PART I

CONTRASTING IDEAL AND REAL WORLDS OF INSURANCE

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Purposes of This Book

Our goal in this book is to identify and analyze examples of behavior on the parts of consumers, insurance companies, investors, and regulators that could be characterized as "anomalous" if judged by standards of *rational behavior*. In this book, the term *rationality* is defined as economists have traditionally used it when analyzing decisions that involve risk and uncertainty. We characterize behavior as anomalous when it violates these standards.

Even though the economist's notion of rationality is well established, it is not the only or even the best way to portray what people may mean by appropriate behavior. In fact, we ourselves often behave in ways that do not conform to these formal principles of rationality and can provide good reasons or excuses for these deviations. We and others (Cutler and Zeckhauser 2004; Kunreuther and Pauly 2006; Lieberman and Zeckhauser 2008) have noted examples of behavior by consumers and suppliers of insurance that violate the economic models of rational choice.

The main message from the behavioral economics revolution is that real-world agents often do not make choices in the way that economic models of rationality suggest they should. In evaluating the results of such behavior and suggesting what strategies one should pursue, researchers still normally turn to the conventional economic models as normative benchmarks. For this reason, formal economic models of demand and supply developed over decades are often used as benchmarks for evaluating the behavior of those who are considering purchasing insurance and those who decide whether or not to offer coverage for specific risks.

Given the intellectual history, logical consistency, and strategic implications of these rational economic models, we use them as a standard in this book. However, there may be times when it is appropriate to deviate from these *benchmark models*. In fact we sometimes argue that, even as normative standards, the benchmark models may not be logically or politically appropriate. We will therefore examine the nature of consumer and insurer behavior, explain their actions or inaction to the extent we can, and offer prescriptions for improving choices.

We have three broad goals for this book. We want buyers of insurance to have a firmer grasp as to how they can improve their decisions on whether to purchase specific types of insurance and if so, how much coverage to buy. We want insurance companies to understand more about their customers' motivations and biases and thus how to better construct and market their products. We also want legislators and regulators to make better decisions about how and when to intervene in private insurance markets.

THE ROOTS OF MISUNDERSTANDING OF INSURANCE

The fact that insurance expenditures in the United States are in the trillions of dollars does not imply that consumers obtaining coverage and companies selling policies are making the voluntary decisions implied by classical economics textbooks. The most obvious reason, already noted, is that decision makers may not use these models in determining how much coverage (if any) to demand or what price to charge when supplying insurance. A less obvious reason is that many insurance purchases are not made voluntarily by the individuals at risk, but are often required by institutional arrangements or made financially attractive by firms to their employees, sometimes in response to tax incentives. For example, banks and financial institutions normally require insurance against property damage as a condition for a mortgage. Almost every state mandates proof of third-party automobile insurance when registering a car and requires firms to purchase workers' compensation insurance to cover their employees against the costs of on-the-job accidents. Many employers offer their workers some tax-free life insurance and subsidize the cost of employees' health insurance, so that there is no reason for any person

to calculate the resulting costs and expected benefits of this coverage. In these cases, individuals are merely responding to legal requirements or financial incentives.

For those insurance policies purchased by individuals voluntarily, decisions as to whether to buy coverage still might not fit the standard economic models. Some types of individually chosen insurance are said to be *overpurchased*, such as warranty protection and low-deductible coverage on one's home, health, and automobile. On the other hand, many consumers and firms *underpurchase* protection against catastrophic losses to property or against very expensive medical procedures. And while mortgage lenders require standard homeowners' coverage, they do not require earthquake protection; few residents in seismic areas of California purchase this coverage today. Many financial institutions also do not enforce the requirement that residents in flood-prone areas with federally insured mortgages purchase flood insurance.

The supply side of the market is also subject to behavior that diverges from what one would expect based on economic models. Insurers are often reluctant to continue offering coverage against risks from which they have recently suffered severe losses, as illustrated by the refusal of many insurers to continue to offer terrorism coverage following the attacks of 9/11 or the reluctance of insurers to continue to offer coverage in Florida against wind damage from hurricanes after Hurricane Andrew in 1992. There are a number of possible explanations for such behaviors, which we will examine in later chapters of this book.

One major cause of misunderstanding about insurance among consumers is an unrealistic expectation about how they will feel about losses they may (or may not) experience. People often choose coverage that does not fully protect them in order to keep their premiums low, but when they suffer a loss they are unhappy that not all the damage is covered. However, they are also unhappy when they have paid a premium and a loss does *not* occur because they perceive that the insurance was an unwise investment.

It is inevitable that most buyers of insurance will not get anything back on their policies in any given year or nearly as much as they paid in premiums over time. That is the nature of the insurance business. When purchasing insurance, a person's mantra should be *the best return*

is no return at all, knowing that one is protected financially against a potential loss.

But consumers often lose sight of the fundamental goal of buying coverage. It is the separation in time between paying for insurance and getting back benefits that confuses and frustrates consumers. When they have voluntarily purchased policies for several years without experiencing any losses, they often do not renew their policies. In the case of flood insurance, homeowners at risk are likely to cancel this coverage after several no-loss years, even doing so illegally when required by lenders to purchase and maintain a policy.

When insured individuals do suffer a loss, they are naturally inclined to seek the most generous benefits they can, even when their policy explicitly limits the type of losses for which they are allowed to file claims. Consider homeowners inundated by the Florida storms in 2004 and Hurricanes Katrina, Rita, and Wilma in 2005 who did not have flood insurance. Many of these victims tried to collect on water damage caused by the storms' surges even though their policies specifically restricted coverage to wind damage, not water damage. These homeowners had insurance, but not the right coverage.

Of course, if people had known in advance that a hurricane would hit, they might have paid attention to the fine print and bought flood insurance to cover storm surge and other water damage from the storm. If they knew they would never have a fire in their home during their lifetime, they would not voluntarily buy fire insurance. The realization that you cannot know the future with certainty spills over as irritation with insurance. People fail to recognize that this product is designed to help them cope with this uncertainty by giving up a modest amount of money in most circumstances in order to be able to return many multiples of the premium in the event of rare bad luck. It is thus not surprising that consumers are much less likely to report being satisfied with insurance than with products that give them tangible benefits they enjoy immediately after purchase.

Another source of confusion and misunderstanding that leads to disappointment is the often complex and ambiguous language in insurance contracts. Much of the billions of dollars of damage wrought by Hurricane Katrina on the Gulf Coast of Mississippi occurred when

Katrina's huge storm surge damaged or destroyed thousands of homes and businesses. Homeowners, infuriated when they realized that their policies covered wind – not water – damage, teamed with their state governments to sue insurance carriers. They argued that, even if they had understood that their insurance did not cover water damage, it still should pay because Katrina's screaming winds drove a wall of water that damaged their property. The homeowners lost the suit, but the insurance industry lost much credibility and people became more concerned that their coverage was much less than it appeared to be on paper.

With respect to the supply side, insurance executives often appear to misunderstand their own product in part because of uncertainty: they cannot predict catastrophic weather events, health care cost inflation, or the amount of interest they will earn on their reserves. Paradoxically, managers in the business of bearing other peoples' risks often appear to think (or hope) that they can avoid most of these risks. They also exhibit a poor understanding of their customers' motivations and biases.

The industry has made some astoundingly simple mistakes in the past from which it has learned the hard way. How difficult is it to recognize that Florida will be hit by hurricanes and that damage along its heavily developed coast will be extensive and expensive? Prior to Hurricane Andrew in 1992, many insurers were willing to offer coverage to those who requested it without determining the likelihood that they would suffer catastrophic losses from the next severe hurricane to make landfall in Florida. It was only after Hurricane Andrew, when nine property insurers became insolvent, that there was a recognition that companies would have to charge much higher premiums to protect coastal property against hurricanes.

This general misunderstanding of the fundamental purpose of insurance, along with some legitimate confusion regarding insurance policy details by consumers, contributes to the sometimes anomalous decisions on the demand side. Insurers, for their part, misunderstand how to predict rare events and therefore sometimes make decisions that appear to ignore risks altogether. Alternatively, they sometimes fixate on the magnitude of recent losses and claims without weighting these figures by an estimate of the likelihood of another catastrophe occurring. This behavior suggests that insurance is hard even for those in the business to

understand. Clearing up these misunderstandings and suggesting ways to cope with these issues is what this book is about.

COMPARING ACTUAL BEHAVIOR WITH BENCHMARK MODELS

We will shed light on how buyers and sellers of insurance, and regulators who oversee the insurance industry, do and should make decisions. We start by comparing actual behavior with what benchmark models of rational behavior indicate decision makers *should* do in the face of uncertainty.

On the demand side, classical economic theory assumes that consumers with accurate information about risks decide on insurance purchases by making explicit tradeoffs between the expected benefits and the costs of different policies. Economists use the well-developed *expected utility theory of choice* to indicate how individuals should make decisions under uncertainty; this is the basis for our benchmark model of *demand*.

On the supply side, classical theory assumes perfect competition among insurers, the freedom to set prices, and knowledgeable investors who diversify their risk across many projects and supply capital for investments that provide the highest expected return. Economists assume that firms will behave in such a way as to maximize their expected long-run profits and, thus, the value of the firm; this is the basis for our benchmark model of *supply*. Regulators are expected to step in only in the case of widespread inefficiency and to deal with situations where the actions of a firm affect the actions of others (i.e., *externalities*), imperfect flows of information, and transaction costs that may cause the competitive market to fail.

Consumers, the insurance industry, and those who oversee it are unlikely to make the kinds of rational decisions that classical economics would predict, even in markets with voluntary and free choice on the supply and demand sides. Therefore, we turn to the emerging field of behavioral economics, which focuses on systematic biases and heuristics (rules of thumb) that lead consumers, managers, investors, and regulators to make choices that deviate from the benchmark models derived from classical economics.

Behavioral economics takes into account emotions and biases such as fear and anxiety, the demonstrated tendency to value losses more than gains, and the propensity of decision makers to maintain the status quo even when circumstances indicate they should change. In other words, behavioral economics does *not* assume a person always or usually makes decisions based on classical models of choice, or even based on carefully organized calculations. It allows for feelings, emotions, fuzzy thinking, limited information processing abilities, and imperfect foresight.

The tension between classical economic theory and behavioral economics with respect to choices made by consumers and insurers is highlighted in Daniel Kahneman's compelling book *Thinking, Fast and Slow* where he characterizes two modes of thinking which he labels *System 1* and *System 2*:

- System 1 operates automatically and quickly with little or no effort and no sense of voluntary control. It uses simple associations, including emotional reactions that have been acquired by personal experience with events and their consequences.
- System 2 allocates attention to effortful and intentional mental activities including simple or complex computations or formal logic.

Many of the biases and simplified decision rules that characterize judgment and choice under uncertainty that we describe in this book are due to operation of the more automatic and less analytic System 1. Expected utility theory and expected profit maximization require the decision maker to utilize System 2 to make deliberative choices. But even when a consumer or an insurer devotes considerable time and effort in making choices, emotions can be so strong as to overwhelm a systematic decision process.

These attributes are especially likely with insurance, because the decision maker deals with risks where there is considerable uncertainty regarding the likelihood and consequences of loss-producing events. Prospective policyholders tend not to understand insurance well and often do not trust the sellers. Those at risk have a low tolerance for ambiguity and often purchase insurance to gain peace of mind. They then regret having bought coverage if they do not collect on their policy.

We believe the contrast between these two approaches – the elegance of classical economic theory versus the real-world applications of behavioral economics – provides a useful introduction to a more general debate that promises to stimulate discussion among social scientists and will impact the field of economics for years to come. There is an ongoing intellectual tug of war between economists who use the classical model and those who have joined the behavioral camp, although in most cases it is a matter of proportion and benefit of the doubt, rather than methodological purity. More practically, we believe that examining the insurance industry through the lenses of both approaches enables us to offer ideas as to what policies and programs can correct, or at least modify, behavior that appears to be irrational.

SUMMARY

Insurance is an extraordinarily useful tool to manage risk, but it is broadly misunderstood by consumers, regulators, and insurance executives, who all engage in behavior that does not conform to classical economic predictions of rationality. Yet to a great extent, the benefits of insurance to individuals and society rest on both buyers and sellers behaving rationally and predictably. With considerable sums of money at stake in consumer premiums and insurance company payouts, it is important to understand the reasons for anomalous behavior. Insurance contracts should be structured to prevent or minimize choices that can be costly to those who make these decisions and to the general public as it impacts social welfare.

We examine these behaviors through the lens of classical economics, which predicts how decision makers should make choices, and also through the lens of behavioral economics, which takes into account emotions, biases, and simplified decision rules. We then make recommendations for policies and programs to correct or at least modify what appears to be irrational behavior.