



Individual perils are essentially personal. As individuals, we have some degree of control over their origin. For instance, the peril of loss as a result of fire is an individual peril. By observing simple fire prevention rules, a property owner can do much to reduce and control fire hazards, whether inside or outside the home.

### **Peril of Fire.**

Consider the constant peril of fire, for example. Whether we consider the familiar fire that destroys a single home or the widespread event of a wildfire that may destroy hundreds of homes, the central question remains: What can a person do about this peril?



## **The Role of Homeowner Insurance in the Wildland/Urban Interface**

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### **A Brief Introduction to Insurance<sup>1</sup>**

Property insurance is one of the nation's basic business institutions. Directly or indirectly, it affects every individual and every business in the land. It has become a part of the very fabric of American civilization and culture and is virtually indispensable to our present economic system.

The reason for any type of insurance lies in the simple fact that the most certain thing confronting individuals and institutions is uncertainty. No one can escape constant exposure to a variety of perils. Each day we face the possibility that something unexpected may disturb the normal routine of our living. High winds may damage our homes. Burglars may steal valuable possessions. We may be hospitalized by serious accidents. Fire may destroy our personal belongings, automobiles, or clothes. The problem of dealing with these constant perils and their potential damage is one of the most important factors of modern living.

### **Group vs. Individual Perils.**

We all face two major types of perils - group perils and individual perils. Group perils are those over which we have practically no control. A terrorist attack and its consequences, for example, present a group peril that may affect all of us seriously, but there is little that we, as individuals, can do about it. Nor can we do anything to prevent windstorms, dust storms, droughts, hurricanes, or wildfires.

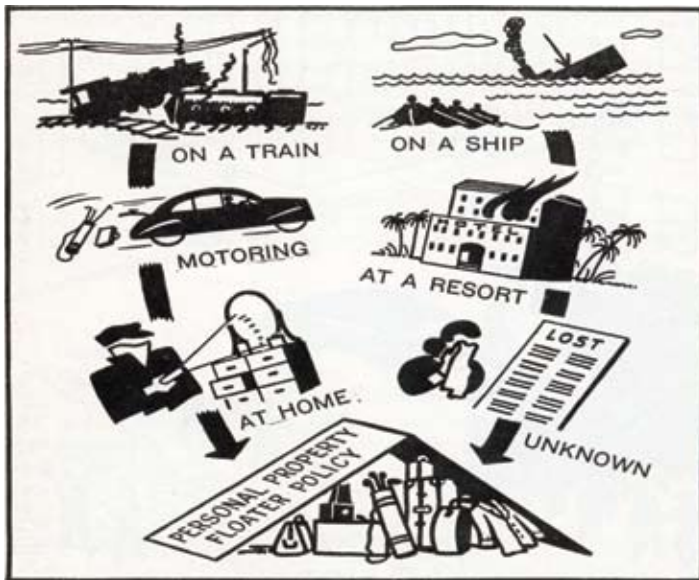
The answer lies in one of three possibilities: *First*, an individual might choose to do nothing. But that could prove to be a costly gamble and would be evading the problem, not solving it.

*Second*, he or she might decide to create and build up a savings fund to prepare for the financial shock of a possible fire loss. In the 21st century, this can mean a sizeable amount of cash reserves, and this method might be satisfactory if no immediate loss occurred. But there is no guarantee that a property owner will be so fortunate. Even if it were possible to establish an adequate financial reserve, the individual would probably be handicapped by having to keep savings tied up in this way.

*Third*, the problem can be most appropriately handled through a more conventional alternative - a combination of risk analysis and insurance protection. The individual could proceed to handle the perils to his property in the following manner:

**1. Survey Risks.** The individual can survey the risks to which he or she is exposed. "Is there a chance of loss from fire, wildfire, windstorm, hail, explosion, and so forth?" This survey should determine every chance of a major loss.

**2. Reduce/Eliminate Causes.** The risks surveyed and appraised, he/she can *reduce or eliminate* the obvious causes of loss. For example, if the property owner has been careless in handling flammable materials, he/she can reduce the risk of disastrous fire from the cause by installing special containers in which to store paints, volatile oils, and similar products. (Naturally, one should not stop after eliminating such an obvious cause of loss but should continue to seek out and remove every possible fire hazard on his property.)



**3. Buy Fire Insurance.** Even after the property owner has appraised the risks, has reduced some, and eliminated others, there remains an irreducible minimum of risk over which he/she has no control. The individual, for example, has no control over a fire that originates in the neighbor's home and spreads throughout the community. Thus, since the chance of loss due to fire can never be eliminated completely, a third step in dealing with perils to property becomes necessary.

**4. Transfer Risk.** The individual can transfer the remaining chance of loss to a professional risk-bearer – an insurance company – by purchasing a fire insurance policy.

The operations that make it possible for an insurance company to transform this piece of paper called a policy into payments of money when losses occur represent one of the more interesting aspects of public expectations and assumptions about insurance.

#### **How Insurance Premiums Are Determined.**

The most important element to the policyholder is the security behind his policies. Therefore, the use to which a company puts the money it receives is vital to every property owner seeking protection.

The amount of the premium is determined by multiplying the amount of insurance involved by the appropriate rate. An insurance rate is the cost of a unit of insurance and the unit of insurance generally used in property insurance is a standard amount of protection for a period of one year (e.g., \$100, \$1,000, \$10,000).

Briefly, the underlying factor is loss expectancy. Estimates of loss expectancy start with three fundamentals:

1. Previous experience in handling similar risks.
2. The kind of building material used and the type of construction involved, the occupancy and the hazards associated with occupancy
3. The extent and efficiency of public (i.e., fire department) and private fire protection services (i.e., fire sprinklers, fire extinguishers, smoke alarms), including the adequacy of the community's water supply.

The use to which a building may serve, its proximity to other buildings from which fires might spread, and a number of other factors also have a considerable bearing on insurance rates. Climatic and other characteristics also vary between states. Rates in each territory are generally established by special organizations that have had long years of experience in studying just such problems.

Money received by the company is employed in various ways. First, of course, losses incurred under policies issued by the company must be met. Many types of taxes and fees must be set aside for federal, state and municipal authorities. In addition, there are the expenses for fire prevention activities, property surveys, and the maintenance of the engineering and rating organizations.

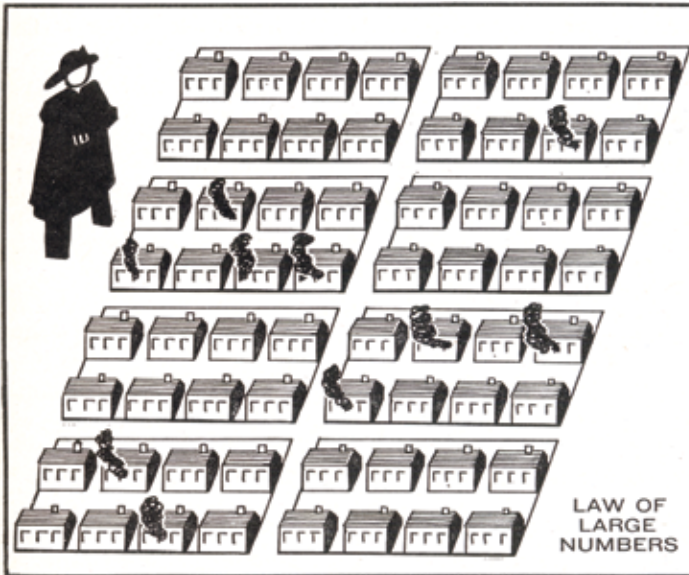
The nature of the insurance business and the laws of several states require that companies establish several reserve funds with which to meet unforeseen as well as expected events.

#### **Law of Large Numbers.**

The foundation upon which insurance rests is the *law of large numbers*, also known as the *law of averages*. Experience has shown that a certain number out of a given group of properties will probably be destroyed by fire and other perils. The larger the group of individual properties exposed to the chance of loss, the greater the accuracy with which the approximate number of future losses can be predicted.

This principle can be demonstrated by the simple operation of tossing a penny into the air. If you flip long

enough, the result will be an equal number of “heads” and “tails.” If you try only ten times, the result is likely to be much less accurate than if you try a hundred or a thousand times. However, at no time during your experiment will you be able to predict definitely that either a “head” or a “tail” will appear on any given toss.



Similarly, in property insurance, no one can predict *which* property will be destroyed. But insurance professionals know from experience that if they issue policies covering a large enough group of properties, they can estimate closely the number and amount of losses they will normally pay. Thus, they are able to cover losses and operating costs. This fact explains why an insurance company can promise to pay a relatively large sum of money in the event of a loss although the policyholder has paid only a comparatively small amount to the company for taking the risk.

The tools that might allow a cost-benefit analysis as a result of a calculable mathematical probability of wildfire event and damage are unavailable. The reason is the lack of long term and insufficient data. If wildfire disasters were a numerous and severe as hurricane disasters, for example, the insurance companies would be adjusting rates based on location, values at risk, probabilities and extent of loss relative to pre-disaster mitigation measures, and other analyses.

Insurance can be defined as the simple means by which individuals can transfer their chances of loss to a professional risk-bearing organization. Insurance substitutes for the uncertain cost of a possible loss; the certain small cost of protection against loss.

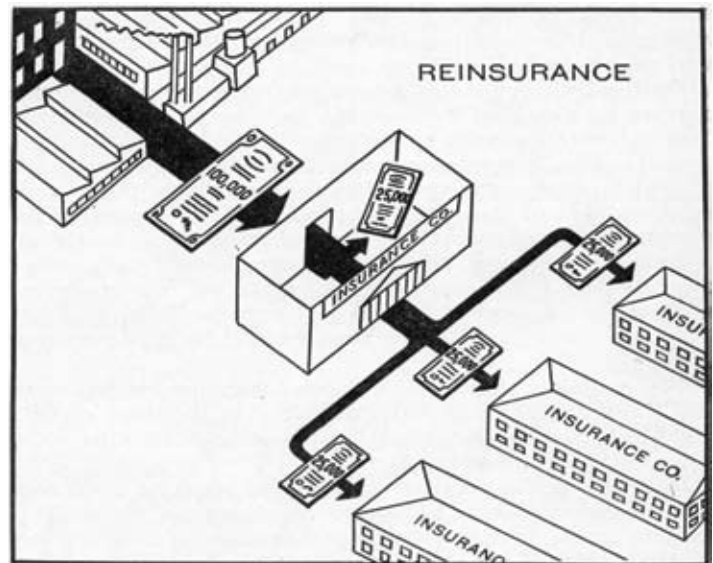
The development of property insurance industry which

today helps to safeguard lives and property, has been gradual and progressive. The system through which insurance companies must work may be complex but the system, regulated by state insurance commissions, the Federal Trade Commission, and the insurance companies themselves, helps the consumer obtain the best insurance product for the money. The system also helps insurance companies provide accurate assessments of risk and prevent fraudulent claims that affect all the policyholders.

### Role of Reinsurance.

A simplified example may help illustrate how reinsurance helps insurance companies balance their risks through the role of reinsurance companies.

Perhaps an insurance company’s new customer application report calls for fire insurance totaling \$500,000 on a building in a block where the company has already assumed a high amount of risk. Sound judgment may dictate that the company write no more than \$250,000 on the new risk. Does this mean that the agent has to cancel the first policy for \$500,000 and write two new policies for \$250,000 each in separate companies? Ordinarily, no; for the company can usually reinsure any portion of risk it does not care to retain for itself.



Just as insurance is the arrangement by which an individual transfers his risk to a company, reinsurance is the device by which one company transfers to one or more companies a part of the risks it has assumed. To provide for prompt and convenient handling of such risks, nearly all companies maintain reinsurance agreements with other organizations. Some organizations are set up solely as reinsurance companies, handling risks transferred to them from other companies rather than from individual property owners.

Reinsurance thus represents an added measure of protection from policyholders. It reduces each company's liability for loss on any particular risk and is a graphic illustration of the principle of *distribution of liability*. In case of loss, the reinsurance does not affect the details of handling the claim settlement, which is the full responsibility of the company whose policy is held by the property owner.

### **Interface Fire Losses May Not Be Viable Incentives Adjusting Rates.**

For the insurance companies, the numbers and frequency of losses are not big enough to provide valid data for analysis (mathematical probability and loss expectations), especially in large areas in which many properties are insured by many companies. When one company does bear the risk of losing every home in an area, the risks and subsequent losses are shared by all the customers. In some cases, individual premium increases may never be applied or be insignificant (fractions of pennies on each dollar of insurance).

Each insurance company offering coverage must have each product approved by the state's insurance commission. If a company sought higher premiums for residences in wildfire prone areas (or conversely, lower rates for those who installed mitigation), the process of establishing possible rates and mathematically "testing" those rates (internal process to the company), proposing new individual rates based on zoning, and getting those new rates approved by the state is a daunting process for a savings that may never materialize for the company. In addition, agents and underwriters would be required to perform much more background and inspection work for individual policies, thus writing fewer policies each year. Either case results in financial impacts to the company.

### **Insurance Premiums May Not Be a Viable Incentive for Homeowners.**

First, understanding and applying Firewise mitigation on private property is the responsibility of the property owner. A homeowner's lack of attention to hazardous conditions in a wildfire area (or other hazardous location) should be no one's responsibility except that homeowner. If the expectancy is that fire fighters will arrive in sufficient time and number with a sufficient quantity of hose, water, and equipment to protect one's structure when as many as 100 or more structures are burning, the interface resident would be well advised to understand how the management procedures and resources

are best deployed during widespread interface fires.

The use of fire fighters, who are professionally trained to perform specific duties of suppression and rescue during a wide range of emergencies, should not be expected to run around every house in a subdivision of hundreds of houses moving or removing combustible brooms, lawn furniture, firewood, and other materials that would reduce the ignition potential "just in time" before the flames or firebrands reach the house.

Second, the widespread notion that financial incentives of reduced premiums will encourage interface homeowners to apply Firewise mitigation measures voluntarily is weak. The assumption that premium savings may be the key to encouraging change prove false when, in reality, the savings may be insignificant or even non-existent.



As an example of how this assumption is faulty, assume that an insurance company agreed to provide a 50% reduction in the individual fire insurance for replacing an aging wood roof with a new non-combustible one. The fire insurance on the house in question may be as little \$80.00 per year, since most of the premium paid by the homeowner covers liability and replacement values of structural components. A new noncombustible roof may cost \$6,000. So with a 50% reduction (\$40.00 per year), the cost of the new roof will be recovered in mere 150 years! Therefore, the homeowner finds that the roof will need yet another replacement long before any significant payback on the new roof occurs.

To further illustrate the point (and frustrate the homeowner), property insurance is based on replacement values of the home (or its parts), and the premiums might actually increase to cover more expensive building materials or assemblies of the roof.

Even if the highly anticipated premium reduc-

tion were significant enough to encourage structural changes, the increased value of the home would not likely escape the notice of tax assessors and the resulting increase in local property taxes (based in increased values) could exceed any premium reduction.

Third, insurance companies may drop or refuse to write policies based on perceived risk. Of this aspect, there are two possibilities. One is that companies may not write policies based on the location of the property. If the company has data (and lots of it) to prove its case, they may well succeed in excluding entire areas or portions of areas from their potential coverage. Otherwise, the practice may be looked upon as red-lining, an illegal practice that has historically been used to reduce the insured risk due to socio-economic factors and not actuarial data.

The other possibility is that companies may choose not to renew current policies for dwellings with their risk class, as those policies expire. In that case, other insurance companies in a better position to accept more risk would likely step in write the policy (with a premium adjustment, of course).

What if all the insurance companies in the state decided to discontinue writing homeowner policies in interface areas? In this case, state FAIR plans can offer insurance to the seemingly uninsurable. Even if insurance companies drop coverage because of location of the home (wildfire-prone area, earthquake zone, flood plain, etc.), many states have FAIR (Fair Access to Insurance Regulations) that will provide the homeowner with property insurance, at a much more expensive rate, of course, based on the risk and probability of loss. The irony is that the FAIR plans are funded by the insurance companies that have been approved to do business in the state.

Last but not least, policies commonly refer to claims for losses being settled on an “actual class value” basis. Policy holders should be aware that, among many insurance professionals, the definition of actual cash value is not well defined.<sup>1</sup> Common understanding is that actual cash value is the replacement cost minus depreciation, but unclear in the definition is what gets depreciated. Several states are now making efforts to establish a standard for “actual cash value” and to clarify questions like: Is actual cash value and market value the same amount? What about depreciation of the lost or damaged item? What get depreciated? Can labor and overhead along with the cost of ma-

<sup>1</sup> Richardson, Diane W., “Actual Cash Value: What Is It?”, *Claims Magazine*, Aug. 2006.

terials be included? What else might be included?

Following precedents established in recent court cases dealing with insurance settlements, several state insurance commissions have begun to hone the definition of “actual cash value” and may require depreciable items be included into the provisions of policies.



Whatever the final definition is (and include as depreciable) may mean that the homeowner receives less than anticipated much less need to replace the home and contents.

Once the role of insurance (and how it works) is understood and accepted by interface homeowners, residents, and fire officials, we can begin to focus less on the hope of substantial premium incentives and more on the promise of loss reduction by preventing the ignition of homes in the first place. And, the most effective way to prevent ignition is for the resident to assume their part of managing the wildfire risks around their homes and to join with their neighbors in mitigating community hazards through active Firewise® Communities programs in cooperation with supportive fire agencies.



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