis of the total losses incurred for the latest policy year, one could determine a final adjustment factor. The rate indicated for each territory was multiplied by the earned cars for the territory and the results were totaled country- wide; the expected premium income was computed on the basis of the reported exposures. To obtain the premium income needed, the total losses incurred for the latest policy year were divided by one minus the expense loading. After this result was compared with the expected income, any necessary horizontal changes were made in the indicated rates.

W, X, Y and Z

Once the final adjustment of the rates had been made, only their classification, as explained previously, was necessary. For credibility purposes, the companies presented only countrywide classification exhibits of their most recent experience. This method was feasible, since the class hazard did not vary appreciably from one territory to another. The W, *X,* Y and Z classifications were developed by using the experience of the two latest policy years. An example of this procedure is shown in Table VII, below.

Table VII
Classification of Automobile Liability Premiums - 1925

	Policy Year 1922		Policy Year 1923		Combined	
Symbol	Car Years Exposure	Pure Premium	Car Years Exposure	Pure Premium	Pure Premium	Differential
W	400,269	$12.50	316,368	$12.32	$12.42	.823
X	347,305	15.58	257,212	15.10	15.37	1.018
Y	130,906	21.69	90,304	19.23	20.69	1.371
Z	37,450	25.90	19,369	20.70	24.15	1.600
Total	915,930	15.53	683,253	14.58	15.09	1.000

Source: Proceedings of the Casualty Actuarial Society, Volume XI, 1924-1925.

If the percentage distribution of cars in the four categories changed, an adjustment in the differentials was often necessary. The change might have been caused by an increased popularity of cheaper cars. The W, X, Y, and Z system classified cars by size and weight. The W class included light cars, such as the Ford, Star, and Chevrolet, The Buick and Studebaker were included in the X class. Higher priced cars, such as the Cadillac, were classified as Y. Only high powered and extremely high priced cars, such as the Rolls-Royce, were in the Z class. The Z class was discontinued in 1926, and the cars included were relocated in the W, X, and Y categories, The speed, weight, and braking equipment of the individual car were considered factors in loss frequency, and the classification system used was an attempt to keep the rates between risks equitable.

The traffic conditions where the car was operated and the attitude of the public and juries toward claims, suits, and verdicts were also considered important factors affecting losses. At this time, the use of the car was acknowledged as an important rate factor, and vehicles were classed as private passenger cars, taxicabs, or commercial delivery vehicles. The make and model of the car, the locality in which it was operated, and even the personality of the operator (which was an underwriting rather than a rate problem) were known to affect losses both in amount and frequency. The 1923 revision of rates is indicative of the method used for the establishment of rates at that time. Six main compilations of statistical data were made prior to setting the rates:
(1) Separate experience was computed for each city with a population of 100,000 or more.
(2) Separate experience was computed for each territory suburban to the very large cities.
(3) Combined experience within each state was computed for all territories immediately surrounding those cities with populations of at least 100,000.
(4) Combined experience was computed within each state for those cities whose populations ranged between 25,000 and 100,000.
(5) Combined experience within each state was computed for all territories immediately surrounding those cities with a population from 25,000 to 100,000.
(6) Experience within each state for all areas outside of the territories enumerated in the above five computations was computed.

Experience was tabulated by geographical regions and by letter classification for the entire country. From the regional tabulation, average rates for the territory were found. And from the letter classification experience, the relationship between class rates and average rates was determined by breaking down the average territorial rates into the rate classes. To find the territorial rates, the experience of three or four policy years in each territory was combined. By comparing losses incurred with cars insured the pure premiums were determined. The use of judgment in determining the final premiums was considered important; accordingly, the pure premium which had been found was modified to reflect conditions which were not adequately measured by the statistics. Modifications through the use of judgment helped to avoid inconsistencies and any deviations in the rates for particular territories which might suggest to an impressionable public a lack of sureness in determining an accurate means of rate promulgation.

On January 1, 1924, the National Bureau completed a rate revision for automobile liability and property damage liability that was more satisfactory than the revisions of previous years. For the first time, rates for the various territorial divisions and for all underwriting classifications could be established primarily on the basis of complete

statistical evidence, although some judgment modifications were still necessary in determining such factors as credibility. This revision was based on data which the participating companies had been compiling since 1921. For the first time, the automobile committee of the National Bureau was able to develop a systematic approach for establishing rates. Experience was reported for 181 distinct territorial divisions of the country; each territory had been divided into four symbol groups, and each symbol group was further subdivided into three use and driver classifications.

The data were reported for the policy years 1921 and 1922, both as of December 31, 1922. Although the 1921 policy year needed no adjustment, the 1922 policy year was converted to an earned basis by applying a factor of .55 to the written exposure and to the premiums through the use of the one-twenty-fourth method. Since premium writings were assumed to cluster about the fifteenth of the month, a policy written in January was assumed on the average to be 23/24 earned and one written in December was assumed to be 1/24 earned at the end of the year. The experience for the seven prior years indicated to the Bureau that as long as claim costs were stationary or on the decline an earned factor calculated on that basis was safe. It might, however, be dangerous in times of increasing claim costs and claim frequencies. The statistical elements reported were number of cars, premiums, losses paid, losses outstanding, and number of claims so that pure premiums, loss ratios, claim frequencies, and average claim costs could be calculated.

Dependable Experience

Contrary to some opinions, it is not the function of the underwriter to reject so much business that the company experiences no losses. If the underwriter rejects all but the exceptionally safe exposures, he or she has probably turned away much desirable business. The insurance company expects a certain number of losses to occur, and it is just as much an underwriting error to reject profitable business as it is to accept loss-prone business. The objective of underwriting is to produce a pool of insureds, by categories, whose actual loss experience will closely approximate the expected loss experience of a given hypothetical pool of insureds. That is, if an underwriter is told that a pool of exposures with specified characteristics (e.g., a pool of drivers in a certain age bracket with no moving traffic violations) will produce a specified loss rate of, say, 1% of the value of the insured property, then the underwriter should try to place in this pool all the exposures whose characteristics match the specifications. If the underwriter does the job well, the loss ratio of the insureds accepted will closely approximate the expected 1% figure. Putting applicants for insurance in the classification or pool that most closely reflects the real costs of their losses is the essence of good underwriting.

When the statistics had been tabulated, a criterion for dependable experience had to be established, since the volume of experience was too low in some territories and classifications to be truly indicative. The Bureau decided to use an annual exposure of $75,000 in losses as evidence of a dependable spread. The exposure figure was established from actuarial formulas developed from the mathematical theory of probability. As one of its first considerations, the Bureau reviewed the 8 per cent reduction for cars operated for private purposes and the 20 per cent reduction for owner-driven cars. The 181 territorial divisions were consolidated into ten, each composed of cities similar in density of traffic and population. Each of these ten divisions was divided into 12 classifications by use of car (private purposes only, private purposes only and driven only by the owner, and those not falling in the first two

classes) and by car symbol (W, X, Y, Z). The established criteria for credibility were then applied to these 120 divisions, but experience data limited the use of some of them. The ten territorial groupings were then reduced to three, the first composed of the larger cities, the second of the middle sized and smaller cities and villages of the congested East, and the third composed of the rural districts and smaller villages of the West and South. Then the pure premiums for each of the discounted coverages were compared with the pure premiums for the basic coverages for cars of similar make in each of the three territorial divisions. This procedure proved that the two discounts being used were not justified. In fact, in some instances the cars driven only by the owners and used for private pleasure purposes only had even higher pure premiums than those cars in the higher rated classes. Since no essential difference in hazard under the three use and driver classifications was apparent, the data for all three were combined to form a basis for studying the differentials by symbol.

The experience generally substantiated the use of the symbol classification; nevertheless the pure premium for W and Z cars were close together in the larger cities and far apart in the rural communities. Since this indication was the result of only one policy year, the Bureau decided not to change the differentials between territories. The set of differentials adopted for public liability was as shown in Table VIII, below. The absolute values of these differentials were adjusted to produce unity when they were applied to the percentage distribution of cars by symbol groups. The general territory experience indicated the existence of 44.9 per cent of the total cars in the W group, 37.6 per cent in X, 13.8 per cent in Y, and 3.7 per cent in Z.

On average cost per claim, the 1922 data indicated that this average varied little, if at all, from one territory to the next. Thus, the average claim cost in New York did not at that time seem to be any higher than that for a rural area. The relativity in rates between territories seemed to be due mainly to the difference in claim frequency rather than to differences in claim cost. This distinction was particularly important because, if true, the loss cost for a given community could be found by merely multiplying its claim frequency by the average claim cost for the country.

Table VIII
Automobile Liability Classification Differentials - 1924

Symbol	Differential
W	.863
X	1.025
Y	1.240
Z	1.511
Average	1.00

Source: Proceedings of the Casualty Actuarial Society, Volume X, 1923-1924.

Loss Fluctuation

Although claim frequency was a stable and accurate index of a particular city's hazard, severe losses caused considerable fluctuation from one year to another. The statistics also showed that the difference in the claim frequency between the W and X cars was small as compared to that between the W, Z cars. Thus, the difference in losses between the two groups seemed to be caused by the severity of each loss or the average claim cost, and the use of the symbol system seemed justified. With all of these factors in mind, the Bureau proceeded to adopt rates for the individual territories.

Individual experience was reported for each city of 100,000 population and over, group experience for all cities of 25,000 to 100,000 in each state, and group experience ~or all territory exclusive of cities of 25,000 'population and over within each state. To determine the maximum amount of exposure, the data for all symbol groups were combined, a procedure which was valid because the distribution of cars by symbol did not seem to vary between cities. In addition to the data already on hand, the territory experience for 1919 and 1920 policy years was utilized as follows:

1. For each territory a weighted average pure premium was established for the four policy years noted (1919-1922).
2. The pure premiums were arrived at by adjusting the average pure premiums with regard to any local conditions or increasing or decreasing trends.
3. The pure premiums which were then produced were reduced to the 1922 loss level.
4. Then the gross rates or total indicated rates were computed by using the factors for the expense loading, which were 43 per cent for public liability and 44 per cent for property damage.
5. These indicated rates were compared with the existing manual rates to determine the departure from the current rates.
6. Various credibilities were established for the territories on the basis of their respective exposures.
7. Next, allowable departures were determined by the use of credibility factors.
8. The allowable departures were added or subtracted to the current average rates to determine the new average rates.
9. The actual experience level was reproduced by adjusting the new average rates. Such adjustment was necessary because of the introduction of credibility factors.
10. The symbol differentials noted above were applied to the adjusted average rates to determine the final rates for the W, X, Y, and Z classifications.

Again, because of the wide variation of automobile experience from year to year, final rates could not be based on the experience of only the last year, and some credence was given to the existing rate as at least representing past conditions. The Pittsburgh revision of 1924 will serve as an example. The 1923 average manual rate for Pittsburgh was $44.05 as calculated on the actual distribution of cars by symbol group. The indicated average rate for 1924 was $35.07. The actual departure was $44.05 -$35.07 or $8.98. In 1922, Pittsburgh's earned car exposure was 6,830, and by use of the formula previously noted -x is to 1.00 as the square root of 6,830 is to the square root of 50,000 -a credibility factor of about 37 per cent was calculated. The credibility factor of 37 per cent was then applied to the actual departure to compute the allowable departure, so that the allowable departure became 37 per cent of $8.98 or $3.32. This allowable departure was then subtracted from the 1923 average manual rate, which was $40.73. Since the proposed average rates for all territories produced a premium income a little higher than the experience indications, the rates had to be reduced to the experience level. The use of credibility factors produced the inequality. Varying the allowable departure from the indicated departure introduced a change in total premium income. When the reduction was applied to the Pittsburgh figures, the proposed rate was reduced to $38.77. The last step was the calculation of the individual symbol rates, which were then established as shown in Table IX, below.

Table IX
Development of Individual Symbol Rates – 1924
Automobile Liability Rate Revision
Pittsburgh Territory

Symbol	Symbol Differential		Actual Rates
W	.863		$33.00
X	1.025	X $38.77 =	40.00
Y	1.240		48.00
Z	1.511		59.00

Source: Proceedings of the Casualty Actuarial Society, Volume X, 1923-1924.

New Bases

Also in 1924 two new bases of underwriting for public passenger carrying vehicles were adopted. The mileage basis was adopted for fleets of five or more metered taxicabs, and the earnings basis was adopted for fleets of three or more public passenger-carrying vehicles of any type other than metered taxicabs. Figures showed that in 1921 the average taxicab traveled 21,000 miles; the actual mileage ranged from 40,000 in the large cities to 12,000 in the more sparsely populated areas.

The rate per mile varied between one and two cents, depending on the territory and actual mileage covered. The earnings basis, used for jitney and bus risks, made possible the development of a premium that measured the actual exposure; thus, the assured was not required to pay a premium on his reserve busses when they were standing idle in the garage. The earnings rate was developed for individual risks by first ascertaining the average annual earnings per bus operated and dividing this figure into the specified car premium in the manual. The premium for the policy was then determined by applying the earnings rates to each $100.00 of total receipts.

In 1925, the rates were again reviewed. The public liability rates were believed adequate, but the property damage rates were again increased six per cent on a countrywide basis. The 1925 revision of commercial vehicle rates decreased the aggregate liability premium by 8 per cent and increased the property damage premium by 17 per cent. This revision changed the differentials for heavy, medium, and light trucks, since adequate data were available for the first time since 1920, when the separate rates for the three load capacities had been established. The data available indicated that the rates previously charged for heavy and medium trucks were slightly more than adequate. The following table for 1924 was presented as an indication of the need for the commercial differentials.

Table X
Commercial Car Claim Frequency and
Claim Cost by Load Capacity - 1924

Load Capacity	Claim Frequency		Claim Cost	
	Public Liability	Property Damage	Public Liability	Property Damage
Heavy	15.7	70.1	$361	$61
Medium	9.2	41.6	355	51
Light	6.3	25.0	275	40

Source: Proceedings of the Casualty Actuarial Society, Volume XI, 1924-1925.

By 1926 the use of horsepower as a basis for rating had been completely abandoned. The W, X, Y, Z system adopted in 1919 was being used exclusively. This system was

based upon such factors as list price, shipping weight, number of cylinders, cylinder displacement, and wheelbase.

By this time, the policies were providing, without additional charge, coverage for any person using the car with the permission of the named insured. They cove red, in addition, the liability of any person, firm, or corporation legally responsible for the operation of the automobile. The procedures used in the revisions from 1925 to the mid-1930's were similar to those used in the 1924 revision. A comparative example of rates for the state of Pennsylvania for 1922 and 1933 follows. The Z class, which was discontinued in 1926, does not, of course, appear in the 1933 examples. (Please see Table XI)

Merit Rating- Beginning in 1929 and for a period of two years thereafter, the casualty insurance companies experimented with a plan known as the merit rating plan for private passenger automobiles. This plan permitted a discount of 10 per cent from the rates for any assured who had operated his car for two years without either a public liability or property damage loss. Safe driving of automobiles was thus encouraged and rewarded. The results of the plan were watched carefully by company executives and rate makers. In 1932, when two years' experience was available, the allowance was withdrawn. As generally agreed, the plan had some merit, but it became impractical in application. Besides the large number of motorists being given the discount, statistics, at that time, indicated that a claim for personal injuries was expected only once in 20 years, and a property damage claim was expected only once in 12 years. Therefore, an assured who had gone only two years without an accident had not shown that he was a better than average risk and was entitled to a discount. Actually, the 10 per cent credit was being given to such a very large percentage of automobile owners that its effects could have been offset only by charging prohibitive rates to the few unfortunates who did not merit the allowance or by increasing the original rates 10 percent. Since the prohibitive rates were not feasible and a rate increase served no real purpose, the plan was discontinued.

Table XI
Pennsylvania Automobile Liability Rates
1922 and 1933

	1922					1933		
	W	X	Y	Z		W	X	Y
Philadelphia								
Public Liability	47	56	68	82		62	62	79
Property Damage	15	16.50	19	22		18	18	22
Philadelphia Suburb								
Public Liability	28.50	34	41	50		36	36	46
Property Damage	10	12	13.50	15.50		13	13	15
Pittsburgh								
Public Liability	38	45	55	67		49	49	57
Property Damage	13	14.50	16.50	19		14	14	17
Small Cities								
Public Liability	23	27	33	40		19	20	28
Property Damage	10	12	13.50	15.50		9	9	13
Rest of State								
Public Liability	17	20	25	30		19	20	28
Property Damage	8	10	11	12		8	8	12

Source: Pennsylvania Automobile Liability Insurance Rate Manual, 1922-1933.

In the early days, the rates followed a downward trend, traceable possibly to various mechanical improvements. Automobile manufacturers at this time were striving to develop safer and stronger automobiles. They developed steel bodies and stronger frames to replace wooden bodies, four wheel mechanical or hydraulic brakes to replace two-wheeled manual brakes, and balloon tires with smaller wheels to replace the high pressure tires with larger wheels. The use of steel bodies and frames and smaller wheels permitted a streamlined design. As wind resistance was reduced and the center of gravity was lowered, riding qualities and car stability in general were improved. Such changes were reflected in a lower accident rate and consequently a lower cost of insurance. This trend, however, was short-lived. In the 1930's automobile manufacturers began to emphasize the development of more powerful and faster automobiles. The development of safety appliances during these years did not keep pace with the rapid increase in the speed at which cars were operated.

Added Factors

With the early thirties came a rapid increase in the number of hardtop automobiles which permitted operations in all kinds of weather, in the number of miles of improved roads, and in congestion on the highways. All of these factors affected the automobile accident situation. Prior to this time, automobiles had been operated generally during the summer months and had been virtually suspended from service during the winter. Roads, exclusive of those in large cities, had frequently been impassable to automobiles, and the average annual mileage had been much lower. Thus, in the early thirties, rumbles of the complex problems soon to confront the rate makers were originating. The rate makers of the day naturally tried to keep pace with all of these factors through the experience of the companies as it became available. At this point, factors which up to the thirties had been making the experience data significant, began to lose importance. For example, the automobiles in the W classification in 1932 were in no way comparable in speed, in horsepower, or even in appearance to the W automobiles of the 1920's. The W class of the 1930's was more comparable to the X class of the twenties. The need to weigh such factors as increased power and speed, improved highways, increased mileage, and increased congestion was evident. The automobile liability rate maker had the problem of evaluating the effects of changes without being able to measure those changes accurately.

In the collection of statistics in the 1930's, the companies were using a Hollerith card, which contained in code pertinent information on the individual risk, such as address of the insured, make and type of automobile, policy period, limits of coverage, and nature of operation, as well as the amount of premium. A duplicate card was also prepared on which change of car in mid-term, or any other important changes could be recorded. Losses were shown on the duplicate card so that they were charged to the same car, the same policy year, the same coverage, and the same policy under which they occurred. The purpose of this compilation was to determine the hazard to which a car located in a particular territory was exposed. This computation was developed from a record of the experience of all cars garaged in particular territory regardless of where the loss may have occurred After being sorted and tabulated, the experience data of each company) was sent to the National Bureau where it was combined with the data of other companies and made available for rate making purposes.

The data available to the rate maker indicated the number of cars of various classifications insured in each territory for each policy year, the total amount of

premiums covering these cars, and the total amount of losses sustained. From these figures, the rate makers determined the average loss per car insured by dividing the total amount of losses, plus the allocated expenses connected with the investigator and adjustment of claims, by the total number of cars insured.

Average Loss Cost- This figure, called the average loss cost and later the pure premium, represents the average amount per car insured that the companies had to pay out as claims and includes claim adjusting expenses. To this figure, the rate makers added the necessary amounts for agent's com. missions, home office expenses, taxes, and miscellaneous expenses during this period, the pure premium comprised 61.5 per cent of the total premium and expenses comprised 38.5 per cent. Although the rates were based then, as now, on past experience and statistics from earlier periods, they had to reflect hazards expected in the future The rate maker not only had to evaluate his statistical data, but he al. so had to keep abreast of the automobile accident situation and new developments in the automobile industry which might affect the rate. The final figure may be exemplified by the results, without territory breakdown, for the state of Pennsylvania for the year 1932. During the previous policy years, the average loss cost per private passenger car insured was as follows: 1929 -$17.44, 1930 -$17.35, 1931 - $19.04. The 1932 rate for the entire state of Pennsylvania (pure premium portion) was $17.69.

The expense portion of the premium in the thirties included the cost of maintaining branch offices, the expense of the home office automobile underwriting department, the agents' commission, taxes, and are allowance for profit -all items similar to those shown at present. This loading was based on the countrywide ratio of expenses to premiums as disclosed by the companies' expense exhibits filed with the New York Insurance Department. Part of the expenses, such as home office or branch office expense, was fixed; other expenses varied witl1 the premium volume. When the loading percentages were set, the distinction between fixed and variable expenses seemed to have little recognition.

Table XII
Pennsylvania Automobile Liability Loss Ratios
1929 – 1930 - 1931

	Year		
Territory	1929	1930	1931
Pittsburgh	82%	84%	67%
Philadelphia	61	59	75
Scranton, Carbondale	87	114	116
Entire State	68	75	75

Source: Robert C. Mead, The Making of Public Liability and Property Damage Rates, 1933.

Loss Ratios Example

The weakness of the rates developed is reflected in the exhibit below, which indicates the loss ratios in three Pennsylvania territories for the years 1929, 1930, and 1931. The rates in use from 1929 through 1931 were based on an expected loss ratio of 61.5 per cent, and any amount over that figure indicates an underwriting loss. Great reliance was placed on the rate makers' judgment. As Table XII indicates, the final rates for the period covered were not adequate for the hazard involved. In the Scranton area, the loss ratios indicate that the rating processes did not properly anticipate future conditions.

Table XIII Pennsylvania Automobile Claim Frequency and Average Claim Cost – 1928-1932		
	Claim Frequency	
Territory	(per 100 private passenger cars Insured for Public Liability)	Average Claim Cost
Philadelphia	17.5	%239.00
Philadelphia Suburban	8.5	267.00
Pittsburgh	6.6	432.00
Remainder of State	3.4	344.00
Entire State	5.5	314.00

Source: Robert C. Mead, The Making of Public Liability and Property Damage Rates, 1933.

Rating during this period, as currently, directly reflected the claim frequency or average number of claims per 100 cars insured and the average cost per claim. For examples of these figures for Pennsylvania territories for the five year period 1928-1932 see Table XlII. Claim frequency not only indicates accident frequency but also claim consciousness possibly caused by ambitious lawyers. A higher average claim cost in one territory indicates either larger jury verdicts in that area or more severe accidents and injuries.

Early Automobile Liability Insurance Loading Theory

Loading is the amount added to the base rate required to pay expenses. Expense loading, which usually includes a factor for profits and contingencies, is based on the insurer's past expenses, except investment expenses and possibly loss adjustment expenses. If loss adjustment expenses are included in the pure premium, then they are excluded from the expense loading. Investment expenses are not directly reflected in rate calculations. These evaluations and adjustments, in addition to allowances for contingencies and profit, allow insurers to determine the appropriate premium for each particular exposure unit. Insurers add loading for contingencies and profit. Charging for contingencies protects the insurer against the possibility that actual claims or expenses will exceed the projected claims and expenses used in calculating the base rates. If excessive losses or expenses are not incurred, the funds generated by the loading produce additional profit for the insurer.

As of 1920, the expense loading for public liability insurance was as shown in Table XIV. The cost of conducting business was obtained from an analysis of the figures of a number of companies just as the pure premiums were obtained from experience. Yet in the individual expenses, various companies often showed a considerable difference in their results.

Table XIV Automobile Public Liability Expense Loading – 1920	
Acquisition Cost	25.0%
Claim Adjustment	7.0
Taxes	3.5
Administration Cost	9.5
Total	45.0

Source: Proceedings of the Casualty Actuarial Society, Vol. VII, 1921-1922

The variations rose largely because items of expense were allocated to different lines of insurance with no consistency among the companies. Commission and taxes could be correctly charged to the proper line and therefore produced little difficulty. Claim and administration expenses, however, were much more difficult to allocate, particularly when the company was writing a number of classes of insurance. During the 1920's, the allocations were generally made in proportion to the premium volume of each line of business. If total administrative expense was 10 per cent of premium volume, for simplicity's sake each line of insurance would devote 10 per cent of its premium for administration costs. Similarly, when rates were made and the cost had to be broken down by policy, 10 per cent of each policy premium was allocated for administrative expense. In general, the problem of proportioned premium expense allocations has been realized for some time. Even in the early 1920's, the use of a constant percentage of premium for expense loading was criticized. Rigid observance of a definite percentage may lead to inequities in the rating structure. If 45 per cent is the loading required, an insured in an area where the premium is $100.00 pays $45.00, whereas an insured in an area where the premium is $50.00 pays only $22.50 for seemingly the same services. An increase in premium levels will automatically change the amount of premium available for expenses even without a proportionate increase in expenses.

The apparent solution to the problem of expense allocation appeared to be a constant amount for fixed expenses and a percentage of premium for variable ones. In the 1920's, this system was advocated for automobile liability insurance, but a similar system had been proposed for workmen's compensation insurance and abandoned as impractical. Naturally, if one variation is taken into account, all necessary variations must be considered, and a complicated and unwieldy loading formula is required. The experiment in compensation indicated that the results were modified so slightly that they did not warrant the difficulty and expense of such a procedure. This attitude seems to have prevailed to the present time, and the expense ratio is still calculated in most lines as a percentage of the gross premium. The extraordinary time and effort needed to isolate the expense factors and formalize them for rating purposes do not seem justified by the difference in the results. The use of a fixed percentage of gross premium for expenses, though not entirely satisfactory, was adopted to facilitate handling. The important factor became the correct allocation of company expenses among the various insurance lines involved, so that the total expense allocated to automobile liability might be reasonably correct.

By the 1920's, most of the allocation was made strictly through the apportionment method, which depended upon the premium volume written. Several fallacies were inherent in this arrangement. First, the amount of work and time required on a particular policy varied considerably with the type of line being written. Second, the average premium within the particular insurance line varied widely. Consequently ~ if the premium on a line was low and the expenses of handling were high, this line would not be carrying its true share of the expense costs if expenses were allocated merely by premium volume written. Large, easily handled lines produced the opposite result. Since not all companies wrote the same line or had constant percentages of total volume for anyone line, this procedure introduced inequities into the rating procedure. A company specializing in a line for which the handling costs were high might find that its allowable expenses for handling were not sufficient because the experience of other companies on other lines tended to reduce the total amount allowable on the line in question.

One of the basic problems was the allocation of salaries, since many of the other expenses would follow naturally the basis used for salary allocation. To achieve a more equitable allowance for home office salaries, one suggestion called for the division of the entire force into groups, dependent upon the work being done; the total payroll was to be calculated for each group. Those groups working on only one type of insurance would present no problem; in other groups the assignment could be made per clerk or per group of clerks, and in some cases a percentage split based upon judgment might be effected. Time studies were suggested to determine the volume of work handled for each line of insurance. Service departments could be allocated only according to the departments they serviced and probably by a time study analysis of time spent per department. The other groups, probably assignable to general overhead, had to be arbitrarily assigned to a specific line of insurance. Where volume of work allocations had to be made, the use of number of policies written per department or number of entries made in statistical or accounting departments was suggested. According to a proposal, rent was to be allocated by floor space, furniture and fixtures by depreciation of the equipment used, and miscellaneous administrative expense by the department benefited, Inspections and payroll audits were to be proportioned according to the lines handled, usually by volume, and unallocated adjusting expenses possibly by the number of claims handled in each line. Thus, even 35 years ago, the need for accurate accounting was recognized.

Companies currently employ complicated computer-generated cost algorithms for the allocation of expense to provide accurate apportionment. Unless expenses are properly distributed, an automobile liability policyholder may be paying part of the expenses of a general liability policy. Although the expenses involved cannot be measured exactly, the current procedures are certainly an improvement over past practices.

Summary of Automobile Liability Rating to 1932

In its early development, automobile liability rating theory was a complicated structure based almost entirely upon the judgment of the rate makers and checked “after the fact" by loss ratios. The earliest rates seem to have been influenced vary greatly by competition; they had, in fact, no close relationship with the hazards involved. As the carriers began to realize the importance of cooperative rate making, some stability appeared in the rating process. Although the actual rates were set by judgment, those factors thought to have bearing on the hazard, like the additional premium charged for the explosion risk, were considered. The establishment of rates by the horsepower of a vehicle was the first classification system. At first, rates were set only for horsepower ratings below or above 12. Later, the system was broadened so that different rates were established for a number of horsepower classifications.

When cooperative rate making became firmly established, nearly 85 per cent of all companies adhered to rates set by the Liability Conference, a rating organization which used the meager statistics of its members, along with a liberal sprinkling of judgment. Although the early practices were admittedly crude, the carriers had little objection. Territorial distinctions were not considered until 1917, when the country was divided into 11 rating territories. By that time, a distinction was being made between gasoline and steam vehicles and between private passenger, commercial, dealers', and public automobiles. In spite of the advances in technical rating theory, many of the procedures seem, from the little evidence available, to have been based upon insufficient statistics. When the judgment of the rate makers proved unsound, the procedures were changed in an attempt to find some basis for equitable rates.

By 1920, the policy year system of reporting exposures and losses had been developed, and its use continues at the present time. The 1919 revision introduced list price into the classification system, but this basis for rating was superseded within a short time by the W, X, Y, Z system, whereby vehicles were classed by their size and weight. Commercial classifications, based at first on the use of the vehicles and later on the load capacity, were developed.

By 1923, a more systematic method of rating had been established. The territorial divisions were more extensive, and a greater volume of statistical data became available. Incomplete policy year data were converted to an earned basis to allow consideration of the most recent experience possible. Credibility tables were developed so that an individual territory's experience would be used in setting its rate only to the extent warranted by the experience. Judgment was still being used to vary the rates if the rate makers felt the statistics did not measure future hazards, but judgment rating was becoming less important. By the mid-1920's, weighted average pure premiums were being developed as part of the calculation to determine the indicated and allowed departure from the current rate. Differentials for vehicles driven only by their owners or operated only for pleasure purposes were introduced and then discontinued since available statistics showed that they were not warranted.

By 1926, horsepower had been completely abandoned in the rating system, and the W, X, Y, Z system was used exclusively. A merit rating plan, in use for about two years after 1929, was withdrawn as un- satisfactory in 1932. In the early 1930's, the rate makers began to realize the importance of trends in automobile rating and to modify the rates accordingly. By that time, statistics were being collected in sufficient volume to measure nearly all of the judgment processes, but judgment rating was to remain important for many more years.

Chapter 3 Regulation and Auto Insurance

This chapter examines the effects of state regulation on the cost and availability of automobile insurance. There are differences in the methods that states use to regulate insurance rates and to ensure the availability of insurance.

Misunderstanding is the byword when it comes to the purposes of regulation and its potential for solving problems in insurance markets. Insurance is one of the most heavily regulated industries in the economy. Regulation has existed for many years. Insurance purchasers and consumer organizations view regulation as a panacea for any problem that develops in the market. Although regulation can help in some instances, it can also create or exacerbate existing problems. In many cases the best approach may be less rather than more regulation or different, more imaginative regulatory approaches, rather than the intrusive approaches that have been used traditionally. Since the U.S. economy is based on free-market principles, regulatory programs should be designed to complement rather than substitute for the operation of the market system.

There is increasing concern in Washington over whether continued state regulation of the insurance industry is in the public interest, and whether insurance companies should continue to have limited immunity from federal antitrust statutes. In part, these concerns have arisen because states have changed dramatically the ways they regulate this industry since Congress passed the antitrust immunity (McCarran Ferguson) legislation in 1945. Issues posted include efforts to examine the effects of states' increased reliance on competitive market forces to regulate the insurance industry including how the cost and availability of automobile insurance is affected by states using more competitive approaches and exploring the experiences of states that restrict the factors that automobile insurers may use in establishing different premiums for different types of drivers.

Making Insurance Available

States differ in the methods they use to ensure that auto insurance is widely available and that premiums are not unfairly discriminatory. The predominant method of ensuring availability is through establishing state automobile insurance plans, which provide coverage to drivers whom insurance companies are unwilling to insure voluntarily. In addition, some states have prohibited differences in premiums based on such factors as gender and age. States generally use their regulatory authority to ensure that insurance companies remain solvent, that insurance coverage is affordable and widely available, and that premiums are not unfairly discriminatory. Until the 1960's, nearly all states used a "prior approval" method of rate regulation to ensure that automobile insurance premiums were adequate to maintain company solvency, but were not excessively high. Under this approach, the premiums that insurers wished to charge were to first be approved by state insurance departments. Since the early 1960's, however, most states have adopted more competitive approaches to rate regulation. In these states, competition is relied on to ensure that premiums do not become excessively high and insurance companies are not required to receive state approval before establishing their rates.

Insuring personal automobiles cost United States consumers lots of money.

Average Cost of Car Insurance in the U.S. 1996-2005					
Year	**Average Cost**	**% chg**	**Year**	**Average Cost**	**% chg**
1996	$691	3.4	2001	$726	5.2
1997	705	2.0	2002	781	7.6
1998	703	-0.3	2003	824	5.5
1999	685	-2.6	2004	840	1.9
2000	690	0.7	2005	829	-1.3
Source: 2007 National Assoc of Insurance Commissioners					

In 2007, the auto insurance industry was a $160 billion dollar business. There are continuing concerns about both *affordability* (as rates have been rising) and *availability* (as some insurers have suspended writing in some states) being raised throughout country.

Consumers and consumer organizations in many states have targeted the auto insurance industry as the primary source of the auto insurance crisis. Insurers have been accused of creating the auto insurance crisis through inefficient management, anticompetitive practices, and lax claims settlement policies. The contention is that insurers are oligarchs with excessive freedom in generating exorbitant expenses, which are then passed along to the consumer in the form of higher premiums. That view has provided the underpinnings for the new regulatory movement in auto insurance. The most highly publicized example of the new wave of auto insurance regulation was California's Proposition 103.

Proposition 103

Approved by California voters in 1989, Proposition 103 enacted sweeping changes in auto insurance regulation. It rolled back premium rates by 20 percent, reestablished rate regulation in a state where rates had been unregulated for decades, and called for an elected insurance commissioner. Although the rate rollback was later overturned by the courts, most of the Proposition 103 provisions went into effect. Less publicized but equally important changes have taken place in other states with auto insurance problems such as Pennsylvania, Massachusetts, and New Jersey. In addition to actions taken by individual states, attention on the national level has been directed at potential federal intervention. Insurers have long enjoyed an exemption from federal antitrust laws under the McCarran-Ferguson Act, passed in 1945. As insurance problems have escalated, pressure has grown to repeal McCarran-Ferguson and to subject insurers to additional federal oversight.

REGULATION- PURPOSE AND POTENTIAL

Citizens often have conflicting feelings about business regulation. On the one hand it is recognized that businesses, especially large businesses like insurers, have much greater economic power than any mere citizen. On the other hand, it is sometimes felt that the governmental bureaucracy can be a little too intrusive, too controlling, as when it prohibits land development in order to preserve the habitat of a particular small species of birds, or some other restriction with which the public may not sympathize.

These conflicting concerns point to a key question for both political science and economics: Why does regulation exist? What drives it?

In general there are three major theories of economic regulation: public good theory, capture theory, and special interest theory.

Public Good Theory

This theory of economic regulation is rooted in perception that government must step in to regulate markets in instances when markets are unable to regulate themselves. These so-called "market failures" occur where the price mechanism that regulates supply and demand breaks down, forcing government to take action. Natural monopolies and external costs (a.k.a., "externalities") are the most prominent types of market failure. Natural monopolies occur when the fixed costs of supplying a good are so great that it makes sense for only one firm to supply that good. Public utilities like the delivery of electricity or water/wastewater services to homes usually require so much money to build the necessary infrastructure (erect utility poles and lay pipelines) that no company would take on the task without confidence that it would control a sizeable portion of the market.

The problem is that the monopoly businesses that arise from this situation tend to use their market power in ways that can be highly detrimental to the community at large. This is where governmental regulation becomes important.

Externalities occur when the costs or benefits of producing a good or service are not fully incorporated into the price. Economists often cite air pollution as a cost incurred by almost any sort of economic activity, but which is often ignored when determining the prices. When the polluting activity is very concentrated, as in a manufacturing plant, the costs to the surrounding community can be considerable. Yet, without governmental regulation there is nothing that compels the plant to either minimize the environmental impact or otherwise compensate the community for bearing that part of the cost of production.

These sorts of market failures, along with the general need for mechanisms of regular public disclosure by business, make regulation critical if the public interest is to be protected. In this view regulation results from the need to protect the public from the negative impacts of such market failures and other harmful business behavior.

Capture Theory

The public-spirited vision of the public interest theory of regulation began to be challenged systematically in the early 1970s when researchers suggested that the individual regulatory agencies of government did not work for the public interest at all. Instead, they worked for private interests who actually demanded to be regulated as way of enhancing profits. Going further, some even argued that each individual government agency was "captured" by the leading organized interest (a company or business association) in the industry over which a particular agency operated (Stigler 1971).

This view rests on the understanding that the political actors most interested in the regulation of a particular industry are the companies in that very industry. In Texas, for instance, the oil and natural gas industry is thought to be the single party most interested in the types of regulation that the Texas Railroad Commission promulgates,

and the Texas Farm Bureau is the most interested party with regard to state agricultural policy.

Because of this tightly focused interest orientation among economic actors, it is thought that each regulating agency has been isolated and essentially taken over by a single powerful interest or interest association representing the very industry under regulation. Furthermore, it is believed that powerful interests in one industry generally do not interfere with the regulating activities in other industries. In other words, the Farm Bureau doesn't mess with the Railroad Commission and the oil and gas industry doesn't mess with the Texas Department of Agriculture.

This line of analysis implies that there is little or even no competition over control of public policy among economic interests. Within each industry a single company or industry association dominates, and each industry minds its own business being careful not to interfere with other industries and their particular public agencies. Citizens, meanwhile, are thought to be largely absent from the processes of economic regulation. This exclusion of citizens is thought to result from two things: the issues and processes involved are complex and arcane, and the impact of regulation on any individual citizen is relatively light compared to the impact on the businesses under regulation. A citizen paying a few dollars more per month for electricity is relatively insignificant compared to the millions of dollars at stake for an electric utility company. In short, regulation exists not because citizens need it, but because the regulated industry wants it!

The capture theory of economic regulation provides some of the theoretical foundation for the concept of "*iron triangles*" (also known as policy sub-governments), which depict a three-way relationship between a government agency, the industry over which it has responsibility and relevant legislative committees.

Special Interest Theory and Group Competition

This approach to understanding regulation developed as a response to the capture theory. Some researchers reject the capture theory's emphasis on monopoly control of individual agencies by one narrow group of powerful interests. Instead, they propose that multiple groups actually compete for control of an agency's activities (e.g., Peltzman 1976, Becker 1983).

The average citizen is not a major factor in this model either. Instead, powerful groups fight among themselves to use the coercive authority of the government to makes rules and regulations that would help their particular businesses. Such rules might help one industry or company, but hurt others. For example, the recent attempts to get the Texas state government to permit the private sale of subsoil water rights on state-owned lands in west Texas, might help new companies hoping to sell water to distant communities. But this would come at the expense of farmers and ranchers who depend on underground springs. So, the contending special interests concerned with this issue lobby the Texas Land Commissioner and other state agencies to either permit or prevent such actions.

As in the capture theory government regulation is not regarded by the regulated industries as an inherently bad thing. Instead, the regulated industries or companies actually demand regulation. The key difference between the capture theory and the special interest theory is that the latter holds that competition among special interests can be both widespread and intense.

It is important to think of the role of citizens in policy making, and also the degree of competition among parties interested in a particular area of regulation. In the public interest approach, citizen needs and protections in the face of market failures are central. In the other two approaches citizen needs are not relevant at all. Instead, in those two approaches industries and companies actually demand regulation in order to create conditions for greater profitability. The main difference between the capture theory and the special interest approach is their treatment of competition among interest groups. In the capture theory only a single group or company controls a particular agency. The special interest approach, by contrast, emphasizes the presence of at least limited competition for agency control among special interests.

STATE REGULATION OF INSURANCE

The Commerce Clause, Article I, section 8, clause 3 of the United States Constitution, provides that "Congress shall have power . . . to regulate Commerce . . . among the several states." However, states, rather than Congress, initially regulated the business of insurance. Organized regulation of the insurance industry by the states began in the mid-1800s." The practice of state regulation of the business of insurance was validated in 1869 in the United States Supreme Court case of *Paul v.Virginia.* In *Paul*, the Court upheld a Virginia statute requiring out-of-state insurers and their agents to obtain a license before conducting business within the state. The Court held that insurance was not commerce within the meaning of the Commerce Clause, and, therefore, states held exclusive regulatory authority over the business of insurance. For 75 years following the *Paul* decision state authority over insurance regulation was unquestioned. The states created a network of laws, regulations, taxes, and cooperative accounting practice. Many states, enacted legislation based on model acts of the National Association of Insurance Commissioners (NAIC), an organization composed of the chief insurance regulatory officials of the 50 states, the District of Columbia, and the U.S. territories. The states' adoption of these model acts helped to establish a measure of uniformity in the states' regulation of insurance.

In 1944, the Supreme Court reviewed its decision in *Paul* in *United States v. South-Eastern Underwriters Association.* The South-Eastern Underwriters Association, a ratemaking organization, was charged with restraining commerce in violation of the Sherman Antitrust Act by fixing and enforcing arbitrary and noncompetitive premium rates. The Supreme Court rejected South-Eastern's claim that the Sherman Antitrust Act did not apply because, under *Paul*, insurance is not commerce. The Court reversed its holding in *Paul* and ruled that insurance is commerce, and when transacted across state lines, it is interstate commerce subject to federal law, including the Sherman Antitrust Act. "As a result of [*Paul*], the constitutionality of all state statutes regulating the insurance business was called into question and a state of confusion reigned. Congress, unlike the states, had passed no laws specifically regulating the business of insurance. Congress responded to the *South-Eastern Underwriters Association* case by enacting the McCarran-Ferguson Act in 1945, declaring in the Act that "the continued regulation and taxation by the several States of the business of insurance is in the public interest." The Act granted states the power to regulate the business of insurance, removing all Commerce Clause limitations on the states' authority in this area. Congress' authority to delegate this power to the states under the Commerce Clause was upheld by the Supreme Court in the 1946 case of *Prudential Ins. Co. v. Benjamin*.

A provision in the McCarran-Ferguson Act would permit the federal government to resume control over the regulation of the business of insurance if state regulation becomes inadequate. However, after the enactment of the McCarran-Ferguson Act, "the states acted to demonstrate a level of regulation of the insurance business that would preclude federal regulation. . . . As a result, '[l]argely through the efforts of the NAIC . . . uniform legislation was developed and successfully presented to various state legislatures.'"[2] Acting to avoid federal regulation of the business of insurance following a number of insurance company insolvencies in the 1980s, the NAIC instituted an accreditation program for state insurance departments. In June 1989 the NAIC adopted a set of financial regulation standards for state insurance departments, which identified model laws and regulations, and regulatory, personnel, and organizational processes and practices necessary for effective solvency regulation. Under the Accreditation Program, each state's insurance regulatory agency is reviewed by an independent review team that assesses that agency's compliance with the NAIC's Financial Regulation Standards. For accreditation, a state's regulatory agency must have sufficient statutory and administrative authority to implement these standards, and the necessary resources and organization to carry out that authority. States complying with these standards are accredited by the NAIC for a five-year period. The states' enactment of uniform legislation, along with the effort displayed by the states in regulating the business of insurance, apparently has been adequate to prevent the federal government from taking regulatory control.

Rate Regulation.

A unique feature of insurance is that the cost of the insurance product is not known until well after it is sold, when the losses that the policy covers have occurred and been settled. For almost all other goods and services that consumers purchase, the price is set after they have been produced. This makes the pricing question relatively straightforward. Insurance, however, is pricing the future. The more historical information that a company has on which to base the forecast of future losses, the more accurate the price can be. Allowing or mandating insurers to share past loss experience benefits all insurers by enabling them to generate more reliable prices.

Moves to regulate auto insurance rates are based on the view that the insurance industry uses "unfair and discriminatory pricing practices". Two forms of regulation have been imposed. One form restricts the factors that insurance companies are allowed to use in defining risk categories --this is called rate compression. A second form restricts either the overall level of premiums or the rates applied to particular categories -- this is called rate suppression, which arises when regulators refuse to permit market-clearing rates.

Rate compression is illustrated by California's Proposition 103 which stipulates that, without the additional approval of the insurance commissioner, passenger automobile insurance rates may apply only the following three factors:
(1) the driver's safety record,

[2] 12 Don Goldbaum, *The National Association of Insurance Commissioners and the Regulation of Insurance*, L.S.C. Research Memorandum R-120-2727 (1994) (quoting from J. Hanson, R. Dineen, and M. Johnson, 1 *Monitoring Competition: A Means of Regulating the Property and Liability Insurance Business* 217 (1974)).

(2) the number of miles driven annually,
(3) the number of years of driving experience.

Such characteristics as the driver's place of residence, age, sex, and marital status could no longer be used without the approval of the insurance commissioner. These factors were frequently used by insurance companies prior to the passage of Proposition 103.

Insurance companies, of course, have an incentive to reject customers who must be charged suppressed rates. Since auto insurance is mandatory in all states, rejected customers still need insurance, which is generally provided through assigned risk pools. Drivers who are denied auto policies are placed in the assigned risk pool, and charged a premium that may be below the actuarial costs. Each auto insurance company in the state is then required to take a share of the assigned risk pool equal to its share of the overall market.

Most of the post-McCarran rate regulatory laws stipulate that rates should not be "excessive, inadequate, or unfairly discriminatory." Most states require companies to obtain prior approval from the state insurance commissioner for changes in rates. An important provision allows insurers to pool data through organizations known as rating bureaus. Rating bureaus (such as the Insurance Services Office) collect data and make it available to member companies for ratemaking. In addition, for many years the bureaus filed rates on behalf of their member companies so that most insurers doing business in any given state had the same rate structure. The Insurance Services Office voluntarily ended that practice in 1989. Pooling of data is still practiced and permissible, however.

Theory of price regulation

According to George Stigler[3], public price control has two aspects:
Correction of monopolistic pricing
By granting firms monopoly licenses in various local domiciles, policymakers are hoping to take advantage of economies of scale in production. If there are scale economies, monopolists will face significantly lower costs of production on a per unit basis than will firms competing with each other in a competitive market environment. This is a "have your cake and eat it too" strategy. Without price regulation, the benefits of these scale economies would naturally accrue to the owners of such firms. However, price regulation is imposed so that benefits accrue instead to consumers in the form of lower prices.

- Ideally, the objective is to regulate rates so that the firm still earns a "fair" return while providing the scale economies which lead to lower consumer prices.
- The "fair" return standard was set by a U.S. Supreme Court case which was argued in 1943 and decided in 1944 (Federal Power Commission *et al.* v. Hope Natural Gas Co.)
- By providing a "fair" return, the government does not violate the "Takings" clause of the U.S. Constitution (the last clause of the 5th amendment, which reads, "nor shall private property be taken for public use, without just compensation").

Provide private benefits at public expense to special interest groups.
Prices of farm products are regulated (raised) in most nations with the intention of improving farmers' incomes.

[3] George Joseph Stigler was an American economist. He won the Nobel Prize in Economics in 1982. Stigler is best known for developing the *Economic Theory of Regulation*.

Prior to the deregulation of the banking industry more than twenty years ago, the fixing of interest rates paid by banks was undertaken to improve bank earnings.
Such policies are invariably defended on various economic and ethical grounds but reflect primarily the political strength of large and well organized interest groups.
There are no natural scale economies in the production of insurance services. This is a fact that is well documented by at least two generations of rigorous empirical research. Therefore, it would appear that Stigler's second rationale better fits the case of insurance. Originally, insurance rate regulations were imposed because there was a stated concern that insurers might be motivated to cut prices to unsustainably low levels as a way to acquire market share. Therefore, it would seem that price regulations were initially intended to benefit producers of insurance services by providing excess rates of return on their investments in the insurance business. The argument here is that such groups were successful in coalescing and bringing political pressure to bear on the regulatory authorities to produce such an outcome. This idea of regulatory "capture" was quite insightful and profound, and it (among other things) helped Stigler win the Nobel Prize in 1982.
In recent years, however, the pendulum has swung in such a way that rate suppression (as opposed to expansion) has become more the rule rather than the exception. The special interests here include regulatory agencies, the plaintiff's bar, and consumer groups. Economic theory suggests that over time, persistent regulatory suppression of insurance rates will likely cause product quality to deteriorate and limit insurance availability as insurers seek opportunities to exit the market.

Competition is reduced by prior approval regulation because the ability to compete on price is by definition (arbitrarily) limited by the state. Availability is reduced by prior approval regulation because this form of rate regulation tends toward rate suppression; since one cannot earn a fair return in a rate-suppressed environment, there is little incentive to expand one's business of writing insurance policies. Finally, increased volatility in insurance premiums will result from delays in the rate approval process under prior approval rate regulation. Regulatory lags typically produce lower rate increases during periods of rapid cost growth and larger rate increases or a slower rate of reduction in periods of stable or declining claims costs The state of Illinois is unique because it does not have any formal rate regulation of automobile insurance rates whatsoever. The Illinois auto insurance market is often held up as an example of competitive markets. It is amongst the most competitively structured insurance markets in the U.S. economy. Insurer loss ratios and premiums are less volatile than in regulated markets, and premium levels tend to be lower than in comparable areas. Illinois also boasts the lowest percentage of uninsured drivers, one of the lowest residual market shares, and lowest costs of insurance regulation in the entire U.S. economy.[4]

About half the states regulate automobile insurance rates. Those states typically require prior approval of rate changes. Most other states have some form of "competitive" rating law that affords insurers more freedom in filing and changing rates. During the 1970s there was a trend toward competitive rating in automobile insurance. The prevailing economic theory was that regulators tended to become "captured" by the regulated industry so that regulators work for the benefit of the industry rather than the public. In fact, in some industries regulated prices were higher than competitive prices. Although

[4] See D'Arcy, Stephen P, 2001, "Insurance Price Deregulation: The Illinois Experience," Brookings Institution Insurance Rate Regulation Conference (January 18, 2001).

researchers have found that premium rates tended to decline in some states after regulatory repeal, the more consistent finding has been that regulation tends to depress premiums. On the whole, auto insurance prices tend to be lower in regulated states than in competitive states, a result that conflicts with Stigler's theory.

Aspects of Insurer Solvency Regulation

A wide array of insurer practices is regulated by the state to ensure that domestic insurers remain solvent and in healthy financial condition. The traditional focus of regulation has been the maintenance of solvency. Insurers are required to file extensive financial reports ("annual statements") with state insurance commissioners. Solvency regulation includes establishing capitalization requirements for insurers, examining the financial condition of insurers, the approval and pricing of insurance products, requiring minimum insurance company reserve and surplus requirements, and regulating the ways in which an insurer can invest its money. Commissioners also conduct detailed audits of all insurers at three- to five-year intervals. Although insurance solvency regulation absorbs a high proportion of the resources of the state regulatory system, it has been criticized as lax and ineffectual. The reinsurance contracts that insurers enter into are regulated to ensure that when an insurer purchases reinsurance to cover certain policies, the reinsurer will assume responsibility for the payment of claims on policies assumed by the reinsurer. If the insurance company has affiliates or is set up in a holding company system, transactions between affiliates are regulated to attempt to provide that the transactions are beneficial to the insurer.

RATE EQUITY AND MARKET

Measurement of profitability is to some extent, like beauty, in the eye of the beholder. The connotation of the word “profitability” is highly dependent upon who is assessing profitability and to what purpose. To investors and insurers, “profitability” has a golden ring to it. To policyholders of a stock insurer it sounds like markup, while to those insured by a mutual company it is neutral. Insurance regulators either encourage profitability, when concerned with solvency, or seek to curtail it, when regulating rates. Regulators have the responsibility to maintain rate equity. Rate equity is stipulated as a regulatory goal in insurance rating statutes through the requirement that rates not be "unfairly discriminatory." The usual definition of unfair discrimination is the existence of rate differentials that are not justified by cost differentials. For example, charging policyholders different rates although their expected losses are approximately the same would be viewed as unfairly discriminatory.

Although the goal of rate equity sounds reasonable in principle, as is the case with many regulatory goals, implementing the rate equity standard can have unintended adverse effects. The goal of equity interacts with that of affordability. As auto insurance prices have risen, political pressures have developed to hold down rates for drivers subject to higher prices. Statistically, certain types of drivers, such as youthful males, and certain geographical areas, such as inner cities, are subject to higher claims rates. The response of the insurance industry has been to charge higher prices to drivers in those categories.

Rate Tempering

Political opponents of the insurance industry's cost-based rating system have criticized that system by using several lines of attack. One is to contend that the industry's cost-based ratings are inaccurate. Opponents point to considerable overlap among drivers in various risk groups. They argue that relatively good drivers in high-rate categories such as inner cities may have lower loss costs than relatively bad drivers in low-rate classes and territories. Insurance rate classes are said to be overly heterogeneous; they group together drivers with significantly different expected losses and charge them the same premium rates. Second, opponents argue that rate classes rely too heavily on proxy variables. For example, women on average drive less than men, and so insurers use gender rating as a proxy for mileage, which is difficult to measure. The industry's critics call for the elimination of inaccurate classification criteria and proxy variables such as gender.

Some critics go even further by suggesting the flattening of rates across categories of drivers. They argue that it is socially inequitable for residents of cities to pay insurance rates that are four to five times as high as rates in the suburbs. Such rates may force urban drivers to go without insurance or to forgo driving altogether. This is said to create severe economic inequities by making it more difficult for urban drivers to get to work and thus possibly restricting their employment opportunities. In response to such criticism, policymakers in densely populated states with high insurance premiums such as New Jersey and Massachusetts have flattened or "tempered" rate categories to ease the premium burden on urban drivers.

While it is easy to sympathize with the social and economic problems of urban drivers, it is also important to recognize that rate tempering can have severe consequences for insurance markets. Economists have identified risk classification as a critical element in the economic viability of the insurance system. If insurers cannot charge premiums to drivers that fully recognize cost differences, low-cost ("low-risk") drivers end up subsidizing high-risk drivers because the low-risk drivers pay premiums in excess of their costs and high-risk drivers pay premiums that are less than their costs. Because the high-risk drivers are subsidized, they have a stronger incentive to buy insurance and may purchase higher coverage limits. The subsidies that are imposed on low-risk drivers, on the other hand, give those motorists an incentive to purchase lower coverage limits--the minimal coverage required by law--or to drop out of the insurance market altogether. With high risks comprising a larger component of the market, average costs will increase and premium rates must go up. The resulting increase in insurance inflation worsens the subsidy problem and may force additional low risks out of the market. The resulting price spiral ultimately may lead to market failure and the collapse of the insurance market.

Market failure has occurred in two states that have long had severe insurance problems--New Jersey and Massachusetts. Both states have very high insurance rates because insurance costs are high. Insurance costs are high in those states because of high accident rates, high auto theft rates, and, at least in New Jersey, generous medical benefits provided in automobile insurance policies. Because of the high costs in those states, political pressures for rate relief have been intense for the past fifteen to twenty years. Both states have undertaken strict prior approval rate regulation that has made auto insurance unprofitable for the insurance industry. In addition, both states have engaged in rate tempering to reduce the cost burden on urban residents. As a result,

the voluntary market for auto insurance has virtually ceased to exist. More than 50 percent of the drivers in each state are in the residual market, which provides a mechanism for insuring drivers who cannot obtain insurance in the normal voluntary insurance market. Having more than 50 percent of drivers in the residual market implies that insurers do not want to write insurance coverage on most drivers in the state. Thus, the companies have concluded that they cannot earn a fair profit on those policies. That market failure is due to premium tempering and restrictive rate regulation.

When a high proportion of drivers are being assigned to insurance companies involuntarily, the logical question is: Why do insurers not pull out of the market altogether in states like New Jersey and Massachusetts? Regulators engage in a form of regulatory blackmail to prevent insurers from withdrawing from the auto insurance market. Most insurers are not auto insurance specialists but rather write various types of insurance. A high proportion of revenues for most companies is derived from commercial coverages such as workers' compensation, commercial multiple peril, commercial auto, and general liability. If a company indicates its intention to withdraw from the private passenger automobile insurance market, the usual regulatory response is to threaten to cancel the insurer's licenses to write all types of coverage in the state. Thus, the insurer would have to give up profitable commercial writings to leave the auto market. Most insurers cannot afford to drop their commercial writings and thus are forced to absorb the losses imposed by restrictive auto insurance regulation.

The ramifications of restrictive regulation are even more far-reaching. Although companies may not be able to withdraw completely from unprofitable markets, there are other steps they can legally take to recoup lost profits. For example, insurers may cut back on services or delay claim payments to save money. Thus, buyers pay lower premiums than would be charged in the absence of regulation but also receive less valuable insurance coverage.

If restrictive rate regulation and rate tempering are not the answer to the social problems caused by high auto insurance costs, what should be done to provide rate relief to drivers in urban areas? The more appropriate approach would be a direct subsidy to such drivers that could be used only for the purchase of basic automobile insurance coverage. That would permit the insurance market to operate properly, providing the level of services and insurance availability desired by the majority of drivers, and would put an end to the destabilization created by regulatory tinkering.

It should be clear from this discussion that insurance regulation is a rather risky proposition. Well-intentioned regulatory responses may not only fail to solve problems but may actually destabilize markets. Most observers agree that it would be better to rely on competition to set prices and determine the services offered in the insurance market. That is not a viable option if the industry is not competitive, however.

STRUCTURE OF THE AUTO INSURANCE MARKET

State statutes are generally predicated on the belief that market competition is an effective and efficient regulator of insurance rates. In a competitive market, rates should approach a theoretical equilibrium point that matches consumer demand for risk mitigation to the willingness of insurers to supply coverage. Competitively determined prices serve an important signaling function or feedback mechanism to market participants. Prices alert consumers and producers to adjust demand and supply of

products and services. In insurance, premium rates are particularly salient signals of risk levels: market rates (subject to actuarial uncertainty) ought to most accurately reflect risk levels associated with a given activity. Consumers respond to price incentives in part by reducing excessively risky activity, or by actively attempting to mitigate such risks.

Market Efficiencies

The market efficiency of the insurance industry has been the source of considerable controversy. Insurers contend that the industry is competitive and efficient and doing the best possible job under difficult circumstances. Consumers, consumer-activists, and many politicians are on the other side. They accuse the industry of being inefficient and anticompetitive. The usual allegation is that the industry is earning excessive profits by pocketing investment income earned on policyholders' funds. To sort out the conflicting claims, the structure, competitiveness, and profitability of the industry are examined.

There are over 2,500 property-liability insurance companies and groups, the number of companies operating in any given market is considerably smaller because some firms specialize, either by line of business or by geographical area. To obtain a more accurate indication of the number of competitors, it is necessary to look at insurance markets by line of business and by state. For example, in 2015 in California, there were 100 property/casualty companies doing business. In Texas, there were 199 companies (Insurance Department Resources Report, 2015, National Association of Insurance Commissioners (NAIC)).

It is important to keep in mind, however, that not all insurers operating in a given state write business in all parts of the state and that some insurers do not issue coverage voluntarily on all types of drivers. Thus, competition may be present for the most economically attractive regions and driver types, but drivers with less desirable rating characteristics may tend to face limited options with regard to potential insurers. Enabling insurers to charge adequate rates in the "high risk" areas would lead to more competition in those markets.

Another indicator of market structure is the concentration ratio. Nationally, the leading firm, State Farm, accounts for 21 percent of the total premium volume in private passenger auto insurance. The top four firms account for 43.9 percent. By normal standards, that is not a level of concentration that would pose a significant threat to competition. In some states concentration is considerably higher, however. The four-firm concentration ratio ranges from 33 percent in New Hampshire to 81 percent in Alaska, and the median four-firm ratio is 57 percent. The median twenty-firm concentration ratio is 86 percent. Those levels of concentration are much higher than the national ratios usually mentioned in discussions of insurance markets and could conceivably be high enough to pose a competitive threat, depending on the other characteristics of the market.

Hurdles to Market Efficiency

Most of the big writers of auto insurance use a distribution system called direct writing. Direct writers sell directly to the public either by using the internet, mail or telemarketing or by retaining exclusive agents--agents who represent only one company. State Farm,

Allstate, and Nationwide all use exclusive agents. Other companies, including the more traditional firms such as Aetna, Travelers, and CIGNA, use another form of distribution system--independent agents. Independent agents represent several companies rather than place business exclusively with one company. This is why most economists are not concerned about the overall level of concentration in the auto insurance market. Market leaders have acquired their high market shares primarily by being more efficient. The efficiencies come primarily in marketing or distribution costs. On average, about one-fourth of the auto insurance premium goes for company marketing and administrative expenses. That component covers insurance home office expenses as well as marketing costs.

Economics of insurance regulation

The *public interest* view of regulation is that explicit regulation should be applied only in cases where market conditions deviate significantly from the ideal of a competitive market; i.e., a market that is characterized by the existence of many buyers and sellers, where firms can freely enter and exit. Even if markets are relatively concentrated, so long as they are contestable, then this notion still applies (e.g., the operating system software market, though dominated by Microsoft, is contestable (e.g., Linux, Mac OS X)).

The public interest perspective has important implications for insurance rate regulation. Specifically, it implicitly recognizes that rates *cannot be excessive* if markets are sufficiently competitive or contestable. In other words, if the market is either competitive or contestable, then this constitutes a sufficient condition for rate fairness. To claim that rates are excessive when markets are competitively structured represents a *reductio ad absurdum* argument.

George Stigler's "capture" theory (i.e., the notion that regulators are at risk of being "captured" by either the industry they regulate or other third parties whose self interests may be at odds with industry) describes well the historical record of insurance regulation. During the early to mid 20th century, insurance rates were typically regulated out of the stated concern that insurers might be motivated to cut prices to unsustainably low levels as a way to acquire market share. If this were the case, then such pricing behavior could trigger insurance insolvencies. The empirical reality, at least during this earlier period of insurance regulation, was that rate regulations were implemented so as to make it possible for insurers to earn excess rates of return by charging excessive rates. In recent years, however, the pendulum has generally swung more toward rate suppression. The "special interests" that benefit from rate suppression include regulatory agencies, lawyers, consultants, and consumer groups.

The economic theory and corresponding empirical evidence pertaining to insurance regulation clearly demonstrates that it cannot possibly be in the public interest to eliminate competition as a factor in rate making. A recently published book entitled "Deregulating Property-Liability Insurance: Restoring Competition and Increasing Market Efficiency" (see AEI-Brookings Joint Center for Regulatory Studies (2002)) notes that property-liability insurance regulation generally makes consumers worse off by limiting availability of coverage, reducing the quality and variety of services available in the market, inhibiting productivity growth, and increasing the volatility of insurance prices paid by consumers.

The Market as Regulator

In a free market economy, capital is allocated to its most highly valued use; therefore, if one state suppresses rates, then companies are free to go elsewhere. Limiting exit

rights (e.g., as has occurred in states such as Massachusetts and New Jersey in response to crises in these states' auto insurance markets) is both unfair and counterproductive, and measures like these do not make insurance any more affordable or available in the long run.

Once the competitive market is eliminated as a regulator, reliance must be placed upon the insurance regulator to "stand in the gap". If the insurance regulator is benevolent and wishes to maximize social welfare, then this individual will recognize that he or she has the very difficult task of mimicking what might otherwise occur in a competitive market environment. However, the empirical evidence generally suggests that regulators are subject to political pressures from interest groups and therefore are not likely to be benevolent central planners. Depending upon the political equilibrium that obtains, this may result in excess profits or losses for the regulated industry. In the current political environment in Texas and many other states, one would expect that this equilibrium will most likely continue to be characterized by the suppression of rates.

In conclusion, removing competition as an objective method for benchmarking whether a rate is fair takes us onto a public policy slippery slope. The economics of such a position are fundamentally unsound. Furthermore, this position has virtually no precedent in the theory and practice of insurance regulation, and it unnecessarily subjects policyholders to the risks of "unintended" consequences. Past experience with insurance regulation suggests that these "unintended" consequences imply that even more availability and affordability problems may be on the horizon.

Insurance Company Earnings

Profitability is perhaps the most confusing issue in the public policy debate on property/casualty insurance. Insurers point out that they pay out billions of dollars more in losses and expenses than they take in each year in premiums: they almost always incur a large underwriting loss (defined as premiums minus losses and expenses). Consumer activists counter that insurers earn billions in investment income on policyholder funds that result in excessive profits. Both sides in this instance are factually correct. Insurers do incur underwriting losses and earn investment income. Neither side gives sufficient attention to the fact that it is the net amount earned by insurers that is relevant. That concept is pivotal, because it underlies both the rationale for and implementation of new insurance regulations in important regulatory jurisdictions across the country.

The first step in understanding the profitability issue is to realize that insurers must come to the market with equity capital, supplied by either stockholders or policyholders. Equity capital allows the company to offer the credible promise that claims will be paid when due. It provides a cushion to cover the eventuality that losses and expenses are higher than expected. As part of the solvency surveillance system, state regulators require that insurers maintain a reasonable amount of equity capital relative to premium writings.

Comparable Risk Standard- Because equity capital has other potential uses besides backing up insurance liabilities, it is available only at a price, known as the cost of capital. Instead of putting funds into an insurance company, suppliers of equity capital can invest in other sectors of the economy. To attract capital into insurance, investors

must receive a rate of return that is comparable to the return they can earn in other sectors of the economy on investments of comparable risk.

The comparable risk standard provides the conceptual underpinnings for insurance rate regulation, and the same general concept applies to public utilities and other regulated industries.

Operating Results for 2015 & 2016 ($ Millions)

TWELVE MONTHS	2016	2015
NET WRITTEN PREMIUMS	440,815	443,460
NET EARNED PREMIUMS	439,083	435,484
INCURRED LOSS & LOSS ADJUSTMENT EXPENSES	298,626	283,846
STATUTORY UNDERWRITING GAINS (LOSSES)	21,454	34,518
POLICYHOLDERS' DIVIDENDS	2,430	3,403
NET UNDERWRITING GAINS (LOSSES)	19,024	31,115
PRETAX OPERATING INCOME	72,672	84,607
NET INVESTMENT INCOME EARNED	54,641	52,309
NET REALIZED CAPITAL GAINS (LOSSES)	8,971	3,524
NET INVESTMENT GAINS	63,612	55,834
NET INCOME (LOSS) AFTER TAXES	61,940	65,777
SURPLUS (CONSOLIDATED)	517,869	486,231
LOSS & LOSS ADJUSTMENT EXPENSE RESERVES	533,409	513,482
COMBINED RATIO, POST-DIVIDENDS (%)	95.6	92.4

FOURTH QUARTER	2016	2015
NET WRITTEN PREMIUMS	103,244	105,904
NET EARNED PREMIUMS	109,795	110,339
INCURRED LOSS & LOSS ADJUSTMENT EXPENSES	79,070	71,580
STATUTORY UNDERWRITING GAINS (LOSSES)	2,140	9,120
POLICYHOLDERS' DIVIDENDS	1,262	2,312
NET UNDERWRITING GAINS (LOSSES)	878	6,808
PRETAX OPERATING INCOME	16,033	22,593
NET INVESTMENT INCOME EARNED	15,126	14,816
NET REALIZED CAPITAL GAINS (LOSSES)	768	2,051
NET INVESTMENT GAINS	15,894	16,867
NET INCOME (LOSS) AFTER TAXES	12,541	19,648
SURPLUS (CONSOLIDATED)	517,869	486,231
LOSS & LOSS ADJUSTMENT EXPENSE RESERVES	533,409	513,482
COMBINED RATIO, POST-DIVIDENDS (%)	100.9	95.0

Although there is little debate about the appropriateness of the comparable risk standard, the measurement of risk and return in insurance is plagued by controversy and serious pitfalls. Economists tend to agree that the appropriate rate of return for regulatory purposes is the market rate of return on equity. In concept, market return is easy to calculate. For example, assume that one invests $100 in a share of stock and sells it one year later for $115, after receiving a dividend of $5. The total amount received is $120 on a total investment of $100, for a return of 20 percent. The same

concept applies in insurance. If investors put $100 million in equity into an insurance company, they expect to receive their investment back at the end of the year along with an adequate rate of return. Of course, expectations are not always realized. The investors may earn more or less than the expected amount, but that risk is one of the primary factors contributing to the need for the fair expected rate of return.

Measuring the fair rate of return in insurance is quite controversial. On one side are consumerists and many state regulators, who argue that the appropriate rate of return is the book return as shown on the company's financial statements. On the other side are most economists and a few regulators, who contend that the market return is the appropriate measure. Book return proponents usually place the cost of capital in insurance somewhere in the 10 to 12 percent range. Market return measures are usually higher, in the 15 to 17 percent range.

Rate of Return

In principle, rate of return analysis is simple. Consider a simplified income statement for a hypothetical company with premiums of $100, losses of $90, expenses of $20, an underwriting profit of ($10), investment income of $30, and a net income (underwriting loss plus investment income) of $20. If the company has $100 in equity capital, the book rate of return is 20 percent.

The reason the company has an underwriting loss, on the average, is that it is earning investment income on policyholder funds. Part of the investment income of $30 is attributable to the investment of the premium of $100. That part of the investment earnings, less an appropriate profit, should be credited to policyholders in the rates. That is what the regulatory and actuarial methodologies designed to reflect investment income in the rates attempt to do. Thus, an important aspect of insurance rate of return analysis is the following principle: an underwriting loss is the expected outcome in most cases because it provides a credit for investment income on policyholder funds. That principle also applies in market rate of return analyses, but the ways of measuring the return differ.

If insurance accounting statements accurately reflected market values of assets and liabilities, the book versus market controversy would not exist because book and market returns would be equivalent. In reality, however, insurance accounting statements are an imperfect proxy for true market values. Consequently, calculating the rate of return on equity by using book data introduces serious errors.

Statutory Accounting Principles (SAP) are a set of accounting rules for insurance companies set forth by the NAIC. They are used to prepare the statutory financial statements of insurance companies. They are the basis for state regulation of insurance company solvency throughout the United States.

Most regulatory applications of the book return methodology are based on statutory accounting data--data compiled in accordance with the regulations set forth by state insurance commissioners. Statutory accounting rules are designed primarily to provide a conservative indication of insurer solvency levels; they do not provide an accurate indication of market values. For example, bonds, which constitute the largest single asset type on insurance company balance sheets, are valued at amortized cost rather than at market values. Loss reserves, the largest single liability item, are valued for

statutory purposes at nominal values rather than at the discounted present values that would be used in a market valuation. There are numerous other statutory accounting anomalies that drive a wedge between statutory rates of return on equity and the market returns that should form the basis for regulatory rate of return analysis.

Another important measurement issue in book rate of return analysis is the measurement of equity capital. The accounting definition of equity is assets minus liabilities: the total value of resources of the firm (assets) minus the amount owed to policyholders and others is the amount available to equity holders. Book equity, computed in that way, is the denominator in the book rate of return measure.

Potential for Error

Regulators and consumerists who use book rate of return analysis in insurance invariably make significant errors in measuring both book income and equity. As a result, book rate of return measures are virtually meaningless. Unfortunately, such measures have been used to set regulatory policy in important jurisdictions such as California, although appropriate market value techniques are readily available.

Regulatory book return analyses also usually ignore unrealized capital gains. Insurers and other investors purchase stocks with the expectation of earning a rate of return that includes both dividends and capital gains. The dividend return alone would not be adequate to induce investors to buy stocks, and no one outside the insurance regulatory community seriously advances a dividends-only theory of stock returns. Nevertheless, the approach used by most insurance regulators ignores unrealized capital gains.

Returns- A mistake sometimes made by insurance regulators is a failure to recognize the difference between expected returns and realized returns. Investors buy stocks with the expectation of earning a rate of return commensurate with the risk borne. For example, the investor might expect a rate of return of 15 percent on a stock of average risk. After holding the stock for some period of time, however, the investor may find that the actual rate of return has been less than 15 percent, say 5 percent. Although the investor will obviously be disappointed that his expectation was not borne out in that particular case, achieving a 5 percent realized return does not mean that the true expected return on the stock was 5 percent. Stocks are risky, and expectations are not always realized. The expected return on the stock during the coming period will be based on the company's prospects and the anticipated risk and cannot be equated with the realized return of the prior period.

The same analysis applies to insurance rate of return analysis. When the insurance industry goes through a period of low returns such as during 1984 and 1985, realized returns on both a book and a market value basis are very low. For example, the accounting return on equity in property-liability insurance was minus 1 percent in 1984. It should be obvious that the realization of a minus 1 percent return in 1984 does not imply that the expected rate of return on insurance stocks is minus 1 percent. No investor would buy a stock with an anticipated negative rate of return. Although regulators would not set the cost of capital in insurance at minus 1 percent, they regularly commit logical errors regarding realized versus expected returns by arbitrarily selecting historical time periods to compute book rates of return on equity and then using those returns as measures of expected returns in the future. Even if there were no difference between book and market rates of return on equity, it would be inappropriate to, say, use book return data from the period from 1981 to 1990 to estimate the

appropriate rate of return on equity in insurance. That period was one of increasing risk and low returns in the insurance industry. Investors would not knowingly put their funds into a risky business such as insurance and expect to earn such low rates of return.

Insurance premiums should incorporate rates of return on equity adequate to attract capital into the industry on a prospective basis. If lower returns are used, the market will be destabilized, and price and availability problems will worsen. The inappropriate use of book rates of return in insurance regulation becomes a self-fulfilling prophecy. The appropriate way to measure the cost of capital in insurance is to use a prospective, market-value-based method. Such methods are discussed in textbooks on regulatory finance. Unfortunately, only a few regulatory jurisdictions are currently using such methods.

CFA Observation

Property-casualty insurers are getting rich by “methodically overcharging consumers,” reducing coverage, underpaying claims and having taxpayers pay some of the tab for risks that carriers should cover, the Consumer Federation of America (CFA) habitually charges in its rantings against the insurance industry.
Using a number of common measures of financial health, CFA studies found that despite the fact “balance sheets for property-casualty insurers are in better condition overall than at any time in history,” with record profits and low losses in recent years, prices remain too high for too many buyers.

Insurers, according to CFA’s analysis, have succeeded at being insulated from risk through the use of reinsurance. It indicated that profits were unfairly boosted through anti-concurrent causation clauses, caps on rebuilding costs, limits on compensation for bringing a building up to code, and through unreasonable price hikes. Taxpayer subsidies have also reduced insurer costs, citing the Terrorism Risk Insurance Act. The CFA study estimates that insurance companies have received a subsidy of about $4 billion to date because they do not have to pay premiums for the terrorism reinsurance provided by the federal government.

Industry Reaction

Insurance leaders defend the industry and counter allegations of price-gouging and market misconduct by CFA- that the study criticizes private auto and home insurers but actually includes data from government-run insurers that sell, among other coverage, workers’ comp insurance, thereby artificially inflating its figures for industry-retained earnings or policyholder surplus. The CFA compounds this error by double-counting tens of billions of dollars in surplus on the books of individual insurers. Consequently, the CFA overstates the industry’s claims paying capacity by approximately $160 billion.

An improved capital position will help insurers pay future large-scale disaster losses, as well as meet higher capital requirements imposed on them by rating agencies in the wake of storms like Hurricane Katrina—which produced insured losses of $41 billion.

The insurance industry also challenged the notion that insurers were paying less to consumers.
“It is curious,” says Franklin Nutter, longtime president of the Reinsurance Association of America, “that the CFA report would recommend more state government reinsurance funds, like Florida's, yet soundly criticize government and taxpayer-backed subsidies for

insurers, upon which the Florida fund is based. What is the logic of more state taxpayer-funded reinsurance to insurers in the context of criticizing insurer profits?"
Calls for "actuarially" sound state reinsurance, per the CFA report, "defy experience and political logic," according to Mr. Nutter.

Consumerist View

The consumerist view is that insurance claim costs have inflated rapidly owing to poor claims settlement practices by insurers. The usual argument is that insurers just settle claims and then pass the costs along to the buyer. The contention is that such a cost-plus pricing scheme provides no incentives for insurers to settle claims conscientiously. Although plausible on the surface, that argument does not stand up to rigorous examination. In fact, insurance premiums are set before claims are paid. Insurers cannot go back to the policyholders for additional premium payments if claims are higher than expected. If insurers can save $1 in claim payments, that $1 goes directly into profits. Conversely, paying excessive claims means a direct reduction in profits. Thus, insurers have every incentive to minimize claim payments.

The real problem is not insurer claim settlement procedures, but rather the rapid inflation in the costs of insured goods and services. Part of the reason for that is the poorly designed automobile insurance compensation system. Insurance compensation in most states is handled under the tort system, which has been shown to lead to higher claims inflation than well-designed no-fault plans. Several key states have no-fault insurance laws with low dollar-denominated thresholds for filing pain and suffering claims. Dollar-denominated no-fault thresholds have been shown to be associated with relatively high claim cost inflation. To reduce the inflation rate, states should adopt no-fault laws with strict verbal thresholds that remove small liability claims from the system. Adopting programs to reduce insurance fraud, as suggested by Herbert Weisberg and Richard Derrig, also provides a promising way to control claim costs.

In a high inflation environment such as the 1980s, rate regulation imposes an additional cost on insurers. By delaying rate changes and using inaccurate ratemaking methods and erroneous cost of capital estimates, regulators unfairly penalize insurance company equity owners. The difference between the Standard & Poor's insurance market index returns and the NYSE returns during the 1980s provides an approximate indicator of the maximum amount of the penalty. The difference between the NYSE return and the average of the two insurance index returns for the 1981 to 1990 period was about 4 percent. If one-fourth of that was due to regulation, the loss to equity holders would have been about $1 billion per year during the 1980s. The loss during the late 1980s would have been even larger.

Unless there is a change in the nature of insurance regulation, the stock market will build the regulatory penalty into its expectations regarding the performance of insurance stocks. Stock prices will fall until the anticipated earnings, when divided by the lower equity value, provide a rate of return commensurate with the risk of operating an insurance company. That will impose an additional penalty on insurance equity owners and may also have long-range effects on the ability of the insurance industry to raise new equity capital.

Industry data shows the number of property-liability insurance company insolvencies by year during the 1980s. During the crisis years of 1984 to 1986, the number of failures

averaged about twenty-four per year. As insurance profitability increased, the number of failures dropped to nineteen in 1987 and 1988. But the situation deteriorated from 1989 to 1991: forty-two insurers failed in 1989, thirty-two in 1990, and twenty-seven in 1991. Those statistics provided clear danger signals about the property-liability insurance market. Earnings were excessively low and an inordinate number of firms were failing. More restrictive rate regulation can only exacerbate such a problem.

DISCUSSION OF STATE REGULATION OF AUTO INSURANCE

Testimony before the Subcommittee on Oversight and Investigations of the House Committee on Financial Services

Robert E. Litan

August 2001

I am pleased to appear before you today to discuss state regulation of auto insurance. As it turns out, the AEI-Brookings Joint Center on Regulatory Studies will release a major study of this subject in several months that was overseen by Professor J. David Cummins of the University of Pennsylvania. If the Subcommittee holds further hearings on this subject, I encourage it to seek testimony from Professor Cummins and others who participated in the study. In their absence, I will report some of its main findings.

Background and Summary of Testimony

The auto insurance industry currently collects about $120 billion in annual premiums, accounting for roughly 40 percent of overall property-casualty insurance premiums. As the Subcommittee is well aware, approximately half of the states have some form of prior approval over auto insurance rates. The AEI-Brookings insurance study contains both a statistical analysis of insurance in all states as well as case studies of insurance regulation and deregulation in selected states, all authored by leading scholars in the insurance field.

The bottom line of all this analysis is very simple to state. Auto insurance is a competitive industry. It certainly is not characterized by monopoly, the traditional basis for price and entry regulation. Nor is the product so complicated that it requires government to set rates to protect consumers. Indeed, because it is what I would call a “plain vanilla” financial product—in large part because insurance policies have been standardized through forms regulation—consumers are easily able to use the Internet to shop for auto (and other types of) insurance. Not all lines of insurance, however, benefit from forms regulation. One of the conclusions from the AEI-Brookings study is that the regulation of forms for commercial insurance sold to medium and large companies—or sophisticated customers who often purchase insurance in a negotiated setting—slows innovation in that segment of insurance.

In facilitating price comparisons, the Net is making and will continue to make auto insurance—and the financial services industry more broadly—even more competitive. In short, from an economic perspective, there is no basis for regulating rates. Furthermore, there is no evidence from either the AEI-Brookings study or in the

academic literature of which I am aware indicating that either prices or profits in states that rely on markets to set rates—rather than regulation—are excessive.

Experience Under Rate Regulation

What about the states that do regulate insurance? As part of the AEI-Brookings study, Professor John Worrall of Rutgers University examined the experience of New Jersey, while Professors Sharon Tennyson of Cornell and Mary Weiss and Laureen Regan of Temple University studied Massachusetts. In both of these states auto insurance rates are heavily regulated. The authors of these state case studies reached similar conclusions. In both states, rates have been suppressed below levels that would obtain in a freely competitive environment. On the surface, this may look like a good deal for consumers, but closer study reveals deeper problems. For one thing, rate suppression not only discourages entry by new insurers, but encourages existing insurers to leave—which in fact has occurred in both New Jersey and Massachusetts. Meanwhile, many more of those insurers who remain operate only in a single state (either as standalone companies or subsidiaries of national firms that are formed to limit financial exposures to the parent companies). In Massachusetts, for example, in 1982 all top ten auto insurers in the state were national firms, but in 1998 this was true for only 3 of the top 10. A similar pattern has existed in New Jersey: five of the nation's top 10 auto insurers do not do business in the state. The net result from restrictive rate regulation is less choice for consumers among less diversified firms. Professor Cummins has documented elsewhere (with colleagues) that the replacement of national firms with smaller regional and single-state firms drives up the average costs of providing insurance (since there are economies of scale in insurance). Smaller insurers also tend to have higher insolvency probabilities than larger firms.

Less choice in regulated states manifests itself in another way as well. In his statistical analysis of insurance rates across states, Professor Scott Harrington of the University of South Carolina confirms that insurers in regulated states are less willing to voluntarily underwrite insurance, leaving a significantly higher fraction of consumers to buy their insurance in residual markets (where most states assign policy holders to insurers based on their shares in the primary or voluntary market). Again, Massachusetts illustrates the problem: roughly half of the state's drivers were forced to buy insurance in the residual market during the 1980s (reaching a high of 72 percent in 1989). The Massachusetts case study authors report improvements in the 1990s due to some reforms, but also observe that declining claims costs also made helpful contributions (as they did elsewhere, as I discuss later).

Furthermore, regulated rates are often distorted by political pressures in order to subsidize certain classes of drivers. The AEI-Brookings study found evidence that not only does regulation often suppress average rates, but distorts rates between different classes of drivers – keeping rates for high-risk drivers artificially low, while raising rates for lower-risk drivers. This cross-subsidization is accomplished directly through limits on rates in certain classifications or by channeling subsidies to higher risk drivers by keeping rates low in the residual market. The Massachusetts case study, for example, found that some high risk drivers receive subsidies as high as 60 percent, requiring some lower risk drivers to pay 11 percent more in premiums than they would pay in a competitive environment. Similarly, the authors of the South Carolina case study discussed shortly report that the residua l market in that state ballooned under regulation to 42 percent of consumers in 1992, requiring significant subsidies from

drivers in the voluntary market. By 1999, the state residual market facility had a cumulative deficit of $2.4 billion. Subsidizing high-risk drivers is hardly a desirable social or economic policy because it can lead to higher accident rates and loss costs (due to more ownership and driving by higher risk drivers).

What about the experience in California, which adopted one of the nation's best known regulatory regimes under Proposition 103 enacted in 1988? Professors Dwight Jaffee of University of California at Berkeley and Thomas Russell of Santa Clara University conclude that the harmful effects of regulation found by the authors of the Massachusetts and New Jersey case studies—exit of insurers, rising residual market shares, and rate suppression—did not occur in California. The major reason for this different result, however, is that in both absolute and relative terms, claims costs in California—especially liability costs—fell dramatically after Proposition 103 was implemented. Notably, between 1990 and 1998, the number of collisions per insured car fell by 51 percent in the state, far more than the 15 percent decline in the U.S. as a whole.

Why did costs fall? Jaffee and Russell conclude that one reason was that Proposition 103 mandated a 20% "good driver" discount. But the more important factors, taken together, were more aggressive enforcement of seat belt and drunk driving laws, as well as the elimination in 1988 of third party lawsuits in the state against insurers for bad faith. The authors point to the fact that California seat belt usage rate is now 89 percent, 20 percentage points higher than the national average of 69 percent. The elimination of third party bad faith lawsuits resulted from the California Supreme Court's decision in *Moradi-Shalal v. Fireman's Fund*.

Phillip O'Connor, former Insurance Commissioner of Illinois, has also recently testified to the fact that the most publicized part of Proposition 103—the 20 percent rate rollback—was never fully implemented because of adverse court rulings

(Testimony of Philip R. O'Connor before the Subcommittee on Capital Markets, Insurance and Government Sponsored Enterprises of the House Financial Services Committee, June 21, 2001).

In short, the California experience demonstrates that rate regulation need not produce deleterious results if other good things happen at the same time and if the regulatory regime is not that binding. But if there are upward pressures on costs, then almost by definition, rate regulation will result in rate suppression and the various negative consequences that flow from that outcome.

Experience Under Deregulation

In 1999, South Carolina substantially deregulated auto insurance rates (under legislation enacted in 1997) and began phasing out its subsidies. Professors Robert Klein of Georgia State University and his colleagues Martin Grace and Richard Phillips examined the limited data available since then and found some striking results. Before deregulation, South Carolina had an average of 59 insurers serving consumers, compared to almost 200 insurers in other Southeastern states. After deregulation, the number of insurers serving South Carolina roughly doubled. At the same time, the residual market facility in South Carolina has virtually disappeared—down to about 50,000 consumers, from a high of one million—because insurers now can charge rates

based on risk in the voluntary market. Overall premiums have fallen, in part because claims costs have fallen (a result which may have been influenced by the increased use of risk based pricing).

Auto insurance has been deregulated in Illinois for over three decades (and indeed, the state is the only one in the nation without a rating law of any kind). Even states that do not require prior approval typically allow the insurance commissioner to disapprove filed rates or to require varying levels of documentation of rates.

In his study of this experience for the AEI-Brookings study, Professor Stephen D'Arcy of the University of Illinois finds that premiums in Illinois are in line with losses, that they change more frequently and in smaller increments than they do than in regulated states (as one would expect in a competitive market), and that the residual market barely exists in the state (at less than 1 percent of the market). Meanwhile, Illinois consumers have roughly twice the number of auto insurers (129) to choose from than those in New Jersey (67), where rates are tightly regulated. In sum, the Illinois experience is consistent with that of other states that have so-called competitive rating laws— laws that do not require prior approval—and the state accomplishes this result without having to divert scarce regulatory resources into monitoring rates (but can focus on solvency and market misconduct instead).

The experience from other industries where prices and entry have been deregulated also demonstrates that deregulation, by unleashing the forces of competition, helps drive out inefficiencies and thus leads to higher productivity and lower costs. See Clifford D. Winston, "Economic Deregulation: Days of Reckoning for Microeconomists," Journal of Economic Literature, 1993, Vol. 31, pp. 1263-1289.

In fact, there is evidence of significant inefficiency in the insurance industry. In another recent study, Professor Cummins and colleagues estimated that on average property-liability insurance firms could reduce their expenses by an extraordinary 32 percent if they were all highly efficient. Rate deregulation in the states where it still exists would help unleash competitive forces that would help realize these cost savings.

Conclusion

The economic case for eliminating rate regulation in auto insurance is overwhelming and compelling. Virtually all economists who have studied the industry over the last several decades have reached this conclusion. The obvious policy implication: auto insurance—indeed, all lines of insurance—should be governed by the market, just like other industries in our economy. Moreover, like other industries, insurance ought to be subject to the antitrust laws. There are several roles for regulation, however: to monitor insurer solvency (so that consumers will be paid when covered events occur), to protect consumers from unscrupulous practices, and to help standardize forms for personal lines and to small businesses (so that consumers can easily compare prices). Eliminating rate regulation would free up resources within insurance departments to pursue each of these functions (especially solvency and misconduct regulation) more vigorously.

Chapter 4 Auto Policy Analysis

An auto policy can be separated into three major components:

1. the declarations page,
2. the insuring agreement, and
3. the conditions of the policy.

Declarations Page

Declarations page- This is where the policyowner's name will be stated along with the autos covered, the time period of coverage (January first through April first, for example) and the premium amount. Also listed is the description of the coverage provided (from the six components previously reviewed) and the dollar limits.

Even if the consumer doesn't read anything else in their policy, they need to read this page.

The Insuring Agreement

Insuring agreement- This is the main part of the policy. Policy terms (or definitions) will be stated. Perhaps most importantly, the benefits given in exchange for the premium will be stated. Who is covered under the policy will also be stated. This can be important information if the policyowner is in the habit of loaning out his or her car. Sometimes this may tie in to the listed definitions or policy terms. For example, a "relative" may be defined as any person who is related to those listed on the declarations page as named insureds **and** *living in the same household.*

Exclusions- These will also be listed. An **exclusion** is a provision in the policy which denies coverage for specified perils, persons, properties or locations.

The third part in an auto policy, the **conditions of the policy,** describes the policyowner's responsibilities when a claim occurs. It may state how much time is allowed to report the claim and the types of proof of loss that will be required by the insurance company.

This portion of the contract will also generally list the conditions under which a policy may be canceled. The policyholder may cancel their coverage at any time, but the insurer must follow set procedures. Certainly nonpayment of premium is an obvious reason for which the insurance company may cancel the policy. They may generally also cancel the policy if the policyholder deliberately concealed or misrepresented any facts when applying for the coverage. If this were the case, the company could refuse to pay any losses that occurred.

Limits of Liability

State law requires people who drive to be able to pay for the automobile accidents they cause. Most drivers do this by buying automobile liability insurance. Liability insurance pays to repair or replace the other driver's car and pays other people's medical expenses. It does not pay to repair or replace the car or for the insured's injuries. A

motorist must have at least the minimum amount of liability coverage required by the state's financial responsibility law.

State	Required Insurance				Minimum Liability Limits[a]
	BI & PD Liab	PIP	UM	UIM	
Alabama	X				20/40/10
Alaska	X				50/100/25
Arizona	X				15/30/10
Arkansas	X	X			25/50/25
California	X				15/30/5[b]
Colorado	X				25/50/15
Connecticut	X		X	X	20/40/10
Delaware	X	X			15/30/10
Dist of Columbia	X		X		25/50/10
Florida	X	X			10/20/10[c]
Georgia	X				25/50/25
Hawaii	X	X			20/40/10
Idaho	X				25/50/15
Illinois	X		X		20/40/15
Indiana	X				25/50/10
Iowa	X				20/40/15
Kansas	X	X	X		25/50/10
Kentucky	X	X			25/50/10
Louisiana	X				10/20/10
Maine	X		X	X	50/100/25[d]
Maryland	X	X	X[e]		20/40/15
Massachusetts	X	X	X		20/40/5
Michigan	X	X			20/40/10
Minnesota	X	X	X	X	30/60/10
Mississippi	X				25/50/25
Missouri	X		X		25/50/10
Montana	X				25/50/10
Nebraska	X				25/50/25
Nevada	X				15/30/10
New Hampshire Financial Responsibility only			X		25/50/25
New Jersey	X	X	X		15/30/5[f]
New Mexico	X				25/50/10
New York	X	X	X		25/50/10[g]
North Carolina	X				30/60/25
North Dakota	X	X	X		25/50/25
Ohio	X				12.5/25/7.5
Oklahoma	X				25/50/10
Oregon	X	X	X		25/50/10
Pennsylvania	X	X			15/30/5
Rhode Island	X		X		25/50/25
South Carolina	X		X		25/50/25
South Dakota	X		X		25/50/25
Tennessee	X				25/50/10[c]
Texas	X				25/50/25*
Utah	X	X			25/50/15[c]
Vermont	X		X	X	25/50/10
Virginia	X		X		25/50/20
Washington	X				25/50/10
West Virginia	X		X		20/40/10
Wisconsin Financial Responsibility only			X		25/50/10
Wyoming	X				25/50/20

[a]The first two numbers refer to bodily injury liability limits and the third number to property liability. 20.40.10 for example, means coverage up to $40,000 for all persons injured in an accident, subject to a limit if $20,000 for each one individual, and $10,000 coverage for property damage.
[b]Low-cost policy limits for low-income drivers in the California Automobile Assigned Risk Plan are 10/20/3.
[c]Instead of policy limits, policyholders can satisfy the requirement with a combined single limit policy. Amounts vary by state.
[d]In addition, policyholders must also carry at least $1,000 for medical payments.
[e]May be waived for the policyholder but is compulsory for passengers.
[f]Basic policy (optional) limits are 10/10/5. Uninsured and underinsured motorist coverage not available under the basic policy but uninsured motorist coverage is required under the standard policy.
[g]In addition, policyholders must have 50/100 for wrongful death coverage.
*Minimum coverage will increase to 30.60.30 on 01/01/2011.
Source: State departments of insurance

It is probably not surprising that the most serious legal risk in driving is that of injuring or killing another person. Liability is, as a result, the most expensive type of coverage. Many states require by law that liability insurance be carried. Generally, it is considered wise to buy higher liability insurance limits than the law requires since state mandated requirements are often too low to give adequate protection.

If the policyowner or any other driver covered under their policy, is found to be responsible for an accident that injures another person, they may be held liable for his or her medical bills (hospital and doctors), rehabilitative care and therapy, long-term nursing care and perhaps even the injured person's lost wages. Often there may be additional cash rewards given for pain and suffering. Consumer publications often recommend at least $100,000 of bodily injury protection per person and $300,000 per accident. The cost of such protection will depend upon the insurance company and the amount of risk the insured represents. When a car is financed, the lender requires comprehensive and collision insurance as part of the loan agreement.

The chart shows minimum limits for auto liability insurance in the various states. The first number refers to liability limits for bodily injury for any one person, the second to limits for all persons injured, and the third refers to property damage liability limits. For example, 20/40/10 means coverage up to $40,000 for all persons injured in an accident, subject to a limit of $20,000 for one individual and $10,000 coverage for property damage.

Say that for the reader's particular state, the current minimum liability limits are $20,000 for each injured person, up to a total of $40,000 per accident, and $15,000 for property damage per accident. This basic coverage is called "20/40/15" coverage. Because of car prices and the high cost of medical care, the minimum amounts might not be enough if the motorists causes an accident. If liability limits are too low to pay for all of the other driver's costs, the driver may sue to collect the difference. For optimum financial protection, it is always worthwhile to consider buying more than the basic limits.

Proof of Financial Responsibility

In many states, when an auto policy is purchased, the insurance company will send a proof-of-insurance card. This card is produced to show proof of insurance when-

- are asked for it by a law enforcement officer
- have an accident
- register the car or renew its registration
- obtain or renew a driver's license
- get the car inspected.

There are severe penalties for violating the state's financial responsibility laws. For example, in Texas for example, a first conviction will result in a fine between $175 and $350. Subsequent convictions could result in fines of $350 to $1,000, suspension of driver's license, and impoundment of the automobile.

AUTO INSURANCE COVERAGES

Automobile insurance pays for damages, injuries, and other losses specifically covered by the policy.

Many insurance companies use a standardized policy form that offers several types of coverages. Companies may sell alternative policies if the Department of Insurance (TDI) approves them in advance. Policies should be read carefully, as coverages can vary by policy and company. Pay special attention to the exclusions section, which lists the things that the policy does not cover.

The front page of the policy is called the declarations, or "dec," page. It shows the exact name of the insurance company, the policy number, and the amount of each coverage and deductibles. The following summarizes the eight coverages in the Texas Personal Automobile Policy. Other coverages and policy terms may differ from these, this summary can help understand various auto insurance coverages and the way they work.

1. **Liability Coverage (Basic liability coverage meets the state's financial responsibility requirement.)**

   Pays: Other people's expenses for accidents caused by drivers covered by the policy, up to the policy's dollar limits. These may include the other person's

   - medical and funeral costs, lost wages, and compensation for pain and suffering
   - car repair or replacement costs
   - auto rental while the other driver's car is being repaired
   - punitive damages awarded by a court.

   Liability insurance also pays attorney fees if someone sues because of the accident and bail up to $250 if arrested.

   Covers: Insured and his/her family members. Other people driving the car with the insured's permission might be covered. Insured and family members might be covered when driving someone else's automobile – including a rental car. This does not apply to a car that the insured does not own but has regular access to, such as a company car. Family members attending school away from

home might be covered, as well as a spouse living elsewhere during a marital separation.

Note: Some policies do not cover other people, including family members, unless they're specifically named in the policy. The policy's declarations page should list the names of all of the people covered by the policy.

Who qualifies as a family member? Generally, a "family member" is anyone living in the insured's home related to him/her by blood, marriage, or adoption, including the spouse, children, in-laws, adopted children, wards, and foster children.

2. **Medical Payments Coverage**

Pays: Medical and funeral bills resulting from accidents, including those in which the other person is a pedestrian or bicyclist.

Covers: Insured, family members, and passengers in the car, regardless of who caused the accident.

3. **Personal Injury Protection (PIP) Coverage**

Pays: Same as medical payments coverage, plus 80 percent of lost income and the cost of hiring a caregiver for an injured person.

Covers: Insured, family members, and passengers in the car, regardless of who caused the accident.

In many states, an insurance company must offer at least $2,500 in PIP, but higher amounts can be purchased. If PIP is not desired, it must be rejected in writing.

4. **Uninsured/Underinsured Motorist (UM/UIM) Coverage**

Pays: The insured's expenses from an accident caused by an uninsured motorist or a motorist who did not have enough insurance to cover bills, up to the insured's policy dollar limits. Also pays for accidents caused by a hit-and-run driver if the accident is reported promptly to police.

- Bodily injury UM/UIM pays without deductibles for medical bills, lost wages, pain and suffering, disfigurement, and permanent or partial disability.
- Property damage UM/UIM pays for auto repairs, a rental car, and damage to items in the car. There is frequently an automatic $250 deductible. This means the insured must pay the first $250 of the repairs.

Covers: The insured, family members, passengers in the car, and others driving the insured's car with permission.

Insurers must offer UM/UIM coverage. If the insured does not want it, rejection must be in writing.

5. **Collision (Damage to Insured's Car) Coverage**

   Pays: The cost of repairing or replacing the insured's car after an accident. Payment is limited to the car's actual cash value, minus the deductible. Actual cash value is the market value of a car like the one covered by insurance without damages.

6. **Comprehensive (Physical Damage Other than Collision) Coverage**

   Pays: The cost of replacing or repairing a motorist's car if it is stolen or damaged by fire, vandalism, hail, or a cause other than collision. Comprehensive coverage also pays for a rental car or other temporary transportation if the car is stolen. A policy will not pay for an auto theft unless it is reported to the police. Payment is limited to the car's actual cash value, minus deductible.

   If money is still owed money on a car note, the lender will require the borrower to have collision and comprehensive coverage.

7. **Towing and Labor Coverage**

   Pays: Towing charges when an insured's car cannot be driven. Also pays labor charges, such as changing a tire, at the location where the car became immobile.

8. **Rental Reimbursement Coverage**

   Pays: A set daily amount for a rental car if the car is stolen or is being repaired because of damage covered by the insurance policy.

Coverage for Stereo Equipment

The policy will not pay for CDs, tapes, cell phones, citizen band radios, or stereo equipment not permanently installed in the car. However, endorsements can be purchased for the policy that provide separate coverage for these items for an additional premium.

Coverage of New or Additional Automobiles

If an insured buys another car, the policy might automatically cover it with certain limitations. Insureds must read the policy to know whether it automatically covers an additional or replacement car.

In general, an additional car usually has the same coverage as the car on the policy with the broadest coverage. For example, if Mr. Jones has two cars – one with liability coverage only and one with liability, collision, and comprehensive coverages – and Mr. Jones buys a third car, the third car will automatically have liability, collision, and comprehensive coverage. A replacement car usually has the same coverage as the car it replaced. For example, if someone trades in an older car that only had liability coverage, the new car will automatically have only liability coverage.

Motorists must be sure to tell their insurance company as soon as possible that they have added or replaced a car and which coverages are desired. Coverage on the additional or replacement car can terminate if the insured waits longer than the number of days specified in the policy to notify the insurance company.

Coverage for Rental Cars

Auto rental agencies offer collision damage waivers and liability policies. The collision damage waiver is not insurance. It is an agreement that the rental company will waive its right, with certain exceptions, to recover from the renter the cost of damage to the car.

If a motorist has auto insurance, the policy may already cover damage to a rental car. The coverage limit, however, might be less than the value of a rental car. Reading the policy to know what's covered and the coverage limits is important. If the coverage limit is too low, one might consider increasing it. More in premium might be paid, but it might be cheaper than buying additional coverage through the rental agency, especially if cars are rented often. For someone who does not own a car, but borrow or rent cars often, a non-owner liability policy can be purchased. A non-owner policy pays for damages and injuries caused when driving a borrowed or rented car.

Driving in Other States, Canada, and Mexico

For every state, U.S. automobile insurance policies usually meet the financial responsibility requirements of other U.S. states and Canada. Mexico, however, does not recognize U.S. auto liability policies.

Mexico does not require drivers to have automobile liability insurance. Mexican authorities can hold drivers criminally and financially responsible for any auto accidents they cause. If a motorist is in an accident that results in an injury, police may detain the motorists until they determine who is at fault. One must show that either they have insurance recognized by the Mexican government or the financial ability to pay any judgment against them.

Some U.S. companies provide a free endorsement extending the policy's coverage to infrequent trips of up to 10 days and as far as 25 miles into Mexico. Coverage can be purchased for longer stays, but it is usually valid only within 25 miles of the border. In addition, these endorsements might not meet Mexican legal requirements. Mexican liability can be purchased from agents who specialize in it. A check can be made of the phone book or internet for listings of insurance agents who specialize in auto insurance for travel in Mexico. A local agent also might be able to help find coverage with a U.S.-licensed Mexican company. A driver may be able to buy a Mexico "tourist" endorsement for his or her U.S. policy. This endorsement extends the insured's liability coverage to pay costs exceeding a Mexican liability policy's limits. It covers trips of any distance and any length of time. Agent should be able to determine which endorsements their insurance company offers.

Auto Insurance for Young Drivers

Young drivers must comply with the state's financial responsibility laws. Parents can usually add their children to their auto policy to satisfy the financial responsibility

requirements. Adding a young driver to a parents' policy can be expensive, but it's cheaper than buying a separate auto policy.

Some policies require all drivers to be named on the policy for coverage to apply. Therefore, it's important that all family members be listed on the policy as soon as they reach driving age. If all of the drivers in the family are not listed on the policy and the company learns about them later – because of an accident claim, for instance – the company will bill for the extra premium that should have been paid and could deny the claim and coverage.

If an insured has children attending school away from home, they must tell the insurance company. Because companies base rates on where a car is usually located, it might need to adjust the premium. If the school is in another state, check on the financial responsibility laws in that state to make sure the appropriate coverages are in place.

Generally, if a teenager is the principal driver of a particular automobile, the company will base the teen's rate on that car. Otherwise, the company will assign the teenage driver to the car (usually the most expensive) in the household that produces the highest rate.

Removing Children from the Policy

An insured may want to remove his or her children from the policy when they are no longer living at home. Proof probably must be provided to the insurance company that the child has moved. Documents that can be used include a driver's license, lease agreement, or utility receipts to show that the child has a separate address.

It is probably not a good idea to remove children from the policy if they are attending school away from home. It is risky to drop coverage if the teenager might occasionally drive at school or when home on visits. Many insurance companies will require that students be kept on the policy, even if the insured would like to remove them.

Sometimes the insured can remove a teenage driver from the policy by buying a non-owner policy. This usually is not a good idea, however. A non-owner policy only provides liability coverage for someone driving a vehicle that he or she does not own. If the teenager has an accident while driving the insured's car, neither the insured's policy nor the non-owner policy will pay to repair or replace the car of the insured. The rates for a non-owner policy will likely cost more than leaving the teen on the insured's policy.

Saving Money on Insurance for Young Drivers

Some insurance companies give a discount for teenagers who complete a state-approved driver education course. Drivers taught by their parents may also be eligible for the discount if the parent used such an approved course. Some companies offer discounts to young drivers who make good grades in school or who belong to certain youth groups.

Auto Insurance for 'High Risk' Drivers

Insurance companies will often check motor vehicle records for an applicant's driving history and credit reports their financial history before writing or renewing a policy. Owning a car built for speed also can label someone as high risk. Many companies use

the Comprehensive Loss Underwriting Exchange (CLUE) to learn an applicant's insurance claims history. If the company based its decision to deny, cancel, or non-renew a motorist even partly on a CLUE report, the applicant can get a free copy by calling the *ChoicePoint Consumer Center* or by visiting the ChoicePoint website

1-800-456-6004 www.choicetrust.com/index2.htm

Before calling, the insured should get the CLUE reference number from the insurance company. Using the reference number will speed the process and ensure a request for the right report.

High-Risk Driver Options

If a driver is having trouble finding insurance because of tickets, accidents, or poor credit, He or she should keep shopping. Each company has its own guidelines for deciding whether to insure people. Several major insurer groups write coverage for high-risk drivers through one of their member companies.

Every auto insurer that does business in a particular state must participate in the state's assigned-risk pool -- it's a way for a state to make sure there's always an avenue for buying auto insurance in order to reduce the number of uninsured drivers. The amount of business a company does in the state determines how many drivers from the pool it must insure. Drivers who fall into the assigned-risk pool are assigned randomly to a company. If the driver contacts the insurance agent and tells the agent he or she was turned down two or three times (depending on the state), the agent will have the driver fill out a form to apply for insurance from the assigned-risk pool. Generally, the driver does not need to supply photocopies of the denials of coverage, but instead will usually need to certify in writing that the other companies have turned down the driver.

Drivers may be able to get basic liability coverage through the state insurance pool. Take for example the Texas Auto Insurance Plan Association (TAIPA). It only provides the basic liability insurance required by Texas law. It doesn't provide collision or comprehensive coverage or higher liability limits than the law requires. A driver can add personal injury protection (the minimum limit is $2,500) and uninsured/underinsured motorist coverage. TAIPA coverage costs more than most companies charge. TAIPA policyholders pay additional premiums, called surcharges, for traffic convictions. They also pay higher surcharges than other drivers pay for accidents. TDI rules encourage insurance companies to take policyholders out of TAIPA and insure them at lower rates after a year without tickets or accidents. The rules also require companies to offer cheaper "voluntary" policies to their TAIPA policyholders who have gone three years without tickets or accidents. To get TAIPA coverage, motorists apply with a licensed insurance agent. Only agents specifically certified by TAIPA may sell TAIPA policies. An agent who quotes a premium higher than TAIPA's must tell the applicant about the availability of TAIPA if he or she was previously uninsured and had no more than one accident and one ticket in the previous three years

Rates- High Risk

Rates will not vary among companies insuring assigned-risk drivers but, rather, rates will be determined by the extent of the driver's on-road mistakes. Just as in the voluntary insurance market, information such as where the driver lives and his or her driving record *will* affect the premium. This factor alone makes it worth it to keep a motorist's driving record as clean as possible, since someone with six speeding tickets

will pay less than someone with six speeding tickets who also has caused three accidents.

Typically, drivers who fall into the assigned-risk pool don't have any options as to the amount of coverage they can buy. In most states, they can only buy the minimum amount of coverage that's required by state law.

Cycle in the assigned-risk pool

After a driver enters an assigned-risk pool, the assigned insurance company must keep the driver for three years. At the end of that period, the company has the choice of keeping the driver as a customer or not renewing the policy. Even if the insurance company doesn't renew the policy after the record has been kept clean and with sent in premium payments on time, the motorist should be able to find another insurance company willing to issue a policy. During the three years in the assigned-risk penalty box, it is in the motorist's own best interest to keep playing the field by shopping for a company that will insure him or her at a lower cost. As time passes without any driving accidents or citations, the chances of getting insurance on the open market become greater.

AUTO ACCIDENTS, GENERALLY

A car accident is a road traffic incident which usually involves at least one vehicle being in collision with, either another vehicle, another road user, or a stationary roadside object, and which may result in injury or property damage. Road crashes, causing death, injury, and damage have always happened. Irish scientist Mary Ward died on 31st August 1869 when she fell out of her cousins' steam car and was run over. She is believed to have been the world's first motor vehicle accident victim. Road incidents result in the deaths of an estimated 1.2 million people worldwide each year, and injure about forty times this number (World Health Organization, 2004).

Many jurisdictions require the collection and reporting of road traffic incident statistics. Such data enables figures for deaths, personal injuries, and possibly property damage to be produced, and correlated against a range of circumstances. Analysis of this data may allow incident clusters and incident causes to be identified.

A study using British and American crash reports as data, found that 57% of crashes were due solely to driver factors, 27% to combined roadway and driver factors, 6% to combined vehicle and driver factors, 3% solely to roadway factors, 3% to combined roadway, driver, and vehicle factors, 2% solely to vehicle factors and 1% to combined roadway and vehicle factors. (Harry Lum & Jerry A. Reagan (Winter 1995). "Interactive Highway Safety Design Model: Accident Predictive Module" Public Roads Magazine)

As the factors involved in collisions have been better understood, the term "accident" is sometimes avoided by some organizations, as the word can suggest an unpredictable, unpreventable event. However, although these events are rare in terms of the number of vehicles and drivers on the road, addressing the contributing factors can reduce the likelihood of collisions. That is why these organizations prefer the term "crash" or some other term.

After an Accident ... What Now?

- Move the car, if possible, to avoid blocking traffic and to protect it from further damage.
- Call the police if somebody is injured or killed, if the car cannot be moved, or if the accident involved a hit-and-run driver. The uninsured motorist coverage pays for a hit-and-run accident only if it is reported to the police.
- Get the other driver's name, address, telephone number, license plate number, driver's license number, and insurance information. Reciprocate by giving the other driver the same information.
- Write down the insurance company name and the policy number exactly as shown on the other driver's proof-of-insurance card. Insurance companies often have similar names, so one should make sure to get the correct company name.
- Get the names, addresses, and telephone numbers of any witnesses to the accident.
- Notify the insurance company as soon as possible. The company probably has a 1-800 number to report claims. If not, the motorist should call the agent. The agent or company will advise the motorist about seeing an adjuster and getting repair estimates. Also, the motorist should give the agent or company the names and addresses of any witnesses and anyone injured.
- If the claim was reported by phone, it should be followed up in writing as soon as possible to protect the motorist's rights under state prompt payment of claims laws.
- The insured should send the company copies of the accident report and any legal papers received regarding or about the accident.
- Cooperate with the company's investigation. The insured might have to submit a proof-of-loss form or have a medical examination.

If the other driver refuses to tell a motorist the name of his or her insurance company, the insured should get a copy of the police accident report. The accident report should list the other driver's name and insurance company. If the police did not investigate the accident, the driver's refusal can be reported to police.

Accidents Caused by Other Drivers

If a motorist is in an accident caused by another driver, the other driver's insurance company should pay the following costs, up to the policy's limits:

- repair or replacement of the car
- car rental while the automobile is being repaired
- medical and hospital bills
- wages lost because of an injury
- compensation for pain and suffering if anyone is hurt.

If the other driver's insurance won't cover all the medical bills, one should file a claim for the difference against their Personal Injury Protection (PIP) coverage, if available. For amounts over that, a motorist can claim against his or her uninsured/underinsured motorists (UM/UIM) coverage or the health insurance policy. If the other driver's policy won't cover all of a motorist's auto repairs, a driver can file a claim against his or her

collision or UM/UIM coverage for the difference (minus the deductible) between the damage to the motorist's car and what the other driver's policy will pay.

The other driver's insurance company may ask to sign a release to settle the claim and forgo future claims related to the accident. It is advisable to not sign a release until satisfied with the total settlement. One should get a letter from the doctor estimating the cost and length of future medical treatment. An attorney may need to be consulted before accepting a settlement. Under most state's law, a motorist has two years after an accident to either settle the claim or file a lawsuit. The law prohibits insurance companies from delaying payment of a claim in order to pressure the insured to sign a release. If it is believed that an insurance company is delaying payment as a means to pressure the insured, file a complaint with the department of insurance.

If the other driver denies fault, his or her insurance company may refuse to pay the claim. Independent witnesses could make a difference in getting the company to pay. It is important to get names, addresses, and telephone numbers of any witnesses to the accident. Make sure the insurance company knows about the witnesses. If the company continues to refuse to pay the claim, an insured can file a claim against his or her own insurance or an individual may have to go to court to resolve the issue. Before filing a claim with their own company, ask the agent or company's underwriting department how a claim might affect rates on renewal. A company cannot refuse to renew the policy solely because an insured had one accident in a 12-month period that was not the motorist's fault. However, if the accident affected the motorist's driving record, the insurer may consider it in determining rates, whether a claim was made on the accident or not.

Getting the Car Repaired

The insurance company will either have an adjuster inspect the car and calculate an estimate for repairs or ask that the insured provide repair estimates from mechanics and auto body shops. Some companies may give the insured a list of "preferred" shops, but they cannot require that an individual use a particular repair shop. On collision and comprehensive claims, the insurance company is obligated to pay only for parts of "like kind and quality" to those that were damaged. Insurance companies will pay for repairs or replacement only up to the car's actual cash value. Actual cash value is the amount the car would be worth if it weren't damaged.

If the repair estimates are more than the car is worth, the insurance company will likely "total" the car and pay its actual cash value rather than pay to fix it. Insurance companies typically use the National Automobile Dealers Association's Used Car Guide to determine the value of a car. The company's offer might not recognize the car's condition, special features, or value on the local market. Insureds should be prepared to negotiate with the company to get what they believe is a fair deal. A company might raise its offer if the insured can show that the car would sell for a higher price in the local area. Get written price quotes for a similar automobile from several used car dealers, or look in the classified section of the local newspaper for used car prices or at online car sites.

Sometimes the insurance company may want to total the car, but the insured prefers to have it repaired instead. The insured can keep the car if he or she is willing to subtract its salvage value from the insurance settlement. Make sure the cost to repair the car will

not exceed the car's actual cash value. To find out the salvage value, contact local salvage yards for estimates. If the insured and insurance company can't agree on the amount of a settlement, an appraisal can be demanded. Appraisal allows the insured and the company to hire separate damage appraisers. The two appraisers choose a third appraiser to act as an "umpire." The appraisers review the claim, and the umpire rules on any disagreements. The appraisal decision is binding as to the amount of the loss. If there is a dispute about what is covered, the insured can pursue a settlement of the coverage issue after the appraisal. The insured must pay for his or her appraiser and half of the umpire's costs.

Appraisal is available only in disputes between the insured and his or her insurance company. It is not available if the other driver was at fault and the insured disagrees with his or her company's offer.

Getting a Rental Car

If the motorist has more than basic liability coverage or another driver caused the accident, he or she should be able to get a rental car while theirs is in the shop.

- If the other driver was to blame, his or her liability insurance will pay for a rental car.
- If the accident was a hit-and-run or the other driver was uninsured and at fault, the motorist's UM/UIM property damage coverage will pay for a rental car.
- If the car was stolen and the insured has comprehensive insurance, the insurance company will provide a set amount each day, up to policy limits, for a rental car.
- If the car is being fixed or replaced for some other reason, the insurance company won't provide a rental car unless the motorist has rental reimbursement coverage.

Filing a Claim

Once a claim has been filed, State law often sets deadlines for the insurance company to act. Pay attention to differences from state to state. The company must respond within 15 days after receiving the claim in writing. It will probably ask that the loss be documented. After submittal of any requested documentation, the company has 15 business days to accept or reject the claim.

Once the company agrees to pay the claim, it must send the check or draft within five business days. A company that cannot meet these deadlines must send a notice explaining why. The company then has 45 days to either approve or reject the claim.

Note: The prompt payment law does not apply if another driver's insurance company is paying the claim. However, the company is required to act in good faith and to make a prompt and fair settlement. If the insurance company rejects a claim, it must explain the rejection in writing. If the company contends that the insured's policy doesn't cover the loss, one should ask to see the policy language that supports denial of the claim. A court usually will order the company to pay if the language is unclear and the policy could reasonably be read in favor of the insured.

Getting Help

If an insured has a problem with the insurance company, first he or she should try to resolve the problem. Often disputes are the result of miscommunication. Talk to the agent or a company representative. Often times state law requires most companies to have toll-free telephone lines for their policyholders. If still are unable to resolve the dispute, an insured can file a complaint with state department of insurance. The insurance department will notify the company of the complaint, ask for a detailed response, and send a copy of the company's response to the insured. The insurance specialist assigned to the complaint will send an explanation of the outcome to the insured, usually within 40 days after receiving the complaint. The insurance department has limited jurisdiction in some complaints. For instance, the insurance department cannot resolve questions of fact or determine liability (who is at fault in an accident). These issues generally must be resolved in court. However, even when insurance department jurisdiction is limited, their involvement may encourage the company to review the insured's issue more thoroughly. In addition, complaints and inquiries help the insurance department assist other citizens by identifying potential problems with insurance companies and agents.

SHOPPING FOR AUTO INSURANCE

Rates vary widely among companies, so it pays to shop around. Following are some tips that can be passed along to consumers to help them find the best deal for their money:

- Decide before shopping what coverages are needed.
- Consider choosing a higher deductible. The deductible is the amount the insured must pay before the insurance company will pay. Higher deductibles will lower the premium, but a person will have to pay more out of their own pocket if there happens to be a claim.
- Get price quotes from several companies. Make sure the quotes are for the same coverages.
- When getting a price quote or applying for insurance, potential insureds must answer questions truthfully. Wrong information could result in an incorrect price quote or could lead to a denial or cancellation of coverage.
- The agent should be asked whether the insured qualifies for any discounts the company might offer.
- Consider factors other than price, including a company's financial rating, complaint index, and license status. The financial rating indicates a company's financial strength and stability, and the complaint index is an indication of its customer service. Buy only from licensed companies and agents. It is against the law to sell insurance without being properly licensed.

Consumers can learn more about a company, including its license status, complaint history, and financial rating from an independent rating organization, by calling the state's Consumer Help Line or by visiting the state insurance department's website.

Insurance on the Installment Plan

Auto insurers in most states are required to offer installment plans. Some companies only offer payment plans through premium finance companies, which often charge high interest rates.

Prospective insureds should seek not only low rates but also low-cost financing. Ask who will provide the installment plan. Look for insurance companies that offer their own

installment plans. Ask about the down payment, the number of installments, interest or service charges, and the amount of the total monthly payment.
In many states, insurers and premium finance companies must give terms at least as favorable as these:

- For a 12-month policy, a 16.67 percent down payment and 10 equal monthly installments. If the policy is through the state's Automobile Insurance Plan Association, the down payment is 20 percent.
- For a six-month policy, 33.33 percent down, with four equal monthly payments.

Premium Finance Companies

Premium finance companies loan people money to pay their insurance premiums. Sometimes the only installment plan offered is through a premium finance company, which the agent selling the policy might own. The insurance agent must disclose if the installment plan is with a premium finance company and must give the premium finance company's name. If a motorist enters into a premium finance agreement with a premium finance company, he or she will pay the down payment to the agent or company. Be sure to get a receipt at the time of payment. The premium finance company pays the balance of the premium directly to the insurance company and then collects the amount financed, plus interest, from the insured in installments.

The loan agreement assigns power of attorney to the premium finance company for payments involving the policy. The premium finance company can cancel the policy if the insured falls behind in payments. If the insurance company cancels the policy for any reason, the premium refund goes to the premium finance company, which uses it to pay off the loan. The premium finance company will refund any remaining money. The finance company must send the insured any refund due within 20 days after receiving it from the insurance company. A premium finance company must have a license from the department of insurance. Licenses can be verified by calling the insurance department Consumer Help Line or by going on line. When dealing with a premium finance company, here are some things an insured should do to for self protection:

- Make sure the agent shows the cost of the insurance policy and the cost of financing the payment plan separately so as to see exactly what is being paid for. Do not enter into a premium finance agreement unless the charges and how the plan works are understood.
- Compare the premium finance company's charges to installment plans offered by insurance companies and to bank or credit card interest rates. It could be cheaper to pay for the policy with a credit card if the credit card has a lower interest rate than the premium finance company.
- If an insured enters into a premium finance agreement, make sure the agreement correctly identifies the financed policy. The agreement should show the policy or binder number, effective date of the policy, and the premium amount.
- Be sure to complete all the paperwork and sign and date the agreement before leaving the agent's office.
- Get a copy of the installment agreement. Federal truth-in-lending laws require the lender to provide a copy.
- Make the installment payments only by check or money order payable to the company named on the premium finance notice. If cash is paid, demand a receipt.

- If the insured or the insurance company cancels the policy, make sure the premium finance company pays any refund it owes.

Understanding Rates

State law and public policy law require insurance rates to be reasonable, adequate, not excessive to the risks for which they apply, and not discriminatory. Auto insurance companies in file and use states set their own rates and file them with the insurance department for review. Companies do not have to receive prior approval before using their rates, but if the insurance department determines that a company's filed rates are excessive, it can order the company to make refunds.

Factors that Affect Premiums

Companies may use a number of criteria to establish the premium. These include:

- **Age and, for younger drivers, marital status.** Male drivers under 25 and unmarried women under 21 have the highest rates. Drivers over 50 may get discounts.
- **Driving record and claims history.** A good driving record can save money. If a driver has accidents or tickets on their driving record, he or she will have to pay more for insurance. Companies may add surcharges to the premium for major convictions, some driving violations, and accidents that result in property damage. Some surcharges are mandatory and will apply to the premium for three years.
- **Where the car is kept.** Because drivers in urban areas have more accidents and auto thefts, their rates are typically higher than the rates for drivers in rural areas.
- **The type of car being driven.** Collision and comprehensive rates are highest for luxury, high-performance, and sports cars. Rates may also be higher for cars that damage easily or cost more to repair.
- **The car's primary use.** Rates are higher for cars driven to and from work or used for business than for cars driven solely for pleasure.
- **Credit score.** Companies may consider the credit score when deciding whether to sell the insured a policy and at what cost. A company cannot refuse to sell an applicant a policy or cancel or nonrenew a policy solely based on his or her credit.
- **Whether the motorist drove uninsured.** Companies may now charge more if a motorist drove uninsured in the state for more than 30 days in the 12 months before application for insurance. However, a company cannot otherwise charge more for liability coverage because of a prior lack of coverage.

Companies must file their underwriting guidelines with the department of insurance and update them each time they make a change.

Discounts and Surcharges

Discounts can help save money on premiums. Discounts vary by company. Following is a list of some of the discounts commonly available in several states:

- defensive driving and driver education courses for young drivers

- students with good grades
- parent or family whose young driver is away at school without a car
- airbags and automatic seatbelts
- automatic daytime running lights
- antilock brakes
- two or more cars on a policy
- driver age and annual mileage driven
- policy renewal with good claims and driving records.

If a motorist has a poor driving record, he or she can expect to pay more for insurance. Companies may add surcharges to the premium – some as high as 60 percent – for the following:

- accidents (the more accidents, the higher the surcharge)
- moving violations (speeding, etc.)
- involuntary manslaughter
- driving under the influence
- criminally negligent driving
- driving without a license or with a suspended license.

Losing Insurance

Companies may cancel or nonrenew a policy for a variety of reasons. Cancellation means the company terminates the policy before its expiration date. Nonrenewal means the company refuses to renew the policy when it expires.

A company must explain in writing its reasons for declining, canceling, or not renewing the policy. This explanation must include the incident or risk factor that violated the company's underwriting guidelines and the insurer's sources of information.

- An insurance company may not cancel an auto policy that has been in effect for more than 60 days unless
- failure to pay the premium
- filing of a fraudulent claim
- driver's license or motor vehicle tags are suspended or revoked (this also applies to other drivers who live with the insured or use his or her car).

During the first 60 days, a company may cancel a policy for any lawful reason, including a ticket or an accident. If the company cancels the policy because of an accident, it still must pay for covered damages resulting from the accident. The company must send a written notice to the insured at least 10 days before canceling the policy.

If either the insured or the company cancels the policy, the company must refund any "unearned premium." Unearned premium is the amount paid in advance that did not actually buy coverage. For example, if an insured paid a six-month premium of $600 and the policy is cancelled after one month, the company owes the insured $500 in unearned premium, minus any applicable agent or policy fees.

A company cannot refuse to renew a policy unless it has been in effect for at least 12 months. This means a company must renew a six-month policy to give the insured a full

12 months of coverage. The company must give 30 days' notice before not renewing the policy.

In most states, a company cannot refuse to renew the insured's policy because of

- weather-related claims, including damage from hail, floods, tornadoes, high winds, and hurricanes
- damage from colliding with animals or birds
- damage from gravel and other flying and falling objects (the company can raise the deductible if there are three such claims in 36 months)
- towing and labor claims (the company can refuse to renew towing and labor coverage if the insured has four such claims in 36 months)
- other claims or accidents that cannot reasonably be blamed on the insured, unless he or she has more than one of these claims in a 12-month period.

Sometimes an insurer will move the insured to another company in its company group. If a company moves the insured to another company, it must give 30 days' notice that it will not renew the original policy. If the company fails to give 30 days' notice, the insurance department can require the company to renew the policy for another year in the original company.

If the insured receives get a nonrenewal or cancellation notice, he or she should start shopping for new insurance immediately. Make sure to keep liability coverage uninterrupted to satisfy state financial responsibility laws. If a motorist still owes money on the car, the lender will usually require him or her to maintain collision and comprehensive coverages without interruption. If these coverages are cancelled or lost, the lender will buy single-interest automobile physical damage coverage and add the cost to the loan payment. This coverage is expensive and protects only the lender.

Rights against Unfair Discrimination

An insurance company cannot deny, refuse to renew, limit, or charge more for coverage because of an individual's race, color, religion, or national origin.

A company also cannot deny, refuse to renew, limit, or charge more for coverage because of age, gender, marital status, geographic location, disability, or partial disability unless the refusal, limitation, or higher rate is "based on sound underwriting or actuarial principles." This means the company would have to show valid evidence that an insured presents a greater risk for a loss than other people it is willing to insure. A company cannot nonrenew a policy because someone in the family has reached driving age.

In addition, a company cannot discriminate between individuals of the same rate or risk class in its rates, policy terms, benefits, or in any other manner unless the refusal, limitation, or higher rate is "based on sound actuarial principles."

Citizens may sue insurance companies for unfair discrimination, including denial of insurance. Suit must be filed in a Travis County district court. However, if the court finds the suit groundless, in bad faith, or brought for the purpose of harassment, the court could order the plaintiff to pay the insurance company's legal expenses.

Part II Property Coverage Focus

Chapter 5 Property Insurance Concepts

Property insurance provides protection against most risks to property, such as fire, theft and some weather damage. This includes specialized forms of insurance such as fire, flood, earthquake, and homeowners coverage. Property is insured in two main ways – open perils and named perils. Open perils cover all the causes of loss not specifically excluded in the policy. Common exclusions on open peril policies include damage resulting from earthquakes, floods, nuclear incidents, acts of terrorism and war. Named perils require the actual cause of loss to be listed in the policy for insurance to be provided. The more common named perils include such damage-causing events as fire, lightning, explosion and theft.

Two Kinds of Coverage

Insurance of property is coverage for two kinds of risk; physical loss to the property and liability for bodily injury or property damage caused by the insured's negligence. If the insured is liable for damaged, the insurer will pay up to the policy limits those sums that the insured is legally obligated to pay.

Liability Insurance

Liability insurance is a compulsory form of insurance for those at risk of being sued by third parties for negligence. The most usual classes of mandatory policy cover the drivers of vehicles, those who offer professional services to the public, those who manufacture products that may be harmful and those who offer employment. The reason for such laws is that the classes of insured are deliberately engaging in activities that put others at risk of injury or loss. Public policy therefore requires that individuals and organizations should carry insurance so that, if their activities do cause loss or damage to another, money will be available to pay compensation. In addition, there are a further range of perils that people insure against and, consequently, the number and range of liability policies has increased. These types of policies fall into three main classes:

Public liability- Industry and commerce are based on a range of processes and activities that have the potential to affect third parties (members of the public, visitors, trespassers, sub-contractors, etc. who may be physically injured or whose property may be damaged or both). It varies from state to state as to whether either or both employer's liability insurance and public liability insurance have been made compulsory by law. Regardless of compulsion, however, most organizations include public liability

insurance in their insurance portfolio even though the conditions, exclusions, and warranties included within the standard policies can be a burden.
Those with the greatest public liability risk exposure are occupiers of premises where large numbers of third parties frequent at leisure including shopping centers, pubs, clubs, theaters, sporting venues, markets, hotels and resorts. The risk increases dramatically when consumption of alcohol and sporting events are included. Certain industries such as security and cleaning are considered high risk by underwriters.

Private individuals also occupy land and engage in potentially dangerous activities. For example, a rotten branch may fall from an old tree and injure a pedestrian, and many ride bicycles and skateboards in public places. The majority of states requires motorists to carry insurance and criminalize those who drive without a valid policy. Many also require insurance companies to provide a default fund to offer compensation to those physically injured in accidents where the driver did not have a valid policy.

Product- Product liability insurance is not a compulsory class of insurance in all countries, but legislation (the mandate of public policy) requires those manufacturing or supplying goods to carry some form of product liability insurance, usually as part of a combined liability policy. The scale of potential liability is illustrated by cases such as those involving Mercedes-Benz for unstable vehicles and Perrier for benzene contamination, but the full list covers pharmaceuticals and medical devices, asbestos, tobacco, recreational equipment, mechanical and electrical products, chemicals and pesticides, agricultural products and equipment, food contamination, and all other major product classes.

Employers- New policies have been developed to cover any liability that might be imposed on an employer if an employee is injured in the course of his or her employment. In many states, the insurers are prohibited from including conditions within their policies that seek to impose any unreasonable conditions precedent to liability, or require the insured either to take reasonable precautions or to comply with current legislation and regulations. In those countries where such insurance is not compulsory, smaller organizations are often driven into bankruptcy when faced by claims not covered by insurance. Many of the public and product liability risks are often covered together under a general liability (or "umbrella") policy. These risks may include bodily injury or property damage caused by direct or indirect actions of the insured.

HOMEOWNERS INSURANCE

This is the type of property insurance that covers private homes. It is an insurance policy that combines various personal insurance protections, which can include losses occurring to one's home, its contents, loss of its use (additional living expenses), or loss of other personal possessions of the homeowner, as well as liability insurance for accidents that may happen at the home. The cost of homeowners insurance often depends on what it would cost to replace the house and which additional riders—additional items to be insured—are attached to the policy. The insurance policy itself is a lengthy contract, and names what will and what will not be paid in the case of various events. Typically, claims due to earthquakes, floods, acts of God, or war (whose definition typically includes a nuclear explosion from any source) are excluded. Special insurance can be purchased for these possibilities, including flood insurance and earthquake insurance.

Term Insurance

The home insurance policy is a form of term insurance. Term insurance satisfies claims against what is insured if the premiums are up to date and the contract has not expired, and does not expect a return of premium dollars if no claims are filed. This way, auto insurance will satisfy claims against the insured in the event of an accident and a home owner policy will satisfy claims against the home if it is damaged or destroyed by explosion or fire. Whether or not these events will occur is uncertain, and if the policy holder discontinues coverage because he has sold the insured car or home the insurance company will not refund the premium. This is purely risk protection. The payment the insured makes to the insurer is called the premium. The insured must pay the insurer the premium each term. Most insurers charge a lower premium if it appears less likely the home will be damaged or destroyed: for example, if the house is situated next to a fire station, or if the house is equipped with fire sprinklers and fire alarms.

Mortgage Protection

Most homebuyers borrow money in the form of a mortgage loan, and the mortgage lender always requires that the buyer purchase homeowners insurance as a condition of the loan, in order to protect the bank if the home were to be destroyed. Anyone with an insurable interest in the property should be listed on the policy. In some cases the mortgagee will waive the need for the mortgagor to carry homeowner's insurance if the value of the land exceeds the amount of the mortgage balance. In a case like this even the total destruction of any buildings would not affect the ability of the lender to be able to foreclose and recover the full amount of the loan.

Homeowner Policy Development

Homeowners policies are widely used to insure homes, condominiums and personal property of individuals and families. Homeowners policies are divided into two major sections. Section I covers the property of the insured, which can include the home or condominium, other structures, and personal property. Section II provides personal liability insurance to the named insured and family members. It also covers the medical expenses of others who may be injured by an insured or animal of the insured.

In the insurance industry of the 19th century, the only peril which could be insured was fire. Gradually, more and more causes of loss became insurable. Now homeowners can obtain policies that cover all risks of direct loss to the home. Unfortunately, the industry may have oversold the extent of modern homeowners coverage in its attempt to promote the benefits of its product. While the typical policy does cover all risks of direct loss, it does not cover specific causes of loss that are excluded. The reality is that homeowners policies cover all risks of direct loss that are not excluded. Catastrophic risks like flood, earthquake, power outages and war generally are excluded. Some of these, however, can be bought back by endorsement or by a separate policy such as earthquake and flood insurance. Some exclusions attempt to encourage good risk control, like those excluding damage caused by not protecting property from further damage after a loss has occurred or damage caused by deficient maintenance of the property, like not maintaining heat in the home to prevent pipes from freezing or not exterminating termites. Also, home heating oil pollution and mold are becoming an excluded or limited type of loss because of recent developments.

The Contributorship

In a then-anonymous letter to The Pennsylvania Gazette on February 4, 1735, Benjamin Franklin coined the famous phrase *"an ounce of prevention is worth a pound of cure"* when talking about the need for a better fire fighting service in the city of Philadelphia. In December 1736, a fire fighting service was formed in Philadelphia, and in 1752, Franklin's Union Fire Company, along with members of other fire fighting groups, formed the Philadelphia Contributionship, the first insurance company in the American colonies.

The first policyholders took out policies for seven years. After expiration, the premium money was returnable, subject to certain exceptions. Fire losses and office expenses were paid with money taken from a proportionate contribution of each policyholder. Prudence coupled with providence have been hallmarks of The Contributionship. Houses built not conforming to legal specifications were denied insurance. Mrs. Lydia Biddle, for instance, was denied insurance because of an unlawful wooden bakehouse adjoining her home. Early policyholders had to have a trap door to the roof as a way of fighting roof and chimney fires. During the British occupation of Philadelphia in 1777, a chimney sweep hired by the firm was sent around to occupied houses to maintain fireplaces. The lightning rod, invented by Director Ben Franklin, also helped to deter fires. Houses with trees in front of them were not insured because early hoses could not maneuver around them (this gave rise to a competitive company, the Mutual Assurance Company, which was better known as the Green Tree, which existed until 1997). High-fire-risk businesses, such as apothecary shops and breweries, were either not given insurance or insured at significantly higher rates. Later, when skyscrapers were being built, the firm refused to insure them — and to this day, still don't. However, they do insure high-rise condominiums providing there is adequate firefighting equipment that can reach the insured space. Their judgment proved sound when the earliest Philadelphia skyscraper, the Jayne Building, housing pharmaceutical supplies, had a crippling fire which destroyed its top floors.

The Contributionship was fortunate in 1752, its first year, in that 143 policies were written and not one fire was recorded. In 1753, a house on Water Street became the first insured property to burn. Damage was great, but Franklin was happy to report in the *Gazette* that damages were to be immediately repaired without cost to the owner. Cost for repair totaled 154 pounds, nearly a third of the Society's assets. Each member had five shillings threepence per pound of deposit deducted to pay for the fire.

Prior to the 1950s, there were separate policies for the various perils that could affect a home. A homeowner would have had to purchase separate policies covering fire losses, theft, personal property, and the like. During the 1950s, policy forms were developed, allowing the homeowner to purchase all the insurance they needed on one complete policy. However, these policies varied by insurance company, and were difficult to comprehend. The need for standardization became important. The Insurance Service Office (ISO) was formed in 1971 to provide risk information and issued a simplified homeowners policy for resale to insurance companies. These policies have been amended over the years until currently, the ISO has seven standardized homeowners insurance forms in general and consistent use.

The homeowners forms are carefully underwritten. Eligibility requirements are fairly strict. A homeowners policy on a private dwelling can be written only on an owner-

occupied dwelling that does not contain more than two families (three or four families in some states). Generally, each family is limited to a maximum of two boarders or roomers. Separate homeowners forms are written for renters and condominium owners. Minimum amounts of insurance must be purchased under all forms. The insurance contract is essentially a fill-in-the-blank form. Yet problems understanding it arise. That is why it is important for the agent to be familiar with the concepts behind the contract.

Chapter 6 Property/Casualty Law Fundamentals

Insurance contracts are unique. Of course, the contract has the same basic requirements as any other contract. There must be an offer, acceptance, consideration, legal capacity and legal purpose. Beyond these are features associated with the insurance contract that distinguish them from all other contracts. Courts across the United States have recognized the distinctive features of the insurance contract often enough that their understanding is necessary for an understanding of the agreement. Differences include the concepts of indemnity, subrogation, utmost good faith, and adhesion. Insurance contracts are aleatory in nature, but so is gambling. These ideas are examined in this chapter. Other features associated with contract law sometimes take on a life of their own when applied to the insurance contract. Most property and casualty policies are contracts of indemnity. Insurance contracts are based on utmost good faith. Policyholders must maintain an insurable interest. The insurance contract is unique among contracts and the courts treat it differently from other contracts.

Distinctive features of the insurance contract

Normally, insurance contracts are ended by performance. Each party to the contract does what they said they would do. The insurer pays claims if a loss occurs while the insured remits premiums in a timely manner. For most insureds no catastrophic loss occurs but the insurer has done its job by standing ready to pay claims. This is a difference between insurance and everyday business transactions. Insurance is not an option, not a matter of choice. Coverage is frequently required by law, such as with auto insurance. In a market economy, with no government-provided social safety net, the dangers of loss that threaten most middle and working class people and property must be addressed by the individual. One is derelict, if not downright foolish, not to obtain insurance coverage.

As a result, society acknowledges that the insurance business is a business affected with the public interest, the recognition manifests itself in mandates from legislatures and courts. Insurance is a big factor in the economic planning of people and businesses. The insurance industry cannot market and maintain its product in the same manner as those industries in products far removed from the economic heartbeat of the microeconomic system. The insurance product is not like an automobile or a loaf of bread. The contract uses arcane language (even in the “plain English” versions) that render it difficult for the average consumer to understand precisely what they have bought. Because of this, the branches of government will invoke the “public interest” when assuring that the insured ends up with something close to what he or she intended to buy. The insurance contract is viewed as having sweeping scope and authority. The reliability of the insurance product is of vital importance to the public. Insurance involves an obligation that affects the public interest. As such, it is subject to certain restrictions. Sometimes this involves interpreting ambiguous policy language to

the detriment of the insurer. This could even go to the extent of disregarding the written agreement entirely in order to satisfy the purported needs and expectations of the insured. Although differing from other types of contracts, basic contract law applies to that special form of agreement known as the insurance policy. Most contracts involve an even exchange between the contracting parties, but an insurer's promise to pay involves a much larger sum than the premiums being received.

The insurance contract is enforceable only under certain conditions that probably will not occur, or else the policy would not be written. A contract, such as the insurance contract, in which losses and advantages to the parties depend on uncertain events, is called an aleatory contract. Insurance companies offer standardized policies to make possible the spreading of risks over a large volume of business. The prospective insurance buyer is in a position of accepting a given policy or doing without insurance. An insurance contract is described as a contract of adhesion. An adhesion contract provides for one party to determine the provisions of the contract. The other party has little opportunity for bargaining.

Generally, the person to be insured is regarded as the offeror in an insurance contract. The contract is created when that offer is accepted by the insurance company. If the policy differs from that presented to the prospect, the insurance company is making a counter-offer which the applicant may or may not accept. An insurance contract is a unilateral contract in the sense that it involves a promise for an act. The act is the payment of premiums by the policy holder. The promise is that of the insurer to pay for specified losses.

PROPERTY/CASUALTY CONTRACT DESIGN

As with all insurance contracts, the typical property/casualty contract is designed to create a binding agreement between two parties that will be clear and understandable. The purpose of the contract is to transfer the exposure to loss of one party, the insured, to a second party, the insurer. Such a simple concept, yet the agreement contains arcane language that at times can befuddle the most astute linguist. The insurance company is staffed with well-trained lawyers whose job it is to explain in precise language the purpose and intent of the insurance contract. This striving for exactitude at times sacrifices clarity.

The first time most people look closely at the language in their insurance policy is after a loss has been sustained. In this situation, the most important problem for the insured is trying to collect on the claim. To get an idea of whether a claim will be paid, the insured must think about the following questions;

- Did the loss occur during a covered time period?
- Is the loss caused by a covered peril?
- Is the property covered?
- Do any exclusions apply to the coverage?
- Are there any policy clauses or conditions that limit the amount of coverage?
- Is the person sustaining the loss covered?
- Is the location of the loss covered?

Standard versions of the most widely used property and liability insurance contracts are prepared by insurance rating organizations. Most American insurers use forms prepared by the Insurance Services Office or the American Association of Insurance Services.

These services also provide standard rates to be used with their policies. Standardized insurance policies provide all parties to the contract with advantages. They are more economical for the insurer to print and use. These savings should be reflected in lower insurance rates. It is more economical to calculate an insurance rate for standardized policies than for numerous different individual insurance policies, since there is a larger statistical base. That is, because numerous insurers use the same policy, their loss data and other statistics can be combined. Such would not be the case if each company covered different perils or had different conditions in their individual contracts. The meaning of standardized policies becomes widely known by those in the insurance business and by some consumers. This knowledge reduces litigation about the interpretation of these policies.

COMPONENTS OF THE CONTRACT

Property/Casualty insurance contracts have several elements in common;
①Insuring Agreement- The insuring agreement gives force to the insurance policy. In broad terms, it describes the insurer's and the insured's rights and duties. Typically, the insurer indicates it will provide the insurance described in the policy, and the insured agrees to abide by the conditions of the policy. Here are some examples-

The Homeowners Insuring Agreement:

"We will provide the insurance described in this policy in return for the premium and compliance with all applicable provisions of this policy."

The Personal Auto Policy reads somewhat differently. A policy master agreement is set forth, followed by subagreements for any coverages the insured purchases. The master agreement reads:
"In return for payment of the premium and subject to all terms of this policy, we agree with you as follows:..."

②Definitions- What does a particular word mean in the context of a type of insurance policy? The definition of a unique term is given at times in a glossary included with the insurance policy. They may also be found in the body of the text, explained as the policy terms unfold. Definitions must be succinct and relevant to the contract at hand. In the insurance contract, the insurer agrees to assume a risk of loss in exchange for premium payments. The extent of this risk assumed by the insurer, the policy coverage, is defined and limited by the language in the insurance policy. A primary goal of insurance contract language is to avoid ambiguity. There is a good reason for this. The general rule covering contracts of adhesion (i.e., insurance contracts) is that any language a court decides is ambiguous or open to doubt will be construed against the drafter of the contract. If the contract does not adequately define a word, the courts will.

③Declarations- This is the part of an insurance policy containing information regarding the insurance risk for which the policy was issued. It is a statement relative to underwriting made by the prospective insured at the time of the application. The policy declarations identify the insured, the nature and amount of coverage, the basis by which the premiums are determined, and any supplemental information provided by the insured.

④Exclusions- The clauses related to exclusions would list any type of risk, hazard, specific property or condition in the contract that are not covered by the policy. Policies try to clearly identify losses not covered by the policy. Usually excluded are losses that could arise from a catastrophic event or losses associated with a moral hazard, such as a theft committed by the insured. The insured has no right to collect payment for the specified losses, if they occur. The relationship between exclusions and coverage issues will be examined in the next chapter.

⑤Conditions- Include prerequisites or requirements or possible future events that will trigger the duty to perform a legal obligation. In the insurance contract, they are the limiting and defining provisions that state the rights and duties of the insured or the insurer. A condition might state how the contract is terminated or define what would exclude coverage under the contract. A foundation is provided for the policy by the conditions listed. They enumerate the relationships, rights, and duties between the insurer and the insured.

New York insurance law has served as a model for much insurance regulation all over the country. Other states have laws with similar, if not identical, requirements. The illustration following has relevance in every state. The 1943 New York Standard Fire Insurance Policy (SPF) serves as an example of comprehensive conditions. It is shown separately as Unit 1-1. Follow the bold print down the page. Line 1 is “Concealment, fraud”; line 7, “Uninsurable and excepted property”; line 11, “Perils not included”; line 25 “Other Insurance”; and so on... These headings are the components of the insurance contract as mentioned above.

This policy served as the mainstay of all property insurance forms for three decades and has been tested and interpreted by the courts. It has been replaced today by updated forms written in “plain” English, but still serves as a good example of conditions associated with policies.

⑥Endorsements or Riders- These are written modifications of an insurance policy that change the original, often standardized, contract of insurance. Endorsements may broaden or narrow the original policy language. Strictly speaking, a rider is documentation attached to an existing policy that augments or deletes from policy provisions. It is generally used to extend coverage for some specific reason. Endorsements are themselves often standardized. Basically, endorsements or riders are the documents used to shape the standardized policy to fit individual needs. At least one form must be added to the insuring agreement and the terms and conditions in order to structure a complete contract. One form that would complete the policy is the general property form. This is a form developed by the Insurance Services Office (ISO). It is intended to bring additional standardization to the fire policy. The form includes provisions for covering the building and permanently attached machinery of an insured as well as covering personal property for the insured. Another frequently utilized endorsement is the extended coverage endorsement. For an extra premium, the insured adds coverage for perils including explosion, riot, civil commotion, smoke, windstorm and hail.

Unit 1-1; Standard Fire Insurance Policy

Concealment fraud This entire policy shall be void it, whether before or after a loss, the insured has wilfully concealed or misrepresented any material fact or circumstance concerning this insurance or the subject thereof, or the interest of the insured therein, or in case of any fraud or false swearing by the insured relating thereto.

Uninsurable and excepted property. This policy shall not cover accounts, bills currency, deeds, evidences of debt money or; securities; nor, unless specifically named hereon in writing, bullion or manuscripts.

Perils not included. This Company shall not be liable for loss by fire or other perils insured against in this policy caused, directly or indirectly, by (a) enemy attack by armed forces, including action taken by military, naval or air forces in resisting an actual or an immediately impending enemy attack, (b) invasion, (c) insurrection (d) rebellion; (e) revolution; (f) civil war; (g) usurped power; (h) order of any civil authority except acts of destruction at the time of and for the purpose of preventing the spread of fire, provided that such fire did not originate from any of the perils excluded by this policy; (i) neglect of the insured to use all reasonable means to save and preserve the property at and after a loss, or when the property is endangered by fire in neighboring premises, (j) nor shall this Company be liable for loss by theft.

Other Insurance Other insurance may be prohibited or the amount of insurance may be limited by endorsement attached hereto.

Conditions suspending or restricting insurance. Unless otherwise provided in writing added hereto this Company shall not be liable for loss occurring

(a) while the hazard is increased by any means within the control or knowledge of the insured; or

(b) while a described building, whether intended for occupancy by owner or tenant, is vacant or unoccupied beyond a period of sixty consecutive days; or

(c) as a result of explosion or riot, unless fire ensue, and in that event for loss by fire only.

Other perils or subjects Any other peril to be insured against or subject of insurance to be covered in this policy shall be by endorsement in writing hereon or added hereto.

Added provisions. The extent of the application of insurance under this policy and of the contribution to be made by this Company in case of loss, and any other provision or agreement not inconsistent with the provisions of this policy, may be provided for in writing added hereto, but no provision may be waived except such as by the terms of this policy is subject to change.

Waiver provisions No permission altering this insurance shall exist, or waiver of any provision be valid, unless granted herein or expressed in writing added hereto. No provision, stipulation or forfeiture shall be held to be waived by any requirement or proceeding on the part of this Company relating to appraisal or to any examination provided for herein.

Cancellation of policy This policy shall be cancelled at any time at the request of the insured, in which case this Company shall, upon demand and surrender of this policy, refund the excess of paid premium above the customary short rates for the expired time. This policy may be cancelled at any time by this Company by giving to the insured a five days' written notice of cancellation with or without tender of the excess of paid premium above the pro rata premium for the expired time, which excess, if not tendered, shall be refunded on demand. Notice of cancellation shall state that said excess premium (if not tendered) will be refunded on demand.

Mortgagee interests and obligations If loss hereunder is made payable, in whole or in part, to a designated mortgagee not named herein as the insured, such interest in this policy may be cancelled by giving to such mortgagee a ten days' written notice of cancellation.

If the insured fails to render proof of loss such mortgagee, upon notice, shall render proof of loss in the form herein specified within sixty (60) days thereafter and shall be subject to the provisions hereof relating to appraisal and time of payment and of bringing suit. If this Company shall claim that no liability existed as to the mortgagor or owner, it shall, to the extent of payment of loss to the mortgagee, be subrogated to all the mortgagee's rights of recovery, but without impairing mortgagee's right to sue; or it may pay off the mortgage debt and require an assignment thereof and of the mortgage. Other provisions relating to the interests and obligations of such mortgagee may be added hereto by agreement in writing.

Pro rata liability. This Company shall not be liable for a greater proportion of any loss than the amount hereby insured shall bear to the whole insurance covering the property against the peril involved, whether collectible or not.

Requirements in case loss occurs The insured shall give immediate written notice to this Company of any loss, protect the property from further damage, forthwith separate the damaged and undamaged personal property, put it in the best possible order, furnish a complete inventory of the destroyed, damaged and undamaged property, showing in detail quantities, costs, actual cash value and amount of loss claimed; **and within sixty days after the loss, unless such time is extended in writing by this Company, the insured shall render**

to this Company a proof of loss, signed and sworn to by the insured, stating the knowledge and belief of the insured as to the following: the time and origin of the loss, the interest of the insured and of all others in the property, the actual cash value of each item thereof and the amount of loss thereto, all encumbrances thereon, all other contracts of insurance, whether valid or not, covering any of said property, any changes in the title, use, occupation, location, possession or exposures of said property since the issuing of this policy, by whom and for what purpose any building herein described and the several parts thereof were occupied at the time of loss and whether or not it then stood on leased ground, and shall furnish a copy of all the descriptions and schedules in all policies and, if required, verified plans and specifications of any building, fixtures or machinery destroyed or damaged The insured, as often as may be reasonably required, shall exhibit to any person designated by this Company all that remains of any property herein described, and submit to examinations under oath by any person named by this Company, and subscribe the same; and, as often as may be reasonably required, shall produce for examination all books of account, bills, invoices and other vouchers, or certified copies thereof if originals be lost, at such reasonable time and place as may be designated by this Company or its representative, and shall permit extracts and copies thereof to be made.

Appraisal In case the insured and this Company shall fail to agree as to the actual cash value or the amount of loss, then, on the written demand of either, each shall select a competent and disinterested appraiser and notify the other of the appraiser selected within twenty days of such demand The appraisers shall first select a competent and disinterested umpire; and failing for fifteen days to agree upon such umpire, then, on request of the insured or this Company, such umpire shall be selected by a judge of a court of record in the state in which the property covered is located. The appraisers shall then appraise the loss, stating separately actual cash value and loss to each item; and, failing to agree, shall submit their differences, only, to the umpire. An award in writing, so itemized, of any two when filed with this Company shall determine the amount of actual cash value and loss. Each appraiser shall be paid by the party selecting him and the expenses of appraisal and umpire shall be paid by the parties equally.

Company's options. It shall be optional with this Company to take all, or any part, of the property at the agreed or appraised value, and also to repair, rebuild or replace the property destroyed or damaged with other of like kind and quality within a reasonable time, on giving notice of its intention so to do within thirty days after the receipt of the proof of loss herein required.

Abandonment. there can be no abandonment to this Company of any property.

When loss payable The amount of loss for which this Company may be liable shall be payable sixty days after proof of loss, as herein provided, is received by this Company and ascertainment of the loss is made either by agreement between the insured and this Company expressed in writing or by the filing with this Company of an award as herein provided.

Suit. No suit or action on this policy for the recovery of any claim shall be sustainable in any court of law or equity unless all the requirements of this policy shall have been complied with, and unless commenced within twelve months next after inception of the loss.

Subrogation. This Company may require from the insured an assignment of all right of recovery against any party for loss to the extent that payment therefor is made by this Company

⑦Deductibles- It is a common provision in property/casualty insurance policies for the insured to pay the first dollars of an insured loss. A deductible provision in an insurance policy causes this result. A straight deductible has the insurer pay only for the amount of loss in excess of the deductible amount. Thus, if there were a $5,000 loss and a $500 straight deductible, the insured would pay $200 and the insurer would pay the remaining $4,500.

Deductibles are found in the contract provisions for two reasons. They reduce the moral hazard as the insured must pay a small part of every loss. They eliminate the expenses that would be involved in settling small claims. The savings from reduced expenses and loss claims translates into lower insurance costs for the public. As the insured's deductible becomes larger, the premium gets smaller. Many individuals and firms see the higher deductible-lower premium cost savings as a positive step towards self-insurance on low-frequency loss perils.

DISTINCTIVE FEATURES OF THE INSURANCE CONTRACT

The insurance contract has the basic elements of any other contract. Those elements are summarized (not in correct order) by the acronym COALL. It stands for Consideration, Offer, Acceptance, Legal capacity to contract, and Legality of subject matter. Notice should be given to the fact that in writing is not an element that must be present to have a valid contract. This is important where the concepts of waiver and estoppel are concerned. Here are the features that make an insurance contract different from other contracts.

Aleatory Contract

With this type of contract, the values that are exchanged are not equal. The insured may receive a value out of proportion to the value given. Most contracts are commutative contracts. Commutative contracts involve an equal exchange of money for goods or services. This represents an even exchange, the goods change hands at the market rate or there is some bargaining involved. The insurance contract is an aleatory contract. Its performance depends upon the occurrence of a chance event in the future. That event is the insured peril. If it does not occur, no performance on the part of the insurer is required.

Risk and the Contract

Risk is measurable. Uncertainty, by definition, is not measurable. Insurance is the financial yardstick of risk. Insurance is akin to the manufacturing process, producing certainty as the finished product and using risk as the raw material. The basic nature of the insurance contract is to put a dollar value on the chance occurrence of some fortuitous event. The insurance contract is not a gambling contract. Gambling involves a speculative risk that is created with the transaction. Insurance, on the other hand, is a way to deal with a risk or peril that already exists. The risk of financial loss due to dying or an automobile accident existed before the contract was formed. Insurance and gambling can both be described as aleatory in nature. With the insurance contract no new risk is created. With insurance, the insurer takes the chance of being required to pay the sum agreed upon; and the insured takes a chance by paying the premium or consideration without receiving anything for it if the contingency does not happen.

Time is the governing factor in gambling. Risk and time are opposite sides of the same coin. If there were no tomorrow, there would by no risk today. Time changes the perception one has of risk. Risk and its characteristics are fashioned by the time horizon. For risk practitioners, be they gamblers or insurance professionals, the future is the playing field. The gambler thinks he or she is betting on a full house, a can't-lose football team, or the best doggone dog at the track, but what the gambler is really betting on is the clock. They appeal to lady luck to suspend the law of averages so winning streaks will continue and make the reverse appeal so that losing streaks will come to a speedy end. Risk managers at insurance companies are making the same plea. Premiums are set to cover losses over the long run, but insurers maintain sufficient capital and reserves to carry on during those unavoidable periods of bad luck

Adhesion Contract

This legal concept says buyers must adhere to the preexisting terms of a standard contract. The terms signify an inequality of bargaining power as the buyer has no say concerning rates or terms. This concept often arises with any standard form printed contracts submitted on a take-it-or-leave-it basis. It got its start long ago in the process of drawing treaties between nations. When a nation wanted to join in on a treaty already drawn up by other nations, the state wishing to join would sign the treaty and adhere to the existing provisions. The entire contract must be accepted, with all of its terms and conditions. The contract may be altered by the addition of endorsements or forms, but those instruments are also always drafted by the insurer.

As a result of the forced acceptance nature of the insurance contract, if there are any ambiguities, the general rule is that the insured gets the benefit of the doubt. Ambiguities in the document are construed against the party who drew up the paperwork. This is the rule of strict construction of contracts.

Reasonable Expectations

When the terms and agreements in a contract are not made perfectly clear, the problem is called ambiguity. As a buttress to the rule concerning ambiguities, the principle of reasonable expectations states that an insured is entitled to coverage under a policy that they reasonably expect it to provide, and that it be effective. Exclusions or qualifications must be conspicuous, plain, and clear. Contracts of insurance are construed according to the terms that the parties have used. The terms are used, in the absence of ambiguity, in their plain, ordinary meanings. The noted jurist, Justice Learned Hand, put it this way, "Insurers who seek to impose upon words of common speech an esoteric significance intelligible only to their craft, must bear the burden of resulting confusion." [Gaunt v. John Hancock Mutual Life, 160 Fed. 2nd 599 (1947)]. Justice Hand rightly observes that the insurance policy is complex. Most policyholders do not read their policies or understand the terms. The policyholder usually relies on the knowledge and ability of the agent, and this has given rise to the principle of reasonable expectations. Unfortunately for insurers, this doctrine has no clearly defined limits.

Fundamental Rules of Contract Interpretation

This section looks at the interpretation rules of contracts as they are generally accepted in the legal forum. An adhesion contract, when ambiguous, is interpreted by the courts in favor of the person who did not promulgate the contract terms. There follows here

some basic rules of contract interpretation, very basic but very important. These rules are alluded to time and again in court cases, in the media, and by those who have corner offices and speak legalese. Everyone should be familiar with these rules. Where the written words or language in which the parties embodied their agreement or contract may not be changed by parol evidence, the ascertainment of the meaning to be given to the written language is outside the scope of the parol evidence rule. The written words are sacrosanct. They are the terms of the contract. However, words are but symbols. If their meaning is not clear, it may be made clear by the application of rules of interpretation or construction, and by the use of extrinsic evidence for this purpose where necessary. As stated in one case:

"The great object of construction is to collect from the terms or language of the instrument, the manner and extent to which the parties intended to be bound. To facilitate this, the law has devised certain rules, which are not merely conventional, but are the canons by which all writings are to be construed, and the meaning and intention of men to be ascertained. These rules are to be applied with consistency and uniformity. They constitute a part of the common law, and the application of them, in the interpretation and construction of dispositive writings, is not discretionary with courts of justice, but an imperative duty." Johnson County v. Wood, 84 Mo.489 (1884).

Where the language in a contract is clear and unambiguous, extrinsic evidence tending to show a meaning different from that which the words clearly import will not be received by a court. It is the function of the court to interpret and construe written contracts and documents. Rules of interpretation are adopted in order to apply a legal standard to the words contained in the agreement by which to determine their sense or meaning.

Among the rules which aid interpretation are:
1.) A writing is interpreted as a whole and all writings that are part of the same transaction are interpreted together.
2.) All circumstances accompanying the transaction may be taken into consideration.
3.) The ordinary meaning of language throughout the country is given to words unless circumstances show a different meaning is applicable.
4.) Conduct of the parties subsequent to a manifestation of intention indicating that all of the parties placed a particular meaning upon the manifestation may require the adoption of such meaning.
5.) Technical terms and words of art are given their technical meaning unless the context or a usage which is applicable indicates a different meaning.
6.) The principal apparent purpose of the parties is given great weight in determining the meaning to be given their manifestation of intentions.
7.) An interpretation that gives a reasonable, lawful, and effective meaning to all manifestations of intention is preferred to an interpretation which makes a part of such manifestations unreasonable, unlawful, or of no effect.
8.) Where there is an inconsistency between general provisions and specific provisions, the specific provisions qualify and control the meaning of the general provisions.
9.) Where written provisions are inconsistent with printed provisions, an interpretation is preferred which gives effect to the written provisions.
10.) Where a public interest is affected an interpretation is preferred which favors the public.

Chapter 7 Development of Fire Insurance

Few events are as traumatic as a fire that destroys a house or business. Even though the loss usually involves property that can be rebuilt or replaced, victims of fires are often emotionally and financially devastated. They have no home in which to live, no clothing, no furniture, no cooking utensils, and when a business has been destroyed by fire, no source of income.

Fire victims are invariably in a very vulnerable position. They need immediate financial assistance to try to get their lives back in order. Fire victims that were fortunate enough to have insurance look to their insurer for that help. In most circumstances, the help that was promised in the insurance policy is actually provided to the fire victims.

Great Britain as a Fire Insurance Model

When fire insurance first appeared in Britain after the Great London Fire of 1666, mutual societies, in which each policyholder owned a share of the risk, predominated. The earliest American fire insurers followed this model as well.

Origins of Fire Insurance

Established in the few urban centers where capital was concentrated, American mutuals were not considered money-making ventures, but rather were outgrowths of volunteer firefighting organizations. In 1735 Charleston residents formed the first American mutual insurance company, the Friendly Society of Mutual Insuring of Homes against Fire. It only lasted until 1741, when a major fire put it out of business.

Benjamin Franklin was the organizing force behind the next, more successful, mutual insurance venture, the Philadelphia Contributionship for the Insurance of Houses from Loss by Fire, known familiarly by the name of its symbol, the "Hand in Hand." By the 1780s, growing demand had led to the formation of other fire mutuals in Philadelphia, New York, Baltimore, Norwich (CT), Charleston, Richmond, Boston, Providence, and elsewhere.

Raising Capital

Joint-stock insurance companies raise capital through the sale of shares and distribute dividends. This business model rose to prominence in American fire and marine insurance after the War of Independence. While only a few British insurers were granted the royal charters that allowed them to sell stock and to claim limited liability, insurers in the young United States found it relatively easy to obtain charters from state legislatures eager to promote a domestic insurance industry. Joint-stock companies first appeared in the marine sector, where demand and the potential for profit were greater. Because they did not rely on the fortunes of any one individual, joint-stock companies provided greater security than private underwriting. In addition to their premium income, joint-stock companies maintained a fixed capital, allowing them to cover larger amounts than mutuals could.

The first successful joint-stock company, the Insurance Company of North America, was formed in 1792 in Philadelphia to sell marine, fire, and life insurance. By 1810, more than seventy such companies had been chartered in the United States. Most of the

firms incorporated before 1810 operated primarily in marine insurance, although they were often chartered to handle other lines.

The Embargo Act (1807-1809) and the War of 1812 (1812-1814) interrupted shipping, drying up marine insurers' premiums and forcing them to look for other sources of revenue. These same events also stimulated the development of domestic industries, such as textiles, which created new demand for fire insurance. Together, these events led many marine insurers into the fire field, previously a sideline for most. After 1810, new joint-stock companies appeared whose business centered on fire insurance from the outset. Unlike mutuals, these new fire underwriters insured contents as well as real estate, a growing necessity as Americans' personal wealth began to expand.

Fire Coverage Spreads

Until the late 1830s, most fire insurers concentrated on their local markets, with only a few experimenting with representation through agents in distant cities. Many state legislatures discouraged "foreign" competition by taxing the premiums of out-of-state insurers. This situation prevailed through 1835, when fire insurers learned a lesson they were not to forget. A devastating fire destroyed New York City's business district, causing between $15 million and $26 million in damage, bankrupting 23 of the 26 local fire insurance companies. From this point on, fire insurers regarded the geographic diversification of risks as imperative.

Insurers sought to enter new markets in order to reduce their exposure to large-scale conflagrations. They gradually discovered that contracting with agents allowed them to expand broadly, rapidly, and at relatively low cost. Pioneered mainly by companies based in Hartford and Philadelphia, the agency system did not become truly widespread until the 1850s. Once the system began to emerge in earnest, it rapidly took off. By 1855, for example, New York State had authorized 38 out-of-state companies to sell insurance there. Most were fewer than five years old. By 1860, national companies relying on networks of local agents had replaced purely local operations as the mainstay of the industry.

Insurance regulation provided the opportunity to tax the industry, both to cover the cost of regulation as well as to support other governmental functions. The first tax on insurance in the United States was levied by Massachusetts in 1785, in the form of a stamp tax. The first premium tax, which is the common current form of taxation, was enacted by New York in 1824. In addition to raising revenue, taxation was used to protect local insurance companies. Massachusetts again instigated this activity in 1827 with a 10% premium tax on insurers not domiciled in the state.

Eight states, including New York, responded with similar legislation. The New York premium tax rates were 10% on insurers not domiciled in the state but zero for domestic insurers. Illinois enacted a law in 1844 that taxed the total premiums of out-of-state insurers.7 By 1996 premium taxes paid by insurance companies in all states totaled $9.1 billion, a figure well in excess of the cost of regulation. The dominant form of property-liability insurance prior to the early twentieth century was fire insurance. One notable feature about this risk during this period was the propensity for fires to become catastrophes, with devastating losses occurring in New York (1835), Chicago (1871), Boston (1872), and San Francisco (1906). Due to the regional nature of many early insurers, in part fostered by protectionist regulations, the catastrophic losses led to significant insolvencies among insurers, and fire insurance was generally unprofitable

over the period of 1791 to 1850. The New York fire of 1835 demonstrated the problem of New York's protectionist tax laws, as twenty-three of the twenty-six fire insurers operating in the city went bankrupt.10 After the Chicago and Boston fires of the 1870s, approximately 75 percent of the country's fire insurers went bankrupt.

As a result of this experience, the primary regulatory concern at the time became preventing rates that were inadequate, for an insurer that charged too low a premium in a given area would be able to dominate market share locally, exposing it to the risk of insolvency in the event of a major fire. The fire insurance industry began to deal with the problem of inadequate rates in the early 1800s by establishing local associations to control price competition. The objective of these organizations was to establish rates within a region that would provide for an adequate return, protect insurers from ruinous competition, and reduce the risk of insurer insolvencies. However, these early organizations were voluntary and had no ability to prevent insurers from undercutting their rates and instigating a price war. Eventually the compact system developed, in which companies agreed to adhere to the rates the association developed, and companies that did not join the compact were prevented from cooperating with member insurers. These nonmember companies would not be able to share information with member companies, obtain or provide reinsurance with member companies, or, in some cases, be represented by agents that also represented members of the compact. Unfortunately for the industry, the early compacts were not especially successful.

By 1866 the National Board of Fire Underwriters was established with similar goals, operating on the countrywide level. The Chicago and Boston fires of the 1870s and the resulting wave of bankruptcies led to significant changes for the fire insurance industry. First, the National Board of Fire Underwriters began to focus on fire prevention and data collection. More important, the regional associations were able to enforce the compact agreements more effectively. By 1880 the compact system was considered to be working effectively. This assessment, though, may have been as much the result of an absence of catastrophic fires as it was due to the operation of the compact. However, this success in restricting competition resulted in the passage of anticompact legislation in many states in the 1880s and 1890s. The San Francisco fire of 1906, sparked by an earthquake, again caused significant bankruptcies among insurers and led to another rethinking of regulatory policy. The most influential analysis of insurance regulation during this era was the report of a joint committee of the New York Senate and Assembly chaired by Senator Merritt. Although most of the recommendations dealt with policy forms, agents, and fire prevention, the salient aspect of the Merritt committee report on insurance rates criticized competition in rates and strongly supported rating bureaus, but indicated that they should be subject to state regulation.16 The National Convention of Insurance Commissioners (NCIC) came out with similar findings in 1914, even proposing that membership in rating bureaus be mandatory.17 This focus on insurance solvency and support for the anticompetitive behavior of rating bureaus then set the stage for the next development in insurance regulation. Kansas had already enacted the first rating law that allowed joint ratemaking under regulatory supervision, adopting this approach in 1909.

By 1944 eighteen states regulated fire insurance rates. The findings of the Merritt committee and the NCIC illustrate one of the common problems of regulation: it often focuses on the environment that previously existed and develops solutions to deal with the past problems, not recognizing that the situation has actually changed. Both studies supported joint ratemaking due to the risk of catastrophic fires. However, the San

Francisco fire of 1906 was the last of the great city destroying fires in the United States. The lessons of that fire, and social and technological developments, led to a significant reduction in the risk of catastrophic fire.

In fact, despite population growth and inflation, the $350 million loss from the San Francisco fire was not surpassed even in nominal terms until the 1989 Texas fire at the Polyolefin plant that caused $750 million in losses. In inflation-adjusted terms, the San Francisco fire loss was almost four times as large as the largest (in nominal dollars) fire loss in history, the Oakland firestorm of 1991 that caused $1.5 billion in losses. Another development that dramatically affected the insurance environment of the early twentieth century was the introduction of the “reasonably priced, reliable, and efficient” Model T by Henry Ford in 1908, only two years after the San Francisco fire and a few years prior to the Merritt committee and NCIC reports.

Competition

The insurance agency system is one in which independent contractors, known as agents, sell and service insurance solely on a commission or fee basis. They usually have appointments with one or more insurance companies. These carriers acknowledge that they recognize the agent's ownership, use, and control of policy records and expiration data. As the agency system grew, so too did competition. By the 1860s, national fire insurance firms competed in hundreds of local markets simultaneously. Low capitalization requirements and the widespread adoption of general incorporation laws provided for easy entry into the field. Competition forced insurers to base their premiums on short-term costs. As a result, fire insurance rates were inadequate to cover the long-term costs associated with the city-wide conflagrations that might occur unpredictably once or twice in a generation. When another large fire occurred, many consumers would be left with worthless policies. Aware of this danger, insurers struggled to raise rates through cooperation. Their most notable effort was the National Board of Fire Underwriters. Formed in 1866 with 75 member companies, it established local boards throughout the country to set uniform rates. But by 1870, renewed competition led the members of the National Board to give up the attempt.

Regulation

Insurance regulation developed during this period to protect consumers from the threat of insurance company insolvency. Beginning with New York (1849) and Massachusetts (1852), a number of states began to codify their insurance laws. Following New York's lead in 1851, some states adopted $100,000-minimum capitalization requirements. But these rules did little to protect consumers when a large fire resulted in losses in excess of that amount.

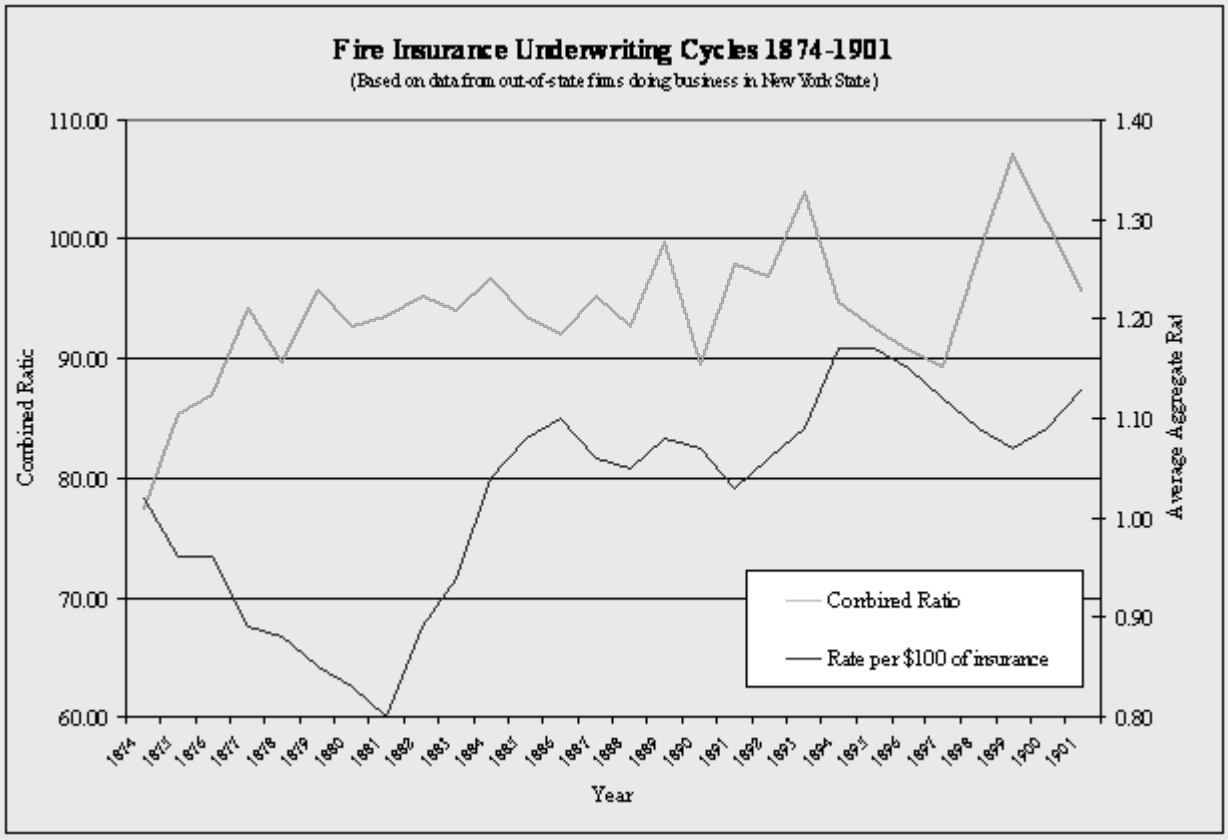
By 1860 four states had established insurance departments. Two decades later, insurance departments, headed by a commissioner or superintendent, existed in some 25 states. In states without formal departments, the state treasurer, comptroller, or secretary of state typically oversaw insurance regulation.

Local Boards

After the Chicago and Boston fires revealed the inadequacy of insurance rates, surviving insurers again tried to set rates collectively. By 1875, a revitalized National

Board had organized over 1,000 local boards, placing them under the supervision of district organizations. State auxiliary boards oversaw the districts, and the National Board itself was the final arbiter of rates. But this top-down structure encountered resistance from the local agents, long accustomed to setting their own rates. In the midst of the economic downturn that followed the Panic of 1873, the National Board's efforts again collapsed.

In 1877, the membership took a fresh approach. They voted to dismantle the centralized rating bureaucracy, instead leaving rate-setting to local boards composed of agents. The National Board now focused its attention on promoting fire prevention and collecting statistics. By the mid-1880s, local rate-setting cartels operated in cities throughout the U.S. Regional boards or private companies rated smaller communities outside the jurisdiction of a local board.
The success of the new breed of local rate-setting cartels owed much to the ever-expanding scale of commerce and property, which fostered a system of mutual dependence between the local agents. Although individual agents typically represented multiple companies, they had come routinely to split risks amongst themselves and the several firms they served. Responding to the imperative of diversification, companies rarely covered more than $10,000 on an individual property, or even within one block of a city.

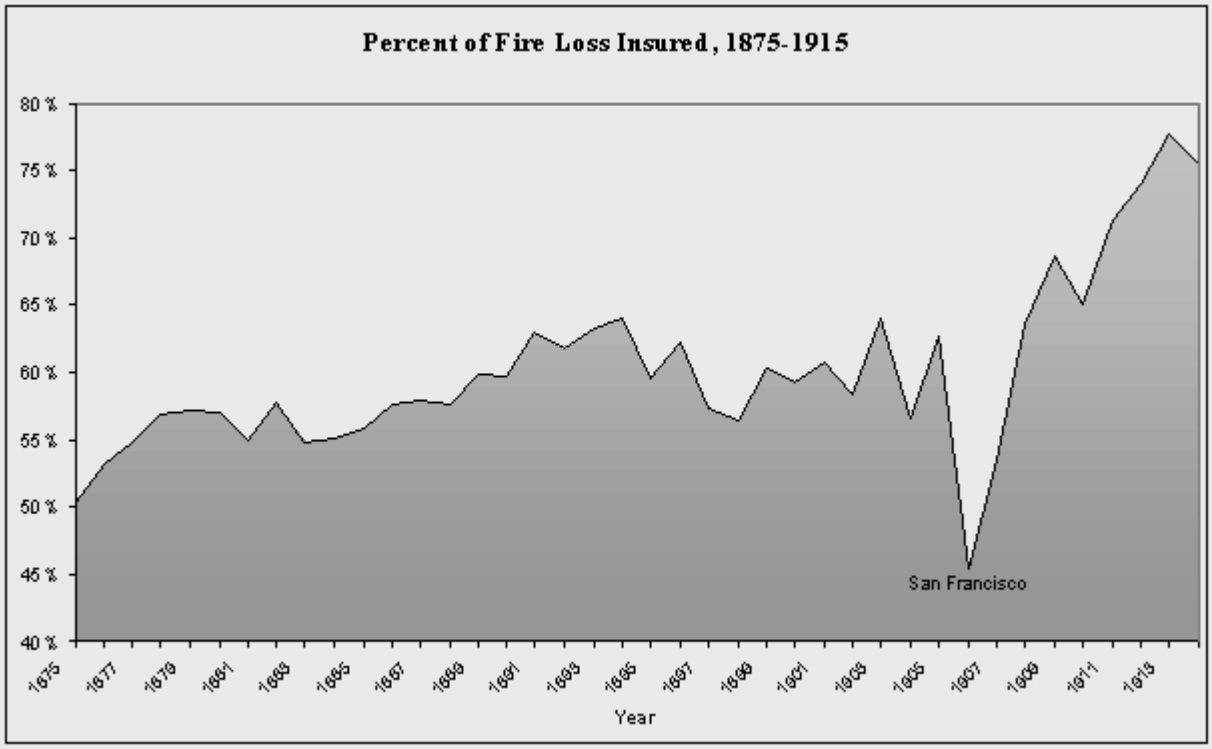


(Note: The underwriting cycle is illustrated above using combined ratios, which are the ratio of losses and expenses to premium income in any given year. Because combined ratios include dividend payments but not investment income, they are often greater than 100.)

As property values rose, it was not unusual to see single commercial buildings insured by 20 or more firms, each underwriting a $1,000 or $2,000 chunk of a given risk.

Insurers who shared their business had few incentives to compete on price. Undercutting other insurers might even cost them future business. When a sufficiently large group of agents joined forces to set minimum prices, they effectively could shut out any agents who refused to follow the tariff.
Cooperative price-setting by local boards allowed insurers to maintain higher rates, taking periodic conflagrations into account as long-term costs. Cooperation also resulted, for the first time, in rates that followed a stable pattern, where aggregate prices reflected aggregate costs, the so-called underwriting cycle.

Local boards helped fire insurance companies diversify their risks and stabilize their rates. The companies in turn, supported the local boards. As a result, the local rate-setting boards that formed during the early 1880s proved remarkably durable and successful. Despite brief disruptions in some cities during the severe economic downturn of the mid-1890s, the local boards did not fail. As an additional benefit, insurers were able to accomplish collectively what they could not afford to do individually: collect and analyze data on a large scale. The "science" of fire insurance remained in its infancy. The local boards inspected property and created detailed rating charts. Some even instituted scheduled rating – a system where property owners were penalized for defects, such as lack of fire doors, and rewarded for improvements. Previously, agents had set rates based on their personal, idiosyncratic knowledge of local conditions. Within the local boards, agents shared both their subjective personal knowledge and objective data. The results were a crude approximation of an actuarial science.



Anti-Compact Laws

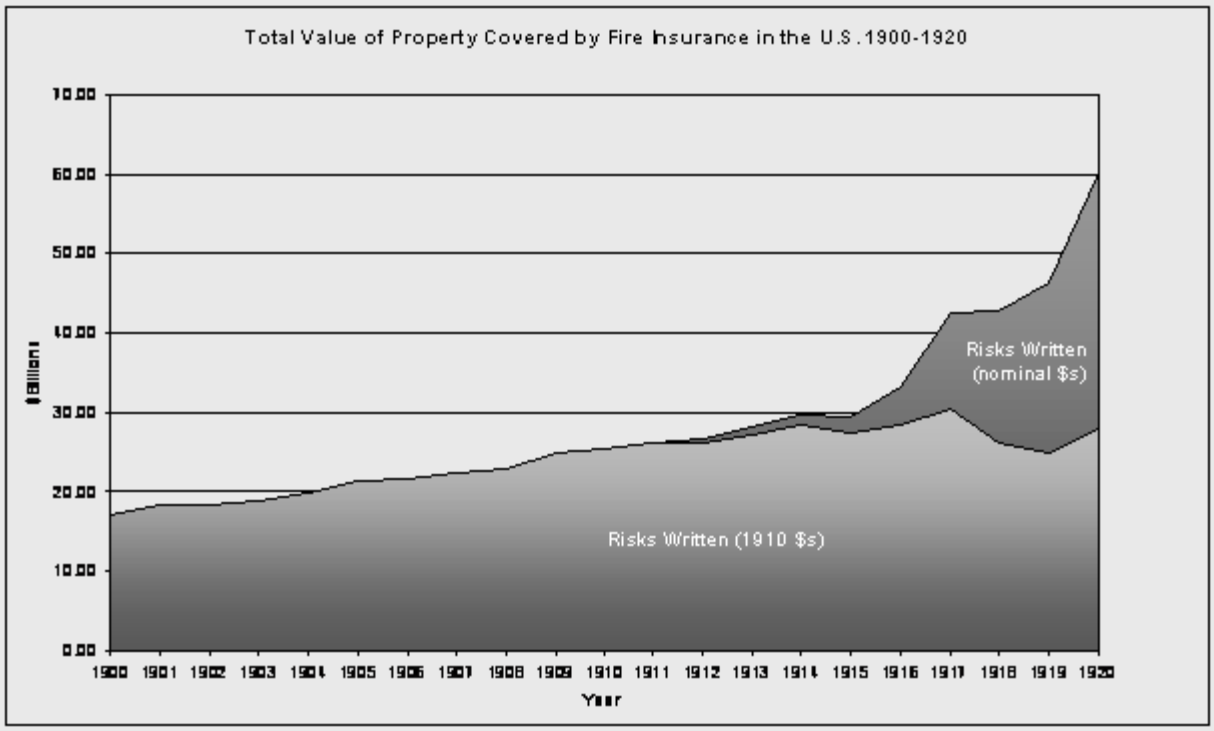
Price-setting by local boards was not viewed favorably by many policy-holders who had to pay higher prices for insurance. Since *Paul v. Virginia* had exempted insurance from

federal antitrust laws, consumers encouraged their state legislatures to pass laws outlawing price collusion among insurers. Ohio adopted the first anti-compact law in 1885, followed by Michigan (1887), Arkansas, Nebraska, Texas, and Kansas (1889), Maine, New Hampshire, and Georgia (1891). By 1906, 19 states had anti-compact laws, but they had limited effectiveness. Where open collusion was outlawed, insurers simply established private rating bureaus to set "advisory" rates.

Spread of Insurance

Local boards flourished in prosperous times. During the boom years of the 1880s, new capital flowed into every sector. The increasing concentration of wealth in cities steadily drove the amounts and rates of covered property upward. Between 1880 and 1889, insurance coverage rose by an average rate of 4.6 percent a year, increasing 50 percent overall. By 1890, close to 60 percent of burned property in the U.S. was insured, a figure that would not be exceeded until the 1910s, when upwards of 70 percent of property was insured.

In 1889, the dollar value of property insured against fire in the United States approached $12 billion. Fifteen years later, $20 billion dollars in property was covered.

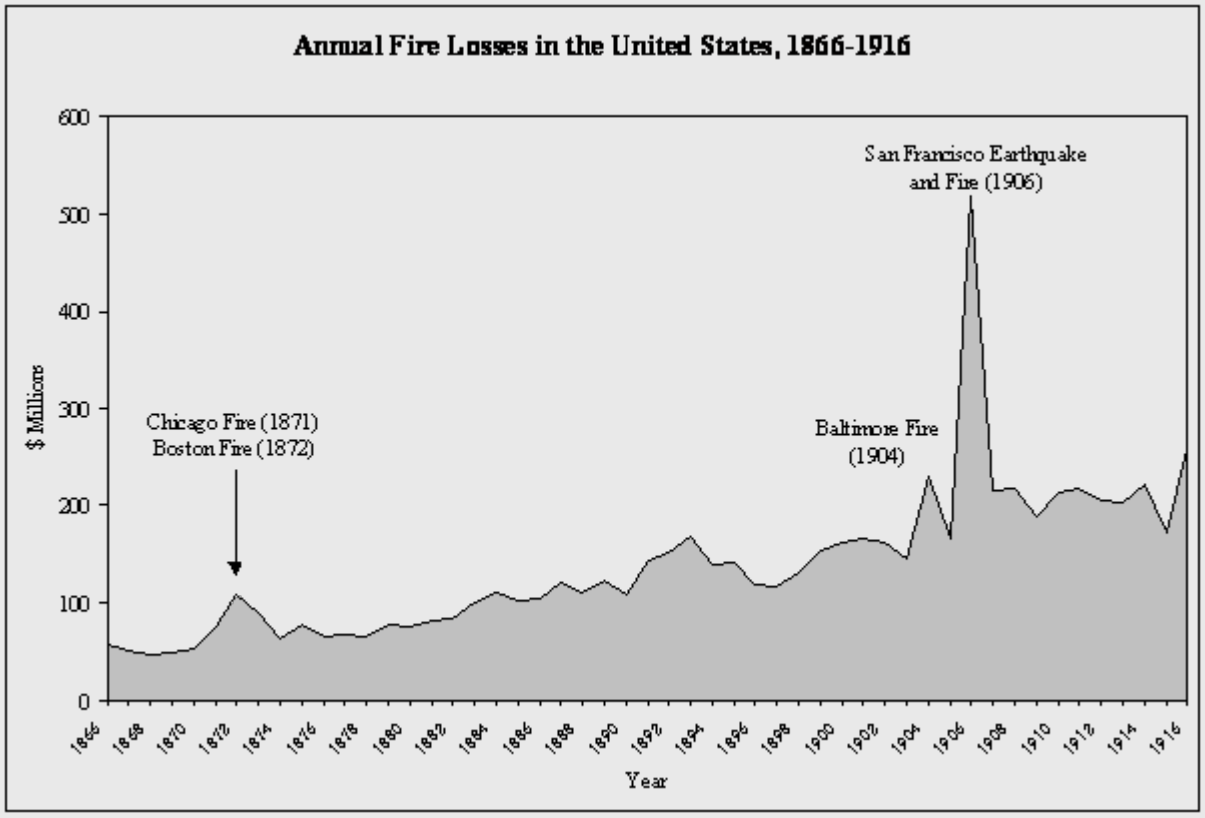


Fire Tale of in Two Cities

The ability of higher, more stable prices to insulate industry and society from the consequences of citywide conflagrations can be seen in the strikingly different results following the sequels to Boston and Chicago, which occurred in Baltimore and San Francisco in the early 1900s. The Baltimore Fire of Feb. 7 through 9, 1904 resulted in $55 million in insurance claims, 90 percent of which was paid. Only a few Maryland-based companies went bankrupt.

San Francisco's disaster dwarfed Baltimore's. The earthquake that struck the city on April 18, 1906 set off fires that burned for three days, destroying over 500 blocks that contained at least 25,000 buildings. The damages totaled $350 million, some two-thirds covered by insurance. In the end, $225 million was paid out, or around 90 percent of what was owed. Only 20 companies operating in San Francisco were forced to suspend business, some only temporarily.

Improvements in construction and firefighting would put an end to the giant blazes that had plagued America's cities. But by the middle of the first decade of the twentieth century, cooperative price-setting in fire insurance already had ameliorated the worst economic consequences of these disasters.



CHANGES IN THE REGULATION PARADIGM

Despite the passage of anti-compact legislation, fire insurance in the early 1900s was regulated as much by companies as by state governments. After Baltimore and San Francisco, state governments, recognizing the value of cooperative price-setting, began to abandon anti-compact laws in favor of state involvement in rate-setting which took one of two forms: set rates, or state review of industry-set rates. Kansas was the first to adopt strict rate regulation in 1909, followed by Texas in 1910 and Missouri in 1911. These laws required insurers to submit their rates for review by the state insurance department, which could overrule them. Contesting the constitutionality of its law, the insurance industry took the State of Kansas to court. In 1914, the Supreme Court of the United States decided *German Alliance Insurance Co. v. Ike Lewis, Superintendent of Insurance* in favor of Kansas. The Court declared insurance to be a public good, subject to rate regulation.

While the case was pending, New York entered the rating arena in 1911 with a much less restrictive law. New York's law was greatly influenced by a legislative investigation, the Merritt Committee. The Armstrong Committee's investigation of New York's life insurance industry in 1905 had uncovered numerous financial improprieties, leading legislators to call for investigations into the fire insurance industry, where they hoped to discover similar evidence of corruption or profiteering. The Merritt Committee, which met in 1910 and 1911, instead found that most fire insurance companies brought in only modest profits. The Merritt Committee further concluded that cooperation among firms was often in the public interest, and recommended that insurance boards continue to set rates. The ensuing law mandated state review of rates to prevent discrimination, requiring companies to charge the same rates for the same types of property. The law also required insurance companies to submit uniform statistics on premiums and losses for the first time. Other states soon adopted similar requirements. By the early 1920, nearly thirty states had some form of rate regulation.

Data Collection

New York's data-collection requirement had far-reaching consequences for the entire fire insurance industry. Because every major insurer in the United States did business in New York (and often a great deal of it), any regulatory act passed there had national implications. And once New York mandated that companies submit data, the imperative for a uniform classification system was born. In 1914, the industry responded by creating an Actuarial Bureau within the National Board of Fire Underwriters to collect uniformly organized data and submit it to the states. Supported by the National Convention of Insurance Commissioners (today called the National Association of Insurance Commissioners, or NAIC), the Actuarial Bureau was soon able to establish uniform, industry-wide classification standards. The regular collection of uniform data enabled the development of modern actuarial science in the fire field.

State Rating Laws

In 1946, the NAIC adopted model rate laws for fire and casualty insurance that required "prior approval" of rates by the states before they could be used by insurers. While most of the industry supported this requirement as a way to prevent competition, a group of "independent" insurers opposed prior approval and instead supported "file and use" rates.

By the 1950s, all states had passed rating laws, although not necessarily the model laws. Some allowed insurers to file deviations from bureau rates, while others required bureau membership and strict prior approval of rates. Most regulatory activity through the late 1950s involved the industry's attempts to protect the bureau rating system.

The bureaus' tight hold on rates was soon to loosen. In 1959, an investigation into bureau practices by a U.S. Senate Antitrust subcommittee (the O'Mahoney Committee) found that competition should be the main regulator of the industry. As a result, some states began to make it easier for insurers to deviate from prior approval rates.

During the 1960s, two different systems of property/casualty insurance regulation developed. While many states abandoned prior approval in favor of competitive rating, others strengthened strict rating laws. At the same time, the many rating bureaus that had provided rates for different states began to consolidate. By the 1970s, the rates that these combined rating bureaus provided were officially only advisory. Insurers could choose whether to use them or develop their own rates.

Although membership in rating bureaus is no longer mandatory, advisory organizations continue to play an important part in property/casualty insurance by providing required statistics to the states. They also allow new firms easy access to rating data. The Insurance Services Office (ISO), one of the largest "bureaus," became a for-profit corporation in 1997, and is no longer controlled by the insurance industry. Still, even in its current, mature state, the property/casualty field still functions largely according to the patterns set in fire insurance by the 1920s.

Chapter 8 Homeowners Coverage-

Insurance companies have been accused of issuing policies written in legalistic terms with little or no apparent organization. Most people avoid reading insurance policies until faced with a claim. Even the so-called "plain language" insurance policies have provided little help to the lay person to understand the coverage provided by the policy. Contrary to the initial appearance of the typical insurance policy, there is a step by step method that insurance professionals and attorneys use to analyze a policy. A goal of the insurance professional is to be able to explain that method in plain terms, explain some of the technical terms, and introduce basic insurance law concepts. Of course, every situation is unique, different companies issue different policies, and different kinds of policies may not use the exact terminology. However, agents should be able to at least begin to understand a property, inland marine, ocean marine, disability, commercial liability, or life insurance policy, or decipher communications from lawyers that seem almost as confusing as the policy itself.

There follows a set of procedures to follow in analyzing an insurance policy. It is important for agents to pass these procedures on to policyholders so that they can better comprehend, analyze, and understand the policy

1. Review the Declarations Page
2. Get the Right Policy Forms
3. Understand the Types of Insurance Forms in the Policy
4. Identify the Insuring Language
5. Review the Exclusions
6. Apply the Language of the Policy to the Claim, Keeping in Mind Legal Principles

I. Declarations, Definitions, Coverages, Perils and Exclusions

Most of the time, an insurance policy is really a collection of a many different forms. The first step to understanding a policy is to learn that it resembles a jigsaw puzzle, with many pieces fitting together to form one whole. The agent must also make sure that he or she has all of the pieces of the puzzle.

1. Review the Declarations Page

Most types of insurance will feature a **declarations page**. The declarations page helps answer the questions who, what, when, where, and how much. The declarations page usually contains the following information:

- Name and address of the **insured** (i.e. the person or company who purchased the policy), the **insurer** (i.e. the company that is bound by the policy); and the **insurance broker** (the person who sells the policy, who may or may not be affiliated with the insurer);
- The **policy number** (most insurance companies track by number, not name, so this can be very important when a claim arises);
- The **policy period**, which are the dates the policy covers;
- A description of the types of **coverage** the insurance provides. For example, the declarations page of a property policy will describe what property is covered,

generally what type of losses are covered, such as fire, crime, business interruption, etc., and usually the premium for each type of coverage.
- A list of the **forms** applicable to the coverage. Most insurance companies use standard forms for all of their insureds. The declarations page will list **code numbers** identifying the appropriate forms that make up the insurance policy.

2. Get the Right Policy Forms

After the declarations page, there will be policy forms. An important first step is to **make sure and have all of the correct forms**. Do not someone else to have sent the correct forms, or all of the forms. Agents must make sure and check to have the declarations page for the policy period in which the loss occurred. Check the declarations page, and find the list of forms and the code numbers. Most policy forms have their identifying code number in the header or footer. A lot of time, energy, aggravation and money can be saved by making sure to have all of the correct forms prior to reading them. After all, if one is going to go to the trouble of reading an insurance policy, it really ought to be the right one.

3. Understand the Types of Insurance Forms

Now that all of the forms are present, it is time to start to try to make sense of them. First, it will be helpful to identify in general terms the kinds of forms that are commonly encountered.

a. Forms Related to Premium, Cancellation and Renewal- Most policies have forms setting forth when **premium** (i.e. the cost of the insurance) falls due, under what conditions the premium can change, how premium is calculated, and what happens if premium goes unpaid. Similarly, the policy may set forth the rules governing cancellation and renewal of the policy.

b. Insuring Forms- The **insuring forms** set forth what the insurance company is promising to cover, and often set forth kinds of losses the insurance company will not cover. When a claim arises, the language in the insuring forms will be critical to determining whether the insurance company is obligated to pay. Be aware of provisions setting forth **time limits** on when to make claim and when to file suit. Many property and marine insurance policies have time limits to sue, and if the policyholder does not sue in time, his or her claim will be barred no matter what the merits. Many times these limits are one year. These dates should be calendared so that they do not get missed down the road. Lastly, even if a policyholder thinks he or she is past the time limit, they may want to contact a lawyer to be sure. Sometimes missing a date can be excused in certain circumstances, and the policyholder will need a lawyer to advise him or her whether it is too late to make claim or sue.

c. Endorsements- An **endorsement** is a form that modifies the coverage set forth in the insuring forms. Sometimes an endorsement will be called an "endorsement," other times a **"rider"** or **"special form."** Sometimes the insured may purchase expanded coverage by paying an increased premium that adds the endorsement. For example, a business might buy a policy covering the cost of repairing fire damage to its building. That business might also buy an endorsement covering lost profits during the time its facility is closed after a fire. Other times, the insurer will add an endorsement restricting

coverage. For example, a disability insurer might add an endorsement saying that it will not pay for losses arising from back injuries if the insured is known to have a bad back. Because endorsements expand or restrict coverage, they can be very important to determining if coverage exists.

d. First Party Insurance vs. Liability Insurance- Insurance policies can be divided into two broad categories. **First party** insurance covers the property of the person who purchases the insurance policy. For example, a homeowners' policy promising to pay for fire damage to the homeowner's home is a first party policy. **Liability insurance**, sometimes called **third party** insurance, covers the policy holder's liability to other people. For example, a homeowners' policy might cover liability if someone trips and falls on the homeowner's property. Sometimes one policy, such as in these examples, may have both first and third party coverage.

The insured needs to make certain that if they have a first party loss, he or she looks at the first party provisions of the policy. Likewise, if an insured is trying to determine whether there is coverage for liability to a third party, that insured needs to look at the third party coverage.

Lastly, **liability insurance** provides two separate benefits. First, the policy will cover the damages incurred by the third party. Sometimes this is called providing **"indemnity"** for the loss. Second, however, most liability policies provide a **duty to defend**. The duty to defend requires the insurance company to pay for lawyers, expert witnesses, and court costs to defend the third party's claim. These costs can sometimes be dramatic and should not be ignored when facing a liability claim.

4. Identify the Insuring Language

The insuring language states broadly what the insurance will cover. Usually this language will be found in one of the insuring forms, but might also be found in an endorsement. It can be difficult to find the insuring language. One should look for statements such as:
"This insurance covers. . . " "We will pay for. . . " "Coverage is provided. . . "
Usually, the insuring language will be very broad. A typical property policy might say "we will pay for direct physical loss or damage to the property described in the declarations, so long as the cause of loss is not otherwise excluded." Taken literally, this language covers lots of kinds of losses. However, the next step is to look at exclusions.

5. Review the Exclusions

Insuring language tends to use broad sweeping statements as to what the insurance covers. Usually, however, **exclusions** will limit the types of losses the policy covers. An exclusion is just what it sounds like, it excludes certain types of losses from the all encompassing insuring language.

Take a flood case for example. A homeowners' policy might have insuring language like that above covering "all direct physical loss or damage." Flood damage would certainly fall within that definition. However, a homeowners' policy might have an exclusion, saying the insurance company will not pay for flood damage. The exclusion limits what the insurance company has to cover. When trying to determine if a policy covers a given

loss, it is important to review the exclusions to see if any apply to the situation. An exclusion can render an otherwise covered claim not covered.

6. Apply Policy Language to the Claim

Once the policy has been sorted through regarding the insuring language and exclusions, an insurance professional or attorney will try to determine whether a particular claim is covered. What the policy says, of course, is very important. However, because sometimes situations arise that no one anticipated, or a policy is not written very well, oftentimes disputes arise between the insurer and insured. Although there is no way to set forth all of the principles of insurance law here, a few of the rules can give a perspective on how the courts treat insurance cases.

- The insured bears the initial burden of proving the loss falls within the insuring language. Generally, insuring language is interpreted broadly to find coverage.
- The insurer bears the burden of proving the loss falls within an exclusion. Generally, exclusions are interpreted narrowly, once again to try to give the insured the benefit of the doubt.
- Because the insurance company wrote the policy, and there is a broad public policy in favor of spreading risks, if a policy can be interpreted in more than one way, the tendency is to interpret the policy to provide coverage. However, a court will not strain to find an ambiguity where none exists, and should not interpret the policy in a way that violates the reasonable expectations of the parties.
- Specific provisions will control over general provisions.
- The policy will be read to try to give effect to all of the words in the policy. Said another way, the policy should not be interpreted to render some provisions meaningless.
- In a liability policy, the duty to defend can be broader than the duty to indemnify. In other words, the insurance company may be obligated to pay for lawyer costs defending a case even if it turns out there is no coverage for the claimant's loss.

Conclusion

Although insurance law can be complex, a step-by-stem process can help the agent understand how insurance adjusters and lawyers analyze a case. Following the steps above will help to better communicate with the insureds, adjusters, brokers, and lawyers in the event that a claim is filed.

Putting knowledge to work. Contract Interpretation Example

An example of contract interpretation

The following case examines the question as to whether a court may rewrite clear and unambiguous policy language based on public policy considerations where the policy language in question is not prohibited by statute. The insured alleged that the decks of his home were in a state of imminent collapse and that State Farm improperly denied his claim for the cost to repair the decks. The State Farm policy expressly provided that it covered only actual collapse, not imminent collapse. The trial court held that public policy required that the collapse coverage also include imminent collapse, and entered judgment in favor of plaintiff.

The Supreme Court's majority opinion, authored by Justice Brown, held that a court may not invalidate unambiguous policy language on the basis of public policy and that the Court of Appeal consequently erred "by failing to apply the plain, unambiguous language of the policy." The concurring opinion, authored by Justice Moreno and joined by Justices Kennard and Werdegar, agreed that the insurance policy clause at issue did not violate public policy, but stated that courts should not be forbidden from employing public policy when determining how insurance policy clauses are to be interpreted and enforced.

Rosen v. State Farm

IN THE SUPREME COURT OF CALIFORNIA

George Rosen,
Plaintiff and Respondent

S108308

v.

Ct.App. 2/1 B146516

State Farm General Insurance Company,
Defendant and Appellant.

Los Angeles County
Super.Ct.No. BC215170

The insurance policy in this case defined "collapse" as "actually fallen down or fallen to pieces." However, sound public policy, the Court of Appeal concluded, requires coverage for imminent, as well as actual, collapse, lest dangerous conditions go uncorrected. By failing to apply the plain, unambiguous language of the policy, the Court of Appeal erred. (Civ. Code, § 1644.) "[W]e do not rewrite any provision of any contract, [including an insurance policy], for any purpose." *(Certain Underwriters at Lloyd's o/London* v. *Superior Court* (2001) 24 Cal.4th 945, 968 *(Lloyds o/London).)*

FACTUAL AND PROCEDURAL BACKGROUND

Plaintiff submitted a claim to defendant, his homeowners insurance carrier, for the cost of repairing two decks attached to his home. Plaintiff repaired the decks upon the recommendation of a contractor who had discovered severe deterioration of the framing members supporting the decks. Plaintiff believed his decks were in a state of *imminent* collapse, entitling him to policy benefits.

SEE CONCURRING OPINION

Defendant denied plaintiffs claim on the ground, among others, that there had been no collapse of his decks within the meaning of the policy, in that its coverage was expressly restricted to *actual* collapse.

The "Losses Not Insured" section of plaintiffs homeowners policy provided that defendant did not insure for any loss to the dwelling caused by "collapse, except as specifically provided in SECTION I -ADDITIONAL COVERAGES, Collapse." That provision stated: "We insure only for direct physical loss to covered property involving the sudden, entire collapse of a building or

any part of a building. [¶] Collapse means *actually fallen down or fallen into pieces.* It does not include settling, cracking, shrinking, bulging, expansion, sagging or bowing."

Plaintiff sued defendant for breach of contract and breach of the covenant of good faith and fair dealing. Defendant moved for summary judgment, arguing that plaintiff did not suffer a compensable loss because the decks did not actually collapse[5]. In his opposition to the motion, plaintiff argued there was a material factual issue as to whether his decks were in a state of imminent collapse. Plaintiff also argued that public policy required that the collapse provision of the policy be construed to provide coverage for imminent collapse. The trial court denied defendant's motion for summary judgment, concluding there were triable issues of material fact. The parties agreed to try the case to the court on the narrow issue of whether defendant owed plaintiff policy benefits due to the *imminent* collapse of his decks.

The trial court found for plaintiff. "The public policy of the State of California is ...that policyholders are entitled to coverage for collapse as long as the collapse is imminent, *irrespective of policy language."* The trial court declined to honor the policy's restriction of coverage because it would, in the court's view, "encourage property owners to place lives in danger in order to allow insurance carriers to delay payment of claims until the structure actually collapses. ..."

The Court of Appeal affirmed, holding that a homeowner's policy that expressly defines the term *collapse* as *actually fallen down or fallen into pieces* must, nevertheless, for reasons of public policy, be construed as providing coverage for *imminent* collapse.
We reverse.

DISCUSSION
" '[I]nterpretation of an insurance policy is a question of law.' (*Waller v. TruckIns. Exchange, Inc.* (1995) 11 Cal.4th 1, 18 *(Waller).)* 'While insurance contracts have special features, they are still contracts to which the ordinary rules of contractual interpretation apply.' *(Bank of the West v. Superior Court* (1992) 2 Cal.4th 1254, 1264 *(Bank of the West).)* Thus, 'the mutual intention of the parties at the time the contract is formed governs interpretation.' *(AIU Ins. Co. v. Superior Court* (1990) 51 Cal.3d 807, 821 *(AIU Ins.).)* If possible, we infer this intent solely from the written provisions of the insurance policy. (See *id.* at p. 822.) If the policy language 'is clear and explicit, it governs.' *(Bank of the West, supra,* 2 Cal.4th at p. 1264.)" *(Palmer v. Truck Ins. Exchange* (1999) 21 Cal.4th 1109,1115.)

As the Court of Appeal acknowledged, the policy language here was clear and explicit. "The plain language of the collapse provision in Rosen's homeowners policy is unambiguous, in that it is susceptible only of one reasonable interpretation-actual collapse of a building or a portion thereof is a prerequisite to an entitlement to policy benefits. By defining the term 'collapse' to mean 'actually fallen down or fallen into pieces,' State Farm effectively removed any ambiguity in the term collapse. Under no stretch of the imagination does actually mean imminently."

The lack of ambiguity in the collapse provision here distinguishes this case, the Court of Appeal pointed out, from the case upon which the trial court principally *relied-Doheny West Homeowners' Assn. v. American Gurantee* & *LiabilityIns. Co.* (1997) 60 Cal.App.4th 400 *(Doheny West).*

[5] In the alternative, defendant moved for summary adjudication ofplaintiffs claim for breach of the covenant of good faith and fair dealing and his request for punitive damages. Prior to trial, plaintiff dismissed these claims.

In *Doheny West, supra,* 60 Cal.App.4th at pages 402-403, the homeowners association of a large condominium complex sued its property insurer for breach of contract and bad faith, alleging that the parking structure of the complex, as well as the swimming pool and associated facilities built above the parking structure, had been in a state of imminent collapse, and that the insurer had wrongfully denied a claim for the necessary repairs the association had made to the structure.

Unlike the policy in this case, the *Doheny West* policy did not specify that the reach of the term *collapse* was restricted to *actual* collapse. Instead, the *Doheny West* policy excluded coverage for collapse except "for loss or damage caused by or resulting from risks of direct physical loss involving collapse of a building or any part of a building" resulting from specified causes. *(Doheny West, supra,* 60 Cal.App.4th at p. 402.) While the *Doheny West* trial court held that this language embraced imminent as well as actual collapse, the trial court found for the defendant insurer on the ground the plaintiff homeowners association had not met its burden of proving that any part of the building was in a state of imminent collapse. *(Id.* at p. 403.)

The Court of Appeal affirmed. Noting that its task was not merely to construe the word *collapse* in isolation, but rather to construe the total coverage clause, the Court of Appeal held that the coverage clause before it "cannot be said to be clear, explicit, and unambiguous, and thus must be interpreted to protect the objectively reasonable expectations of the insured. [Citation.]" *(Doheny West, supra,* 60 Cal.App.4th at p. 405.) With these principles in mind, the Court of Appeal stated: "It is undisputed that the clause covers' collapse of a building,' that is, that there is coverage if a building falls down or caves in. However, the clause does not limit itself to 'collapse of a building,' but covers 'risk of loss,' that is, the threat of loss. Further, on its terms it covers not only loss resulting from an actual collapse, but loss 'involving' collapse. Thus, with the phrases 'risk of loss,' and 'involving collapse,' the policy broadens coverage beyond actual collapse." *(Ibid.,* fn. omitted.)

However, the Court of Appeal rejected the plaintiff's contention that the policy phrases in question "broaden[ed] coverage to the extent that the clause covers 'substantial impairment of structural integrity.'" *(Doheny West, supra,* 60 Cal.App.4th at p. 405.) The Court of Appeal concluded that the trial court had correctly interpreted the policy language before it "by requiring that [the] collapse be actual or imminent." *(Id.* at p. 406, fn. omitted.) "This construction of the policy," the Court of Appeal observed, "avoids both the absurdity of requiring an insured to wait for a seriously damaged building to fall and the improper extension of coverage beyond the terms of the policy, and is consiS1entwitlithecpolicy language and the reasonable expectations of the insured." *(Ibid.)*

We agree with the Court of Appeal that *Doheny West* is distinguishable from this case. As the Court of Appeal observed: "It is a well-established rule that an opinion is only authority for those issues actually considered or decided. *(Santisas* v. *Goodin* (1998) 17 Cal.4th 599,620; *Wilshire Ins. Co.* v. *Tuff Boy Holding, Inc.* (2001) 86 Cal.App.4th 627,639.) At no time did the court in *Doheny [West]* hold that an unambiguous collapse provision expressly limiting recovery to actual collapse must nevertheless be construed to provide coverage for imminent collapse. The court also did not purport to discern a public policy establishing a contractual entitlement to coverage for imminent collapse in all cases. It simply construed the ambiguous collapse provision before it, as it was required to do. *(AIU Ins.[, supra,]* 51 Cal.3d 807,822.) In so doing, it was required to resolve the ambiguity in favor of the insured and in accordance with the reasonable expectations of the insured. *(Kazi* v. *State Farm Fire* & *Casualty Co.* (2001) 24 Cal.4th 871, 879.) [~] In construing the collapse provision in *Doheny [West]* to provide coverage for both actual and imminent collapse, the court expressly relied on the broad language of that particular policy. Specifically, the court held that the 'phrases "risk of loss," and "involving collapse" ‘ effectively 'broaden[ed] coverage beyond actual collapse.' The State Farm

collapse provision at issue in this case, however, does not contain any comparable language that can be construed to extend coverage beyond actual collapse."

However, "[n]otwithstanding the lack of ambiguity in State Farm's collapse provision," the Court of Appeal held, "as a matter of public policy, that State Farm must provide insurance benefits for imminent collapse of Rosen's two decks."

The Court of Appeal gave the following explanation for its decision not to enforce this unambiguous coverage provision: "The notion that in the absence of coverage for imminent collapse an insured may wait until the full or partial actual collapse of a building simply to ensure coverage is troubling indeed. The actual collapse of a building or any part of a building tragically can result in serious injury or loss of human life, as well as substantial property damage. A requirement that an insurer provide coverage when collapse is imminent clearly is in the best interests not only of the insured and the insured's visitors but also of the insurer. Rectifying the problem prior to an actual collapse may well save lives and money. Moreover, our holding does not unduly burden the insurer because its liability is limited for a loss which is imminent, and, thus, soon to occur anyway. Surely, an insurer's exposure to liability will be far greater in the event of an actual collapse. [~] Any holding to the contrary would encourage property owners to risk serious injury or death or greater property damage simply to ensure that coverage would attach. We cannot and will not sanction such a result. We therefore conclude that notwithstanding the language of the collapse provision, public policy mandates that State Farm afford Rosen coverage for the imminent collapse of his decks."

Applying the same logic, with the same lack of restraint, courts could convert life insurance into health insurance. In rewriting the coverage provision to conform to their notions of sound public policy, the trial court and the Court of Appeal exceeded their authority, disregarding the clear language of the policy and the equally clear holdings of this court. In *Foster-Gardner, Inc. v. National Union FireIns. Co.* (1998) 18 Cal.4th 857, we held that an insurer's duty to defend its insured in a "suit seeking damages" was limited to a civil action prosecuted in court, and did not extend to a proceeding conducted before an administrative agency pursuant to an environmental statute. The Court of Appeal in *Fireman's Fund Ins. Co. v. Superior Court* (1997) 65 Cal.App.4th 1205, we noted with approval, had rejected the "suggestion. ..'because it is in the nation's best interests to have hazardous waste cleaned up, our courts must construe insurance policies to provide coverage for such remedial work lest the insureds be discouraged from cooperating with the EPA.'" *(Foster-Gardner,* at p. 888.) "[T]he Court of Appeal in *Fireman's Fund* aptly stated, 'While we agree that it is in everyone's best interests to have hazardous wastes cleaned up, we do not agree that a California court may rewrite an insurance policy for that purpose or for any purpose. This is a contract issue, and imposition of a duty to defend CERCLA proceedings that have not ripened into suits would impose on the insurer an obligation for which it may not be prepared. ...Whatever merit there may be to these conflicting social and economic considerations, they have nothing whatsoever to do with our determination whether the policy's disjunctive use of "suit" and "claim" creates an ambiguity.' *(Fireman's Fund, supra,* 65 Cal.App.4th at p. 1214, fn. 8, see also *AIU [Ins.], supra,* 51 Cal.3d at p. 818 ['The answer is to be found solely in the language of the policies, not in public policy considerations'].)" *(Ibid.,* fn. omitted.)

In *Lloyd's of London, supra,* 24 Cal.4th 945, we held that an insurer's duty to indemnify its insured for "all sums that the insured becomes legally obligated to pay as damages" is limited to money ordered by a court, and does not extend to expenses required by an administrative agency pursuant to an environmental statute. We rejected the argument that we should rewrite the indemnification provision, extending it to cleanup orders issued by an environmental agency, in order "to advance the cleanup of a contaminated site and the abatement of the contamination's effects by calling in the insurer's resources in supplement to those of an insured

that is prosperous or in place of those of an insured that is not. Our reason is that we do not rewrite any provision of any contract, including the standard policy underlying any individual policy, for any purpose. (See *Aerojet- General Corp.* v. *Transport Indemnity Co.* [(1997)] 17 Cal.4th [38,] 75-76.) To do so with regard to the standard policy, with which we are here concerned, might have untoward effects generally on individual insurers and individual insureds and also on society itself. Through the standard policy, individual insurers made promises, and individual insureds paid premiums, against the risk of loss. To rewrite the provision imposing the duty to indemnify in order to remove its limitation to money ordered by a court might compel insurers to give more than they promised and might allow insureds to get more than they paid for, thereby denying their 'general free[dom] to contract as they please' of any effect in the matter. *(Id.* at p. 75; accord, *Linnastruth* v. *Mut. Benefit etc. Assn.* (1943) 22 Cal.2d 216, 218.) It is conceivable that to rewrite the provision thus might result in providing society itself with benefits that might outweigh any costs that it might impose on individual insurers and individual insureds. It is conceivable. But unknown. Knowledge 'depend[s] in large part on' what we are ill suited for, that is, the 'amassing and analyzing of complex and extensive empirical data.' *(Aerojet-General Corp.* v. *Transport Indemnity Co., supra,* 17 Cal.4th at p. 76.) Without such knowledge we could not proceed." *(Lloyd's of London, supra,* 24 Cal.4th at pp. 967-968.)

Plaintiff contends that recent legislation establishing a limited new cause of action for certain specified housing defects (Sen. Bill No. 800 (2001-2002 Reg. Sess.) chaptered as Stats. 2002, ch. 722, § 3 [adding Civ. Code, § 895 et seq., eff. Jan. 1,2003]), read in light of our decision in Aas v. *Superior Court* (2000) 24 Cal.4th 627 *(Aas),* provides this court with a statutory basis for refusing to enforce the plain language restricting the coverage of this policy for collapse to actual collapse. The contention lacks merit.

In *Aas, supra,* 24 Cal.4th 627, we applied the economic loss rule in a negligence action by homeowners against the developer, contractor, and subcontractors who built their dwellings. The plaintiffs alleged that their homes suffered from many construction defects, but they conceded that many of the defects had caused no bodily injury or property damage. The trial court barred them from introducing evidence of the defects that had caused no injury to persons or property. We upheld the trial court's ruling. We explained that under the economic loss rule, "appreciable, nonspeculative, present injury is an essential element of a tort cause of action." *(Id.* at p. 646.) "Construction defects that have not ripened into property damage, or at least into involuntary out-of-pocket losses," we held, "do not comfortably fit the definition of' "appreciable harm" ,- an essential element of a negligence claim." *(Ibid.)*

In enacting Senate Bill No. 800 (2001-2002 Reg. Sess.), the Legislature sought to respond to, among other things, "concerns expressed by homeowners and their advocates over the effects" of our decision in *Aas, supra,* 24 Cal.4th 627 "that defects must cause actual damage prior to being actionable in tort." (Sen. Com. on Judiciary, Analysis of Sen. Bill No. 800 (2001-2002 Reg. Sess.) as amended Aug. 28, 2002, p. 1.) In summary, Senate Bill No. 800 "[p]rovides for detailed and specific liability standards for newly constructed housing. Establishes definitions of construction defects. Creates a new pre litigation process that requires that claimants alleging a defect give builders notice of the claim, following which the builder has an absolute right to repair before the homeowner can sue for a violation of those standards. [~] If the builder fails to acknowledge the claim within the time specified, elects not to go through the statutory process, fails to request an inspection within the time specified, or declines the offer to repair, or if the repair is inadequate, the homeowner is relieved from any further prelitigation process. Provides third-party inspectors with immunity from liability." (Judicial Council of Cal., Court News Special Ed., 2002 Legis. Summary (Dec. 2002) <http//www.courtinfo.ca.gov/courtnews/legsumdec02.pdf> [as of June 9, 2003].)

Senate Bill No. 800 (2001-2002 Reg. Sess.), plaintiff argues, "affords this Court with the statutory basis for rejecting [defendant's] actual collapse definition: requiring [plaintiff] to wait for the decks to actually collapse off the side of his home before coverage would attach is akin to requiring a homeowner to wait for damage to result from a defect before he can sue the homebuilder." Plaintiff's analogy fails. Senate Bill No. 800 is applicable "only to residences originally sold on or after January 1,2003." (Civ. Code, § 938.) It is one thing for the Legislature to rewrite the rules for construction defect litigation for homes sold in the future. In *Aas,* we emphasized that "the Legislature may add whatever additional protections it deems appropriate. ..." *(Aas, supra,* 24 Cal.4th at p. 653.) However, it would be quite another thing for this court to rewrite the coverage provision of an existing homeowners insurance policy to remove a restriction. Again, by agreeing to this contract of insurance, the insurer made promises, and the insured paid premiums, against the risk of loss. To rewrite the provision imposing the duty to indemnify in order to remove its limitation to actual collapse would compel the insurer to give more than it promised and would allow the insured to get more than it paid for, thereby denying their freedom to contract as they please. *(Lloyd's of London, supra,* 24 Cal.4th at pp. 967-968.)

DISPOSITION

The judgment of the Court of Appeal is reversed and the matter remanded for further proceedings consistent with this opinion.

BROWN, J.

WE CONCUR:

GEORGE, C.J. BAXTER, J. CHIN, J.

Chapter 9 Home Insurance Essential Concepts

When shopping for home insurance, consumers have much more to consider than how much coverage will cost. They need to buy the right type of policy. Prospective insureds also need the proper level of protection, plus special provisions for valuables such as jewelry, computer equipment and other possessions. Additional coverage might also be needed for such things as earthquakes or flooding.
Lending institutions usually require mortgage customers to purchase homeowners insurance. Relying on the coverage levels mandated by the mortgagee's bank or mortgage company may not be wise. Those levels are designed to protect the house itself, but not necessarily the possessions inside the house. That is why it is important for homeowners to check with their agent or insurance company, to make sure they have adequate coverage.

Basic policies

There are several basic types of home insurance policies:

HO-1 Basic homeowners policy
Covers the house and possessions against 11 different perils.

HO-2 Broad homeowners policy
Covers house and contents against 17 perils, with premiums running about 5 percent to 10 percent more than an HO-1 policy.

HO-3 Special homeowners policy
Covers all perils except those specifically excluded by the policy. Costs 10 percent to 15 percent more than an HO-1 policy.

HO-4 Renters Policy
Covers 17 named perils and includes liability coverage. It does not insure the dwelling itself.

HO-5 Extensive homeowners policy
Covers damage from practically everything except earthquakes, wars and floods.

HO-6 For owners of co-ops or condominiums
Provides personal property coverage, liability coverage and specific coverage of improvements to the owner's unit. Insurance provided by the owner's association normally covers most of the actual structure.

HO-8 Policy for older homes
Covers the same perils as HO-1 but pays only for repair costs or actual cash value, since replacement cost could make the policy costly.

In Texas

The policies above are standard except in Texas, where the state insurance board specifies three types of policies listed below.

HO-A
Covers the home and possessions against named perils only, for actual cash value.

HO-B
Covers the dwelling for all perils unless excluded against all risks and contents against named perils. The house is covered for replacement cost up to policy limits, while contents are covered for actual cash value unless the insured purchases additional replacement cost coverage.

HO-C
Covers house and contents against all risks not specifically excluded by the policy. Again, the house is insured for replacement cost up to policy limits, while contents are covered for actual cash value unless additional coverage is purchased.

There are variations on these policies as well. For example, landlords can buy coverage that insures only their buildings and not the tenant's personal property (which is what a renters policy would cover). Special policies to cover mobile homes (a.k.a. manufactured housing) can also be purchased.

Starting an application

When a prospective insured applies for homeowners insurance, a great deal of information will be provided to the insurance company. The insurance company will ask about current occupation and employment history, marital status, previous addresses, date of birth and Social Security number. The insurer will check criminal, credit, and insurance history to see if the prospective insured is a "good risk." The insurance company also will look at the "loss history" to see what kinds of home insurance claims the applicant has made in the past. Then the homeowner will have to decide what type of homeowners policy he or she wants, the deductible, and how to pay for the coverage. The agent or insurance company will concur with or determine how much it would cost to replace the home and many of the items inside. For more expensive property, such as jewelry and computer equipment, special coverage may be needed in addition to the basic policy.

Analyzing the home- Many factors go into determining the premiums for a homeowners policy. The age of the home, the materials used to build it, where it's located, the square footage, and the number of rooms all play a role.

How is the home heated? What's the overall condition of the house? How many people live in the home? How close is the home to the nearest fire station and fire hydrant? The answers to these questions also help determine how much will be paid for the homeowners policy.

Ways to save- If the home is equipped with an alarm system, smoke detectors and deadbolt locks, it could save money. Those items help make the house safer and more secure. If the home has an in-ground pool or a trampoline, it might mean higher premiums. One can also expect to pay more if the house is located in a higher risk area, such as a coastline. The insurance company will also want to know if the homeowner plans to use the home for any business purposes, of if there are plans to rent all or part of the house, both of which can increase liability. Armed with all this information,

insurance companies can determine how much to charge for insurance, sometimes in a matter of minutes.

Dollar limits are important- If a house is insured for $100,000 that is the maximum paid out if the house is destroyed, even if it would cost more to replace it. The Declarations Page on the front of the policy shows how much coverage an individual has. Insureds should talk with their agent or company representative if any questions about the insurance limits should arise. A common issue among insureds is to wait for a claim to learn their policy's limit.

Replacement cost coverage for personal property

Before purchasing homeowner's insurance, it is important to understand the difference between 'replacement cost' and 'actual cash value.'

Replacement Cost- Payment based on the replacement cost of damaged or stolen property is usually the most favorable figure from the homeowner's point of view, because it compensates for the actual cost of replacing property. If a camera is stolen, a replacement cost policy will reimburse the homeowner for the full cost of replacing it with a new camera of like kind. The insurer will not take into consideration the fact that frequent use of the camera, causing a considerable amount of wear and tear.

Actual Cash Value

(ACV) This is also known as market value, is the standard that insurance companies arguably prefer when reimbursing policyholders for their losses. Actual cash value is equal to the replacement cost minus any depreciation (ACV = replacement cost - depreciation). It represents the dollar amount one could expect to receive for the item if it were sold in the marketplace. The insurance company determines the depreciation based on a combination of objective criteria (using a formula that takes into account the category and age of the property) and subjective assessment (the insurance adjuster's visual observations of the property or a photograph of it). In the case of the stolen camera, the insurance company would deduct from its replacement cost an amount for all the wear and tear it endured prior to the time it was stolen.

What Does "Replacement Cost" Mean?-The term "replacement cost" is defined or explained in the policy. Simply stated, it means the cost to replace the property on the same premises with other property of comparable material and quality used for the same purpose. This applies unless the limit of insurance or the cost actually spent to repair or replace the damaged property is less. Insureds need to be directed to the language of his or her policy for the exact definition and explanation of replacement cost.

What is "Actual Cash Value"?-The term "actual cash value" is not as easily defined. Some courts have interpreted the term to mean "fair market value," which is the amount a buyer would pay a seller if neither were under undue time constraints. Most courts, however, have upheld the insurance industry's traditional definition: the cost to replace with new property of like kind and quality, less depreciation. Courts have varied in their rulings as to whether or not depreciation includes obsolescence (loss of usefulness as a result of outmoded design, construction, etc.).

What the Difference Means- The only difference between replacement cost and actual cash value is a deduction for depreciation. However, both are based on the cost today to replace the damaged property with new property. Note that accounting or "book" value has no relevance to either of the previous methods of valuation. The depreciation rate reflected in "book" value would yield a terribly inadequate settlement. Another problem with using "book" value is that it may reflect only the items that are "capitalized." To determine adequate limits, one must add "expensed" items into capitalized items.

Other Kinds of Valuation

Certain property may be subject to a special valuation basis other than replacement cost or actual cash value. The value reported should match the applicable valuation basis. For example, if the property policy is endorsed with a selling price endorsement for finished goods, the proper value to insure for finished goods is the cash selling price, less any customary discounts and expenses that otherwise would be incurred.

Most homeowner policies contain replacement cost coverage on the home and actual cash value coverage on personal property. Homeowners policies automatically cover household contents - furniture, clothes, appliances, etc. - up to 40 percent of the amount for which the house is insured. This means if a house is insured for $100,000, its contents are insured for up to $40,000. More coverage can be had by paying a higher premium. This automatic coverage pays only the actual cash value of damaged, stolen, or destroyed household goods. Actual cash value is an item’s replacement cost, minus depreciation. Replacement cost policies give more protection than actual cash value coverage. For example, suppose a burglar steals a six-year-old television set. With actual cash value coverage, the insured only gets what one would expect to pay for a six-year-old television set. With replacement cost coverage, the insurance company pays to replace the TV with a new set similar to the stolen one. Insurance companies generally want proof the item was replaced before paying the claim in full. An insurer might offer to replace the items instead of paying cash, but the choice is with the homeowner.

Take inventory- Many people learn after a fire or storm they did not have enough personal property coverage. Taking inventory will help homeowners decide how much insurance is needed. It also will simplify claims. The inventory should list each item, its value, and serial number. A photograph or videotape should be made of each room, including closets, open drawers, storage buildings, and the garage. Keep receipts for major items in a fireproof place.

Other protections the policy provides- Homeowners policies regularly provide other types of coverage, including off-premises theft protection and unauthorized use of credit cards. Insureds should make efforts to understand which provisions are included in the standard coverage purchased and which might require supplemental premiums.

Supplemental coverage- Homeowners policies cover specific risks. Depending on what is owned and where a person lives, he or she might need to supplement the insurance policy with special coverage.

Flood insurance- Homeowners policies do not cover flood damage. The National Flood Insurance Program (NFIP) offers flood coverage in many areas. Local insurance agents

sell NFIP flood policies and can give information about the program in and how it works in the area in question. Information is available from NFIP at 1-800-427-4661. or online at www.floodsmart.gov.
If a mortgage lender determines a home is in a special flood hazard area, the borrower might be required to purchase flood insurance.

Earthquake insurance- If concerned about earthquakes, the homeowner can get coverage with a separate policy.

Extra coverage (Endorsements)- The insured might want more coverage for certain items than a standard policy provides. For an extra premium, the insured might be able to buy endorsements that expand or increase the coverage on these items. Some of the most common endorsements cover jewelry, fine arts, camera equipment, coin or stamp collections, computer equipment, and radio and television satellite dishes and antennas.

Personal umbrella liability insurance- If the homeowner wants more liability coverage than a homeowners policy provides, he or she can buy a separate umbrella policy. Because policies vary, one must make sure the agent or company fully explains the coverage.

Higher deductibles, lower premiums- Deductibles allow insurance customers to cut the cost of insurance, by assuming some of the risk. If someone has a $250 deductible on their homeowners policy, he or she agrees to pay $250 to cover any losses, before the insurance company pays the rest of the claim. By increasing that deductible to $1,000, an insured might save 20 to 30 percent on the premiums. A person must decide whether lower deductibles or lowering the premium is right for them.

Bad credit and Insurance

Some insurance companies might charge higher premiums if a person has problems with his or her credit history. Insurers say past experience has shown people with financial problems pose a greater risk. Insurance scores are confidential rankings based on credit history information. They are a measure of how a person manages his or her financial affairs. People who manage their finances well tend to also manage other important aspects of their lives responsibly, such as driving a car. Combined with factors such as geographical area, previous crashes, age and gender, insurance scores enable auto insurers to price more accurately, so that people less likely to file a claim pay less for their insurance than people who are more likely to file a claim. For homeowners insurance, insurers use other factors combined with credit such as the home's construction, location and proximity to water supplies for fighting fires.

Insurance scores predict the average claim behavior of a group of people with essentially the same credit history. A good score is typically above 760 and a bad score is below 600. People with low insurance scores tend to file more claims. But there are exceptions. Within that group, there may be individuals who have stellar driving records and have never filed a claim just as there are teenager drivers who have never had a crash although teenagers as a group have more accidents than people in other age groups. Most people benefit from insurance scoring because most consumers manage their debt well and therefore have good credit scores. Credit-related activities within the last 12 months are given most weight.

Homeowners Policy; Terms

The Underwriting of homeowners insurance include many different forms of coverage which seek to fit the insurance needs of a diverse population. The homeowner policy is a "MULTI-LINE POLICY" - it combines property (fire) coverage with casualty (personal liability & theft) into a SINGLE CONTRACT. Use of coverage is restricted to single or two unit residential property only and the owner must reside at the property location. There are four types of major coverage

Coverage A

Dwelling - The dwelling that is described in the declarations and structures attached to that dwelling are covered. Materials and supplies located on or adjacent to the premises used for construction, repair and alteration of the dwelling or other structures on the premises are covered. This coverage is not available in the HO-4 contract and the HO-6 carries only a $1,000 coverage amount.

Coverage B

Appurtenant (Other Structures) - Provides protection for **structures on the premises which are detached from the dwelling.** Exclusions include structures used for business purposes and any structure rented to anyone other than a tenant of the dwelling. This is not included in either the HO-4 or HO-6 contracts. **10% of dwelling coverage amount (Coverage A).**

Payment on Loss

Coverages A and B, dwelling and other structures, are insured on a **"replacement cost"** basis. If, at the time of loss, the insurance coverage amount upon the dwelling is no less than 80% of the cost of replacing the building, replacement cost is paid for losses. Replacement cost means the exact dollars needed at the time of loss to replace the item which requires replacement. Physical depreciation is not deducted from the cost as it is with actual cash value coverage.

In evaluating whether or not the insured qualifies for this 80% requirement, the cost of excavations, wiring, pipes and foundation below the basement or ground level may be deducted from cost. Replacement cost only applies to the buildings and not to personal property. Personal property is covered on an actual cash value basis. This is no replacement cost coverage for carpeting, appliances, awnings and outdoor equipment. When the buildings are insured for less than the required 80%, then payment will be the greater of

1) actual cash value

2) replacement cost in proportion of the loss based on the amount of insurance is in relation to 80% of the replacement value of the buildings.

When the loss is more than a specified dollar amount ($2,500 for example) or 5% of the insurance amount, then the building must be repaired/replaced before the insured can collect on a replacement cost basis. Insurable value and market or loan value do not necessarily translate into the same dollar amounts. Market value of real estate is based upon supply and demand factors of a specific area, not to mention variable economic relationships. Market value of a dwelling also includes the value of the underlying land, while insurance value does not.

Allowing for Inflation

The main threat to retaining full replacement cost coverage is probably the continuous encroachment of inflation in the economy. As prices of goods rise in general, the real estate market usually hedges upward in value as the greatest single asset most Americans will enjoy. Without adjusting insurance coverages on dwellings to meet increases in value, plus the goods and services it would cost to replace the items it takes to create the value, underinsurance will occur. An inflation endorsement can be added to the homeowners policy to automatically increase the coverage. The amount will increase by a fixed percentage of the face coverage amount on an annual basis.

Personal Property

Coverage C - Personal Property - Provides **protection for personal property which is owned or used by the insured anywhere in the world**. Personal property of others may be covered while it is on the premises if selected by the insured. Maximum coverage is up to 10% of the Coverage C limit on personal property with worldwide protection with a $1,000 minimum for property usually situated at a residence of the insured which is not shown in the declarations.

Otherwise **the coverage amount is 50% of the Coverage A limit.** On the HO-4 and HO-6 forms, it is available not as a percentage of Coverage A but rather as a flat dollar amount. Under Forms HO 2 AND HO 8 the minimum Coverage A amount is $15,000 and the personal property coverage amount is $7,500. The HO 3 dwelling minimum is $20,000 and the personal property amount is $10,000. The simple contract wording for all forms of the homeowners Coverage C amount is:

> “We cover personal property owned or used by any insured while anywhere in the world.”

Personal Property Exclusions and Limits

Personal property which is not covered includes:

1) animals, birds, fish,
2) aircraft and parts,
3) automobiles or motorized vehicles unless the vehicles are used to service the premises,
4) any recording or sound reproducing devices while in a motor vehicle, including tapes, records and discs
5) boarder's and roomer's property when the individuals are not related to the insured, any property in an apartment which is regularly rented if it is away from the insured premises,
6) business property out of the way from the insured premises, business property of a business which is conducted on the premises, business property carried or held as samples for later delivery after sale.

Homeowners policies set specific dollar limits for particular categories of personal property in a section entitled Special Limits of Liability. Note that for some categories, the policy specifies a limit only for theft, not for damage or destruction. The reason is that items such as jewelry, firearms, and furs are especially susceptible to theft, and insurance companies want to limit their exposure to these fairly common incidents. The

damage or destruction of these items is less common, and insurance companies are willing to cover them up to their actual cash value.
Below are some examples of the *standard* limits for particular categories of personal property. Depending on the policy's type, limits and endorsements, these figures may or may not be accurate:

- $200 for money, bank notes, bullion, gold, silver, coins, and metals
- $1,000 for securities, accounts, deeds, letters of credit, notes other than bank notes, manuscripts, personal records, passports, tickets, and some other related items
- $1,000 for the theft of jewelry, furs, watches, and precious and semi-precious stones
- $2,000 for the theft of firearms
- $2,500 for the theft of silverware, silver-plated ware, goldware, gold-plated ware, and pewterware
- $2,500 for property at the residence used for business purposes
- $250 for property used away from the residence for business purposes

Additional coverage
Chances are, the value of many of the homeowners personal belongings may exceed the limits in the policy. That is why the insured has the option of increasing these specific limits by purchasing either a Scheduled Personal Property endorsement or a floater. For example, an increased jewelry limit may also be necessary for covering engagement or wedding rings. If the insured purchases a personal property rider, he or she must be able to verify the cost and condition of the item. Photos or a video can be used to inventory the property. However, one should be sure to keep the inventory away from the premises (i.e., safe deposit box). Professional appraisals are needed for certain items, such as jewelry, antiques, or camera equipment (beyond a basic camera).

Other Provisions and Terms

INSURABLE INTEREST - Insurable interest exists as to any individual when damage or destruction of property will result in a financial loss to that individual. Insurable interest extends beyond mere ownership and even tenants have insurable interest in their own belongings within a building owned by another person. Under insurable interest, the insurance applicant must:
a) face a personal risk of loss; or
b) have a legitimate interest in preserving the property being insured. Otherwise, he or she will not receive a potential for gain due to the insurance applied for. **In a property or casualty contract, insurable interest must exist at the time or loss**.

DUTIES OF THE INSURED are imposed upon the insured, **in the event of loss**, is "reasonable compliance" in these five areas:
1) Immediate Notice - written notice is specified, but telephoning the agent is now deemed to meet this criterion.
2) Prevent Further Loss - of property from damage under reasonable conditions. Further damage due to neglect by the insured is not covered.
3) **Damaged and Undamaged Property must be separated to determine loss.**
4) **Inventory loss** - compile a complete list of destroyed, damaged and undamaged property.

5) Claim Verification through checking banks statements and records of the insured must be made available to the company.

DUTY OF THE INSURANCE COMPANY - the obligations of the insurance company, according to the contract, are stated in the agreement. **As long as the insured makes timely payments and meets other requirements of the contract, the insurance company is bound to pay in the event of loss.**
Pair and Set Clause - When loss to an object, which is part of a pair or set occurs, the insurance company can employ either of the following options:
1) To pay the difference between actual cash value of the property before and after the loss.
2) Repair or replace any part of the property in order to restore it to its value before the loss occurred.
It is the purpose of the pair and set clause to prevent the insured from collecting fully upon a loss which is only partial and not total.

Mortgagee Rights- a mortgagee interest allows a mortgage holder to receive loss settlement up to the value of the lender's interest in the property (unpaid principal on a mortgage loan). **When canceling, a company must provide 10 days notice to a mortgagee.** If the insured fails to provide proof of loss, a mortgagee has 60 days from receiving notice of the failure of filing a proof of loss to file the loss themselves. New commercial forms now have a **mortgage holder condition** requiring the mortgage holder to be given a 10 day notice of nonrenewal or cancellation for nonpayment of premium, and a 30 day notice of cancellation for any other reason.

APPRAISAL - Each party to the insurance contract selects a disinterested appraiser. Each appraiser chooses an umpire/referee (who will cast the deciding vote when the appraisers disagree) or one is appointed by a court of record. Actual cash value of loss is estimated and sent to the umpire/referee who then sets an amount that is agreed upon by at least one of the two appraisers. That amount is binding for all parties submitting to the appraisal process.

ARBITRATION - National panels make a decision to which both parties, in a claim settlement dispute, agree to be bound. This process saves time and money and is very similar to the appraisal concept, above. In modern ISO polices, the Arbitration clause is only found in the automobile policy forms, as part of uninsured motorist coverage.

Nature of the Contract- Void and Voidable

Two contractual terms which are critical to the status of a contract's effect are **"void" and "voidable".**
1) A "void" contract is an agreement which has no legal effect whatever. It means no contract even exists.
2) A "voidable" contract is an agreement that does exist, but whose legal effect can be put aside by a court of law. It would be a binding agreement unless the party who has the right to have it voided (or set aside) wishes to do so. Also of great importance in the contract formation stage are the ideas of **Warranties, Representations and Concealment.**

1) A Warranty is a fact which is sworn to such that a breech of warranty can lead to voiding a contract. A warranty is a much stronger statement than a representation.

Breaching a warranty on even a minor point can be cause for setting aside an agreement. In modern insurance contracts, the strict warranty standard is only held against an insured in the ocean marine form of coverage.
2) Representations are considered to be statements of fact, in the opinion of the person making the statements. In order to void a contract on a basis of misrepresentation a party must show that a material fact was misrepresented. A material fact is one that would have changed the underwriting basis of a policy, had the company known of the material fact. Any minor points which may have been misrepresented will not enable the other party to void an agreement. This is the standard to which virtually all insureds are held.
3) Concealment is the failure to disclose a known fact. It is hiding something that should not be hidden even when the particular fact was not specifically asked about. In order to void a contract the concealment must be intentional.

Other Terms and Conditions

VACANCY AND UNOCCUPANCY are conditions limiting coverage when the insured develops a lack of concern about property protection. It is essentially an insurer's protection against a morale hazard.
1) Vacancy exists when a property is both unfurnished and not being used by anyone for business purposes or as a dwelling**.**
2) Unoccupancy refers to the fact that a property is furnished or has possessions in the physical structure but no one is using the property for business purposes or as a dwelling.

LIBERALIZATION- is a property insurance clause which states that if the insurer makes any changes in the current edition of a policy which broadens coverage without premium charge, such changes are automatically made a part of all existing policies.

CANCELLATION allows both the insured and the insurance company to cancel coverage, according to contractual conditions. **The insurance company must give some specified written notice (as required by state statute), but the insured can request immediate cancellation.** When the **insured is the party canceling** the policy, any **refund** of unearned premiums **is calculated on a short rate basis** (unless state law says otherwise)**.** The short rate basis enables the insurance company to recoup some of the cost of underwriting and processing the policy.

When the **insurance company cancels,** unearned premiums (refunds amounts) are paid to the insured party on **pro rate (pr pro rata) basis.** This **means the insured gets back all of the money which has not been used or applied to premium cost.**

NONRENEWAL - **Nonrenewal is notice given by the company** to the insured that the insurance company does not intend to renew the policy upon the normal termination date. Nonrenewal notice affords an insured the opportunity to replace coverage and not have a gap in coverage when the existing policy terminates. The number of days notice required by a company exercises the nonrenewal option is normally 30 days or more.

PROOF OF LOSS - must be filed by an insured within 60 days (mortgagees have an additional 60 days to file loss if insured does not if there is an outstanding mortgage loan).

NOTICE OF CLAIM or notice of loss provision, means the insured must take certain steps in the event of loss or occurrence in order to lead to a filing a successful claim (receiving a loss payment) under the terms of the agreement. **The insured is bound to notify the insurance company of loss as soon as reasonably possible.** Furthermore, the insured may be required to notify the police if a violation of the law has occurred (i.e. burglary or theft).

ASSIGNMENT - Assignment is **the transferring of some or all rights from one party to another.** Assignment of rights held under property contracts is normally valid only with the written permission of the insurance company.

SUBROGATION (also called Transfer of Recovery rights) is a clause whereby the insurance company, by assignment from the insured as stipulated in the insurance contract, has the right to recover from third parties any recoverable loss which was reimbursed by the insurance company to the insured during the settlement of the claim. Subrogation allows the company to step into the shoes of the insured for purposes of recovering losses which have been paid to the insured by the company due to the liability of the third party. Subrogation is a concept related to indemnity, or the prevention of the insured to profit. In this case, the insured cannot collect for sustained damages twice.

EVENT OF THE INSURED'S DEATH - when an insured dies, the contract allows the legal representatives of the deceased insured to assume coverage on any insured property.

Comparison of Coverage Forms

The Homeowners Broad Form provides insurance for damage to the building, personal property and to the loss of use that results from the damage of any peril insured against. **Coverage for personal property under <u>all</u> the homeowners** forms include the same sixteen perils which are listed below:

1) Fire and lightning
2) Windstorm or hail
3) Smoke
4) Explosion
5) Vehicles
6) Aircraft
7) Riot and civil commotion
8) Falling objects
9) Theft
10) Vandalism or malicious mischief
11) Weight of snow, sleet or ice
12) Sudden and accident damage from artificially generated electrical current
13) The freezing of plumbing, heating, air condition or automatic fire protective sprinkler systems or household appliances
14) Accident discharge of water or overflow of water or steam from within a plumbing, heating, air conditioning, fire protective sprinkler systems or household appliance
15) Sudden accidental tearing apart, cracking, bulging or burning of a steam or hot water heating system, air condition, automatic fire protection sprinkler system or appliance for heating water
16) Volcanic eruption

The fire and lightning peril covers a fire which burns down a building or causes other damage. Although there is coverage for fire in the contract, the term itself is not defined in the policy. The court system has taken care of the general definition: **fire is a combustion proceeding at a rate rapid enough to generate flame, glow or incandescence.** In order for there to be coverage under the fire concept, there must be light. Smoke scorching is not solely indicative of fire without the presence of light. The fire coverage extends to coverage for hostile or unfriendly fires. A "friendly fire", which is one that is supposed to remain within its intended confines, would burn where it is supposed to be burning.

Windstorm and hail coverage excludes any damage that is caused by rain, snow, sleet, sand or dust which occurs to the inside of a building unless the outside of the building or roof was damaged due to the direct action of the wind or hail. Any damage that would occur to the inside of the building due the neglect of the insured would be excluded.

Riot and civil commotion covers any damage done by rioters, with very limited exclusions. Pillaging and looting are covered if they happen at the time and place of the general riot. There is some problem in the **distinction between the definition of a "riot" and "insurrection", however.** Losses caused by war are excluded in the homeowners form. The idea of an insurrection may not meet the definition of a riot, which is a tumultuous disturbance of the peace by three or more persons. An insurrection has, as its center of intent, the idea of overthrowing an existing legal government.

Aircraft coverage is provided to the insured property against any self propelled missiles or space craft parts that might damage the property. This includes damage that is the result of direct physical contact with the insured property by an aircraft and it also could include aircraft noise, such as a sonic boom.

Vehicle damage is covered even if the insured owns or operates the vehicle causing the damage. The only exclusion would be the fences, driveways or walks damage done by owned vehicles of the insured.

Smoke damage from a hostile fire is also a peril covered. Exclusions to the smoke peril are smoke damage that is a result of agricultural or industrial smudging operations.

Vandalism or malicious mischief is damage done to the property of others due to willful and malicious destruction of the property. If a building has been vacant for more than 30 days, the vandalism peril will not be covered. The logic behind this denial of coverage is that if the insured is present continuously, vandalism or malicious mischief is less likely to occur. The attitude of the insurance company seems to be: if the insured is not present and doesn't seem to care, neither does the company. Any dwelling that is being built at the time of construction is not considered to be a vacant property.
Theft coverage forms are identical in all the homeowners policies except for form 8. The theft peril provides **coverage for "theft, <u>including attempted theft</u>** or loss of property from a known location when it is likely that the property has been stolen".

Such language relieves the insured of the burden of showing that the loss actually happened due to theft, especially when there is not adequate proof available. The only

requirement under the contract is that the insured must immediately notify the police when property has been stolen. **General exclusions to theft include:**
1) When the insured commits the theft.
2) When a dwelling which is under construction has materials and supplies that are used in the construction are stolen before the dwelling is completed and occupied.
3) If a residence is rented by an insured to anyone except another insured, all theft would be excluded under this condition.

Peril Exclusions

1) Loss caused by the enforcement of any law or ordinance that regulates the building, repair or demolition of any building is excluded.
2) Earth movement - This eliminates coverage for losses caused by the earth moving except when direct loss is from fire, explosion, theft or the breaking of glass. The policy specifically defines the movement of the earth as "earthquake, including land shook waves or tremors before, during or after a volcanic eruption: landslide: mine subsidence, mud flow, earth sinking, rising or shifting".
3) Water damage - Water from floods and backup of
sewers and drains and overflow of sump pumps is excluded as is water which is below the surface of the ground which seeps through basement walls, foundation walls, etc.
4) Power failure - Coverage is excluded when loss is
resulted directly because of the interruption of power and utility services when the interruption takes place away from the resident premises. Therefore as long as loss takes place as a result of the power failure on the actual premises, coverage will exist.
5) Neglect - Any loss that results directly and indirectly due to neglect of the insured, he uses reasonable means to prevent the loss, is excluded. This prevents the insured from collecting for damage that they had a reasonable chance to avoid.
6) War - All loss due to war in any form including undeclared wars, insurrection, rebellions and revolutions is excluded. And any nuclear weapon which is discharged, even accidentally, is still excluded under the contract language.
7) Nuclear hazard stipulates that losses from nuclear hazards are not covered and this includes nuclear reactions, radiation and radioactive contamination.
8) Intentional loss which is defined as loss by "by or
at the direction of the insured" "with the intent to cause a loss".

Broad Form and Special Form

The main difference between the Broad Form and the Special Form (HO-3, in Texas HO-C), is that the Special Form **coverage is on an open perils basis for dwelling and other structures.** Open perils **means that a set of exclusions are listed and if the cause of loss is not one of those exclusions it will be covered.** Although the real property is insured on an open perils basis, **personal property is insured on a named perils basis.** Other than this open perils basis coverage difference, the form 3 and form 2 are exactly the same.

EXCLUSIONS
Open perils exclusions in the Special Form are:
1) Wear and tear or deterioration
2) Inherent vice, latent defect or mechanical breakdown

3) Rust, mold, wet or dry rot
4) Smog, smoke from agricultural smudging or industrial operations
5) Release, discharge or dispersal of contaminants or pollutants unless caused by one of the named perils for which personal property is insured.
6) Settling, cracking, shrinking, bulging or expansions of pavements, patios, foundation walls, floors or ceilings.
7) Damage caused by birds, rodents, vermin or insects.
8) Domestic animals owned by the insured.
An exception to these exclusions is that, if one of the excluded perils is the basis for leaking water from plumbing, heating, air conditioning or fire sprinkler systems or appliances, then the damage would be covered.

Concurrent Causation

Recent Special Form language includes three related exclusions referred to as concurrent causation exclusions. The first part of concurrent causation deals with any loss caused by weather conditions that will contribute to a peril which otherwise is not covered. For instance, in order for there to be coverage, the loss has to be directly caused by a weather condition that is covered or not excluded. The second part of the exclusion deals with loss caused by any actions or decisions of any person, group, organization or governmental body. This also includes the failure to act or to decide by the above named individuals. The last part of concurrent causation excludes loss caused by faulty or inadequate design, maintenance or the use of faulty materials, including defective activity, such as poor planning, in the construction of the covered dwelling.
There is also a general exclusion referred to as "dwelling and other structures" exclusions. The first exclusion in this area deals with the collapse peril. Under additional coverage, the collapse peril is a named perils coverage, however the intent of the language has been to exclude from collapse coverage any collapse resulting from excluded perils such as flood, earthquake or planning and design error. The other exclusions can be found in the discussion under HO2 (freezing of plumbing when the building is vacant, freezing, thawing, etc.).

Renter’s Insurance

The Contents Broad Form is often referred to as renter's insurance. The theory is that the renter is using real estate on a contractual basis and no real property ownership exists. This will eliminate the need for any coverage on the dwelling or structure and instead focus the coverage needs on personal property liability coverage. There is a difference in the insuring agreement of Contents Broad Form and the Homeowners Broad Form in that there is building additions and alterations coverage which applies to the tenant and is usually referred to as tenants’ improvement and betterments. These improvements can include building additions, alterations, fixtures, improvements or installations made by the insured in a rented apartment or dwelling. The coverage amount on the building additions and alterations is limited to 10% of the coverage on contents.

The Homeowners Special Personal Property coverage endorsement offers open perils coverage on contents and is added to Form 3 to provide open perils coverage on the building and the contents. The Special Personal Property (In Texas, HO15) rider to the Special Form open perils coverage was designed to replace the HO5 form from

earlier ISO contract language. This special personal property endorsement eliminates the perils covered for coverages A, B and C and instead uses the following language "We insure against risks of direct loss to property described in coverages A, B and C only if that loss is a physical loss to property".
The exclusions are the same open perils exclusions applying to the dwelling under an unendorsed Special Form. Such exclusions apply to all coverages of Section I. Another set of exclusions applies to the dwelling and other structures and is comprised of the usual exclusions of vandalism, malicious mischief, glass breakage, 30 days limitation on vacancy, repeat seepage or leaking of water taking place over a period of time and collapse. The last group of exclusions deals with the personal property coverage. **These are new exclusions which do not pertain to other forms including:**
1) Breaking eyeglasses, glassware, statues, marble,
porcelains and fragile articles, unless they are caused by a specifically named peril.
2) Damp atmosphere, extreme temperatures, unless the direct cause of loss is in fact weather, snow, sleet or hail.
3) Refinishing, renovating or replacing property except for jewelry, furs, etc..
4) Collision except for collision with land vehicles or sinking, swamping or stranding of watercraft including their trailers, furnishing equipment or outboard motors.
5) Destruction and confiscation or seizure by order of any governmental or public authority.
6) Acts or decisions including the failure to act or decide of any person, group, governmental body, or organization.
The theft coverage language under the Homeowners Special Personal Property form is unique among coverage forms. **Theft is not covered as a named peril but due to the broad open perils coverage of HO15 coverage for loss of real or personal property by theft is included.** There is **just one exclusion** found under the form 15 and that is **if theft is in a building that is under construction and prior to the completion and occupation of the structure.** Typically a named perils form set of exclusions include theft by the insured, theft from unlocked vehicles or watercraft while they are away from the premises and theft to second homes. However under Form 15 they are not excluded and are covered. Besides theft, the coverage applies also to loss by lost or misplaced property as well as having it stolen.

Insurance for Condominiums

The HO6 applies to owner’s of condominium units. The risk of loss to the condominium owner is unique due to the manner in which ownership of the real property exists. A condominium is a structure made up of many individual dwelling units shared by different owners. While everyone has their own space or living quarter, there are also common areas (hallways, walkways, etc.) to which all unit owners enjoy real property ownership as tenants in common. While the individual owner of a condominium will have a concern similar to a renter, because they need contents coverage and protection from liability in their living space, there is also the risk of loss inherent to real property ownership

The real property of the condominium owned in common with the other owners is insured through a condominium association to which all occupants or condo owners pay fees for the upkeep. The fees are not only for the upkeep of the exterior and common areas but they also apply to property insurance and liability coverage which is purchased for all the condominium owners for the common area.

BASIC ENDORSEMENTS TO HO 6

In order to enjoy greater coverage, this endorsement includes:
1) open perils coverage on personal property.
2) Rental unit coverage - This covers a situation where the condominium unit is rented by the owner to another person.
3) Open perils coverage on unit owner's building items.
4) Assessment coverage - Here loss assessment is automatically included as an additional coverage in form

Older and Historic Properties

The HO8 contract was created to provide a coverage form under homeowners that would allow the owners of unique types of older property to obtain coverage that they otherwise would not be to get. Many older homes were built in a time when the materials and labor was quite expensive by today's standards. Modern dwellings are built in a cost efficient and effective manner, almost cookie-cutter fashion in some cases. The intensive labor and expensive materials which went into dwellings of the past are not economically feasible today. To modernize the insurance approach for these older homes, the HO8 has a unique clause called **functional replacement cost.** Other homeowners contracts as contain a normal or standard replacement cost provision allowing the replacement purchase to be made in actual present dollars. Functional replacement cost allows the insurer to repair damage, but they will pay more then what it costs for common construction materials used today, as opposed to replacing the materials and methods used years ago when the home was built. For example, if the original structure had walls which were made of plaster, then dry wall would be the replacement.. Another reduced type of coverage under this form is the theft coverage which is limited to $1,000 per occurrence and is only valid on the premises.

Special Risk Concerns

It is possible for the homeowners forms to be augmented by **endorsements for water backup, earthquake and sinkhole collapse**. Since homeowners forms exclude any water damage including water that backups through sewers and drains and overflows from sump pumps, many people still have a need to have coverage for this possibility. The water backup and sump overflow endorsement **will insure the party for up to $5,000 for direct loss not caused by the negligence of the insured.** Sump pump damage coverage will exist even if the water damage was due to mechanical problems with the sump pump. There is a $250 deductible associated with this endorsement. The **earthquake endorsement** will pay for loss to the insured's property that results from an earthquake or volcanic eruption. However losses due to floods or tidal waves that are a result of earthquake or volcanic eruption are excluded from coverage. The real estate itself or the land is not covered. Commonly there's a 5% deductible on the value of every item insured under the contract. In areas where earthquakes are more prominent there can be a 10% deductible applied

Sinkhole collapse coverage is available on all homeowners form except for HO4 and HO6. In the event the insured property is damaged because of sinkhole collapse caused by underground erosions of limestone or common sedentary rock caused by water damage. Filling a sinkhole is not covered under this endorsement.

Development of Special Risk Policies
This provides open perils coverage on specifically designated items and has its own contract language as to insuring agreement and requires a separate premium payment. The normal categories of coverage include silverware, camera, stamp and coin collections, jewelry and furs available under an open perils basis. Antiques and fine arts can be insured on an evaluated basis. Personal property under homeowners coverage is normally covered under an actual cash value basis. An optional personal property replacement cost endorsement is available on all property on a replacement cost basis. Four types of property are specifically excluded from replacement coverage under the personal property replacement cost endorsement and they include:
1) Antiques and fine arts.
2) Collector's items, souvenirs, etc.
3) Property that is not in workable condition.
4) Articles which are obsolete and are being stored and are not being used.

Broad Form to Special Form

When a property insurance policy is written on a basic form, the insured only receives coverage for items if they are damaged by a covered cause of loss listed on the insurance policy. There are 11 causes of loss, as follows: fire; lightning, explosion, windstorm or hail, smoke, aircraft or vehicles, riot or civil commotion, vandalism, sprinkler leakage, sinkhole collapse, or volcanic action. If the damage to the insured's home is caused by something other than those 11 things, there will be no insurance coverage. In addition, it's important that insureds be made aware they need to check the policy for the definition of those 11 causes of loss because the insurance company can limit or exclude how the insurance applies. For example, if the home is damaged because the homeowner did not maintain the sprinkler system properly there would be no coverage; however, if a fire causes the sprinkler system to be damaged or go off, the policy would pay to repair the damage caused by the sprinkler.

When property insurance is written on a Broad Form, the insured receives coverage for the 11 causes of loss mentioned in the description of the basic form, with the addition of three new causes of loss: falling objects, weight of ice, sleet or snow, and accidental water damage. One will not find many exclusions on this form except for those designed to further define how the 14 causes of loss are applied.

Note that with both the Basic and Broad Forms the insurance company has the duty to specifically *include* coverage. If it's not included on the list, it's not covered.

The most common property insurance form is the Special Form, formerly referred to as "all risk." When a property policy is written on a Special Form, the insurance company has a duty to specifically exclude coverage. Simply put, if the insurance company does not exclude coverage in writing, the damage to the insured's property will be paid for. There are tons of common exclusions, for example: government action, nuclear hazard, war and military action, water damage (i.e. flood), fungus, and pollution. At the end of the day, however, the Special Form gives the insured much more comprehensive insurance protection than the Basic or Broad Forms.

As the insured moves from basic form to Broad Form to Special Form they will find the coverage broadens. An insured may select an insurance type that varies on coverage as well as premiums payable. Under the dwelling program, dwellings containing 1 to 4

families or apartments and dwellings housing 1 to 5 roomers, or boarders, are eligible under each of the three policy types for coverage. A mobile or trailer home which is permanently located may be insured, but only under the basic form (DP1). Townhouses or "row" house are eligible if a separate structure contains no more than four occupied units. Farm dwellings are not eligible for dwelling coverage.

The Dwelling Form provides **"Replacement Cost Coverage"** - the building is restored at today's cost as long as the insured keeps the coverage amount at least 80% or more of the full replacement cost (DP2 AND DP3 ONLY). However, the DP1 coverage form provides an "Actual Cash Value" basis of recovery and not replacement cost.
The dwelling form is available to a real property owner who is ineligible for a homeowner (HO) policy due to the age of the building, location, value or number of living units. This coverage form is usually issued to cover non-owner occupied buildings. The owner of a building housing more than 4 units must seek a commercial form of coverage. The three dwelling coverage forms are similar to the Homeowners Forms 1,2, and 3. However DWELLING FORMS DO NOT:
1) cover the peril of theft (it must be endorsed)
2) cover personal liability (it is an optional endorsement)
3) cover money or valuable papers
4) have special limits of liability for certain types of personal property
5) cover boats (except rowboats and canoes)
6) cover property away from the insured premises for more than 10% of the premises limit for all three forms.

Boats and Other Watercraft

Since the homeowners policy provides only $1,000 for watercraft and equipment, the need for additional coverage is required. The boatowner will need one of the types of watercraft policies available because the homeowners contract only covers a very limited amount of liability applying to smaller watercraft. The two basic types of policies available include: the boatowner policy and the yacht policy which is used to insure very large boats. The difference between the boat policy and the yacht policy has become minimized over the years but yacht policies are considered ocean marine coverage. The boatowners policy is developed to combine liability coverage with the inland marine form. This course will emphasize the boatowners policy for study purposes.

Boatowner Package

The boatowner policy is a package contract and is quite similar to the auto policy because it provides coverage for concepts of liability, physical damage, medical payments and uninsured watercraft. The boatowners policy available in most markets includes: Section I for physical damage coverage and Section II for liability coverage.

Physical Damage

Coverage A of the boatowners policy provides for physical damage on the boat. **Coverage is on an actual cash value basis for scheduled boats, motors, equipment and accessories manufactured for marine use as well as any trailers described in the declarations.** Coverage is based on an open perils concept and exclusions which include: wear and tear, gradual deterioration, inherent vice and

mechanical breakdown. Depending on the company the policy is held with, other exclusions can include:
1) when a boat is used to carry persons for hire
2) while the boat is rented to others
3) while the boat is being operated in a race or speed contest.
When it comes to **valuing the boat, it can vary from company to company.** An agreed value basis means that the face amount of insurance is payable in the event of loss. Other options include: replacement cost coverage which is similar to replacement cost under a homeowners form.

Boatowner Liability

The three types of coverage under the boatowners policy in Section 2 are quite similar to the coverages of a personal auto policy including:
1) **Watercraft** - Watercraft coverage is protection up to a specified limit for any claim or law suit against an insured for damages caused by the insured to another's body or property. The party who is considered to be an insured under this coverage is quite broad and includes: family members and other people who are operating the watercraft with the permission of the insured. The liability exclusions include:
a) Bodily injury or property damage, which is intentional.
b) Liability of any person who uses the watercraft without the permission of the owner.
c) Any damage to the property owned by or in the care, custody or control of the insured.
d) Injury to persons who are eligible to receive benefits under workers compensation claims.
e) The liability of a person engaged in the business of selling, storing, moving or repairing a watercraft.

Depending on the company, exclusion might include: any sailboat or watercraft that is used in an official race or speed test. Two other normal exclusions for watercraft liability would include: war and nuclear exclusions.
2) Uninsured boaters - The uninsured watercraft coverage is available as an option under the boatowners policy. The normal amount of coverage is $10,000 for any insured or family member who suffers bodily injury caused by an uninsured boater. This uninsured boaters coverage is very similar to the automobile insurance coverage for uninsured motorist coverage which is discussed in a previous section.
3) Medical Payments - The medical payments coverage will pay for medical expenses resulting from boating accidents when a person which includes the named insured and family members are injured "in, upon, getting into or out of the insured watercraft". Some policies even include medical payments coverage for an individual who is water skiing.

Territorial Limitations

Policies normally limit the watercraft and insured only in specified territories. Vary broad policies will normally cover a watercraft which is operated on any inland body of water within the continental United States and Canada, including coastal waters up to a limit of 10 to 25 miles. On the other hand, very narrow policies provide coverage only on a specified body water or only within a very narrow boundary around a particular area. Between broad and narrow coverage, exist policies that will provide coverage to inland

lakes or in certain areas with the option to extend coverage to certain areas including: the Caribbean, Bahamas, etc., if the boatowner frequents these locals. However many policies will not provide coverage for offshore waters including the Gulf of Mexico.

Selecting the Right Coverage

In addition to price differences between companies there can be a difference in insurance costs based on the elements of risk to the individual insured's property. Normally a premium rate is based on a unit of insurance and is generally based on a cost per $100 or $1,000 of coverage. The rate per $100 or $1,000 is then multiplied by the amount of insurance purchased. For real property, much of the premium rate will be based on the type of construction. For instance, fire insurance for a wood building would have a greater cost than for a building built with brick.

Analyzing Price

Rates can also be different based on the actual actuarial experience of each location. Fire protection can vary from city to city and the Insurance Services Office has an evaluation of each fire department and water supply on a rating from 1 to 10. Number 10 is the highest rated with number 1 being the lowest rated. Dwelling property and homeowners programs have rates based on three main factors including: type of construction, fire protection of the city and the number of families living at the location. With a homeowners program the same three considerations exist as in the dwelling property but the homeowners contract has the concept of package policy using indivisible premium by which the premium is the cost of the entire package without regard to a different premium based on various sections of the contract.

Deciding on Forms

When evaluating a homeowners policy and considering the difference between the Broad Form (HO2) versus a Special Form (HO3), it would seem silly economically to choose the Broad Form. For a slight amount of extra premium, the special from will provide open perils coverage rather the named perils coverage associated with the broad from. In the event an insured just cannot afford this slight extra premium, it should be suggested to select a higher deductible under the homeowner’s contract and elect to purchase the Special Form. It is commonly accepted that a Special Form with a higher deductible is a much more desirable contract than a broad from with a smaller deductible. The reason for this is that an insured should elect much broader coverage and have a higher deductible as opposed to having a lower deductible on more narrow coverage.

Balancing Cost of Coverage and Risk

Most people, when purchasing insurance on their dwelling and its contents, make a mistake on the amount of insurance coverage they purchase. A dwelling should be insured based on its replacement cost. If it's an older building, developing the concept of replacement cost can be more complicated than if it's a relatively new building. When older property is involved, the replacement cost can be easily determined with the aid of a replacement cost estimator which is available from various insurance companies and agents. The replacement cost estimator is easy to use and provides a reasonable value

of an insured's dwelling and applying stated cost factors to the various items of construction.

When considering the purchase of replacement cost coverage it is very common for people to purchase at least 80% of the full replacement cost to avoid a co-insurance penalty. However, it is ideal for the insured to purchase 100 % of replacement cost value in addition to purchasing an inflation guard endorsement. Coverage based on these two concepts will result in obtaining enough insurance in the event of total loss.

Contents coverage in a homeowners contract is equal to 50% of the value of the dwelling. Whether or not this is adequate coverage depends on the individual insured involved. In the event the insured has items of high value they should make arrangements to avoid being uninsured in the event of a big loss. If actual cash value is applied to contents coverage then perhaps a conversion to replacement cost is desirable. In the event the insured has specific items of personal property that are not covered under their homeowners policy or have very minimal coverage, they should definitely either seek to insure them with the appropriate endorsements or increase the amount of coverage available. Another endorsement that should be considered is earthquake damage assumption. For a very limited amount of money in most areas, the catastrophe of an earthquake can be covered for a very minimal premium.

Chapter 10 Catastrophe Insurance

There are calls from some groups for government-backed programs to assume some of the financial risk associated with natural disasters. Other groups, particularly reinsurers, believe such efforts are ill advised. Existing catastrophe funds, such as the one in Florida that provides state-sponsored reinsurance, demonstrate that these are not good substitutes for the private market. After two active hurricane seasons in 2004 and 2005, the Florida fund ran out of money and had to issue bonds for which all the state's commercial and personal lines policyholders must all pay. In 2016 the state-created fund had $17.4 billion available for the Atlantic hurricane season. This marks the first time ever that the fund had more money than it would need to pay out if storms racked the state.

GOVERNMENT PROVIDED CATASTROPHE INSURANCE

Here are excerpts from a monograph by J. David Cummins[6] evaluate the need for a government role in insuring natural and man-made catastrophes in the United States. Although insurance markets have been stressed by major natural catastrophes, such as Hurricane Katrina, government involvement in the market for natural catastrophe insurance should be minimized to avoid crowding-out more efficient private market solutions, such as catastrophe bonds. Instead, government should facilitate the development of the private market by reducing regulatory barriers. The National Flood Insurance Program has failed to cover most property owners exposed to floods and is facing severe financial difficulties. The program needs to be drastically revised or replaced by private market alternatives, such as federal "make available" requirements with a federal reinsurance backstop. A federal role may be appropriate to insure against mega-terrorist events. However, any program should be minimally intrusive and carry a positive premium to avoid crowding-out private market alternatives.
Federal Reserve Bank of St. Louis *Review*, July/August 2006, *88*(4), pp. 337-79.

The frequency and severity of natural and man-made catastrophes have increased significantly in recent years. Natural catastrophes include events such as hurricanes, earthquakes, floods, and tsunamis; and man-made disasters include oil platform explosions, aviation disasters, and terrorism. As shown in more detail below, prior to 1986, the number of catastrophes rarely reached 150 per year; but since 1993, there have been at least 270 catastrophes per year. These figures are from Swiss Re (2006). Swiss Re defines a catastrophe as an event that causes a specified amount of monetary loss or loss of life above a certain threshold: In 2005, the monetary threshold for an event to be defined as a catastrophe was $77.5 million and the fatality threshold was 20. The monetary threshold is adjusted over time so that the catastrophe count is consistent across years. Loss statistics are in terms of insured losses. Total losses, including uninsured losses and infrastructure, would be much larger. Of the 40 most

[6] 2006, The Federal Reserve Bank of St. Louis J. David Cummins is the Harry J. Loman Professor of Insurance and Risk Management at the Wharton School of the University of Pennsylvania. The author acknowledges helpful comments and suggestions from William R. Emmons, Scott E. Harrington, Dwight Jaffee, Howard Kunreuther, Christopher M. Lewis, and Erwann Michel-Kerjan.

costly disasters since 1970, 34 have occurred since 1990 and 15 have occurred since 2000.

Hurricane Katrina, which made landfall on September 8, 2005, is the most costly catastrophic event in history, with projected insured losses in the range of $40 to $60 billion. The most costly prior natural catastrophe was Hurricane Andrew in 1992, which cost insurers $22.3 billion. The most costly man-made disaster was the September 11, 2001, terrorist attack on the World Trade Center (WTC) in New York, which resulted in about $40 billion in insured losses. The increasing costs of catastrophes have significantly stressed insurance markets. Insurance works best for high-frequency, low-severity events, which are statistically independent and have probability distributions that are reasonably stationary over time. Catastrophic events, and particularly mega-catastrophes such as Katrina and the WTC terrorist attack, violate to some degree nearly all of the standard conditions for insurability. These are low-frequency, high-severity events that violate statistical independence by affecting many insured exposures at one time. Although considerable progress has been made in modeling natural catastrophes, conventional methods are much less effective in evaluating losses from terrorism, given that terrorists are continually modifying their strategies and tactics.

Catastrophe Responses

Insurance markets tend to respond adversely to mega-catastrophes. They respond to large events, particularly those that cause them to reevaluate their estimates of the probability and severity of loss, by restricting the supply of insurance and raising the price of the limited coverage that is made available. This occurred, for example, following Hurricane Andrew in 1992 and the Northridge earthquake in 1994 and occurred again following the WTC terrorist attack. Because insurance plays an important role in the economy, instability in the availability and price of coverage generally leads to pressure for government intervention in insurance markets. State governments intervened in Florida and California following Andrew and Northridge, and the widespread availability of windstorm coverage in Florida and earthquake coverage in California seems to be largely attributable to government intervention. The federal government has provided subsidized flood insurance since 1968 and entered the market for terrorism insurance as reinsurer of last resort through the Terrorism Risk Insurance Act of 2002 (TRIA). Governments in several other industrialized nations, including France, Germany, Spain, and the United Kingdom, also have intervened in catastrophe insurance markets.

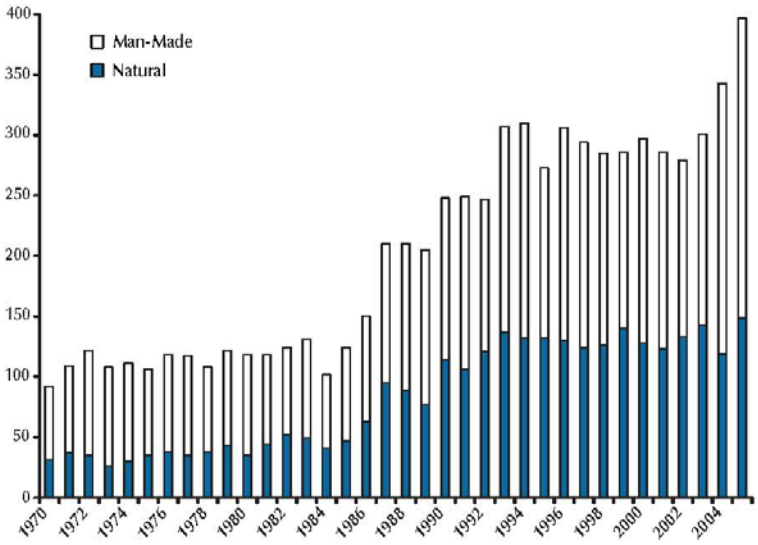
The objective of this paper is to evaluate the appropriateness of government intervention in catastrophe insurance markets with a particular focus on mega-catastrophes, both natural and manmade. The paper begins with a statistical overview of the recent history of catastrophes and then turns to a discussion of the insurability of such events through the private sector, considering the theoretical criteria usually associated with insurable events. The resources of the U.S. insurance industry and the global reinsurance industry are then evaluated to provide perspective on the insurability of large catastrophes. The last major section of the paper evaluates potential public and private sector solutions to the catastrophe insurance problem, considering alternative risk financing mechanisms such as catastrophe (CAT) bonds as well as the most promising models for government involvement. The discussion includes an evaluation of the effectiveness of Terrorism Risk Insurance Act (TRIA) and the likely effect of sun-setting TRIA on the market for terrorism insurance.

CATASTROPHES: THE RECENT PAST

The number of natural and man-made catastrophes between 1970 and 2005 are shown in Figure 1. The figure indicates a clear upward trend in the number of catastrophes; and a linear trend line fitted to the total number of catastrophes has an adjusted R2 of 0.87. There seems to be a pronounced shift in the data approximately in 1988 and another shift in 1994.

Figure 1

Number of Catastrophes, 1970-2005

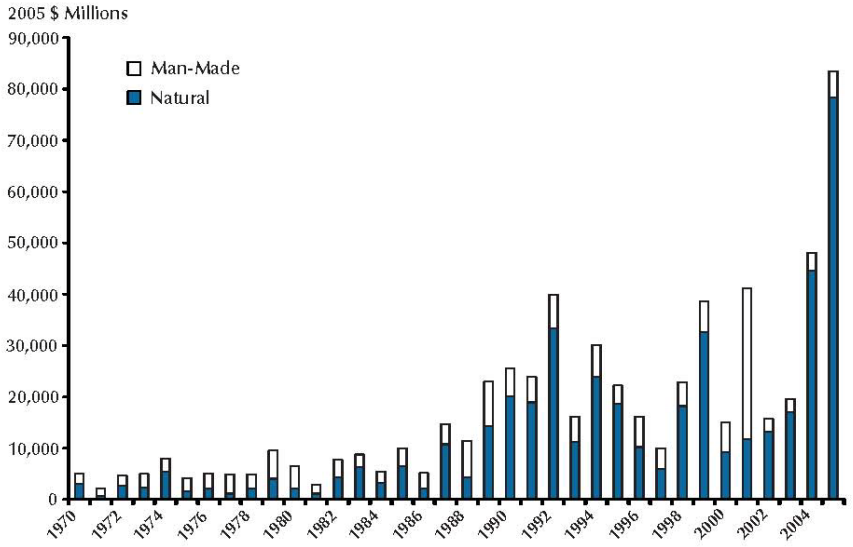


Source: Swiss Re (2006)

Although scientists have not reached consensus on whether the frequency of natural catastrophes such as hurricanes has been increasing, the major reason for the increasing number of catastrophes is the accumulation of property values in disaster-prone areas such as California, Florida, the Gulf Coast, and, increasingly, Asia. The value of insured catastrophe losses from natural and man-made events, adjusted to 2005 price levels, is shown in Figure 2. Because catastrophic events also cause significant losses to uninsured property, such as highways, sewer systems, and other infrastructure components, the total value of losses from such events is higher than Figure 2 suggests. However, the insured losses are relevant in evaluating the insurability of such events. Figure 2 shows that, except for the WTC event in 2001, natural disasters cause more insured losses than man-made events. However, the WTC event illustrates that terrorism has added a significant source of volatility that was not previously present. The severity data also show a shift in the late 1980s/early 1990s. Prior to 1987, total insured catastrophe losses never exceeded $10 billion per year; but beginning in 1987, losses have exceeded $10 billion in every year and have exceeded $20 billion in 11 of 19 years.

Figure 2

Worldwide Insured Catastrophe Losses, 1970-2005



Source: Swiss Re (2006)

Following a record-year in 2004, when losses totaled $48 billion, losses nearly doubled to $80 billion in 2005 with the devastation of hurricanes Katrina, Rita, and Wilma. Katrina in particular not only was an unprecedented natural disaster from an insurance perspective but also raised significant questions about the U.S. system for assessing, mitigating, and financing disasters and disaster relief. For an excellent analysis of the lessons to be learned from Katrina in terms of disaster assessment, prevention, mitigation, and financing, see Daniels, Kettl, and Kunreuther (2006).

The top 40 insured catastrophe losses since 1970 are shown in Table 1: 34 of the top 40 have occurred since 1990 and 15 have occurred since 2000; 7 of the 10 most costly hurricanes in U.S. history occurred during the 17-month period of August 2004 through October 2005 (Hartwig, 2005). All but 3 of the top 40 losses are from natural catastrophes, and the losses from the WTC terrorist attack are roughly six times the previous largest man-made catastrophe, which was the explosion and fire on the Piper Alpha oil platform in 1988. The table also shows that the United States is the primary source of large catastrophe losses worldwide. In 2004, for example, 67.7% of worldwide insured catastrophe losses were North American (primarily U.S.) events (Swiss Re, 2005a); and in 2005, the North American total reached 87.1% of worldwide losses (Swiss Re, 2006).

Table 1

Top 40 Insured Catastrophe Losses: 1970-2005

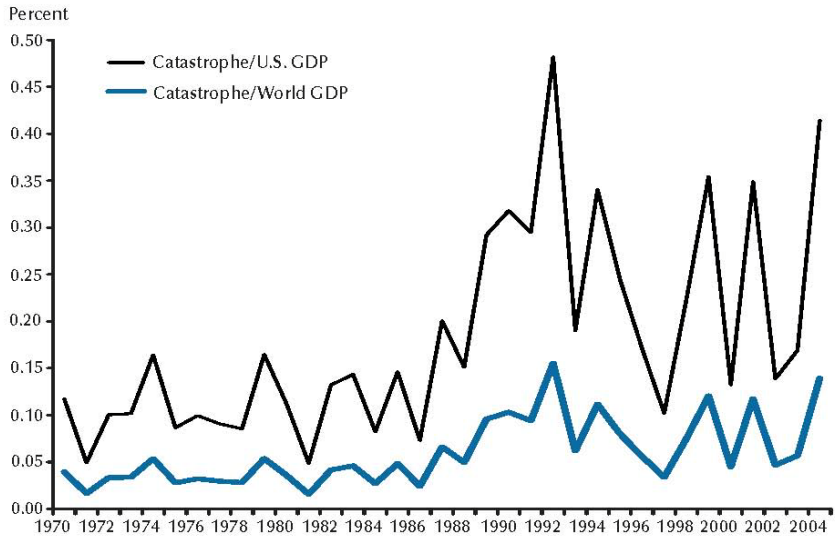
Insured loss[1] (2005 $ millions)	Victims[2]	Date (start)	Event	Country/Area
45,000	1,326	8/24/2005	Hurricane Katrina	U.S. Gulf of Mexico, Bahamas
22,274	43	8/23/1992	Hurricane Andrew	U.S., Bahamas
20,716	2,982	9/11/2001	Terrorist attacks on WTC, Pentagon	U.S.
18,450	61	1/17/1994	Northridge earthquake (M 6.6)	U.S.
11,684	124	9/2/2004	Hurricane Ivan: damage to oil rigs	U.S., Caribbean
10,000	34	9/20/2005	Hurricane Rita: floods, damage to oil rigs	U.S.. Gulf of Mexico, Cuba
10,000	35	10/16/2005	Hurricane Wilma	U.S., Caribbean
8,272	24	8/11/2004	Hurricane Charley	U.S., Caribbean
8,097	51	9/27/1991	Typhoon Mireille/No 19	Japan
6,864	95	1/25/1990	Winterstorm Daria	France, U.K. et al.
6,802	110	12/25/1999	Winterstorm Lothar	France, Switzerland et al.
6,610	71	9/15/1989	Hurricane Hugo	Puerto Rico, U.S.
5,170	38	8/26/2004	Hurricane Frances	U.S., Bahamas
5,157	22	10/15/1987	Storm and floods	France, U.K. et al.
4,770	64	2/25/1990	Winterstorm Vivian	Europe
4,737	26	9/22/1999	Typhoon Bart/No 18	Japan
4,230	600	9/20/1998	Hurricane Georges	U.S., Caribbean
4,136	3,034	9/13/2004	Hurricane Jeanne: floods, landslides	U.S., Haiti
3,707	45	9/6/2004	Typhoon Songda/No 18	Japan, South Korea
3,475	41	6/5/2001	Tropical Storm Allison	U.S.
3,403	45	5/2/2003	Thunderstorms, tornados, hail	U.S.
3,304	167	7/6/1988	Explosion on platform Piper Alpha	U.K.
3,169	6,425	1/17/1995	Great Hanshin earthquake (M 7.2), Kobe	Japan
2,814	45	12/27/1999	Winterstorm Martin	Spain, France, Switzerland
2,768	70	9/10/1999	Hurricane Floyd: floods	U.S., Bahamas et al.
2,692	59	10/1/1995	Hurricane Opal	U.S., Mexico
2,621	38	8/6/2002	Severe floods	Europe
2,438	26	10/20/1991	Forest fires affecting urban areas, drought	U.S.
2,427	0	4/6/2001	Hail, floods, and tornados	U.S.
2,366	246	3/10/1993	Blizzard and tornados	U.S., Mexico, Canada
2,233	20	12/3/1999	Winterstorm Anatol	Denmark, Sweden, U.K.
2,227	4	9/11/1992	Hurricane Iniki	U.S., N. Pacific Ocean
2,088	23	10/23/1989	Explosion in a petrochemical plant	U.S.
2,068	220,000	12/26/2004	Seaquake (MW 9.0): tsunamis	Indonesia, Thailand
2,024	0	8/29/1979	Hurricane Frederic	U.S.
1,993	39	9/5/1996	Hurricane Fran	U.S.
1,981	2,000	9/18/1974	Tropical Cyclone Fifi	Honduras
1,947	100	7/4/1997	Floods after heavy rain	Poland, Czech Republic et al.
1,923	116	9/3/1995	Hurricane Luis	Caribbean
1,887	18	8/1/2005	Winterstorm Erwin	Denmark, Sweden, U.K.

NOTE: [1] Property and business interruption, excluding liability and life insurance losses. [2] Dead and missing: Figures are approximate and from various sources.

SOURCE: Swiss Re (2006)

Figure 3

Catastrophe Losses Relative to World and U.S. GDP



Source: Catastrophe losses: Swiss Re (2005a); World GDP: The World Bank: U.S. GDP: U.S. Dept. of Commerce

Figure 3 places the catastrophe losses in a broader perspective by showing total insured catastrophe losses as percentages of world and U.S. gross domestic product (GDP). In relation to world GDP, catastrophe losses were less than 0.05 of 1 percent until the late 1980s and have fluctuated around 0.10 of 1% in more recent years. In relation to U.S. GDP, catastrophe losses were less than 0.20 of 1% until the late 1980s and have been above 0.30 of 1% in several years since 1990. There is a significant upward trend in both series, with adjusted R2 values of around 0.35 in linear time trend regressions. Figure 3 suggests that catastrophe losses are large and volatile from the perspective of the insurance industry but are more manageable from an economy-wide or societal perspective.

Catastrophe Loss Insurability

This section evaluates the insurability of catastrophe losses. The section begins with a discussion of the theoretical criteria for insurability and an analysis of the differences between natural and unintentional man-made catastrophes on the one hand and intentional events such as terrorism on the other. The section concludes with an evaluation of the resources of the insurance and global reinsurance industries and an economic evaluation of the insurance crises and cycles……..

Implicit in this discussion are some criteria for insurability. One important criterion is that *N* be sufficiently large for the law of large numbers to operate such that the insurer achieves effective diversification either locally or globally.

Also important is that $\bar{\sigma}^2$ and $\bar{\sigma}_{ij}$ (if the latter is non-zero) be sufficiently "small"-again to ensure that effective diversification takes place. If *N* is too small or $\bar{\sigma}^2$ and σ_{ij} too large,

then the amount of capital the insurer must hold to achieve a sufficiently small insolvency probability may be too large for insurance to be feasible. Essentially, the cost of capital may push the price of insurance above the level that buyers are willing to pay for coverage, eliminating the gains from trade.

Another important implicit assumption is that sufficient data are available to enable the insurer to estimate the parameters of the loss distribution, μ_i and σ_i^2, and the covariances among risks, σ_{ij}, if the risks are not independent. This is a non-trivial requirement, given that real-world risks are not identically distributed such that applicants for insurance have heterogeneous parameters. It is well-known that insurance markets can break down as a result of adverse selection if the insurer is not able to discriminate among risks (Rothschild and Stiglitz, 1976). A final requirement is that the loss distribution should be reasonably stationary so that parameters estimated from past data are reasonably good predictors of future loss distributions. If the loss distribution shifts significantly during short periods of time, such as one or two years, the insurer will be unable to estimate premiums or the required amount of equity capital and insurability will break down.

Diversity of Risk

The violation of any of the principal insurability conditions may create situations where risks are neither locally nor globally insurable. However, if other conditions are satisfied, such risks may be *globally diversifiable* through capital markets. Consider the example of events with low frequency and very high severity, where the covariances among the individual risks making up a portfolio are also relatively high. Examples of such risks are unusually severe hurricanes and earthquakes striking geographical regions with high concentrations of property values. For example, modelers have estimated that a $100 billion event in Florida or California has a probability of occurrence in the range of 1 in 100 (i.e., a “return period” of 100 years). The capacity of the insurance and reinsurance industries may be inadequate to insure such events.

However, events of this magnitude are small relative to the market capitalization of securities markets. Thus, by introducing securitized financial instruments representing insurance risk, catastrophic events in the $100 billion range are diversifiable across the financial markets, even though they may not be diversifiable in global insurance and reinsurance markets. Such events also have relatively low correlations with securities returns, effectively providing an attractive source of diversification for investors. Securitization extends the scope of diversification from insurance and reinsurance markets to the entire securities market, thus breaking down the problem of small *N*, large s ’s, and intra-insurance market correlations, in much the same way as reinsurance can reduce or eliminate the problem of non-insurability on the local level. Diversifying insurance-linked risk across the securities market provides the motivation for CAT bonds, which are discussed in more detail below.

The final category of risks consists of events that are so severe that they may not be globally diversifiable even through securities markets. It has been estimated that a severe earthquake in Tokyo could cause losses in the range of $2.1 to $3.3 trillion, constituting from 44 to 70% of the GDP of Japan (Risk Management Solutions, 1995). Although it is possible that global securities markets could absorb a significant fraction of such a loss, the full loss is unlikely to be fully diversifiable. I call such events *cataclysmic*, or *globally undiversifiable*.

Losses from mega-terrorism events may also fall into the globally undiversifiable category. Such losses are similar in many ways to losses arising from war, which are generally not amenable to private market insurance or diversification solutions. In addition to sharing the problems of small *N* and large μ and s with mega-losses from natural hazards, terrorism losses also pose the problem of being very difficult to estimate. Modelers have made significant progress in estimating losses from natural hazards. Modeling firms such as Applied Insurance Research, Equicat, and Risk Management Solutions have developed highly sophisticated models of natural hazard losses based on both statistical data and scientific models of hurricanes and earthquakes. The models have been parameterized using detailed mappings of exposures across the United States and in other major countries. The hurricane and earthquake perils are sufficiently stable in a statistical sense to give modelers confidence in their ability to predict the frequency and severity of future events and to enable insurers to use the models to manage their exposure to catastrophe risk.

Quantifying Terror

Terrorism events are inherently much more difficult to estimate than natural catastrophes. Few statistical data exist that can be used to estimate the parameters of loss distributions. Data on terrorism activities obtained by the government are confidential for national security reasons and hence not available to insurers to assist in estimating premiums and loss exposure. Moreover, terrorists constantly change strategies and tactics, making any predictions from past data inherently unreliable. Terrorists are likely to engage in “target substitution,” shifting their attention to targets that receive the least amount of security. Although some progress has been made in modeling the severity of mega-terrorism events, based on scientific knowledge about the effects of nuclear and conventional explosions and biological and radiation hazards, little information exists that can assist insurers in estimating the probability of terrorism losses. The possibility that terrorists could use weapons of mass destruction raises potential losses from mega-terrorism to levels far exceeding the potential losses from even the largest natural catastrophes.

Another major difference between terrorism and other types of catastrophes is that the frequency and severity of terrorist attacks are significantly affected by U.S. governmental policy. U.S. foreign policy directly impacts the motivation and likelihood of terrorist attacks from different militant factions. U.S. domestic policy and the success of government homeland security programs also affect the mitigation of terrorist attacks—both in preventing such attacks and mitigating the magnitude of any attack that does occur. Moreover, much of the information required to predict terrorist events is likely to remain highly classified and unavailable to those outside of agencies such as the FBI and CIA. In fact, one of the arguments proffered in support of a federal role in the provision of terrorism insurance was that terrorism events represent a negative externality of the national security policies of the sovereign government. Thus, there are significant reasons to believe that government may have to be the insurer of last resort, at least for mega-terrorism events……..

Public-Private Sector Solutions to Financing Catastrophic Risk

Public and private sector solutions to financing the risks of natural catastrophes and terrorism is discussed in the following section. There is a focus on the securitization of catastrophic risk. Public sector solutions to the catastrophic-risk problem are then discussed, including a review of public sector mechanisms currently in place in the United States and other industrialized nations. The Terrorism Risk Insurance Act (TRIA) is also examined.

CAT Bonds

Following Hurricane Andrew in 1992, efforts began to access securities markets directly as a mechanism for financing future catastrophic events. The first contracts were launched by the Chicago Board of Trade, which introduced catastrophe futures in 1992 and later introduced catastrophe put and call options. The options were based on aggregate catastrophe-loss indices compiled by Property Claims Services, an insurance industry statistical agent. Contracts were available based on a national index, five regional indices, and three state indices for California, Florida, and Texas.

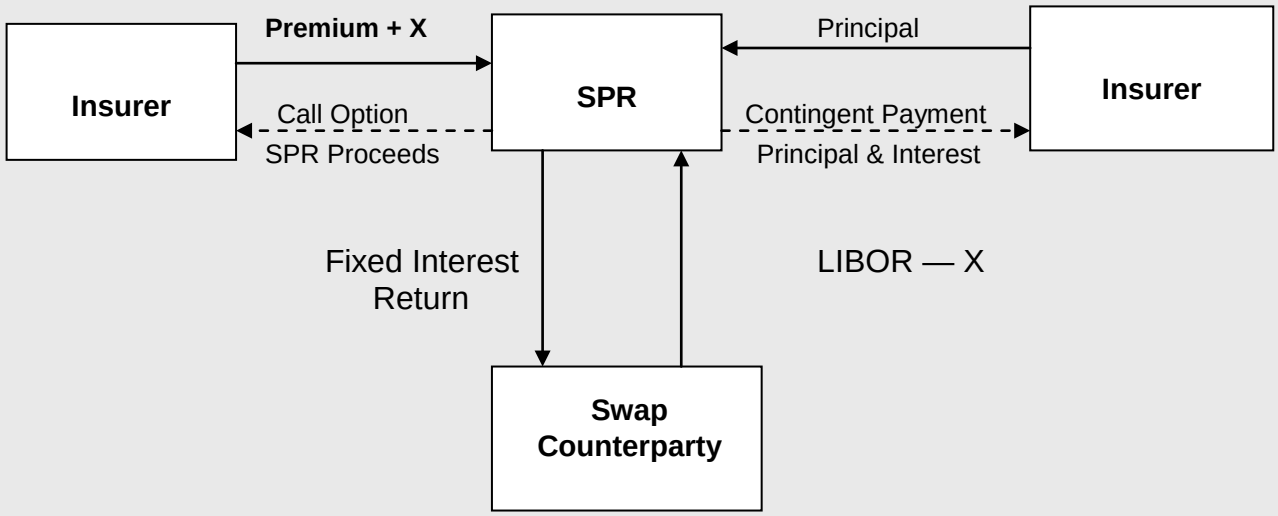
The contracts were later withdrawn because of lack of trading volume. Insurers had little interest in the contracts for various reasons, including the thinness of the market, possible counterparty risk on the occurrence of a major catastrophe, and the potential for disrupting long-term relationships with reinsurers. Another concern was that the contracts were subject to excessive basis risk; that is, the risk that payoffs under the contracts would be insufficiently correlated with insurer losses. A study by Cummins, Lalonde, and Phillips (2004) confirms that basis risk was a legitimate concern. They found that most insurers could not hedge their exposure to Florida hurricane risk very effectively using a statewide index but that all but the smallest insurers could hedge effectively using four intra-Florida regional indices.

Another early attempt at securitization involved contingent notes known as “Act of God” bonds. In 1995, Nationwide issued $400 million in contingent notes through a special trust, Nationwide Contingent Surplus Note Trust. Proceeds from the sale of the bonds were invested in 10-year Treasury securities, and investors were provided with a coupon payment equal to 220 basis points over that of Treasuries. Embedded in these contingent capital notes was a “substitutability” option for Nationwide. Given a pre-specified event that depleted Nationwide’s equity capital, Nationwide could substitute up to $400 million of surplus notes for the Treasuries in the trust at any time during a 10-year period for any “business reason,” with the surplus notes carrying a coupon of 9.22%. Surplus notes are debt securities issued by mutual insurance companies that regulators treat as equity capital for statutory accounting purposes. The issuance of such notes requires regulatory approval.

Although two other insurers issued similar notes, this type of structure did not achieve a significant segregation of Nationwide’s liabilities, leaving investors exposed to the general business risk of the insurer and to the risk that Nationwide might default on the notes. The structure that has achieved a greater degree of success is the CAT bond. CAT bonds were modeled on asset-backed-security transactions that have been executed for a wide variety of financial assets including mortgage loans, automobile loans, aircraft leases, and student loans. The first successful CAT bond was an $85 million issue by Hannover Re in 1994 (Swiss Re, 2001). The first CAT bond issued by a

nonfinancial firm, occurring in 1999, covered earthquake losses in the Tokyo region for Oriental Land Company, the owner of Tokyo Disneyland.

Figure 11 CAT Bond with a Single Purpose Reinsurer



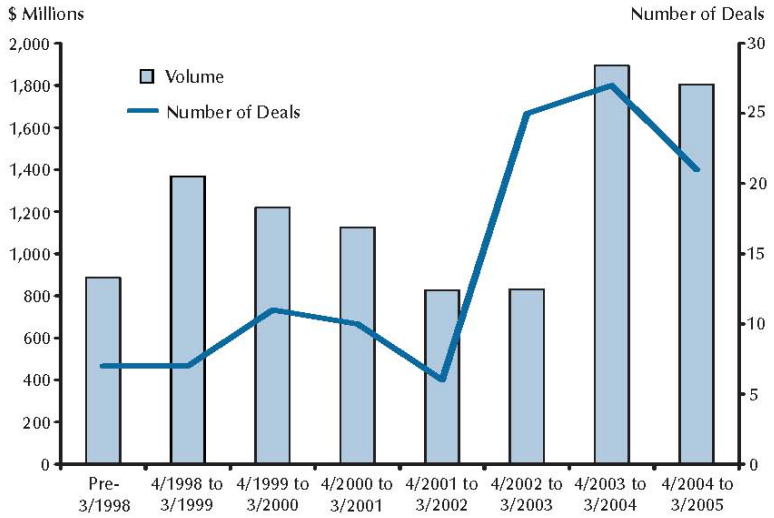
Catastrophe bonds are risk-linked securities that transfer a specified set of risks from a sponsor to investors. They are often structured as floating rate corporate bonds whose principal is forgiven if specified trigger conditions are met. A high-yield debt instrument that is usually insurance-linked and meant to raise money in case of a catastrophe such as a hurricane or earthquake. It has a special condition that states that if the issuer (insurance or reinsurance company) suffers a loss from a particular pre-defined catastrophe, then the issuer's obligation to pay interest and/or repay the principal is either deferred or completely forgiven. They are typically used by insurers as an alternative to traditional catastrophe reinsurance. Advantages of CAT bonds are that they are not closely linked with the stock market or economic conditions and offer significant attractions to investors. For example, for the same level of risk, investors can usually obtain a higher yield with CAT bonds relative to alternative investments. Another benefit is that the insurance risk securitization of CATs shows no correlation with equities or corporate bonds, meaning they'd provide a good diversification of risks.

A CAT bond structure is shown in Figure 11. The transaction begins with the formation of a single purpose reinsurer (SPR). The SPR issues bonds to investors and invests the proceeds in safe securities such as Treasury bonds. Embedded in the bonds is a call option that is triggered by a defined catastrophic event. On the occurrence of the event, proceeds are released from the SPV to help the insurer pay claims arising from the event. In most bonds issued to date, the principal is fully at risk; that is, if the contingent event is sufficiently large, the investors could lose the entire principal in the SPV. In return for the option, the insurer pays a premium to the investors. The fixed returns on the Treasuries are usually swapped for floating returns based on LIBOR or some other widely accepted index. Consequently, the investors receive LIBOR plus the risk premium in return for providing capital to the trust. If no contingent event occurs during the term of the bonds, the principal is returned to the investors upon the expiration of the bonds. Insurers prefer to use an SPR to capture the tax and accounting benefits associated with traditional reinsurance. Some argue that an important advantage of CAT bonds as a financing mechanism is that corporate tax costs are lower for CAT

bonds than for financing through equity; also, CAT bonds pose less risk in terms of potential future degradations of insurer financial ratings and capital structure than financing through subordinated debt (Harrington and Niehaus (2003)).

Figure 12

CAT Bonds: New-Issue Volume and Number of Deals, 1998-2005



Source: Lane Financial (2005)

Investors prefer SPRs to isolate the risk of their investment from the general business and insolvency risks of the insurer, thus creating an investment that is a “pure play” in catastrophic risk. As a result, the issuer of the securitization can realize lower financing costs through segregation. The transaction also is more transparent than a debt issue by the insurer, because the funds are held in trust and are released according to carefully defined criteria. The bonds also are attractive to investors because catastrophic events have low correlations with returns from securities markets and hence are valuable for diversification purposes (Litzenberger, Beaglehole, and Reynolds, 1996). Although the $100-billionplus “Big One” hurricane or earthquake could drive down securities prices, creating systematic risk for CAT securities, this systematic risk is considerably lower than for most other types of assets, especially during more normal periods.

In the absence of a traded underlying asset, insurance-linked securities have been structured to pay-off on three types of variables: insurance industry catastrophe loss indices, insurer-specific catastrophe losses, and parametric indices based on the physical characteristics of catastrophic events. The choice of a triggering variable involves a trade-off between moral hazard and basis risk. Securities based on insurer-specific (or hedger-specific) losses, often called indemnity CAT bonds, have no basis risk but expose investors to moral hazard; whereas securities based on industry loss indices or *parametric* triggers greatly reduce moral hazard but expose hedgers to basis risk. CAT bonds are an innovative financing solution. However, the concept is actually not a new one. It is similar to the practice of bottomry, which dates at least to classical Greek and Roman times. In a bottomry contract, the lender extended loan to finance a voyage. If the ship returned to port, the loan was repaid with interest, but if the ship sank, the loan was forgiven.

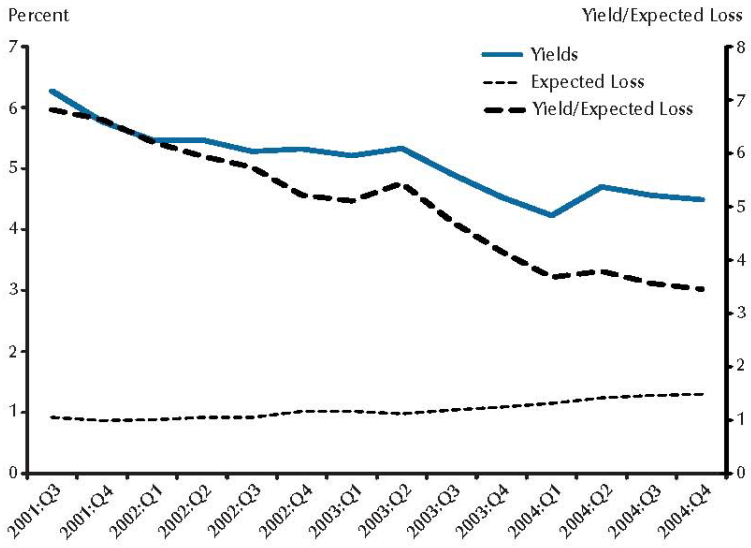
Pecuniarily Puny

However, although there have been approximately 120 bonds issued to date, the amount of risk capital that has been raised remains small relative to the global reinsurance market. The number of issues and risk capital raised are shown in Figure 12, which shows a total of about $10 billion raised by March 2005. In comparison, the equity capital of the global reinsurance industry and the U.S. property-casualty insurance industry are approximately $350 billion and $400 billion, respectively. However, the potential for the use of securities markets to finance catastrophic risk is significant. The amount of asset-backed securities outstanding is nearly $2 trillion (Bond Market Association, 2006).

Because of the as-yet unrealized potential of the CAT bond market, it is of interest to explore the possible reasons for the limited amount of risk capital raised to date. One possible explanation is that the bonds appear expensive relative to conventional reinsurance. Structuring a CAT bond deal requires significant expenditures on professional expertise from investment bankers, accountants, actuaries, and lawyers. In addition, the spreads on the bonds have tended to be high—often several times the expected losses on the bonds. Cummins, Lalonde, and Phillips (2004) tabulate spreads on CAT bonds issued from 1997 through March of 2000 and find that the median ratio of bond spread to expected loss is 6.77.

Figure 13

CAT Bonds Absolute and Relative Yields



Source: Lane Financial (2005)

Possible explanations for the high-risk premium on the bonds include investor unfamiliarity with the contracts (a “novelty” premium), the low liquidity of the contracts issued to date (a liquidity premium), and investor uncertainty about the accuracy of the models used to estimate expected losses of the reinsurance (a “model risk” premium). The expected losses under CAT bonds are estimated by catastrophe modeling firms such as Applied Insurance Research and Risk Management Solutions. These firms have developed elaborate and highly sophisticated simulation models that simulate catastrophic events using meteorological and seismological models along with actuarial

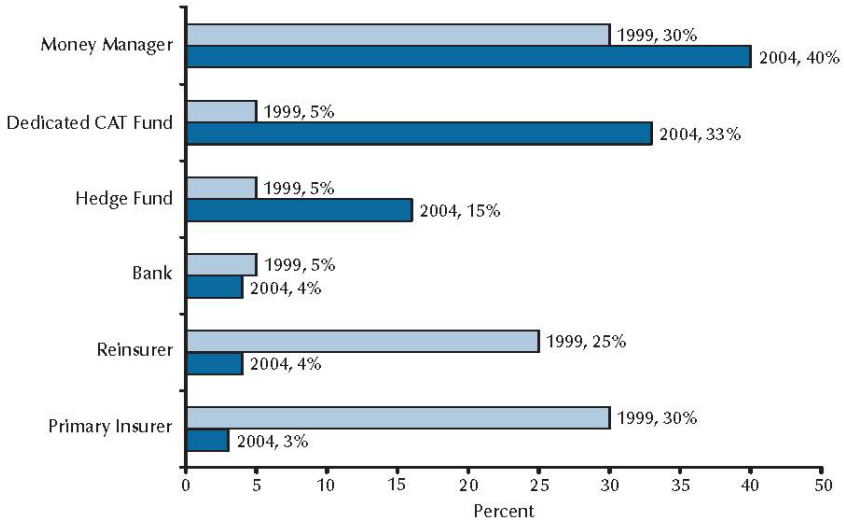
and other modeling approaches. They have constructed extensive data bases on the value of property exposed to loss in the United States and other major countries.

In addition, although the catastrophic events observed in the United States before the mid-1990s have been uncorrelated with returns in securities markets, this may not be true of a mega-earthquake in California or even a hurricane of the magnitude of Katrina. Thus, the spreads may also reflect a “stealth beta” premium.

Although CAT bonds seem to sell at high premiums over expected losses, in fact, prices of conventional excess-of-loss reinsurance also tend to have high spreads. Froot (2001) documents spreads up to seven times expected losses during the period 1989-98 in the catastrophe reinsurance market. Thus, it is more likely that the high spreads are due to the fact that catastrophe risk is expensive to hedge rather than due to a peculiarity of CAT bonds per se. Moreover, the costs of financing catastrophe risk through CAT bonds have been declining. Investment banks have succeeded in reducing transactions costs as they have gained experience with insurance-linked securitizations, and the spreads on the bonds have fallen over time. This is shown in Figure 13, which plots the average spread on CAT bonds and the average expected loss on the left axis and the ratio of the spread to the expected loss on the right axis, from the third quarter of 2001 through the fourth quarter of 2004. Spreads were averaging 600 basis points at the beginning of the period shown but had declined to about 450 basis points by the end of 2004. In addition, the ratio of the spread to the expected loss declined from around 7 in 2001:Q3 to about 3.5 in 2004:Q4. Another rationale sometimes given for the limited size of the CAT bond market is lack of investor interest. Although that may have been true at one time, recent data suggest that there is broad market interest in CAT bonds among institutional investors. Figure 14 shows the percentage of new issue volume by investor type in 1999 and 2004. In 1999, insurers and reinsurers were among the leading investors in the bonds, accounting for more than 50% of the market; that is, insurers were very prominent on both the supply and demand sides of the market.

Figure 14

CAT Bonds: Percentage of New-Issue Volume Purchased by Investor Type



Source: Swiss Re, Economic Research and Consulting.

However, in 2004, insurers and reinsurers accounted for only 7% of demand. Money managers and hedge funds bought 56% of the 2004 bond issues, and dedicated CAT bond mutual funds accounted for 33%. The declining spreads and increasingly broad market interest in the bonds provide some indication that the bonds may begin to play a more important role relative to conventional reinsurance.

Other Issues

There are also regulatory and accounting issues that may be impeding the more widespread usage of CAT bonds. U.S. insurance regulators have two concerns about CAT bonds:

(i) non-indemnity CAT bonds may expose insurers to excessive basis risk and
(ii) insurers may use securitized risk instruments as speculative investments.

As a result, some regulators may deny reinsurance accounting treatment for non-indemnity CAT bonds. Fortunately, however, it is relatively straightforward to satisfy both concerns and avoid regulatory problems. Contracts can be structured to pay-off on narrowly defined geographical indices or combinations of indices that are highly correlated with the insurer's losses. Concerns about speculative investing can be addressed through dual-trigger contracts, where two triggers have to be satisfied for the insurer to collect, one based on an industry loss index and the second based on the insurer's own losses from the event. The insurer's payoff is based on its *ultimate net loss*, a familiar reinsurance concept equal to the insurer's total loss from an event less collections under reinsurance contracts. This dual-trigger approach was developed in the market for industry loss warranties, which is a segment of the reinsurance market offering this type of contract (McDonnell, 2002). A second potential issue mentioned in some discussions is uncertainty about whether SPRs need to be consolidated on insurers' GAAP (generally accepted accounting principles) financial statements under new rules regarding "variable interest entities" (VIEs) that were adopted post-Enron. However, based on conversations with industry experts, it appears that properly structured CAT bonds do not encounter problems from VIE rules. With the usual CAT bond structure shown in Figure 11, the SPR is a VIE, but the variability (uncertainty about the payoff from the structure to investors) is entirely passed through to the bond holders. The insurer has no variable (equity ownership) interest but merely pays periodic premiums to the SPR and receives a contingent payout if the defined event occurs. Finally, although CAT bonds have not been granted the tax-free conduit status that is available in the mortgage-backed and asset-backed securities markets, off-shore CAT bonds do not create taxable events for the issuing insurer.

The insurer deducts the premium payments to the SPR, and the bond investors pay taxes on the income received from the SPR in the appropriate jurisdiction. Hence, although it would facilitate development of the market to have the regulatory and accounting rules simplified and clarified, these rules currently do not constitute insurmountable obstacles to risk-linked securitizations. Besides the Chicago Board of Trade options and CAT bonds, other capital market solutions to the problem of financing catastrophic loss have been introduced, including catastrophe equity puts (Cat-E-Puts). Unlike CAT bonds, Cat-E-Puts are not asset-backed securities but options. In return for a premium paid to the writer of the option, the insurer obtains the option to issue preferred stock at a pre-agreed price on the occurrence of a contingent event. This enables the insurer to raise equity capital at a favorable price after a catastrophe, when its stock price is likely to be depressed. Cat-E-Puts tend to have lower transactions

costs than CAT bonds because there is no need to set up an SPR. However, because they are not asset-backed, these securities expose the insurer to counterparty performance risk. In addition, issuing the preferred stock can dilute the value of the firm's existing shares.2020 For further discussion of capital market approaches to financing catastrophic risk, see Anderson (2005), Pollner (2001), and Swiss Re (2001). Other innovative solutions, involving hybrids of traditional reinsurance and newer approaches, are discussed in Cummins (2005).

Government Involvement in Catastrophe Insurance Markets

The difficulties faced by insurance markets in financing catastrophic risk have given rise to pressures for government to become involved in the market. Government involvement usually occurs when there has been a major failure in private insurance markets. In the United States, the federal government provides subsidized flood insurance; and the current markets for hurricane coverage in Florida and earthquake insurance in California exist largely due to state government intervention. Other states, such as Alabama and Louisiana, have also established residual market property insurance facilities analogous to the one in Florida; and many other states have Fair Access to Insurance Requirements (FAIR) residual market plans to provide insurance to buyers who cannot find coverage in the voluntary insurance market. I focus here on the California and Florida plans because of their prominence and exposure to large catastrophes. (Jenkins, 2006).

By adopting TRIA, the U.S. government intervened to create a market for terrorism insurance. Governments of several other industrialized countries have also intervened in the markets for catastrophe insurance. This section provides a review of the principal government programs for catastrophe insurance. Because these programs are subject to book-length treatment elsewhere (e.g., Organization for Economic Co-operation and Development [OECD], 2005a,b), the discussion of program characteristics is brief. The discussion also emphasizes the programs adopted in the United States.

Federal Flood Insurance

In the United States, the federal government provides flood insurance through the National Flood Insurance Program (NFIP), administered by the Federal Emergency Management Agency (FEMA). The flood program was enacted in 1968 in response to a market failure in the private flood insurance market, where floods were generally viewed as uninsurable because of the concentration of risk in specific areas and the resulting potential for catastrophes (Moss, 1999). Flood insurance was viewed from a policy perspective as a way to prefund disaster relief and provide incentives for risk mitigation. This type of insurance is important because homeowners insurance and other types of property insurance policies exclude coverage for floods.

NFIP flood insurance policies are offered at prices that are subsidized for many buyers and are sold through private insurers, although the federal government bears the risk. The program was designed to be self-supporting and has the ability to borrow from the government to pay claims. The stated objectives of the program are

(i) to provide flood insurance coverage to a high proportion of property owners who would benefit from such coverage,
(ii) to reduce taxpayer-funded disaster assistance resulting from floods, and

(iii) to reduce flood damage through flood-plain management and enforcement of building standards

By August 2005, Jenkins (2006) estimated that the NFIP had approximately 4.6 million policyholders in 20,000 communities. From 1968 through August of 2005, the NFIP had paid $14.6 billion in insurance claims, primarily funded by policyholder premium payments. Although the program might seem to be a success (in terms of the amount of coverage provided and claims that have been paid), in fact, the NFIP is badly in need of reform. The program is not actuarially sound, with some policyholders paying premiums representing only 35 to 40% of expected costs (Jenkins, 2006). Following the record losses from hurricanes in 2004 and 2005, the program is currently bankrupt and could not continue to exist in its present state if it were a private insurer. Moreover, the program pays significant amounts of money to repair or replace "repetitive-loss properties;" that is, properties that receive loss payments of $1,000 or more at least twice over a 10-year period. It is estimated that such properties, which represent only 1% of covered properties, account for 25 to 30% of all loss payments (Jenkins, 2006). Insurance penetration rates are low, even in the most flood-prone areas, with as little as 50% of exposed properties covered by insurance. In Orleans Parish, which includes New Orleans, only about 40% of properties were covered by flood insurance at the time Katrina struck (Bayot, 2005) and coverage rates were even lower in parts of Mississippi. The NFIP also has been criticized for not providing effective oversight of the approximately 100 insurance companies and thousands of insurance agents and claims adjusters who participate in the flood program (Jenkins, 2006).

Reforming the NFIP should become a top priority for federal disaster planning. Having high rates of flood insurance coverage can significantly reduce taxpayer-funded disaster-relief payments following catastrophes, and charging actuarially sound premiums would provide proper incentives for flood-plain management. (For further discussion of the role of insurance in risk mitigation, see Kunreuther (1996)).

There are two approaches that could be taken to reforming the program:

(i) Continue providing federal flood insurance but fix the problems with the current program. This would entail charging premiums sufficient to cover both claims and program expenses and providing a safety cushion to build up reserves during low-loss years to reduce the need for federal borrowing during years when catastrophes occur. Further, other problems identified by the GAO would also need to be rectified.

(ii) Adopt a solution with a higher degree of private sector involvement. This could be done following the pattern of the federal terrorism program by requiring private insurers to "make available" private flood insurance policies at actuarially determined prices in flood-prone areas.

Although it is probable that private insurers could provide such coverage without federal support, by issuing disaster bonds (similar to CAT bonds) and through conventional reinsurance solutions, consideration should be given to providing federal reinsurance at prices that would be self-supporting in the long run. The private sector solution is attractive for a number of reasons, including the relative efficiency of insurers in settling insurance claims in comparison with the often chaotic federal response to disaster relief. Under either solution to NFIP reform, rules should be tightened to eliminate repetitive-loss properties from the program, and lenders should be required to enforce mandatory

participation in the program as a condition for granting and retaining mortgage loans, as is presently done for homeowners insurance.

Windstorm Coverage in California and Florida

Windstorm coverage is presently provided by private insurers through homeowners and other property insurance policies. The California and Florida programs are noteworthy in that they do not involve the direct government provision of insurance but the creation of quasigovernmental entities not supported by taxpayers. Following the 1994 Northridge earthquake, the market for earthquake insurance in California collapsed as private insurers stopped writing coverage. The California legislature responded in 1996 by creating a quasi-public entity, the California Earthquake Authority (CEA), to provide earthquake insurance to Californians. The CEA is not a government agency but operates under constraints mandated by the legislature.

Specifically, the policies written by the CEA are earthquake “mini-policies” designed by the legislature that provide less-extensive coverage than provided by private insurers pre-Northridge. The legislature also mandated that coverage be provided at sound actuarial prices, although these have been “tempered” somewhat to subsidize policyholders in high-risk areas. The legislature also required that the CEA be funded by capital contributions of about $700 million from private insurers licensed in California in lieu of requiring them to write earthquake insurance. The CEA had claims-paying ability of about $6.9 billion at the end of 2004 (PricewaterhouseCoopers, 2005). Putting this in perspective, recall that the Northridge earthquake caused insured losses of $18.5 billion (Table 1). However, because of the mini-policies and because fewer residences have earthquake insurance now than before 1994, it is probable that the CEA could withstand damages on the scale of Northridge. Since the creation of the CEA, private insurers have re-entered the California earthquake market. In 2004, approximately 150 companies wrote nonzero earthquake insurance premiums in California (California Department of Insurance, 2005). Of the $985 million in California earthquake premiums written in 2004, however, the CEA accounted for 47.3%; and private insurers generally write insurance in relatively low-risk areas of the state (Jaffee, 2005). Nevertheless, the design of the CEA, and especially its mandate to charge actuarially justified premium rates, has had the effect of not crowding-out the private sector. Something of a puzzle in the California market, however, is that only a small proportion of eligible property owners actually purchase the insurance. In the homeowners market, 33% of eligible properties purchased earthquake insurance in 1996, the CEA’s first year, but only 13.6% had insurance in 2003. The rationale usually given for the low market penetration is that most buyers consider the price of insurance too high for the coverage provided, even though premiums are close to the expected losses (Jaffee, 2005). As in California following Northridge, the hurricane market in Florida was significantly destabilized by Hurricane Andrew in 1992. (For further economic analysis of the Florida windstorm insurance market, see Grace, Klein, and Liu (2006)).

In response to insurer attempts to withdraw and re-price windstorm coverage following the event, the state placed restrictions on the ability of insurers to decline renewal of policies and to increase rates. To provide an escape valve for policyholders who were unable to obtain coverage, the state created the Florida Residential Property and Casualty Joint Underwriting Association (FRPCJUA), a *residual market facility*. Insurers doing business in the state were required to be members of the facility, which insured

people and businesses who could not obtain property coverage from the voluntary insurance market.

The FRPCJUA was empowered to assess insurers if premiums were not sufficient to pay claims, and there was no explicit government backing. A similar residual market facility was formed to provide “wind only” coverage along the coast— the Florida Windstorm Underwriting Association. In 2002, the two residual market plans were merged to form the Citizens Property Insurance Corporation, a tax-exempt entity that provides coverage to Floridian consumers and businesses who cannot find coverage in the voluntary market. Citizens operates like an insurance company in charging premiums, issuing policies, and paying claims. If premiums are insufficient, it has the authority to assess insurers doing business in the state to cover the shortfall. It also has the ability to issue tax-exempt bonds if necessary. Citizens was severely stressed by the four hurricanes that hit Florida in 2004, as it struggled to handle the massive numbers of claims that were filed. In 2004, Citizens wrote $1.4 billion in premiums, accounting for 34% of the Florida property insurance market. Unlike California earthquake insurance, the market penetration of property insurance coverage in Florida is very high, in part because mortgage lenders require mortgagors to purchase insurance. To provide additional claims-paying capacity, Florida also created the Florida Hurricane Catastrophe Fund (FHCF), a state-run catastrophe reinsurance fund designed to assist insurers writing property insurance in Florida.

Insurers writing residential and commercial property insurance in the state are required to purchase reinsurance from the FHCF based on their exposure to hurricane losses in the state. The FHCF does not have state financial backing. However, it is operated as a state agency and is exempt from federal income taxes, enabling it to accumulate funds more rapidly than private insurers. In addition, the fund has the authority to assess member insurers within limits in case premiums and reserve funds are insufficient and also has the ability to issue tax exempt bonds. The catastrophe reinsurance issued by the fund kicks in after an industry retention of $4.5 billion, and the fund has claims-paying ability of about $15 billion. The FHCF helped to stabilize the property insurance market following the 2004 hurricane season and Hurricane Wilma in 2005. The California and Florida experience shows that government can play an important role in making insurance available without directly committing taxpayer funding. These programs also have the virtue of not crowding-out private insurers, although it is possible that the mandatory purchase feature of the FHCF may have crowded out some private reinsurance. However, because these are government-mandated and –designed programs, they probably are not as efficient as purely private market solutions.

TERRORISM INSURANCE

Prior to the September 11, 2001, terrorist attacks, terrorism was generally covered by most property-casualty insurance policies. In fact, the risk was considered so minimal by insurers that terrorism was usually included at no explicit price. Likewise, reinsurers generally covered primary companies for terrorism as part of their reinsurance coverage; and reinsurers paid most of the claims resulting from the WTC attack. After 9/11, however, reinsurers began writing terrorism exclusions into their policies, leaving primary insurers with virtually no opportunity to reinsure their exposure. As a result, the primary insurers sought to write terrorism exclusions into their own policies. Recognizing that substantial exposure to terrorism risk without adequate reinsurance could pose insolvency risks, state insurance regulators rapidly approved terrorism

exclusions. By early 2002, insurance regulators in 45 states allowed insurers to exclude terrorism coverage from most of their commercial insurance policies. An exception to the general exclusion of terrorism from commercial insurance policies following 9/11 is coverage for workers compensation insurance, which is mandated by state law to cover work injuries from all causes. The states did not revise the workers compensation laws to allow terrorism exclusions. Terrorism exclusion also were not introduced for personal-lines policies such as automobile and homeowners insurance.

In February 2002, the Government Accounting Office (GAO) gave congressional testimony providing "examples of large projects canceling or experiencing delays...with the lack of terrorism coverage being cited as the principal contributing factor" (Hillman, 2002, p. 9). According to a survey by the Council of Insurance Agents and Brokers, in the first quarter of 2002, the market for property/casualty insurance experienced "sharply higher premiums, higher deductibles, lower limits and restricted capacity from coast to coast and across the major lines of commercial insurance."[7]

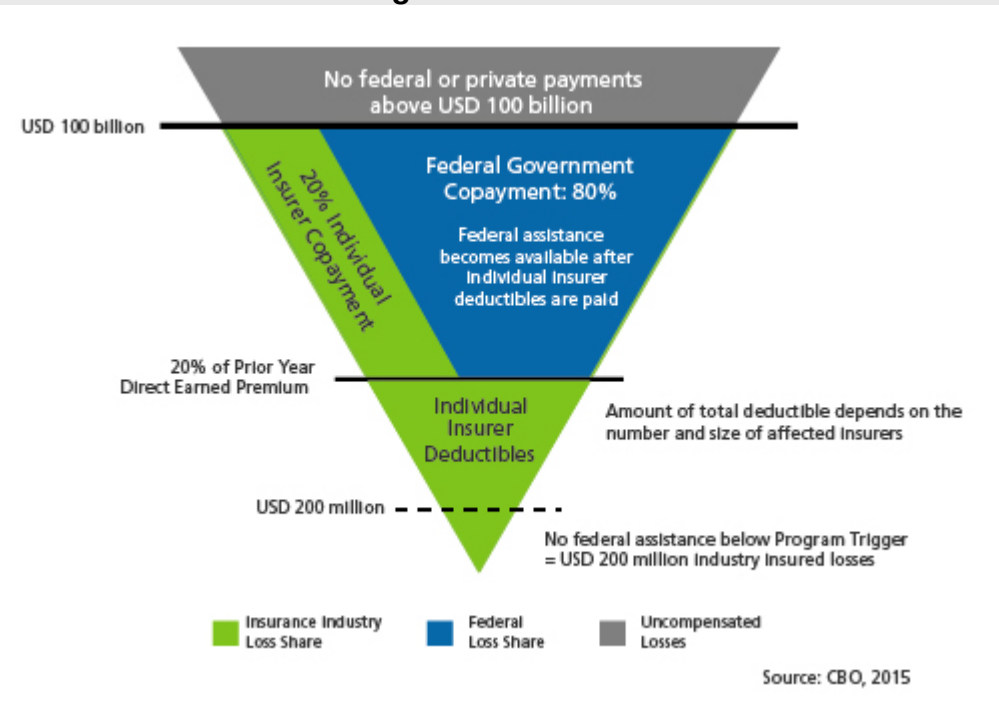
In November 2002, Congress responded to these problems by passing TRIA. Through TRIA, the federal government required property-casualty insurers to offer or "make available" terrorism insurance to commercial insurance customers and created a federal reinsurance backstop for terrorism claims. TRIA established the Terrorism Insurance Program within the Department of the Treasury. The program, which has been extended through December 31, 2007, covers commercial property/casualty insurance—all insurers operating in the United States are required to participate. Insurers are required to "make available property and casualty insurance coverage for insured losses that does not differ materially from the terms, amounts, and other coverage limitations applicable to losses arising from events other than terrorism" (U.S. Congress, 2002, p. 7). The legislation thus nullified state terrorism exclusions and requires that insurers offer terrorism coverage.
The wording of the Act implicitly omits coverage of chemical, biological, radiological, and nuclear (CBRN) hazards, which are not covered by most commercial Property/casualty policies. The TRIA Extension Act in 2005 excluded some types of commercial insurance that had been covered under the original TRIA. Specifically, coverage was eliminated for commercial auto, burglary, surety, professional liability, and farm owners multiple-peril insurance (Marsh, 2005b).

For the federal government to provide payment under TRIA, the Secretary of the Treasury must certify that a loss was due to an act of terrorism, defined as a violent act or an act that is dangerous to human life, property, or infrastructure, and to have "been committed by an individual or individuals acting on behalf of any foreign person or foreign interest, as part of an effort to coerce the civilian population of the United States or to influence the policy…of the United States Government by coercion" (U.S. Congress, 2002, p. 3). Acts of war are excluded, and losses from any terrorist act must exceed a specified monetary threshold before the Act takes effect. The threshold was originally $5 million, increasing to $50 million in 2006 and $100 million in 2007.

In early 2015, Congress answered the calls from the insurance industry and many other business sectors across the country by reauthorizing the federal backstop program again.

[7] Council of Insurance Agents and Brokers (2002).

Figure 15
TRIPRA 2015 Loss Sharing for the Year 2020



Note: TRIA is extended by the Terrorism Risk Insurance Program Reauthorization Act of 2015 (TRIPRA 2015)

Under TRIPRA 2015, the insurer copay will gradually increase each year from 15% ultimately to 20%. Once all the initial criteria for federal coverage have been met, an insurer who incurs losses resulting from a certified act of terrorism is required to first cover a portion of the losses- the insurer deductible. The amount of each individual insurer's deductible is calculated as 20% of the insurer's direct earned premiums in TRIPRA-eligible lines of business for the previous calendar year. For losses in excess of the insurer deductible, each insurer is also required to cover a pro-rata share of the losses, or copayment, with the federal government providing compensation for the remaining losses.

The annual cap on liability also still applies under TRIPRA 2015, which means that no federal or private insurer payments are compensated for any portion of aggregate industry insured losses exceeding USD 100 billion. TRIPRA 2015 also increases the industry annual aggregate retention from USD 29.5 billion to USD 37.5 billion in 2019, the fifth and penultimate year of the program. In 2020, the final year of TRIPRA 2015, the retention will rise to an amount equal to the average of all participating insurers' deductibles over the previous three program years. The Congressional Budget Office (CBO) has estimated that this amount could be as much as USD 50 billion.

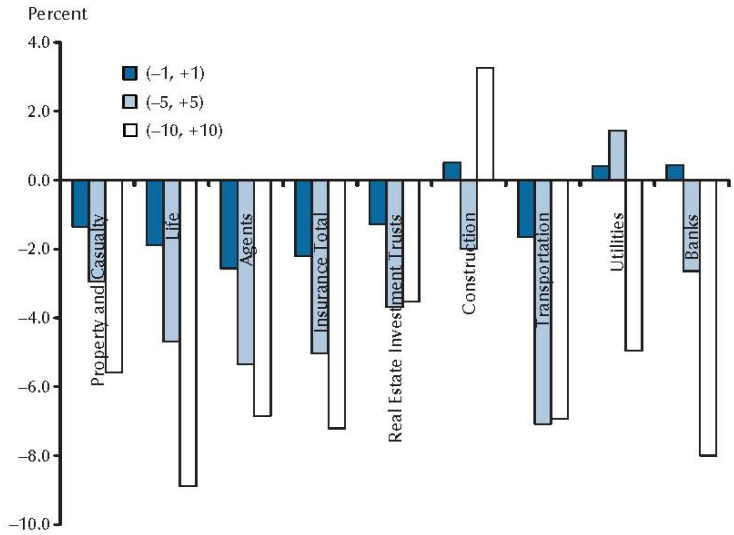
An Evaluation of TRIA

In making the case for TRIA, the president of the United States, Congress, and business leaders argued that the lack of terrorism insurance was having an adverse effect on important segments of the economy, citing cancelled or postponed construction projects, downgrades of commercial and multi-family mortgage securities, and other deleterious effects. However, the evidence was mostly anecdotal and solid evidence of a macroeconomic impact from the restrictions on terrorism insurance during

2002 has been hard to find. One paper that looked at several macroeconomic time series, such as bank construction lending and new construction put in place, did not find any noticeable interruption in trends that had existed before September 11, 2001 (Brown et al., 2004). A paper by Hubbard and Deal (2004) purports to show that the expiration of TRIA would have a significant adverse impact on the macroeconomy. However, the paper appears to have been written as an advocacy document, and the analysis is not very convincing.

Figure 16

Stock Price Impact of the Passage of TRIA (11/20/2002)



Source: Brown et al. (2004).

Nevertheless, the general assumption has been that restrictions on terrorism insurance are bad for the economy, providing a rationale for a federal role. This section briefly considers the macroeconomic impact of TRIA, analyzes TRIA's success in restoring the market for terrorism insurance, and evaluates the likely impact if TRIA eventually expires. Brown et al. (2004) provide evidence on the expected economic effects of TRIA by investigating the stock price reaction to the Act's adoption on the industries most likely to be affected by terrorism insurance. They conduct a standard event study of 11 TRIA-related news announcements, culminating in the president signing the bill into law on November 26, 2002. The stock price impact on affected industries of the bill's passage by Congress on November 20, 2002, is representative of the general conclusions of the study. The results, shown in Figure 16, reveal that TRIA's passage had an adverse impact on the stock prices of firms in the insurance, banking, real estate investment trusts, and transportation industries and a negative long-window impact on public utilities. Only in the construction industry is there any evidence of a positive stock price impact from TRIA, and this effect is not statistically significant.

The results imply that TRIA's passage caused the stock market to reduce its estimates of expected future cash flows in nearly all affected industries. It is relatively easy to explain the negative stock price reaction of property-casualty insurers to the passage of TRIA. Prior to TRIA, the availability of terrorism insurance was sharply curtailed, revealing that many insurers did not believe they could write terrorism insurance at a profit. TRIA nullified most coverage restrictions and required insurers to offer coverage

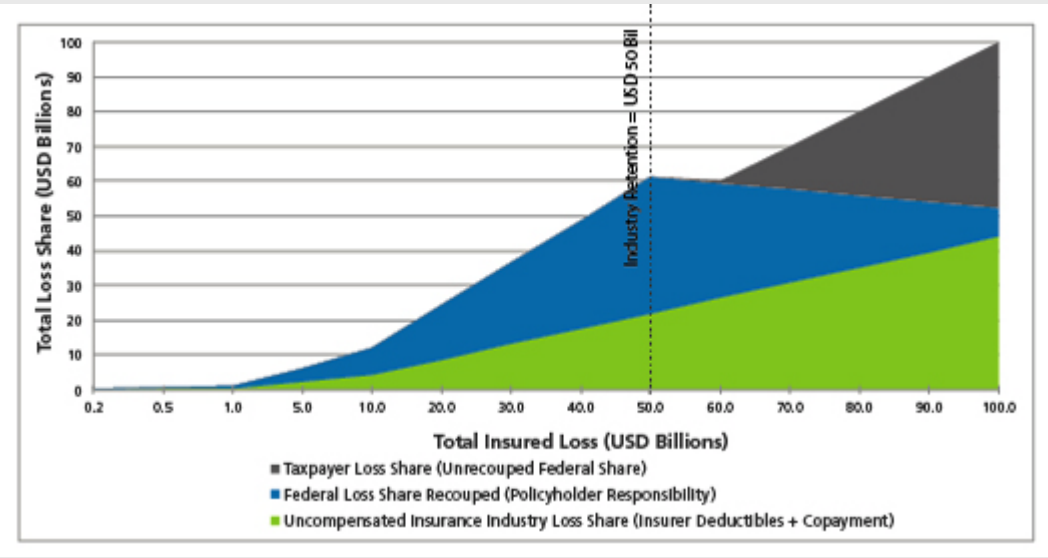
that they did not want to provide and, moreover, exposed insurers to significant potential losses from TRIA's deductible, copayment, and recoupment provisions. Although TRIA left the pricing of terrorism insurance to the private market, states regulate insurance prices; and attempts by insurers to avoid providing coverage by offering insurance at excessive prices would attract adverse regulatory attention. Thus, as shown further below, a considerable amount of terrorism insurance has been offered under TRIA that probably would not have been available without TRIA's "make available" rule.

Because the purchase of terrorism insurance is not mandatory under TRIA, it is more difficult to explain the adverse stock price reaction in industries that are buyers rather than sellers of insurance. At first glance, the Act provided firms in these industries with a no-obligation option to buy terrorism insurance that may not have been available otherwise. However, a more careful look reveals some possible reasons for the negative stock price reaction. Brown et al. (2004) provide two possible explanations. A first explanation is a type of "Samaritan's dilemma" problem. That is, the Act may have reduced market expectations with respect to future federal assistance for firms and industries affected by terrorist events by substituting a federal reinsurance program for a potentially more open-ended implicit government commitment. The second explanation is that TRIA may have created insurance market inefficiencies by impeding the development of more-efficient private market mechanisms for financing terrorism losses, especially because no premium is charged for the federal reinsurance. A third possible explanation, which conflicts somewhat with the Samaritan's dilemma argument, is that TRIA implicitly excludes coverage for CBRN hazards, which have the potential to cause the most severe losses.

Although initial reports indicated that take-up rates (the percentage of buyers who accept insurers' offers of terrorism insurance) under TRIA were very low, more recent data reveal that significant amounts of terrorism insurance have been purchased under TRIA. Marsh (2004, 2005a) surveyed their clients in 2004 and 2005 to provide information on terrorism coverage. The results are shown in Figure 17, which provides quarterly take-up rates based on approximately 2,400 Marsh clients from 2003:Q2 to 2004:Q4. The take-up rate increased from 23% in 2003:Q2 to 48% in 2004:Q4. Thus, the large firms which constitute Marsh's clientele demonstrated a significant demand for terrorism insurance, especially in 2004.

Source: Marsh (2005a)

Further evidence on terrorism insurance take-up rates is provided by surveys conducted by the U.S. Department of the Treasury (2005) as part of its congressional mandate to provide an evaluation of TRIA's effectiveness. The Treasury surveys are a valuable complement to the Marsh surveys because they also included smaller firms. The results, shown in Figure 18, indicate that the take-up rate increased from 27% in 2002 to 54% in 2004. This provides further evidence that a strong demand for terrorism insurance has existed under TRIA. The 2002 results are also important because they reveal that terrorism insurance did not disappear between September 11, 2001, and the passage of TRIA. In fact, significant amounts of coverage were being offered and purchased during this period, even though no federal reinsurance was in effect.

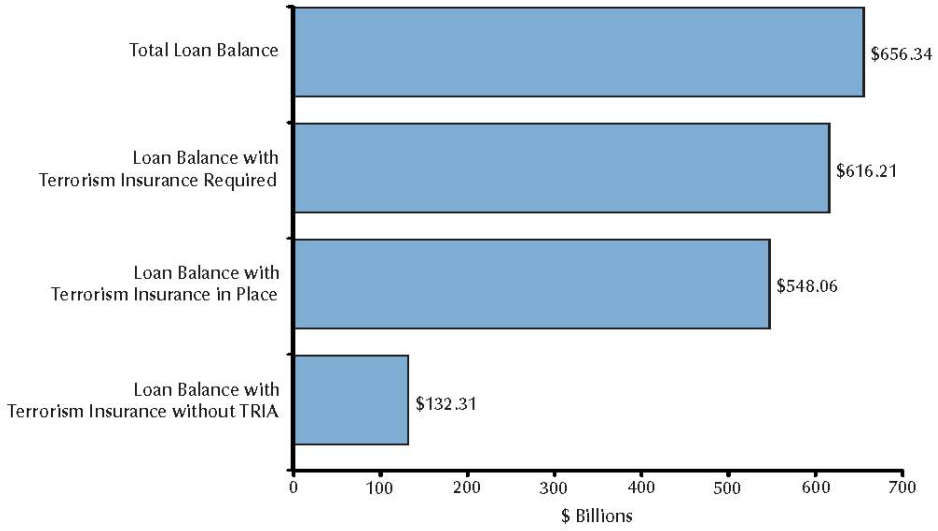


Source: U.S. Department of the Treasury (2005)

The final source of evidence on take-up rates is a survey conducted in 2004 by the Mortgage Bankers Association (2004). The Association surveyed the commercial and multi-family mortgage market to determine the prevalence of terrorism insurance protection for properties covered by these types of mortgages. The results, shown in Figure 19, reveal that lenders require terrorism insurance for mortgages, accounting for about 94% of loan balances.

Figure 19

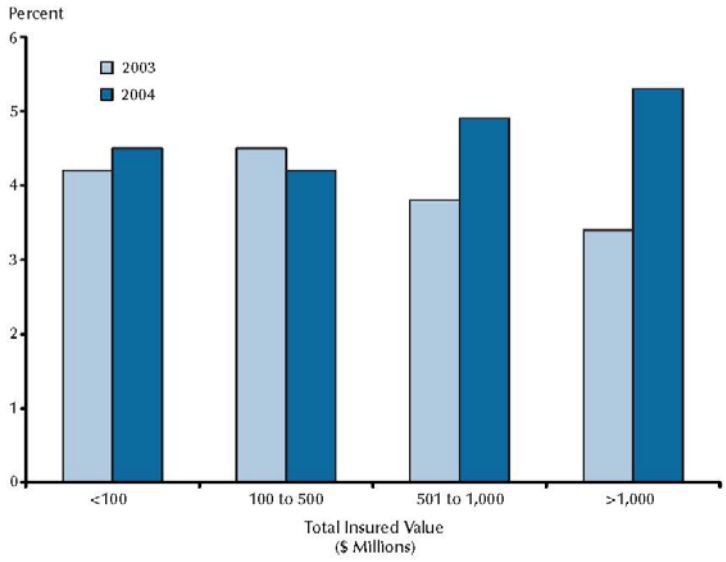
Terrorism Insurance in the Commercial/Multi-family Mortgage Market, 2004



Source: Mortgage Bankers Association (2004)

Figure 20

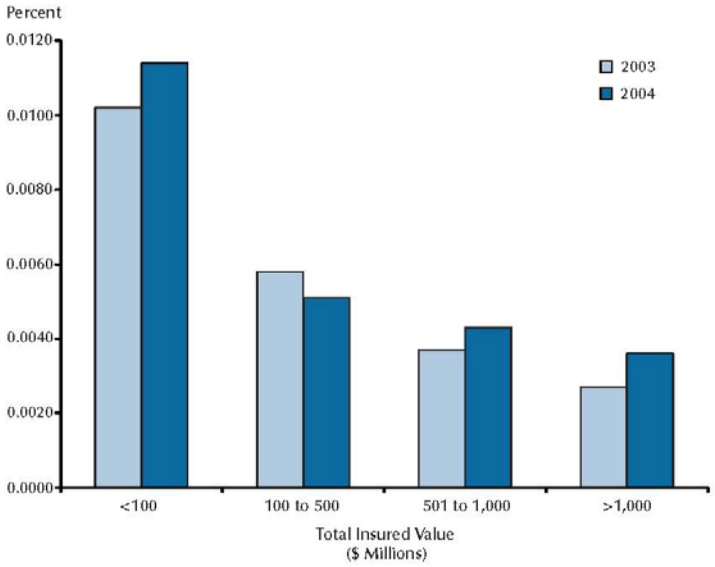
Terrorism Insurance Price as a Percentage of Property Insurance Premiums



Source: Marsh (2005a)

Figure 21

Terrorism Insurance Pricing: Median Rates by Total Insured Value

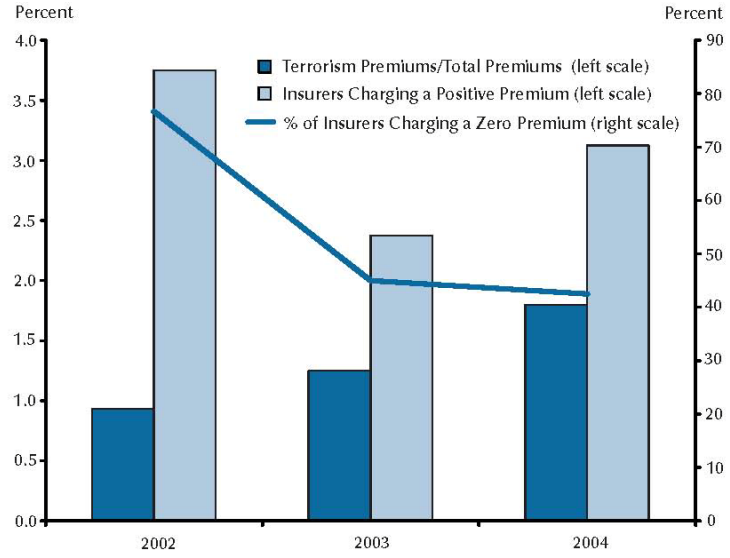


Source: Marsh (2005a)

Of the $616 billion in loan balances where terrorism coverage was required, insurance was purchased for $548 billion, or 89%. Respondents estimate that only $132 billion would have been covered by terrorism insurance absent TRIA. Although the accuracy of this counterfactual estimate is not clear, the results do indicate the respondents' belief that TRIA plays a major role in creating a supply of terrorism insurance. The pricing of terrorism insurance was also analyzed in the Marsh and U.S. Treasury surveys. Results from Marsh (2005a) are presented in Figure 20. The figure indicates that terrorism insurance constituted between 4 and 5% of total commercial property insurance premiums for the Marsh clients included in the survey and that prices increased in 2004 for larger properties. However, even at the 2004 levels, prices do not seem unreasonable in a relative sense. Figure 21 provides information on the absolute values of terrorism insurance prices from the Marsh survey. Terrorism insurance premiums represented 0.01% of insured value for relatively low-valued properties, dropping to about 0.004% for the largest properties. Further pricing results from the Treasury surveys are summarized in Figure 22. Perhaps surprisingly, the results reveal that many insurers were still not charging an explicit price for terrorism insurance following the enactment of TRIA.

Figure 22

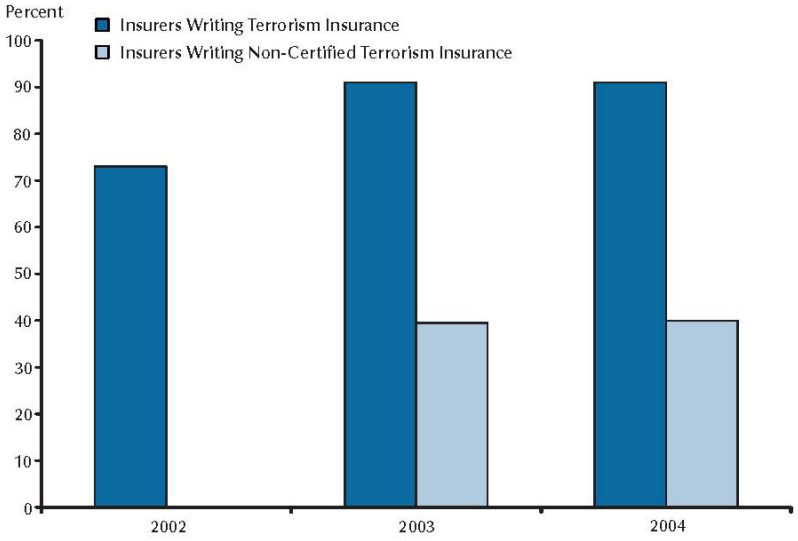
Terrorism Insurance Premiums as a Percentage of Total Premiums



Source; U.S. Department of the Treasury (2005)

Figure 23

Extent of Terrorism Coverage



Source: U.S. Department of the Treasury (2005)

In 2002, about 80% were not charging for terrorism coverage, but this had dropped to 40% by 2004. Including both the zero price and positively priced insurance, terrorism insurance accounted for about 1% of total property insurance premiums in 2002, rising to approximately 2% in 2004. Considering only the positive-premium terrorism insurance, the terrorism premium was about 3% of total premiums in 2004. Hence, the price of terrorism coverage does not seem to be exorbitant under TRIA. I now turn to an evaluation of what the terrorism insurance market might look like without TRIA. Some evidence helpful in making this evaluation is provided in the U.S. Treasury surveys.

In addition to terrorism insurance reinsured under TRIA, which is limited to foreign terrorism, some insurers also write *non-certified* terrorism coverage, which insures against events such as domestic terrorism not covered by TRIA. The percentages of insurers writing certified (i.e., TRIA-reinsured) coverage and non-certified coverage for 2002 through 2004 are shown in Figure 23. However, this distinction is not meaningful in 2002 because federal terrorism reinsurance did not exist for most of the year.

The results are striking—approximately 90% of insurers wrote certified terrorism coverage in 2002 through 2004, but only 40% wrote non-certified coverage. Given that non-certified (i.e., domestic) terrorism events are generally viewed as less risky than foreign terrorism, these results may suggest that no more than 40% of insurers would continue to offer terrorism coverage for foreign terrorism if TRIA expires. The Treasury also queried responding insurers about their 2005 renewals that extend into 2006, when TRIA's renewal was uncertain. Fifty percent of the respondents indicated that they would not provide terrorism coverage "that is roughly similar to TRIA coverage" for the segment of the policy period extending into 2006 (U.S. Treasury 2005, p. 75). Of these respondents, 55% planned to exclude terrorism altogether in 2006, 22% had a contingent exclusion for terrorism going into 2006, and 24% included coverage that was not comparable to TRIA coverage. These results do not bode well for the availability of terrorism insurance coverage absent TRIA.

In conclusion, it is clear that TRIA has been effective in making terrorism insurance widely available. That about half of policyholders do not buy terrorism insurance seems to be more a reflection of the fact that many policyholders do not have significant terrorism exposure rather than a belief that terrorism prices are too high. In fact, terrorism coverage is being made available at prices representing only a small proportion of total property insurance premiums. However, because the government reinsurance is being provided for free, it is likely that the current prices mainly reflect insurer expected losses under the deductible and copayment provisions of TRIA. Thus, prices can be expected to rise once the terrorism deductibles, copayments, and recoupment provisions increase beginning in 2006. The survey results also suggest that availability of terrorism insurance is likely to decline sharply if TRIA eventually expires. This could be a temporary decline until private market solutions begin to emerge. However, the experience with catastrophic risk insurance in California and Florida suggests that many buyers, especially in high-risk areas, will not be able to obtain terrorism insurance without some form of government involvement in the market. Although such involvement does not necessarily imply that the government should serve as reinsurer of last resort, the experience of other OECD countries suggests that some form of government reinsurance may be needed to sustain the market for terrorism coverage in the future. However, care should be taken in designing any federal terrorism program, to avoid adverse incentives and unintended consequences. For example, an economic analysis conducted by Michel-Kerjan and Kunreuther (2006) shows that it would be possible for large insurers to "game" the system under TRIA, shifting responsibility for terrorism losses to smaller insurers and policyholders.[8]

[8] For further economic analysis of terrorism insurance, see Kunreuther and Michel-Kerjan (2004), Kunreuther et al. (2003), Lakdawalla and Zanjani (2002), and Wharton Risk and Decision Processes Center (2005).

EVALUATION OF GOVERNMENT INVOLVEMENT MECHANISMS

This section begins with an evaluation of theories of government involvement in insurance markets. The discussion then turns to an evaluation of the principal mechanisms for government involvement and recommendations for improving the markets for insurance against catastrophes.

Theories of Government Involvement

Three primary theories of public policy are relevant in evaluating the role of government in addressing market failures in the insurance Industry: laissez faire, public interest, and market enhancement. Laissez faire theory maintains that any market-based equilibrium, however imperfect, provides a more efficient allocation of resources within the economy than an equilibrium involving government intervention. From this perspective, government intervention in markets results primarily from rent-seeking behavior of special interest groups (e.g., Stigler, 1971). Thus, industry calls for government protection against catastrophic risk are viewed as opportunistic attempts to secure an ex ante wealth transfer from taxpayers. Several types of inefficiencies can arise from government insurance programs. Provision of subsidized insurance is likely to crowd out private attempts to enter the market, permanently locking in an inefficient solution to financing catastrophe losses. Government programs tend to develop constituencies that engage in intensive lobbying to maintain government support, strengthening concerns about rent-seeking by special interests. At least one lobbying group, the Council to Insure Against Terrorism, was formed specifically to lobby for renewal of TRIA on behalf of business insurance buyers. Several groups representing insurance agents and insurance companies also have active TRIA lobbying efforts.

Subsidized insurance also tends to create moral hazard problems whereby policyholders under invest in loss prevention. Government insurance also may create resource allocation problems if subsidized terrorism insurance leads to overbuilding of building types and locations that are relatively vulnerable to terrorism. Actuarial pricing of government insurance can alleviate some of these problems. However, because the design of government programs is determined by politics rather than the operation of markets, even unsubsidized insurance programs are not likely to represent the most efficient solution. The public interest theory of regulation contests the laissez faire view (e.g., Musgrave and Musgrave, 1984). This theory suggests that market failures can lead to suboptimal allocation of resources and that government intervention targeted at addressing the market failures can improve welfare. Although laissez faire policy suggests that private sector coordination is optimal, public interest theory suggests that, in specific instances, the government can improve upon the market equilibrium by substituting for private sector coordination. Proponents of public interest theory, therefore, maintain that the information asymmetries and bankruptcy costs associated with the market for terrorism insurance may necessitate the role of the government in “completing” the market for terrorism insurance.

The third view of public policy intervention, the market-enhancing view, takes a middle position (e.g., Lewis and Murdock, 1999). The market enhancing view recognizes that market failures can create suboptimal allocations of wealth and that private sector coordination is not always effective. This view holds that public policy should facilitate the development of the private market but should not create new governmental institutions to substitute for private solutions. The market enhancing policy recognizes that government (de)regulation can help facilitate the creation or enhancement of

private institutions for solving market failures, such as how the federal government facilitated mortgage securitization markets. Of course, there is always the risk that government-sponsored enterprises' special privileges may remain fully in place years later, even if the market failures no longer exist.

Mechanisms for Government Involvement

This section first considers natural catastrophes and then analyzes terrorism. The private insurance market seems to have difficulty in providing adequate coverage for the largest natural catastrophes. Projected catastrophes, such as a $100 billion California earthquake or Florida hurricane, are large relative to the resources of the insurance industry; and holding additional equity capital in the industry to shield against such events does not seem to be feasible (Jaffee and Russell, 1997). GAAP accounting rules do not allow insurers to establish reserves for events that have not happened. Similarly, insurers are not permitted to take tax deductions for events that have not yet occurred, requiring that capital to pay for catastrophe claims has to be accumulated out of after-tax income. It is noteworthy that both the California Earthquake Authority and Florida's residual market and catastrophe insurance plans have been allowed to establish reserves using pre-tax revenues.

Capital Crossing

In addition, large pools of capital (reserves) tend to attract corporate raiders and may induce management to engage in negative net-present-value projects. Raising capital to pay losses following a large-loss event also is difficult because informational asymmetries between capital markets and insurers regarding loss exposure and reserve adequacy raise the cost of capital to potentially prohibitive levels. Thus, private insurance markets tend to be much more efficient at *cross-sectional* rather than *cross-time* diversification. There are several possible solutions to the cross-time diversification problem. Because the resources of capital markets are more than adequate to fund large catastrophes, a market-enhancing approach would be for the government to facilitate the growth of the insurance-linked securities market. This is an attractive solution because it could be implemented without committing tax dollars to paying for catastrophe losses. There are several areas where removal of remaining regulatory and bureaucratic barriers as well as simplification and clarification of rules and approval procedures would facilitate the securitization of catastrophic risk. The GAAP consolidation rules should be clarified and codified for CAT-linked securities, and such securities should be given conduit status for federal income tax purposes. State insurance regulations should be clarified and streamlined to reduce transactions costs and enhance the speed to market of new securities. Even if all regulatory impediments were removed, the CAT bond market still might not attain sufficient size to fund major catastrophes. However, it is also possible that "critical mass" would be reached, where scale economies and the ability to form worldwide CAT bond portfolios would reduce transactions costs and spreads to the point where the market would rival the asset backed securities market. The costs of relaxing the regulatory and accounting rules are low, so it would seem to be worthwhile to conduct the experiment. The federal government could play a major role by creating a task force to coordinate with Congress, the Financial Accounting Standards Board, and the National Association of Insurance Commissioners to bring down the regulatory barriers. A somewhat more intrusive solution to the time diversification problem would be to exploit the federal government's ability to implement intergenerational diversification through federal borrowing. Unlike private insurers, the federal government can effectively accomplish

cross-time diversification because it can raise money following a disaster by borrowing at the risk-free rate of interest. The assertion that the government has superior ability to time diversify may be challenged on the grounds that it places risks on taxpayers regardless of their willingness to bear them.

The government's ability to time diversify led to a Clinton administration proposal for government intervention in the market for catastrophe property insurance (Lewis and Murdock, 1999), whereby the federal government would hold periodic auctions of catastrophe excess-of-loss (XOL) reinsurance contracts to insurers and reinsurers in loss layers where private market reinsurance is not available. The auctions would be conducted subject to a reservation price sufficient to support the expected loss and expense costs under the contracts as well as a risk premium to encourage private market "crowding out" of the federal reinsurance. If a catastrophe were to occur that triggered payment under the contracts, the federal government would finance the loss payments by issuing bonds. Although the proposal was not adopted, it could provide a model for a different type of federal involvement in the terrorism insurance market consistent with the market enhancing view of regulation. However, given that securitization offers a viable private market solution, it would be advisable to give higher priority to exploring that option.

Change to Reserving

Another alternative to government intervention to enhance the private market would be to permit insurers to accumulate tax-deductible reserves for catastrophe losses, a proposal that has been advocated by the insurance industry for at least a decade. One obvious problem with the proposal is that it would reduce federal tax revenues, when other solutions such as securitization are available that would not have this effect. Another problem is that there would be no way to prevent insurers from reducing reinsurance purchases in such a way as to substitute tax advantaged reserves for other forms of hedging, with little or no net gain in risk-bearing capacity.

Finally, a tax-subsidized reserving program would have a crowding-out effect on the securitization market. As mentioned above, state governments have intervened to "make markets" in catastrophe insurance in California, Florida, and other states. These might be considered market-enhancing efforts, except to the degree that they involve an element of coercion. That is, insurers are required to participate in the California and Florida programs if they wish to continue to participate in the states' other lucrative insurance markets, such as the market for automobile insurance. It is likely that less insurance would be available in these states, at least on a cyclical basis, if the state mandated plans had not been adopted. However, it is also possible that the private market would provide adequate coverage if insurance prices were deregulated, allowing the market to clear. The periodic difficulties in private markets for natural catastrophe coverage provide additional impetus for developing the CAT bond market because insurers might be more willing to write coverage on a voluntary basis if more reasonably priced diversification mechanisms were available for mega-catastrophes. The market response to the increasing frequency and severity of catastrophe insurance losses since the 1990s has potentially quite significant implications. In spite of the lack of federal government intervention in the market for natural catastrophe insurance, the private market for natural catastrophe insurance did not collapse completely. Although insurance and reinsurance prices rose following Andrew and Northridge, significant amounts of new equity capital flowed into the industry and reinsurance prices eventually declined (Guy Carpenter, 2005). For the most part, insurance continued to be available

in disaster-prone areas, such as Florida, and private insurers eventually re-entered the market for California earthquake insurance. There is evidence of continuing market anomalies, however, such as the skewness of reinsurance toward the coverage of relatively small catastrophes and the thinness of reinsurance coverage for mega-catastrophes (Froot, 2001). Nevertheless, private markets for natural catastrophe insurance have continued to function with reasonable efficiency in the absence of federal support.

Terrorism, and particularly mega-terrorism events, pose more-difficult problems for private insurance markets than natural catastrophes— mega-terrorism events potentially cause much more extensive losses than natural hazards; the frequency and severity of terrorist events are difficult to estimate, both inherently and because much of the most useful information is confidential for national security reasons; and terrorists can adjust strategies and tactics to defeat efforts to protect against terrorism and mitigate loss severity. The same factors that make terrorism difficult to insure and its similarity to war risk may rule out terrorism-risk securitization, at least on a large scale. Among the other obstacles, the existence of terror-linked securities might influence target selection by terrorists, and terrorists and their sympathizers could attempt to profit by trading in terror-linked securities. However, there is some evidence that securities markets might provide a source of risk-bearing capacity for terrorist events. In 2003, the Golden Globe Financing transaction resulted in a $260 million securitization covering the risk of the cancellation of the 2006 FIFA World Cup. The transaction explicitly included terrorism risk. Swiss Re has executed two securitization transactions covering catastrophic mortality risk, including mortality spikes from terrorism. A key to the success of these issues may be that they are multi-event bonds, not applying strictly to terrorism (Swiss Re, 2005b).

Consequently, even if government provision of insurance against natural catastrophes is not needed, there may be a legitimate role for government in the market for terrorism insurance. The experience under TRIA provides somewhat mixed messages on the need for a government role—the stock market reacted negatively to the adoption of TRIA but survey evidence strongly suggests that TRIA succeeded in making terrorism coverage widely available. There are various mechanisms for government to become involved in the terrorism insurance market. Because there is great uncertainty surrounding the insurability of terrorism risk, a guiding principle of any government involvement should be that programs be designed to not crowd out the private market. This necessitates that the program be explicitly priced and that the price be set above the expected value of loss. One possibility would be to adapt the Clinton administration proposal and auction off federally backed XOL terrorism reinsurance contracts. Another would be a reinsurance program patterned after TRIA but with a positive premium charge and continuing increases in insurance industry deductibles to encourage the private market to develop gradually. Another important problem is how to handle CBRN hazards. Under TRIA, the federal policy approach is to “look the other way” and to permit insurers to exclude CBRN hazards to the extent they were excluded from non-terrorist commercial coverages. In this respect, CBRN hazards are being treated similarly to war risks. If an XOL reinsurance or TRIA-like program is to be implemented going forward, a case could be made for including CBRN hazards. Because government is likely to compensate CBRN victims after the fact, it might make sense to handle as much compensation as possible through a formal insurance program rather than as disaster relief. As Katrina has shown, the federal response to a disaster can be chaotic and inefficient, whereas private insurers are very effective at

settling claims and have incentives to settle them efficiently provided the government insurance has appropriate deductibles and copayment provisions to control moral hazard.

CONCLUSIONS

The frequency and severity of losses from natural catastrophes such as hurricanes, earthquakes, and tsunamis have increased dramatically in the past 15 years. Even though the resources of insurers and reinsurers worldwide also have grown, the rising costs of catastrophic risks have placed significant stress on insurance markets. Man-made disasters also have led to monetary losses and loss of life. However, until the terrorist attacks of September 11, 2001, terrorism losses did not fall into the mega-catastrophe category; and, in fact, insurers routinely covered terrorism losses for little or no charge. The 9/11 losses revealed a shift in the terrorism probability of loss distribution, which led insurers and reinsurers to exclude terrorism losses from many insurance policies. Governments in several countries responded by adopting government terrorism insurance programs. The U.S. Terrorism Risk Insurance Act of 2002 (TRIA) requires insurers to offer terrorism coverage in commercial property/casualty insurance policies and provides federal terrorism reinsurance. This paper investigates the appropriateness of government insurance programs for catastrophic risk, focusing on coverage for natural catastrophes and terrorist events. A review of the resources of the insurance and reinsurance industries as well as the current state of the market for insurance against earthquakes and windstorms in the United States reveals little need for a government role, beyond the programs currently in effect in Florida and California. Adequate insurance is now available in the states with the highest exposure to natural catastrophes. The earthquake and hurricane insurance markets in the United States fall under the category of a second-best solution; that is, better than an alternative system involving a more intrusive role for government

Although few policyholders in California purchase earthquake coverage, windstorm insurance is widely purchased in Florida. The lack of interest in earthquake coverage among buyers in California is a matter of concern, and the resources of the California Earthquake Authority (CEA) would be inadequate to pay claims from a major earthquake if coverage were more widespread. This situation is likely to lead to pressures for massive governmental disaster relief following a major earthquake. Hence, measures should be considered, such as making earthquake insurance mandatory in quake-prone areas of the state and strengthening the resources of the CEA, on the hypothesis that it is more efficient to provide assistance through prearranged programs where claims are settled by private industry rather than by ex post government assistance programs. Even though government insurance for hurricanes and earthquakes does not seem to be needed, government could deepen and enhance the markets for these and other catastrophe coverages by removing regulatory impediments to the development of the market for insurance-linked securities. This would involve clarifying and/or changing GAAP accounting rules for special purpose reinsurers, granting insurance-linked securities conduit status for federal tax purposes, and giving non-indemnity securities reinsurance status under state regulatory accounting rules. Giving insurers the ability to accumulate catastrophe reserves on a pre-federal income tax basis would reduce federal tax revenues without necessarily adding net capacity to insurance markets. The federal government is already involved in the market for flood insurance, providing subsidized insurance through the National Flood Insurance Program. However, the program is badly in need of reform. It is currently bankrupt and generally does not charge actuarially sound

premiums or have a provision for building up reserves in low-loss years to minimize the need for federal borrowing to pay claims. Flood insurance penetration rates are very low, and the program is not effectively meeting its stated objectives of encouraging loss mitigation and flood-plain management. Although the program could and should be fixed, a better alternative would be to develop private sector solutions by requiring insurers to make available flood insurance coverage, perhaps with a federal reinsurance backstop, and requiring lenders to enforce flood-coverage requirements, as is presently done for homeowners insurance. Terrorism is a more difficult problem for private insurance markets than natural hazards, for several reasons. Terrorism is a deliberate act, similar to war, which has long been excluded from private insurance policies. Moreover, because terrorists can potentially use weapons of mass destruction, terrorism losses are potentially much larger than losses from natural hazards. Terrorism losses are also much more difficult to estimate than losses from natural catastrophes. Prediction is made especially difficult because terrorists are constantly changing strategies, targets, and tactics.

Finally, the likelihood of terrorist attacks is affected by government policies for homeland security, foreign affairs, and defense; and much of the information that would be useful to insurers in estimating premiums remains confidential for national security reasons. Consequently, a case can be made for some degree of government involvement in the terrorism insurance market. Terrorism insurance did not disappear after 9/11, and some coverage will undoubtedly continue to be available if TRIA eventually expires. However, a review of survey data provides convincing evidence that terrorism insurance is much more widespread under TRIA than it would have been with no government reinsurance in place. Thus, insurance availability will decline, at least initially, if government reinsurance is withdrawn, especially for the most vulnerable targets and locations. As with natural catastrophes, it is likely to be more efficient to cover terrorism losses through a pre-existing insurance program rather than through ex post government assistance. Fairly priced terrorism insurance also provides the proper incentives for resource allocation in terms of the siting of construction projects and private mitigation efforts.

If government does continue to participate in the terrorism insurance market, care should be taken that the program does not prevent the re-emergence of the private market. In particular, terrorism insurance should be priced at the expected loss plus a sufficient risk margin to make it attractive for private reinsurers to re-enter the market and to encourage the development of a terrorism risk-linked securities market. Any government terrorism reinsurance should have industry deductibles at least as large as under TRIA. Consideration also should be given to covering the chemical, biological, radiological and nuclear hazards under public and private terrorism insurance. Finally, care should be taken in designing any government terrorism program, to avoid creating adverse incentives and prevent gaming of the system by insurers or other market participants. Future research is needed to determine the effects of catastrophe losses and catastrophe insurance on the macroeconomy. Although catastrophe losses are small relative to U.S. and world GDP, it is still unclear whether such losses and/or the availability of insurance coverage have significant macroeconomic effects. It would be useful to further analyze the relationship between catastrophes and macroeconomic time series, such as construction, bank loans, and mortgages, as well as the correlations of catastrophes with securities returns. Such information would be valuable both to policymakers and to participants in the catastrophe insurance and insurance-linked securities markets. Finally, the experience with Hurricane Katrina suggests that the time has come for a comprehensive re-evaluation of disaster assessment, prevention, mitigation, and financing in the United States.