THE ECONOMICS OF INSURANCE LAW—A PRIMER

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This article presents a law and economics perspective on the topic of insurance law as a whole. In doing so it provides both an overview major topics in insurance law as well as a discussion on the major themes of the economic analysis of insurance law and its leading cases. The paper also presents a theoretical framework—the two islands functional approach—that can help solve insurance law puzzles. Ultimately, this paper could help any insurance law judge, lawyer, or student as well as any legislature to correctly conceptualize and solve the legal problems facing courts and insurance lawyers alike.

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Imagine two islands.

These two islands are identical in almost every way—from their white sand beaches, to their elaborate hotels, to their coconut oil powered insurance text book printing facilities. The only difference between the islands is the insurance regime for automobile accidents. On the first island, everyone buys first-party insurance. This means that if you are involved in a car accident you file a claim with your own automobile insurance company which will pay for your damages. On the second island, however, everyone is required to buy third-party liability insurance, and first-party insurance is not available. This means that if you are involved in car accident you file a claim with the insurance company of the person who hit you. Which island would you prefer to live on?

On the first island, you enjoy the benefit of choosing your own insurance. You can ensure that you buy from a company that is reliable and will pay for any harm you incur in the case of an accident. You can also guarantee you have as much coverage as you want, so driving your Bentley around town is a less harrowing prospect. But not everything is great about this island. You may, in fact, not drive carefully enough, knowing that after all you are fully insured, or almost so. And what about the fact that being a

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victim of an accident—even one that is not your fault—may raise your premiums because it is your insurance company that is paying for the damage? A first-party insurance regime may also penalize the poor, whose cars may be less inwardly safe, since insurance premiums would reflect not only the likelihood of the insured being harmed in an accident but also the magnitude of the harm, and unsafe cars do not adequately protect drivers. A first-party insurance regime could also incentivize drivers to buy more outwardly dangerous cars—cars with ramming guards, or behemoth trucks that would do grave damage to another car in an accident—but would leave the driver and her vehicle relatively unharmed, resulting in lower premiums.

Now let's look at the second island. Since third-party liability insurance premiums reflect not the potential of harm to you, but the potential for you to negligently harm others, they only penalize you for being *negligent* in an accident, not for simply being in an accident. This incentivizes drivers to not drive negligently and might lead to a safer driving environment. Third-party liability insurance may also incentivize cars that are more outwardly safe. However, it also puts the insured at the mercy of other drivers—who may be incentivized to buy minimum coverage from less than reliable operators—potentially becoming judgment-proof for large-scale accidents. If you are hit by a driver without enough coverage, you may have to bear a large portion of your harm yourself.

There is a lot more to be said, but for now let us pause and think: can you tell which island is better? Without a more nuanced theoretical analysis and a wealth of empirical evidence it is difficult, if not impossible, to decide. The purpose of this article, in fact, is not so much to answer this question – which has been discussed by Guido Calabresi almost three decades ago[2] – but rather to provide a *theoretical framework* helpful to answering this and similar questions. This framework can provide judges and policy makers a first approximation to determine the best normative solution, from a law and economics perspective, for many *different* insurance law disputes. Since insurance law is heavily embedded in insurance theory, the latter being primarily the economics of insurance, my hope is that by explaining the foundations of insurance theory readers will find it easier to understand insurance law. More precisely, this article

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[2] *See* Guido Calabresi, *First Party, Third Party, and Product Liability Systems: Can Economic Analysis of Law Tell Us Anything About Them?*, 69 IOWA L. REV. 833 (1984).

intends to present the theoretical and practical difficulties posed by insurance law and to propose a conceptual framework—the two islands approach—as a way to better conceptualize the shortcomings and inefficiencies of insurance law's various doctrines.

The theoretical framework presented here should help transform the way courts interpret insurance contracts (in short, subjective and objective interpretation of the parties' intentions) to a simple thinking tool which allows courts first, to identify the relevant variables and second, to determine the optimal solution. Even when the framework cannot provide a definite answer, it at least provides a road map for asking the relevant questions to focus the analyst's attention on the relevant missing empirical data.[3]

The standard insurance dispute arises because the insurer denied coverage, relying on the language of the contract, or a general principle of insurance law, such as lack of insurable interest. How can we know whether the denial is justified? The tension in such situations is between the ex-post and the ex-ante, between providing coverage to the insured who had suffered a loss, and not distorting the insured's (and the insurer's) incentives to minimize loss.

If the denial of coverage serves a sound function in the insurance market, then it should be upheld. For example, if the denial of coverage eliminates *insureds'* strategic behavior while not creating a larger problem of *insurers'* strategic behavior, then it is probably justified. Such is the exclusion, for example, on coverage of liability for intentional torts. Another example would be the exclusions of coverage for automobile accidents from homeowners insurance which could be justified in that insurers ensure the pool of homeowner insureds contains similar risks, eliminating cross subsidization of those without cars of those with cars, which, as we will see below, might lead to inefficient risk classification. If the administrative costs in determining the validity of an exclusion are too high, a bright-line rule might be appropriate. Other times, when administrative costs are not a problem, a case-by-case approach which evaluates a specific exclusion is ideal.

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[3] Others have previously argued American courts should use a more normative approach when deciding insurance law issues. *See* Daniel Schwarcz, *A Products Liability Theory for the Judicial Regulation of Insurance Policies*, 48 WM. & MARY L. REV. 1389 (2007) (arguing courts should treat insurance litigation similar to how products liability litigation is treated, and do so by looking to the value of a given policy term).

I call the approach proposed here "the two islands functional approach" because it requires the analyst to focus on the *function* of the coverage denial. The analyst ought to compare two states of the world—two islands—one where the relevant exclusion exists and one where it does not. Much like in the opening example for this paper, on these islands, everything else is the same except for whether or not the denial of coverage exists. Sometimes, one island is clearly superior to the other. On other occasions, the superiority of any given solution depends on (sometimes missing) empirical evidence.

The rest of this article is organized as follows. Section 1 begins with an overview of insurance and the relationship between the contracting parties, discusses some historical and conceptual background to insurance, and then explains why we need insurance at all. Section 2 starts dealing with impediments to the efficient insurance contract. It discusses the most important impediments—those evolving from the double-sided asymmetric information between the parties. Section 3 discusses other impediments to efficient contracting such as transaction costs and externalities. It highlights more complicated factors which differentiate the sale of insurance and the sale of other goods—such as the existence of agents and the conflict of interest it brings about. At measured intervals throughout Sections 2 and 3 I use the Two Islands Functional Approach to evaluate one of the solutions to insurance impediments. These illustrations are not meant to be exhaustive, as that would be impossible, but rather to demonstrate how the approach can be used to assist a judge or other decision maker. Section 4 concludes.

I. INTRODUCTION TO INSURANCE

A. THE RELATIONSHIP BETWEEN INSURER AND INSURED

Insurance is a legal mechanism by which the insured pays a premium to purchase from an insurer some financial protection against a future potential loss. The goal of this transaction is to provide the insured protection from financial risks to her assets, health, and life, or from third party claims, while incentivizing her to guard against those risks.

In many ways, insureds, purchasers of insurance, are like other types of consumers in their need for some type of legal protection against sellers, in this case insurance companies, or insurers. However, insureds may even be in a worse position than other consumers because insureds do not buy anything tangible that they can use immediately and return to the store if they do not like it. An insured cannot return his health insurance and begin

comparison-shopping once he is in a hospital. Rather, insureds purchase a promise for future financial protection in the case of a covered occurrence. The problem is that the product sold, insurance coverage, is not usually well defined in the minds of insureds. What exactly is covered under the policy? What type of "protection" will be delivered? What constitutes an "occurrence" which triggers coverage? Not only are all of these left undefined in the minds of insureds, but they are all widely litigated questions. That there are so many hidden characteristics in the product of insurance compared with other goods and services, and that as a result there is a lot of room for insurers' strategic behavior, suggests that insureds require even *more* protection than other consumers.

But that is just part of what is unique about insurance. Perhaps unlike other types of consumer contracts, the *sellers/insurers* deserve some protection as well.

Sellers in other industries usually price their product or service based primarily on the cost of its production and the seller's market power. While the market equilibrium price is determined by the supply and demand for the product, the seller's costs of production are almost never correlated with consumers' demand for the product. Consumers' demand, in turn, is a function of their preferences, available substitutes, and a host of other factors. But in insurance markets, things are different. An individual's risk type— her hidden characteristics or level of engagement in strategic behavior—determine not only the demand but also directly affect the *cost* of the product.[4] While sellers in other consumer contracts may be exposed to some small financial risk if a consumer's check bounces, or to some legal risk if their product is defective, that risk is limited. In contrast, the cost of production of insurance coverage crucially depends on the insured's strategic behavior and hidden characteristics. In the health insurance market, for example, it is the insured's lifestyle and dietary choices, and in the automobile insurance market, the insureds driving decisions. Thus, insurers are not only exposed to the risks regular sellers are exposed to, but also to a much greater risk of systematically under-pricing their product due to asymmetry of information between them and their insureds regarding their insureds' strategic behavior or hidden characteristics. However, one has to remember that unlike insureds, insurers are well aware of the asymmetric information problem and the risks it carries and they

[4] Liran Einav & Amy Finkelstein, *Selection in Insurance Markets: Theory and Empirics in Pictures*, 25 J. ECON. PERSPECTIVES 115 (2011).

have developed various means, to be detailed below, to combat this problem.

But that is still not the entire story.

The reason why insurers deserve some protection goes deeper. In regular goods and services industries a financial collapse of a seller will lead to losses only for the various entities it contracted with, such as its employees, shareholders, suppliers, etc. It will not lead to a great loss to its existing customers. Existing customers might be harmed if they need to replace, upgrade, or repair their goods, but they usually do not lose the money they initially spent on the product. In contrast, when an insurance company cannot deliver on its promise, some customers will be left with large uncompensated losses while others will lose the money paid for the covered period. Many of them will no longer be able to find coverage elsewhere, and those who would might have to pay a much higher premium. While this may be a problem in other industries where money is paid in advance, ordinarily it is not as pronounced as in insurance, where contracts may last for decades. This suggests that in addition to the normal social welfare reason to ensure contracts are efficient (more on this below), there is a strong *consumerist* reason to ensure insurance contracts are sustainable—therefore guaranteeing that insurance companies do not collapse and cause insureds to forfeit their premiums. This, in turn, means that there is a consumerist reason for the contracts to be efficient. Efficient contracts—those made with perfect information and low transaction costs—are those that maximize social welfare while still sustaining the company providing the contract.

Hidden characteristics and strategic behavior are much greater risks in the insurance industry than in most other sales industries. Both the seller and the consumer may have hidden characteristics or engage in strategic behavior. But because of the abstract nature of the good, the negative effect of the characteristics is much more pronounced in an insurance contract. The risk of double-sided hidden characteristics and strategic behavior is that the contract between the parties will not be efficient and the costs of these unknown risks will not be properly allocated. In particular, as will be explained below, these informational impediments give rise to problems of adverse selection, reverse adverse selection, moral hazard, and reverse moral hazard.

The economic analysis approach to insurance law employs the efficient insurance contract paradigm. According to this paradigm, insurance law should be viewed as doing not much more than protecting insureds and insurers from contracting inefficiently due to transaction costs primarily in the form of each other's strategic behavior and hidden

characteristics. That is, at least, the approach this article takes in addressing the problems posed by these informational asymmetries and destructive incentives, as well as other economic inefficiencies such as administrative costs, negative externalities, correlated risks, non-competitive pricing and irrational behavior.

This article adopts an *ex ante* outlook toward the evaluation of insurance disputes, refocusing the discussion from the facts of a particular case—where tragic events can often cloud a court's judgment—to how a ruling would affect the overall pool of insureds and society at large. This can be seen in the applications of the Two Islands Functional Approach throughout the paper.

B. SOME HISTORICAL AND CONCEPTUAL BACKGROUND

In the historical record, the first instances of insurance date back to the Babylonians in the fourth millennium B.C. Insurance plans and the law have interacted since at least the time of Hammurabi's Code, which included references to primitive private insurance contracts. Public insurance policies first appeared during the time of ancient Rome, including the government's underwriting of merchants' losses due to storms or capture at sea. Private risk spreading was common from ancient times to the post middle-ages through friendly societies that spread the cost of some risks among their members. Such societies existed in what is currently China, India, Greece, Israel, Italyand other countries in medieval Europe, providing insurance against illness, death, marine and fire risk, and even legal liabilities. And of course, rudimentary risk-sharing arrangements such as share-cropping have been common throughout history. While not a formal insurance, these arrangements served many of the same purposes. [5] Today's modern insurance industry provides a wide variety of products. These products can be classified in multiple ways. First, the classification may focus on who bears a loss. For example, first-party insurance covers losses sustained by the actual holder of the insurance policy. Health-care insurance is an example. If an insured gets sick and has to pay for care, thus bearing the loss, the insured herself is reimbursed. Third-party insurance, on the other hand, covers losses caused by the holder onto others, when the holder could be exposed to legal liability for causing that

[5] DAVID A. MOSS, WHEN ALL ELSE FAILS: GOVERNMENT AS THE ULTIMATE RISK MANAGER 27-28 (2002). For ancient Israel, see *Babylonian Talmud*, *Baba Kama* 117.

loss. Malpractice liability insurance is an example. If a lawyer makes a mistake and causes his client a loss, the lawyer's insurer pays the client who actually had to bear the loss.[6]

Another way to categorize insurance is by the type of loss insured. Health insurance protects against costs associated with health care. Malpractice liability insurance protects against costs associated with malpractice. Likewise, life insurance covers costs associated with the loss of life and property insurance covers damage to property.

The modern industry is also surrounded by a broad institutional infrastructure. The institutions are those common to all areas of the law: legislatures, regulators, and courts. In the United States, insurance is largely governed by state rather than federal law.[7] While laws may prescribe or prohibit certain behavior by insureds or insurers—such as requiring people to have coverage, or requiring insurers to provide coverage—mostly legislatures create regulatory schemes and delegate rulemaking authority to agencies and commissioners. The role insurance commissioners or agencies perform varies widely by jurisdiction. Generally, the administrative function is divided into rulemaking—such as creating requirements for certain types of coverage—and enforcement—ensuring insurers follow the rules. Courts also participate in the policing. They have a large role in defining the contractual relationship between insureds and insurers and between the insurance companies and the regulators.[8]

C. SOME FUNCTIONS OF INSURANCE

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[6] It is possible to see liability insurance as first party insurance. The lawyer is forced to pay for the harms she caused, and the liability insurer is merely repaying the lawyer for this personal loss. Nonetheless, it is common practice to classify liability insurance as third-party insurance, and treat the loss being insured against as that of the outside party.

[7] Though the Employee Retirement Income Security Act of 1974 and the Patient Protection and Affordable Care Act of 2010 are major exceptions.

[8] Michelle Boardman, *Allure of Ambiguous Boilerplate*, 104 MICH. L. REV. 1105, 1107 (2006) (contending that most policy language, specifically boilerplate language so prevalent in policies, is targeted at courts, not the insureds); *see also* Schwarcz, *supra* note 1 (arguing there is a role for courts in the regulation of insurance, and that role should mirror products liability law).

The underlying theme to all these historical developments and theoretical principles is that individuals have a natural tendency to recognize and be concerned about risk, whether to themselves, others, or their property.[9]

Indeed, the vast majority of individuals, at least in the context of possible large future losses, tend to respond to risk with risk aversion—the preference for certainty over uncertainty with regard to future losses. Risk aversion, a concept developed by the Swiss mathematician Daniel Bernoulli, explains why an individual would rather pay $10,000 for an insurance premium than $1,000,000 for a loss that occurs with a one in hundred chance. More generally, a risk-averse individual will pay a small premium now to protect against potentially large, but uncertain losses in the future, when in all likelihood the total premiums paid will be more than the eventual loss. While risk aversion has been traditionally considered a near universal condition, risk neutrality (indifference to certainty or uncertainty with regard to future losses) and risk-affinity (preferring uncertainty over certainty) are also possible preferences.[10]

One of the most important developments in modern insurance came in the formalizing of the basic principle of insurance in 1713 by Jacob Bernoulli, who was Daniel Bernoulli's uncle. The idea was that the sample mean for a probabilistic set nears the expected mean for an occurrence or process in

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[9] Though recent work has looked at the fact that insureds do a relatively poor job of buying insurance they should buy, and refraining from buying insurance they should not buy. *See* Howard Kunreuther & Mark Pauly, *Insurance Decision-Making and Market Behavior*, 1 FOUNDATIONS AND TRENDS IN MICROECONOMICS 64 (2005); *see also* Kyle D. Louge, *The Current Life Insurance Crisis: How The Law Should Respond*, 32 CUMB. L. REV. 1, 6-8 (2001-2002) (identifying reasons for under-insuring in the life insurance context and suggesting the best legal response).

[10] Some like to root risk aversion on the observation that people have diminishing marginal utility from money. But that is not a very helpful observation, because, among other things, people demonstrate great heterogeneity in levels of risk aversion in different contexts; A simpler approach is to consider risk aversion part of people's preferences, which determine their demand for insurance. *But see* Daniel Kahneman & Amos Tversky, *Prospect Theory: An Analysis of Decision Under Risk*, 47 ECONOMETRICA 263 (1979) (advocating an alternative approach to the risk aversion hypothesis); Kahneman and Tversky's work was later incorporated into legal theory. *See* Christine Jolls, Cass R. Sunstein & Richard Thaler, *A Behavioral Approach to Law and Economics*, 50 STAN. L. REV. 1471 (1998).

the population as the sample size increases. For example, if the average risk of an insured getting a certain type of cancer is 5%, then the larger the pool, the closer the pool's cancer rate will be to 5%. This is known as the law of large numbers. The obvious extrapolation to be made is that pooling of risks reduces the risk per insured, as long as these risks are not perfectly correlated. This principle is apparent in all the instances of insurance practices described below.

Insurance policies utilize the law of large numbers to reduce uncertainty for risk-averse individuals. The first step in that process is risk transfer, by which the risk of a certain event is shifted from one party to another.[11] The law of large numbers, discussed above, allows an insurer to predict with reasonable certainty the aggregate losses it will pay in a given year—assuming that neither adverse selection nor moral hazard, both discussed below, bias the analysis—and to adjust its premiums accordingly. Thus premiums offered by an insurer equal the value of the risk of loss, plus administrative fees and profit to the insurer. Insureds are willing to pay the excess over the value of the risk due to their risk aversion.[12]

Risk aversion by itself, however, cannot fully explain the existence of the entire insurance industry. For example, even companies which may be large enough to not be considered risk averse at all, indeed large enough to be able to buy the insurance company, purchase insurance coverage. These large companies do not need insurance to transfer risk as they are large enough to remain exposed to many of their dissimilar, independent risks

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[11] Nearly every contract or transaction transfers risk in some way, such as the risk that a seller's costs will go up and make the transaction unprofitable for her. If a buyer contracted for the right of specific performance—by explicitly or implicitly paying a premium—then she is insured against any increase in the seller's costs because the buyer has already paid for the right to the receive the goods. *See* Ronen Avraham & Zhiyong Liu, *Incomplete Contracts with Asymmetric Information: Exclusive Versus Optional Remedies*, 8 AM. L. ECON. REV. 523 (2006). Insurance arrangements are somewhat unique in that the risk to be transferred is explicitly recognized by the arrangement—i.e. the risk that the policy-holder will fall ill or that her home will be flooded. Of course, this is true of other forms of insurance. For example, derivative financial instruments are tied to particular risks, such as changes in value of securities or commodities or even weather events.

[12] Premiums are also determined based on expected and incurred investment profits or losses, and the competitiveness of the markets. The expected rate of return for investments affects the premium that an insurance company needs to charge to maintain its margins. For simplicity I ignore that fact.

and cancel them out on their own—a strategy called risk diversification.[13] These large companies are considered more risk-neutral and capable of self-insurance than individuals, yet those companies typically carry very large insurance policies.[14] So there must be another explanation besides risk-aversion for the existence of insurance and, in fact, there are many of them.[15]

One of the simplest and most fundamental functions served by an insurer is the process of information gathering and knowledge production. In a way, all other functions of the insurer rely on its ability to gather data about the risks it intends to insure, including the frequency, severity, and variance thereof, and to translate that data into policies and premiums. This is why, as will be discussed below, the insurance industry is given some immunity from federal antitrust laws.

Another explanation for why corporate entities purchase insurance policies is the cheap claim-handling service provided by insurers, particularly with regard to legal liability of corporations and health-insurance coverage for their employees. The insurance company saves the corporation administrative costs associated with receiving, processing, negotiating, and paying out claims.[16]

Insurance also lowers negotiation costs between transacting parties as it allows them to not have to worry about detailing various risks in the contract between them. Insurance policies are thus an implicit party of nearly all commercial interactions because parties can rely on insurance to cover innumerable risks that would, if they had to be hedged in each and every contract, add tremendous negotiation costs to every contract. In addition, the existence of insurance reduces the need for and the cost of litigation in the commercial context, which also reduces the costs parties

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[13] If the company is publicly held, then the true bearers of the risk, the stockholders, have also spread out their own risk by owning a diversified portfolio. *See* SCOTT E. HARRINGTON & GREGORY R. NIEHAUS, RISK MANAGEMENT & INSURANCE 171 (2d ed. 2004) (discussing reasons why companies purchase insurance even though shareholder risks are already diversified).

[14] Though the plans often have large deductibles that represent the share of the risk the company feels comfortable bearing.

[15] Victor Goldberg, *The Devil Made Me Do It: The Corporate Purchase of Insurance*, 5 REV. L. & ECON. 541, 543-44 (2009) (discussing various benefits that insurers provide to companies).

[16] Göran Skogh, *Mandatory Insurance: Transaction Costs Analysis of Insurance*, *in* ENCYCLOPEDIA OF LAW AND ECONOMICS, VOLUME II: CIVIL LAW AND ECONOMICS 521, 526 (Boudewijn Bouckaert & Gerrit de Geest eds., 2000).

must account for in creating a transaction in the first place. By reducing these costs, insurance plays an essential role in facilitating trade and commerce.

Other explanations for carrying insurance include lowering the expected transaction costs of bankruptcy, lowering the corporation's expected tax liability, reducing regulatory constraints on firms, and shielding them from class actions filed against them.[17]

Beyond these benefits, insurance companies also provide another important function - that of loss prevention or minimization. Insurance companies have the institutional expertise and knowledge to suggest and implement cost-effective preventative measures.[18] Consider, for example, fire insurance on a commercial property worth $1 million. The chance of a fire destroying the property in a given year is 1%, which means the expected loss for that year is $10,000 and the insurance premium must be at least slightly more than that amount. Now, assume that by installing a sprinkler system, the risk of a fire destroying the property is cut in half, meaning the premium to be paid is likely to be reduced to (slightly more than) $5,000. If installing and maintaining the sprinkler system will cost less than $5,000 per year, and its installation can be easily verified by the insurer, the property owner has every incentive to invest in the sprinkler system—a "loss control"—which reduces the risk of the loss in return for a discounted premium.[19] It is true that an uninsured person, generally, has an even stronger incentive to prevent losses. The problem, however, is knowing which steps to take, something that insurance companies are often experts at. Furthermore, as will be explained below, in some contexts an entity on the verge of bankruptcy, without insurance, may have only minimal incentive to take care, as it has nothing to lose. However, the

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[17] *See* David Mayers & Clifford W, Smith, Jr., *On the Corporate Demand for Insurance*, 55 J. BUS. 281 (1982) (conducting extensive work on why public corporations purchase insurance); *see also* TOM BAKER & SEAN J. GRIFFITH, ENSURING CORPORATE MISCONDUCT: HOW LIABILITY INSURANCE UNDERMINES SHAREHOLDER LITIGATION 42 (2010) (documenting how Directors and Officers liability insurance shields corporations from losses due to securities class actions filed against them); Goldberg, *supra* note 14, at 543 (providing numerous reasons why insurance is value enhancing despite arguably being inefficient for a risk neutral company).

[18] Goldberg, *supra* note 14, at 543-44.

[19] KENNETH S. ABRAHAM, DISTRIBUTING RISK: INSURANCE, LEGAL THEORY, AND PUBLIC POLICY 11 (1986). How deductions incentivize loss prevention will be explained below.

possibility of a reduced premium restores the incentive of even that entity to, for example, install the sprinkler system.

Insurance has some socially beneficial functions which go beyond benefiting the direct parties to the insurance contract. One such function served by compulsory insurance companies is gatekeeping, which is accomplished in many of the most important sectors of modern economies. Automobile insurance is required to drive a car; homeowners insurance is often required to obtain a mortgage; and business owners insurance is often required to take out a commercial loan. Insurers provide a way to screen and filter individuals before they are permitted to undertake important, but potentially socially harmful activities, thus serving effectively as quasi-regulators. For instance, if a person has been in too many accidents for any insurance company to offer him an automobile policy, the result is that he cannot buy insurance and thus legally cannot drive a car. This keeps society safer, at least as long as he does not drive without carrying insurance. The gatekeeping function, however, may not be a social benefit if the insurance industry acts inefficiently or considers factors—such as race, gender, or nationality—that society views as inappropriate for determining insurability.[20]

Another positive externality of a functioning insurance market is that private insurance provides fast compensation to victims of disasters, accidents, and torts, easing the burden on tax-funded social insurance programs like Social Security disability benefits or FEMA's Disaster Aid Programs. For example, as of August 2006, only a year after the disaster, insurers had already paid $17.6 billion for wind damage from Hurricane Katrina.[21] Without these payments, many more homeowners would likely have been forced to turn to the government for assistance.

On the other hand, insurance affects social stratification in significant, meaningful ways. The ability to obtain (and to afford continuously) various types of insurance can be a serious and disconcerting divide between the well-off and the lower classes, leading many states, and recently the US Federal government, to provide national insurance, especially health insurance, to lessen stratification.

Over all, insurance has many positive elements, and plays a necessary role in nearly all commercial transactions. However, insurance

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[20] *See* Regina Austin, *The Insurance Classification Controversy*, 131 U. PA. L. REV. 517 (1983).

[21] Joseph B. Treaster, *Judge Rules for Insurers in Katrina*, N.Y. TIMES, Aug. 16, 2006 at C.

can create negative externalities as well. For example, it is possible that health insurance may encourage insureds to take less than optimal precautions to avoid sickness, or doctors to perform unnecessary procedures, or the medical device and drug industries to excessively innovate, since insureds are sheltered from the true costs of these actions.
A policy makers committed to a well-functioning market should seek to minimize these adverse consequences of insurance. These impediments to efficient insurance contracts, and some potential solutions, are the core of this article and are discussed in the following sections.

II. INFORMATIONAL IMPEDIMENTS TO EFFICIENT INSURANCE CONTRACTS

According to the economic analysis of law, rational parties operating in a perfectly competitive market (without transaction costs) where everyone has complete information will voluntarily contract efficiently to maximize their joint welfare. Absent externalities, these contracts will also increase overall social welfare. That parties, especially insureds, are not always rational has been widely documented will be discussed in section 3 below,[22]. This section focuses on other impediments to efficient insurance contracts—informational impediments and strategic behavior. I discuss these impediments and offer possible contractual and doctrinal solutions to them.

A. INFORMATIONAL IMPEDIMENTS IN GENERAL

Information impediments result from the existence of *imperfect information* with respect to the probability of the risk materializing and/or its scope. Information impediments also arise from the existence of *information asymmetry* between the insurer and the insured with respect to these factors. It is the second reason for information impediments—those stemming from asymmetric information—that is at the center of our discussions. Why? Because when the information held by the insurer (and the insured for that matter) is not perfect, but there is no problem of information asymmetry, the risk the insurer is facing is small. For example, an insurer who charges a premium equal to two percent of the total value of

[22] *See* Jolls, Sunstein & Thaler, *supra* note 8; Daniel Schwarcz, *Regulating Consumer Demand in Insurance Markets*, 3 ERASMUS L. REV. 23 (2010).

the property instead of three percent increased its risk by one percent of the value of the property, an increase which usually is not destructive for him.[23] More serious problems arise when information asymmetry exists between the insurer and the insured. Such asymmetry can exist at the pre-contractual stage; after the contract begins, but before the insured event occurs; or after the occurrence. Four problems which arise from the information asymmetry between the parties will be discussed in this section. When the insured has more information at the pre-contractual stage, which is relevant to the contracting itself, an *adverse selection* problem may occur. On the other hand, when the insurer has more information relevant to the contract itself, a *reverse adverse selection* problem may occur. After parties have entered the contract, whether before or after the insured event occurred, an informational gap about the insured's behavior can lead to the problem of *moral hazard*, while informational gaps about the behavior of the insurer may lead to the problem of *reverse moral hazard*. At the end of each of these discussions I will use the Two Islands Approach laid out in the preface to demonstrate how one can go about analyzing potential solutions to these problems.

Before we turn to the analysis of these four problems it is worth mentioning that regulation of the insurance industry by the executive branch also has an important role in dealing with these problems. For example, the monitoring of insurance policies by the insurance commissioners ensures both that consumers are burdened with efficient disclosure duties, thus reducing the risk of adverse selection, and that the policies match the consumer's reasonable expectations regarding the scope of coverage, thus reducing the risk of reverse adverse selection. Further, capital and liquidity requirements enforced by the commissioners ensure that insurance companies meet their financial commitments to the insureds, preventing reverse moral hazard. And so on and so forth. Of course regulation is not a magic solution. Insurance commissioners often lack the necessary resources to monitor effectively, are vulnerable to political pressures, and some argue are often captured by market players or for various other reasons do not maximize social welfare. In this paper I do not focus on the functions of insurance commissioners, but rather on the available solutions that courts and the parties to an insurance contract have

[23] The picture may be different of course if the error is systematic and was done for many uninsured, or if without the mistake the insurer would not have agreed to insure the property at all, and there is no possibility of reinsurance.

for dealing with the two pairs of problems resulting from asymmetric information.

B. ADVERSE SELECTION

Foremost, information that insurers and insureds possess will inevitably end up being imperfect or asymmetric. Asymmetry of information leads to the problem of adverse selection. A theoretical concept first appearing in the late nineteenth century, adverse selection describes the phenomenon of high-risk parties who, knowing their 'type', seek more insurance coverage than low-risk parties. For example, a person with a personal or family history of certain medical problems will be more likely to purchase health insurance than a person who does not have such a history. This result follows from insurers charging one premium rate to all (or at least many) insureds. The insureds, though, have varying degrees of risk and are personally better able to determine their own risk than the insurers, who only know the average risk for a pool of observationally similar, but in fact heterogeneous, insureds. This informational asymmetry allows high risk parties to obtain insurance at a premium that is lower than they would actually be otherwise willing to pay. For low-risk parties, however, the premium charged to the entire pool is too expensive. Low-risk parties might object to *cross subsidizing* the high-risk parties—with insurers using the excess premiums of the low-risk parties to defray the costs of offering cheaper insurance to high-risk parties—and might therefore drop their coverage and leave the insurance pool. Consequently, the average risk faced by the insurer increases, the premium must increase, and this cycle of adverse selection repeats itself and theoretically might lead to the risk pool unraveling completely—a classic death spiral.[24]

In general, the risk of the total market unraveling increases along with the following factors: the heterogeneity of the insureds (whether both high and low risk insureds exist), the certainty of the insureds' knowledge of their own risk level (otherwise, high risk insureds might not be excessively attracted to the pool), and the competiveness of the market (when there is a greater chance that another insurance company will offer lower premium for low-risk insureds).

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[24] For a case study which explores a death spiral in the context of a health-insurance plan see David M. Cutler & Sarah J. Reber**,** *Paying for Health Insurance: The Trade-Off Between Competition and Adverse Selection*, 113 Q. J. ECON. 433 (1998).

Of course, this is all known to the insurance companies which try to design their contracts in a way that will address this problem. Unfortunately, this is not a simple task because the asymmetric information brings with it strategic behavior such as when high-risk insureds pretend to be low-risk (for example by not reporting that they smoke). The following subsection provides some possible solution.

1. Theoretical solutions to the adverse selection problem

There are several possible solutions on the theoretical level. The first and most basic is requiring disclosure by the insureds. More accurate information regarding the characteristics and behaviors of the insured parties allows better assessment and pricing of the overall insurance pool. This is why insurance companies ask insureds to fill out long forms describing and bringing to light the potential risks the insureds bring to the pool.

The information collected is used to differentiate premiums for insureds in a way that reflects their varying levels of risk, a process known as risk classification. By dividing insureds according to their risk classifications in this way, an insurer may mitigate to some extent the problem of adverse selection, because similar risks pay the same premium. However, risk classification does not come free of disadvantages. By decreasing the extent of cross subsidization between insureds, insurers reduce the degree at which they spread risk among their risk-averse insureds. This tradeoff between increasing ex-post coverage while eliminating the ex-ante incentive for strategic behavior on the part of the insured is *fundamental* to insurance and characterizes it more broadly. In reducing the problem of adverse selection, risk classification allows the insurer to reduce the average cost of insuring its pool while at same time, to the extent high-risk insureds leave its pool to be admitted elsewhere where the degree of cross subsidization is larger, it increases the average costs of its rivals.

One may think there should be no limit to pursuing risk classification if one wants to combat adverse selection. In practice, besides the harm to the risk-spreading function of insurance, an attempt at too detailed a classification will often cost more than the benefit derived from it due to the costs involved in collecting, analyzing and utilizing the data. Thus, in life insurance it may be of no use to distinguish between female smokers and females non-smokers because the gap in life expectancy is not substantial enough or because the proportion of women who smoke is low and the extra cost of distinguishing between them is

high. Hence, a certain amount of cross subsidization, and therefore of adverse selection, will always remain.

In some cases the insurer can afford not to invest resources at the contracting stage to ensure that the insured met its disclosure obligations, despite being of vital significance, because after the occurrence it might be able, perhaps more easily, to check whether the insured breached her duty of disclosure. When the information is easily discoverable after the occurrence and can serve as grounds for canceling the insurance contract or paying reduced benefits—both are self-help measures the insurer can take without a court—the insurer can make do with collecting information only *after* the occurrence. A simple example involves the question of whether an insured who died of lung cancer was a smoker. Instead of investigating the condition of the lungs of all insured persons who stated they were not smoking the insurer can only investigate those who died from lung cancer, thus saving resources across the entire pool.

Classifying risk based on information collected from the insured, either by way of filling out questionnaires or by medical examinations, as a way to combat adverse selection, has many obvious limitations. The insured has an incentive to hide negative information from insurers, either because he is afraid the insurance company would refuse to insure him or because he wants to pay a lower premium. Insurance law, as we will see below, has developed various legal doctrines which punish insureds for material false representations, but it seems that despite this insureds do not always disclose private information, a fact that might lead to adverse selection.

Is there a way insurance companies can get policyholders to disclose *voluntarily* whether they are high risk? The answer, as first shown by Rothschild and Stiglitz, is positive.[25] By offering policies with diverse deductibles insurance companies incentivize the insureds to sort themselves into different risk pools based on a self-estimation of their own risk. High-risk insureds will tend to purchase more insurance coverage and therefore will choose a lower deductible for a higher premium, while low-risk insureds will prefer higher deductibles for a lower premium. Rothchild and Stiglitz famously showed that under some distribution of insureds' risk

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[25] Michael Rothschild & Joseph Stiglitz, *Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information*, 90 Q. J. ECON 629 (1976). Their paper is the canonical insurance application of George A. Akerlof, *The Market for "Lemons": Quality Uncertainty and the Market Mechanism*, 84 Q.J. ECON. 488 (1970).

types what is called a 'separating equilibrium' may be reached where high-risk types are fully covered but low-risk types are only partially insured.[26] In other words, self-selection by insureds may lead to an equilibrium where high-risk and low-risk insureds choose different policies (in terms of scope of coverage and the premium they pay for the scope of coverage they choose) so that effectively they voluntarily self-classify themselves into two separate pools without providing any further information about the risks they bring to the pool.

On the other hand, if the proportion of high-risk insureds in the pool is small and low-risk individuals are sufficiently risk averse, then the economic justification for offering lower price and narrower coverage to the low-risk insureds diminishes and the equilibrium that will be created is a 'pooling equilibrium,' where both types of insureds are pooled together, paying the same premium for the same scope of coverage.

Another way that insurance companies are encouraging self-selection is by offering multiple-period contracts. For example, consider a commercial by Allstate, a leading insurance company in the U.S, where it guarantees that automobile insurance premium will not go up for those involved in a car accident. Allstate markets this insurance by claiming it does not leave its policyholders in the lurch. In practice, this scheme may serve as a marketing device to create long-term relationships with the insureds allowing Allstate to gather information on the risk level of its policyholders. Moreover, the promise that the premium will not go up after an accident is especially tempting to drivers with private information as being at high risk of getting involved in multiple accidents. Those drivers will self-select into this program, allowing Allstate to classify them into their own special pool.[27]

A few problems arise, however, when insurers risk classify their insureds. First, because classification is never perfect, certain insureds (the less risky) essentially cross subsidize others (the more risky) when they pay a premium higher than the risk they actually present. That creates not only problems of efficiency as insurance pools might unravel, or some low risk insureds will be driven out of the market, or get less coverage than they desired—problems which were discussed above—but also of distributive justice. Insurers—private or public—have the ability to redistribute resources between the classes they have separated by overcharging,

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[26] Rothschild & Stiglitz, *supra* note 24, at 648.

[27] *Allstate - Accident Forgiveness*, YOUTUBE (Jun. 30, 2010), http://www.youtube.com/ watch?v=J2nJYf1iRdM.

intentionally or otherwise, the less risky and undercharging the more risky.[28] In health insurance, for example, the healthy subsidize the chronically sick.

A related potentially troubling issue with risk classification logically stems from the nature of classification which often raises sensitive matters of discrimination. The reason is that the most obvious (and least expensive) way to divide a large group of individuals, with the goal of assigning them to different risk levels, is by observable characteristics like age, sex, and race. Any parent of a male teenage driver feels the effect of this practice when he or she pays a much higher car-insurance premium for his or her son.

Is it discriminatory to force those people who have a lower risk-level, like women who drive on average less than men—although not necessarily more carefully—to subsidize the relatively more risky by having them pay the same premiums?[29]

On pure welfare grounds the analysis is (at least theoretically) clear: in the implausible case where the correlation between risk and gender, race, or age is perfect, that is, when insureds have no residual private information about their own risk not captured by the classification, then allowing such classification is welfare enhancing as it eliminates the adverse selection that otherwise would exist. In all other cases, the social welfare implications of allowing such classification is an empirical question which requires comparing the ex-ante costs of strategic behavior with the ex-post costs of reduced coverage. More specifically, one would need to compare the loss caused by adverse selection in a pool without the classification to the loss caused by classifying risk pools when the correlation is less than one, thereby making insurance both over and under expensive to some people.[30]

Obviously, whether a policy is discriminatory or distributively unjust is not necessarily uniquely determined, although might well be informed, by economic analysis. To what extent society is willing to

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[28] For an analysis of the tension between risk distribution and risk classification see Kenneth S. Abraham, *Efficiency and Fairness in Insurance Risk Classification*, 71 VA. L. REV. 403 (1985).

[29] *See* City of Los Angeles, Dep't of Water & Power v. Manhart, 435 U.S 702 (1978) (banning gender based annuities provided by an employer under Title VII); Cour Constitutionnelle [CC] [Constitutional Court] Case C-236/09, para 47, Sept. 30, 2010 (Belg.) (European Union Court of Justice actually banned insurers from even considering gender in determining insurance premiums).

[30] Einav & Finkelstein, *supra* note 3, at 121.

tolerate classifications such as race, gender, religion, or age varies greatly with the groups affected, but the process remains in many ways discriminatory nonetheless.[31]

An interesting, controversial matter on the forefront of the insurance and adverse selection problem involves genetic testing and its value in predicting disease. In one sense, the tremendous information advantage presented by genetic knowledge could lead to better loss prevention (for example people testing positive for HIV can be treated before they actually develop AIDS) and to more efficient risk classification.[32] But the intensely private nature of that information, the risks of errors, the fear that it would leak to third parties or be used against relatives of the insureds, as well as the invasive means required sometimes (at least to date) to obtain it cheaply, may speak against permitting insurers to use genetic testing. Another argument against such testing is that it is not "fair" to punish a person for things that were determined before his or her birth. From a law and economics perspective an argument against the usage of genetic testing for insurance purposes can be expressed in the claim that using information obtained from genetic testing might lead to a welfare loss stemming from the fact that realized risks might no longer be insured, the so-called Hirshleifer Effect.[33] Imagine a test which predicts that a particular individual has a probability of 99% of developing cancer in the next five years. Once the information is revealed, insurance companies might not want to insure those who tested positive. That is a social loss, as most risk averse people would be willing to pay a premium *before* they take the test to make certain that they were still insurable even if they tested positively.

On the other hand, suppressing this information might deny the individuals access to preventative medical care, or to at least planning more optimally for their shorter expected life span. This creates a difficult dilemma, and jurisdictions, including the United States, have weighed in against the use of genetic testing by insurers for that very reason.[34]

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[31] *See* Kyle Logue & Ronen Avraham, *Redistributing Optimally: Of Tax Rules, Legal Rules, and Insurance,* 56 TAX L. REV. 157, 207-27 (2003).

[32] Alexander Tabarrok, *Genetic Testing: an Economic and Contractarian Analysis*, 13 J. HEALTH ECON. 75 (1994).

[33] Jack Hirshleifer, *The Private and Social Value of Information and the Reward to Inventive Activity*, 61 AM. ECON. REV. 561 (1971).

[34] Michael Hoy & Michael Ruse, *Regulating Genetic Information in Insurance Markets*, 8 RISK MGMT. & INS. REV. 211 (2005) (analyzing the economic efficiency aspect of allowing the use of genetic test results for risk classification).

A sensible compromise might be to allow insureds to know about their genetic makeup but prevent insurers from using it in their underwriting procedures. Unfortunately, the legal prohibition against using genetic testing has the potential to lead to further exaggeration of the adverse selection problem because of the asymmetry it creates. Given that some individuals will undertake genetic testing for their personal knowledge or will infer their genetic makeup from their family history, those who know that they are high risk will view insurance as a worthwhile investment and will over-insure. The opposite is true for those with knowledge of their own clean genetic make-up.

This adverse selection effect of banning genetic testing was shown in a recent study of individuals at risk for Huntington Disease, a terminal genetic illness, and their propensity to purchase long-term care insurance—insurance that covers the costs of nursing care later in life.[35] The rates of Huntington Disease are extremely low among the general population, but if one parent has the disease you have a 50% chance of also having it and there is no cure.[36] Those with the genetic mutation are guaranteed to require some sort of nursing care during their lives, making long-term care insurance very valuable.[37] Not surprisingly then, those individuals who are at risk (have a parent with the disease) are two and half times more likely to own long-term care insurance, and those who have tested positive (100% chance of having the disease) are five times more likely to have the coverage when compared with the general population and controlling for various factors like age.[38] While long-term care underwriters screen for those who have been diagnosed with the disease (and would reject an applicant who had previously tested positive), they do not ask whether a parent has Huntington Disease.[39] Insurers can also not force the potential insured to undergo genetic testing to screen for Huntington or other diseases. This illustrates the adverse selection issues that arise when one party (the insureds) can use genetic testing to gain private information but the other party (the insurer) cannot.[40]

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[35] Emily Oster et al., *Genetic Adverse Selection: Evidence from Long-Term Care Insurance and Huntington Disease*, UNIV. CHI. BOOTH SCH. BUS. (June 8, 2010), http://faculty.chicagobooth.edu/emily.oster/papers/geneticadverse.pdf.

[36] *Id.* at 2.

[37] *Id.* at 3.

[38] *Id.* at 18.

[39] *Id.* at 7.

[40] In fact, the death spiral for the long-term-care insurance market may have already begun. *See* Anne Tergesen & Leslie Scism, *Long-Term-Care Premiums*

A totally different solution for adverse selection is group-based insurance where insurance is offered to a group of people united by characteristics other than the risk insured against. All members of the group are automatically admitted without individual underwriting. Health insurance offered through employers, as in the U.S., life insurance offered through one's bank, and automobile insurance offered through a trade organization are such examples. Because the risk insured against is randomly distributed in the group, the risk of the pool should not be excessively high. The benefits to the insureds from groups insurance stem from three sources. First, as was just mentioned the risk for adverse selection is null and therefore premiums can be kept low. Second, the administrative costs associated with group-based insurance are much lower than the costs associated with individual underwriting, and, third, the group often has market power that enables it to negotiate even lower prices. As a result, the premium offered in group-based insurance is appealing even to low-risk insureds. Those low-risk insureds prefer the group insurance coverage even though they cross subsidize the high-risk insureds, further eliminating the problem of adverse selection, because the premium is lower than in a homogeneous risk pool but one where underwriting is done individually.

Another possible solution for adverse selection is eliminating coverage for preexisting conditions or a delayed coverage for these conditions. If a patient has cancer and knows that he would have to wait two years before he can get coverage in a new insurance company he would not adversely select into that pool, if only because he might die before the coverage would begin. But denying coverage for preexisting conditions creates terrible ex-post problems as the sickest people in society are left without care. Indeed, in the recent Healthcare reform (the Patient Protection and Affordable Care Act, known as the ACA) insurance companies are prohibited from denying coverage for preexisting conditions. In other countries, health insurance plans have always been mandated to accept every applicant for health-care coverage regardless of any preexisting conditions the insureds may have. The societal value of this exclusion is discussed under the Two Islands Approach later in this section.

Soar, WALL ST. J. (Oct. 16, 2010), http://online.wsj.com/article/SB10001424052748703298504575534513798604500.html (reporting that rate increases of up to 40% were submitted to state regulators for approval to cover unexpected increases in insurer costs).

While it sounds noble, accepting every applicant who self-selects into the pool may restore the adverse selection problem. Ordinarily at least, it would. To prevent this from happening the prohibition of the preexisting condition exclusion is usually accompanied, as it is in the ACA, with a mandate requiring that everyone, including the young and healthy who might not otherwise apply for insurance, purchase coverage.[41]
If everyone is required to purchase insurance, then more healthy people will be in the pool to subsidize the sick people. While a greater number of sick people in the pool may put upward pressure on premiums, the increased number of healthy people, who might have been previously priced out of the pool by adverse selection, will likely keep premiums close to their original level, or lower. Furthermore, the cycle of adverse selection where relatively healthy people are priced out by sick people, and then the moderately sick people are priced out by the very sick people, and so on, cannot happen because everyone is required by law to be included in the pool. Essentially, mandatory insurance is tantamount to a one single group-based insurance pool, which, as we saw above, is a way to combat adverse selection.[42]

A less extreme solution is to provide a lump sum subsidy toward the price of the policy, especially to the low risk individuals. This will lead to fewer low risk individuals remaining without insurance.

In any case, uniform subsidies or mandatory insurance do not solve the distributive justice and discrimination concerns raised before. Charging every driver the same premium entails that good drivers subsidize bad drivers, that drivers who drive less subsidize drivers who drive more, and less directly, that the old subsidize the young and that women subsidize men. More generally, there is an inherent question with insurance as to how much the able and lucky should subsidize the unable and unlucky; with car insurance it is the safe drivers against the unsafe, with health insurance it is the healthy against the sick, and with liability insurance it is the non-negligent-prone against the negligent-prone. These questions are a bit easier to resolve when those subsidizing today will inevitably become those

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[41] Such mandate was recently held constitutional by the U.S Supreme Court in Nat'l Fed'n of Indep. Bus. v. Sebelius, 132 S. Ct. 2566 (2012).

[42] If the administrative costs of processing claims are too high, it might be socially optimal to leave some low risk individuals outside of the pool, as the cost of providing them coverage might outweigh the benefits to them. In such cases, mandatory coverage might not be welfare enhancing. Einav & Finkelstein, *supra* note 2, at 123.

being subsidized tomorrow like when the young subsidize the old. In contrast, these questions become starker in situations when the relatively risky classification coincides with other social disadvantages, such as poverty.[43]

2. Doctrinal solutions for the adverse selection problem

Insurance law has found ways to facilitate the practice of some of these theoretical solutions in order to alleviate or prevent the effects of adverse selection. Laws establishing a mandatory insurance framework—such as in automobile insurance—are an obvious example. But other legal doctrines, which pertain more closely to disclosure and risk classification, are more intricate and arguably more significant in that they expose private information about insured parties to investigation by insurers.

One such doctrine concerns the "warranties" proffered by the insureds prior to the conclusion of the insurance contract. This practice engages the warranty doctrine, and according to its terms in the U.S., the insured party is permitted, prior to insurance contract formation, to make any truthful statement about itself that would lower its perceived risk and, consequently, its premium.[44] If the insured party later makes a claim, though, and the insurer can prove any of those statements, however inconsequential, to have been false, the claim may be rejected. Because of the high cost of a false statement, the warranty doctrine presents a fairly effective means to encourage accurate disclosure. The associated frequent, costly investigations into pre-contractual statements and the potential for a penalty being imposed on the insured for simple pre-contractual carelessness, however, are substantial detriments to the warranty doctrine.
A similar doctrine is that of misrepresentation. Here, an insured party also makes pre-contractual representations to the insurer regarding the risk of the insured. Under this doctrine, instead of being liable for any

[43] Mandatory insurance may also increase the risk of moral hazard, to be discussed further below. *See* Alma Cohen & Rajeev Dehejia, *The Effect of Automobile Insurance and Accident Liability Laws on Traffic Fatalities*, 47 J.L. & ECON. 357 (2004). Same holds for state mandates requiring health insurance plans to cover medical treatment. *See* Jonathan Klick & Thomas Stratmann, *Diabetes Treatments and Moral Hazard*, 50 J.L. & ECON. 519 (2007) (finding that mandates generate a moral hazard problem, with diabetics exhibiting higher BMIs after the adoption of these mandates).

[44] Seth Chandler, *Insurance Regulation*, 3 INT'L ENCYCLOPEDIA OF L. & ECON. 837, 845 (2000).

misstatement, a future claim may only be denied if the insured *knowingly* made a misrepresentation which is *material* to the insured's risk. Thus courts ask whether the insurer would have agreed to cover the risk at all, or whether the premium the insured has paid for the policy covering the event that actually occurred would have been *materially* higher if an accurate representation had been made. Over time, the law in the U.S. has generally shifted from the stricter liability associated with warranties to a negligence-based system of representations, whether through statutory action or common law.[45]

Given a finding of breach of warranty or misrepresentation, the penalty for the insured party is typically voiding or reducing the insurance policy. If the penalty is reduction, the amount owed to the insured is usually reduced to the amount that would have been available had no misrepresentation occurred prior to contract formation. The rationale for reduction is that, because it puts the insured in the same position as if her representations were correct, there is no incentive for the insured to be dishonest up front. The problem, however, is that not all misrepresentations will be caught, and if the only penalty is reduction, insureds might gamble that they can get away with the misrepresentation. Voiding the policy outright provides an affirmative penalty, creating a stronger incentive for the insured to be honest at the outset.

In some scenarios, like when an insured has been paying premiums for several years, certain statements and representations may not be challenged under the doctrines of warranty or misrepresentation, because after that much time has lapsed there is a high risk of erroneously determining either the validity, or falsity, of pre-contractual statements. This is the doctrine of incontestability.[46] The purpose of incontestability is to prevent an insurer from opportunistically issuing policies to insureds and accepting years of premiums, all the while knowingly concealing a technicality with the application that would allow the insurer to later deny coverage should it so choose.[47] Incontestability acts as de facto statute of

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[45] Particular attention has been recently paid to the requirement that a materially higher premium would have been charged for insurance covering *the particular event that actually occurred*. In other words while some require that the misrepresentation contributed to the loss actually occurred, others require that it contributed to the risk of loss. *Id.* at 846.

[46] *Id.* at 846.

[47] *See* John H. Langbein, *Trust Law as Regulatory Law: The Unum/Provident Scandal and Judicial Review of Benefit Denials Under ERISA*, 101 NW. U. L. REV.

limitations insulating insured parties from "post-occurrence underwriting", a practice which is profitable for the insurer but places large risks of forfeiture on a potentially innocent policy holder, who has presumably paid years of premiums up to that point. Life insurance, health insurance, and disability insurance policies often contain an incontestability clause or are subject to an incontestability statute.[48]

Incontestability clauses, however, do not strip insurers of all defenses. Fraud is a common exception where insurers are allowed to challenge the validity of a policy, though what type of fraud avoids an incontestability clause is not always clear. The California Supreme Court, for example, has differentiated between the insured sending an imposter to take his life insurance medical examination and a healthy person giving the name of someone else as the insured, but taking the medical examination herself: the former is subject to incontestability, while the latter is not. The rationale given by the court for this discrepancy is that in the former case there was a valid contract between the parties, even though it was procured by fraud, and therefore the dispute was governed by the contract itself, including its incontestability clause.[49] In the latter case there was no meeting of the minds between the insurer and the deceased person, as the deceased person was obviously not a party to the contract. The policy insured, if anyone, the person who completed the application and took the medical examination.[50]

Another related doctrine is concealment, which punishes the intentional nondisclosure of information by the insured either when asked during the application process, or in the period that follows it.[51] Given how easy it is for insurers to ask relevant questions and to collect relevant information, it is not clear that the doctrine of concealment should apply to incomplete application forms. Rather, the doctrine of concealment seems more relevant in the period after the insured filled out the applications but before the insurance company issued the policy, as well as in the period after the policy was issued and before the occurrence, because in these

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1315 (2007) (documenting how Unum/Provident knowingly took on policies with minor errors in them and then denied coverage on the basis of these technicalities).

[48] *See, e.g.*, Halstead Consultants, Inc. v. Cont'l Cas. Co., 891 P.2d 926, 928 (Ariz. Ct. App. 1994); Equitable Life Assurance Soc'y of U.S. v. Bell, 27 F.3d 1274 (7th Cir. 1994).

[49] Amex Life Assurance Co. v. Superior Court, 930 P.2d 1264, 1266 (1997).

[50] *Id.*

[51] 1 JEFFREY W. STEMPEL, LAW OF INSURANCE CONTRACT DISPUTES § 3.08(d) (2d ed. Supp. 2000).

periods insureds are not usually asked about changes in their risks, and therefore it makes sense to require them to initiate a disclosure of any new changes in their risk profile. Indeed, courts have ruled that insureds may remain silent unless specifically asked by the insurer or the insured knows that the withheld information is material to the insurer's decision to grant a policy. In that sense concealment is not as far-reaching as the misrepresentation or warranty doctrines. As with misrepresentation, however, the penalty for concealment is usually reduction of the scope of coverage or voiding of the insurance policy all together.[52]

3. Returning to the Two Islands Approach

The value of the two island approach can be seen clearly in the debate over coverage of preexisting conditions in health insurance, discussed earlier in this section as a theoretical solution to the problem of adverse selection.[53] The Third Circuit addressed the preexisting medical condition exclusion in *Lawson ex rel. Lawson v. Fortis Insurance Co*.[54] The question in that case was whether a child, treated for symptoms of leukemia two days before the issuance of a policy but not diagnosed with leukemia until after, was excluded from coverage by a preexisting condition exclusion.[55] Judge Alito found the policy language ambiguous as to whether the exclusion required treatment or diagnosis, and found for the insureds per *contra proferentem*.[56] That decision merely limits the scope of the preexisting condition exclusion in those situations where a condition has not yet been diagnosed. The court's decision can be explained by the distaste anyone would have denying insurance to a child with leukemia. But that is an ex-post approach which focuses on the parties at bar, whereas

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[52] *Compare* Mut. Benefit Life Ins. Co. v. Higginbotham, 95 U.S. 380 (1877), *with* Stipcich v. Metro. Life Ins. Co., 277 U.S. 311 (1928). In *Stipcich* the U.S. Supreme Court voided a policy where the insured did not disclose changes in its health that occurred between the date of application and the date of the issuance of a policy, where as in *Higginbotham* it did not.

[53] The exclusion has since been prohibited by the Patient Protection and Affordable Care Act. 42 U.S.C.A. § 300gg-3 (West Supp. 2012).

[54] Lawson *ex. rel.* Lawson v. Fortis Ins. Co., 301 F.3d 159 (3d Cir. 2002).

[55] *Id.*

[56] *Id.* at 167. Contra proferentem is a doctrine which dictates that an ambiguous provision in a contract should be construed against the drafter. As will be shown below, this doctrine combats reverse moral hazard.

the correct approach, as we saw, is the ex-ante which focuses on the function of insurance and the future implications a decision would carry.
All else being equal, an island with an exclusion for preexisting conditions or illnesses will have far cheaper insurance premium than an island without the exclusion. Indeed, an island without the exclusion could potentially have the adverse selection cycle discussed above, pricing out all but the sickest from the insurance market. Without the exclusion, there would be little reason to buy insurance until you know you are sick. Premiums would go up dramatically, causing fewer healthy people to buy insurance, causing premiums to increase, and so on.
On an island with the exclusion, just as insureds know they cannot purchase fire insurance after their houses burn down, they would know they cannot purchase health insurance after they are diagnosed with a disease. In a well-functioning market that knowledge should incentivize everyone to purchase coverage in advance. Thus, healthy and sick people are jointly members of the insurance pool, and once sick people are diagnosed, their care costs are subsidized by the healthy people's premium. It is clear, therefore, as a general theoretical matter, the preexisting condition exclusion is important, at least when insurance coverage is not mandatory.[57] However, to make a judgment about the *Lawson* case specifically, the discussion must be sharpened.

In the *Lawson* opinion the issue was not the overall value of the preexisting condition exclusion, but whether it should be applied when symptoms have been treated without a diagnosis of the actual condition.[58] Adding the court's chosen "island" to the above analysis, the issue becomes close. That "island" would only void the exclusion for people treated without being diagnosed with a specific illness. This is a relatively small group of claims, limited further by excluding instances where there is an indication of bad faith or fraud. The adverse selection issue would be

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[57] If individuals are mandated to purchase insurance then they cannot wait until after they discover they are sick to purchase insurance, and thus the problems preexisting decision exclusion are designed to prevent never come to be.

[58] In the *Lawson* case, there was some circumstantial evidence that the condition, or at least a serious condition, was suspected by the daughter's family prior to the issuance of the insurance policy. Specifically, the grandmother was a registered nurse, and the health insurance was applied for on the same day the daughter was originally taken to the doctor. *Lawson*, 301 F.3d at 161. But the court thought differently. To quote then Judge Alito, "[h]ere, there is no evidence that the possibility that Elena's condition was actually leukemia ever entered the minds of Elena's parents or Dr. Parikh." *Id.* at 166.

vastly smaller than if there was no preexisting condition exclusion at all. There would still be some adverse selection, however, if the patients themselves suspect they have a serious disease even before they are officially diagnosed, leading to some increase in premiums.[59] Additionally, there will be higher administrative costs due the required case-by-case analysis as to whether a condition has actually been diagnosed, or if symptoms have merely been treated, and if there is any indication of bad faith or fraud. The higher administrative costs will also lead to an increase in premiums. The higher premiums associated with more coverage could well be preferable to cheaper premium and no coverage, but to identify the pool's welfare maximizing "island", further information is needed about the frequency and costs of such circumstances. If such empirical information exists, it should be presented to the courts. Otherwise, the court needs to "guestimate" it itself.

Here we have seen that while the Two Islands Approach does not provide a definitive answer, it does allow us to look at the situation objectively. The court in *Lawson* probably got it right but only because of the overall effect of its decision on insurance pools, rather than any sympathy for a plaintiff with leukemia.

4. Adverse Selection—The Empirical Evidence

Although a formidable problem theoretically, there is only little evidence that in certain insurance markets adverse selection exists and almost no evidence to suggest that adverse selection is actually a major problem for the insurance industry at large..[60] Alma Cohen and Peter Siegleman provide several explanations for the disconnect between theory and practice. One is that it is hard to measure adverse selection

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[59] This would be further reduced by implementing some type of waiting period, where new insureds do not receive full coverage until a certain period of time has elapsed since they purchased coverage, unless they were previously covered, as is currently the case with most United States health insurance policies.

[60] Alma Cohen & Peter Siegelman, *Testing for Adverse Selection in Insurance Markets*, 77 J. RISK & INS. 39 (2010) (surveying a wide-ranging literature and concluding that whether adverse selection exists varies across insurance markets and pools of insurance policies); Peter Siegelman, *Adverse Selection in Insurance Markets: An Exaggerated Threat*, 113 YALE L.J. 1223 (2004). For a study finding adverse selection see Amy Finkelstein & James Poterba, *Selection Effects in the United Kingdom Individual Annuities Market*, 112 ECON. J. 28, 47 (2002) (showing significant adverse selection in the United Kingdom annuity market).

empirically. Many empirical papers attempt to estimate adverse selection by comparing the insurance costs of those with ample insurance coverage with the costs of those with less. But that, as Liran Einav and Amy Finkelstein show, is problematic on various grounds, as any difference could equally be attributed to moral hazard.[61] There are also theoretical explanations for why adverse selection is not detected. As was discussed above, some forms of insurance, such as car insurance, are mandatory. Mandatory insurance prevents adverse selection because low risk insureds cannot opt out of the pool. Another explanation might be that insureds' informational advantage vis-à-vis insurers is not really that large, and that insureds fail to use whatever private information they do have, so at the end of the day insurers' superior predictive ability offsets whatever informational advantage insureds might use. Adverse selection might also not be prevalent because, as was explained above, insurance companies have developed various underwriting practices (such as deductibles, waiting periods, or group-based insurance), and because courts have developed various doctrines, all of which encourage disclosure of private information to combat the problem. Lastly, adverse selection might not be detected because it is offset by another phenomenon called "propitious" or "advantageous" selection. This stems from the fact that in the real world there is heterogeneity in risk-aversion. Whereas the early models of adverse selection, such as Rothschild and Sitglitz from 1976, conveniently assumed people have the same preferences when it comes to risk, there is substantial literature documenting heterogeneity of risk preferences between different individuals and different insurance markets. Specifically, to the extent that those who are more risk-averse (and therefore more likely to carry

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[61] For an excellent explanation of the methodological difficulties in measuring adverse selection see Einav & Finkelstein, *supra* note 2, at 126-36. One way to separate the two effects is to test the impact of an exogenous change in an insurance contract on existing versus new insureds. If existing insureds change their behavior, or if reported losses increase, that would be a sign of a moral hazard effect. If, in contrast, the chance of accidents differs between new and old policy holders, that would be a sign of an adverse selection effect. *See* Jaap H. Abbring et al., *Adverse Selection and Moral Hazard in Insurance: Can Dynamic Data Help to Distinguish?*, 1 J. EUR. ECON. ASS'N, PAPERS & PROC. 512 (2003) (using dynamic insurance data to distinguish moral hazard from adverse selection); Patrick Bajari, Han Hong & Ahmed Khwaja, *Moral Hazard, Adverse Selection and Health Expenditures: A Semiparametric Analysis* (Nat'l Bureau of Econ. Research, Working Paper No. 12445, 2006) (arguing that the two inefficiencies can be separated through regression analysis).

insurance policies) are also low risk individuals, that is, they are more likely to pursue safe (non-risky) behavior, then a phenomenon known as "propitious" or "advantageous" selection may emerge. These low-risk individuals who propitiously select into the pool may well offset the cost of the high-risk insured who adversely select into the pool.[62] While in theory insurance markets can face both adverse selection and propitious selection, current empirical methods do not allow separating their effects.

It is worth mentioning that "propitious" or "advantageous" selection, while not necessarily welfare enhancing, is usually beneficial to the insurer.[63] Accordingly, insurers seek to bring about propitious selection by rigging the incentive structure of the policy to only entice low-risk individuals. Offering a free health club membership as an incentive to purchase life insurance selects for healthy individuals—who else would

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[62] *See* David Hemenway, *Propitious Selection*, 105 Q.J. Econ. 1063 (1990); *see also* David de Meza & David C. Webb, *Advantageous Selection in Insurance Markets*, 32 RAND J. ECON. 249 (2001).

[63] The usual underinsurance result in adverse selection models arises because insurance companies anticipate self-selection of high-risks into their pool and therefore set high premiums, making it unattractive for low-risks to join the pool, even though the low-risk individuals would be more than willing to pay the actuarially fair price for their coverage. In "propitious" or "advantageous" selection, the presence of risk-averse yet cautious types causes insurers to *lower* premiums and thus draws into the market less risk-averse people (who do not place a high value on coverage), but which are high-costs types. These people value the insurance at less than their expected costs and therefore on efficiency grounds should not have been insured. Put differently, whereas adverse selection entails that some people who should have been insured will not get insurance because they were priced out, "propitious" or "advantageous" selection entails that some people who should *not* have been insured (because the administrative costs of providing them insurance are higher than their expected loss), will nonetheless get coverage. *See* John Cawley & Tomas Philipson, *An Empirical Examination of Information Barriers to Trade in Insurance*, 89 AM. ECON. REV. 827, 829-30 (1999) (finding that the mortality rate of U.S. males purchasing life insurance is below that of the uninsured); Amy Finkelstein & Kathleen McGarry. *Multiple Dimensions of Private Information: Evidence from the Long-Term Care Insurance Market*, 96 AM. ECON. REV. 938 (2006) (providing evidence that more cautious individuals are more likely to purchase long-term care insurance and also invest more in precautionary behavior but are less likely to eventually use a nursing home); Hanming Fang, Michael Keane & Dan Silverman, *Sources of Advantageous Selection: Evidence from the Medigap Insurance Market*, 116 J. POL. ECON. 303 (2008) (documenting advantageous selection in the market for Medigap coverage).

want the membership? In a novel example of this "cream-skimming," one insurer was rumored to have offered applications for health insurance to the elderly only on the third-floor of its office, which was only reachable by stairs. The assumption was that if an elderly individual was able to traverse the stairs, then she was likely a lower-risk individual.[64] A more common method is to market to the risk-averse under the assumption that they might be those who will take more care than necessary. This may explain the scary advertisement one sees on T.V. where one's happy family life is financially destroyed because he did not have life insurance, or where an uninsured driver gets into a violent accident. Use of such high-pressure sales tactics to induce people into buying life and other forms of insurance is in a way an insurer-induced selection device: you don't want to sell the product to anyone who actually needs to buy it; only to those who really want it but do not really need it.

C. REVERSE ADVERSE SELECTION

Adverse selection occurs not only among the insureds—insurers themselves are also susceptible to its effects. "Insurer-side adverse selection" results when there is a disparity in the quality of policies offered by insurers and an information barrier that prevents insureds from accurately separating those policies into high and low quality. The lower quality policies will be offered at lower premiums, attracting more insureds yet driving out of the market other insurers which offer higher quality coverage (but which high quality the insureds cannot observe) at a more expensive price, the so called "market for lemons".[65]

Eventually, a race-to-the-bottom leads to either low quality of coverage, costing much more than the benefits it actually provides, or non-payment of claims by insurance companies who priced their premiums below the necessary levels required to stay solvent. Both effects result in negative public attitudes toward insurance as the externalities associated with non-paying or under-paying insurers build up.

A famous example of the market of lemons in insurance policies is the fire insurance industry in the late nineteenth century where insurance companies offering property/casualty insurance policies sought to save

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[64] Siegelman, *supra* note 59, at 1253.
[65] Akerlof, *supra* note 24.

money by ratcheting back coverage without informing consumers.[66] In response, New York promulgated a mandatory policy form for fire insurance that was widely copied by other states.[67]

A recent study looked at homeowners' insurance policies in six states and found some of the same problems in the modern insurance market as in nineteenth century New York.[68] One variation of the study compared sixteen homeowners insurance policy types found in North Dakota and Pennsylvania to the HO3 standard policy provided by the ISO.[69] Of the sixteen, five had substantially less generous coverage than the HO3 policy, eight had slightly less coverage but were consistent with HO3 terms, and three had more generous coverage. Generally speaking, the negative deviations exceeded the positive deviations. Following his analysis, Daniel Schwarcz expresses concern that some insurance carriers may be exploiting consumer ignorance by ratcheting back coverage while seeking to hide differences between their policies.[70] He refers to this as the "exploitation hypothesis,"[71] and it is a perfect example of reverse adverse selection.

Policy differences are not inherently bad though. In fact, offering insureds different coverage levels for different prices is one of the ways to get insureds to self-identify their risk level, as discussed in the previous section on theoretical solutions to adverse selection. A problem arises, however, when heterogeneity in coverage is combined with a lack of transparency. The lack of information in many insurance markets occurs at two stages. For example, homeowners cannot access policy forms prior to purchasing the insurance. Second, even when insureds receive policy forms

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[66] *See* Daniel Schwarcz, *Reevaluating Standardized Insurance Policies*, U. CHI. L. REV. 1263, 1268-70 nn.9-11 (2011) (citing various studies of early insurance policies and the standardization of fire insurance forms around the New York form).

[67] *See* George W. Goble, *The Moral Hazard Clauses of the Standard Fire Insurance Policy*, 37 COLUM. L. REV. 410, 410 (1937). As Goble explains, "[b]efore the advent of the standard fire insurance policy there were in use in the United States almost as many policy forms as there were companies." *Id.*

[68] *See* Schwarcz, *supra* note 65, at 1277-1308.

[69] ISO, Insurance Services Office, is a provider of legal and regulatory services to insurers including homeowners' insurance forms portfolio. *See generally id.* at 1308-17, for a discussion on why the policies were chosen and how they were analyzed.

[70] *Id.* at 1315.

[71] *Id.*

after payment the terms are "virtually indecipherable."[72] This lack of information makes it impossible for consumers to select insurance based upon coverage terms, and creates an environment where consumers can be exploited by insurers offering an inferior product at a higher price.

There are a number of possible solutions to the problem of reverse adverse selection. The foremost solution to this problem is regulation. For example, by limiting the prices at which policies may be offered and by requiring insurers to maintain sufficient assets to pay out on claims, the government prevents the race-to-the-bottom and non-payment problems directly.

One of the major themes of regulatory reform to combat this problem is transparency. Transparency could be achieved by making policy forms and terms available online and requiring insurers to compare their policies to a standard form baseline, like the HO3 form. Regulators could also require simplified policy language that is comprehendible by the average insured. These two reforms would prevent insurers from hiding policy differences and allow consumers to make educated choices about their coverage options.[73]

However, transparency alone may not be enough to combat this serious problem. Other options include creating a standard form or at least a default policy that consumers would have to opt out of.[74] In this way it would be impossible for insurers to secretly ratchet down coverage. Mandatory floors provide similar protections, and, as the 19th century fire insurance example teaches us, legislation mandating minimum standards is already used in many states to ensure policies meet minimum quality standards.[75]

1. Returning to the Two Islands Approach

One way courts can combat reverse adverse selection is to not strictly enforce an "increased risk" exclusion against an unsuspecting

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[72] *Id.* at 1318.

[73] *Id.*

[74] As will be discussed in Section 3 (e) *infra*, the vast majority of insureds will not make any changes to the standard form, so it is important that these protections are adequate.

[75] *See* Russell Korobkin, *The Efficiency of Managed Care "Patient Protection" Laws: Incomplete Contracts, Bounded Rationality, and Market Failure*, 85 CORNELL L. REV. 1, 63-64 (1999) (arguing mandated policy provisions are an efficient way to battle the reverse adverse selection problem).

insured. As mentioned above, one place we see reverse adverse selection is when insurance companies sell policies with specific coverage exclusions, but because of various information impediments the insured is not aware of the clause. An "increased risk" clause eliminates from coverage any incident that was caused by an increased hazard within the control of the insured.[76] A fire caused by the insured smoking in bed is a perfect example of an action that, under a strict reading of such an exclusion, would not be covered under the insured's policy. In deciding these cases, courts have often held that such a loss is covered by insurance policies even though the incident is specifically excluded.[77] The question becomes whether we want courts to enforce increased risk clauses under these circumstances, and in our analysis we again set up two islands. Remember that each two-islands exercise starts anew to allow us to focus on the ex-ante effects of the proposed rule. Therefore the two islands we have created are identical in every way except for the enforcement of increased risk clauses.

On the first island, the increased risk exclusion is fully enforced, and so any actions by the insured that increase the risk of an incident will lead to a finding of no coverage. Even common actions such as smoking in bed would not be covered on this island.[78] As a result, insureds have stronger incentives to refrain from smoking in bed and policy premiums should be lower because fewer events are covered. The costs of reduced coverage, however, are that insureds will not be able to obtain insurance for these accidents because such coverage would not be available.[79]

On the second island, the increased risk clause is not strictly enforced by courts, so a fire caused by smoking in bed will still receive coverage. Insureds' incentives to refrain from smoking in bed are diluted and more events will be covered, which means that policy premiums will be higher. However, insureds now have less risk of remaining homeless after losing their house to a fire accidently caused by them, thus avoiding a cost that is potentially very high.

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[76] *See* Schwarcz, *supra* note 65, at 1283-84 (discussing increased risk clauses and quoting several examples).

[77] ROBERT H. JERRY, II, UNDERSTANDING INSURANCE LAW 376 (2d ed. 1996).

[78] Although smoking inside may be less prevalent now than it was in previous generations, smoking is still the cause of around 15,000 residential fires each year, many of which originate in the bedroom late at night. FEMA, Smoking Causes Nearly 15,000 Residential Fires in United States (2005), *available at* http://www.fema.gov/news-release/smoking-causes-nearly-15000-residential-fires-united-states.

[79] It is hard to imagine a secondary market for smokers insurance.

Looking at these two islands and adopting the perspective of the entire pool of insureds, we can attempt to determine which they would prefer: higher premiums for increased coverage yet diluted incentives to take care, or lower premiums for less coverage and increased incentives to take care.

One reason for preferring the second island is that people may reasonably expect, even if they do not actually expect, that they will be covered for their own clumsy actions. Both homeowners and liability insurance capture this point. Specifically, people may want to be able to smoke in bed and, on the small chance a fire begins, have these costs covered by insurance. The insured already has other strong incentives to not burn down his or her home without this exclusion – his own safety is at stake – so not enforcing the exclusion is not expected to dilute their incentives to take care.[80] While people in the insurance pool who do not smoke may oppose having to cross subsidize those who want to smoke in bed, they could still benefit from this clause if they, for example, like to burn scented candles in their bedroom, or otherwise engage in activities that carry increased risk of loss.

Moreover, it may be the situation that on both islands the insured *actually* expects that the event will be covered. If this is the case, then the insurance companies may be able to charge the same amount of premiums on both islands because insureds are not aware they should be demanding lower premiums on the first island (without coverage). The risk of insurance companies exploiting the ignorance of insureds by charging the same premium regardless of the exclusion provides another reason for courts to mandate coverage, even when it is specifically excluded by an increased risks clause.

In this analysis we have seen an example where, unlike the child with leukemia, a judge or jury might be unsympathetic to the plight of the insured because it is well known that smoking in bed can cause fires. However, by viewing the effects on the insurance pool as a whole, and seeing that the risk of diluted incentives is not large and that the corresponding benefit (lower premiums) may not be present, it seems clear

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[80] *See* Saul Levmore, *Obligation or Restitution For Best Efforts*, 67 S. CAL. L. REV. 1411, 1424 (1994).

that in many circumstances the increased risks clause should not be strictly enforced.[81]

D. MORAL HAZARD

Another systemic risk insurers face is known as "moral hazard." Moral hazard consists of the risk of three distinct kinds of behavior by insureds, all of which are hidden from the insurer. The first is when insureds take less than optimal care in protecting themselves against the insured risk. The second behavior categorized as moral hazard is when insureds make less of an effort to minimize their loss should the risk occur. The third action, somewhat more controversially defined as moral hazard because it can also be plain fraud, is the exaggeration of losses by insureds to get higher reimbursements. The first behavior is considered *ex-ante* moral hazard, while the second is considered *ex-post* moral hazard. The third behavior, depending on its magnitude, is sometimes considered *ex-post* moral hazard, but sometimes is considered fraud. In all these cases the insureds externalize costs onto the pool. Why? Because the insurer cannot distinguish between insureds who do and those who do not behave in a moral hazard way, the insurer charges the same premium to all insureds, leading to cross subsidization. The risk for such "immoral" behavior by the insureds was dubbed by insurance companies in the nineteenth century "moral hazard".[82]

Take, for example, a property owner with a piece of real estate worth $1 million. She is concerned with fire damage, which at a 10% likelihood each year will destroy the entire value of the property. Thus, her expected cost from fire damage is $100,000 per year. The property owner also knows that with a janitor properly maintaining the property, the probability of a fire is reduced to 1% and therefore the expected cost falls to $10,000. She can hire a janitor for $30,000 per year, bringing the total expected cost of fire damage, plus a janitor, to $40,000. Therefore, investing in care is efficient for an uninsured property owner—she has invested $30,000 in care and has saved $90,000 in expected costs.

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[81] Other actions that are intentionally dangerous, like making explosives in the basement, would undergo a different analysis and likely lead to a different conclusion.

[82] Tom Baker, *On the Genealogy of Moral Hazard*, 75 TEX. L. REV. 237, 250-51 (1996).

The problem begins when the property owner purchases insurance. Fire insurance could serve as a substitute or as a complementary solution to the property owner's concerns. If an insurer has no way of monitoring the property or the janitor's work, it will charge an annual premium of $100,000 plus the insurer's administrative costs and profit. The insured who knows she is fully insured and cannot be monitored will have no incentives to optimally invest in prevention. She has no incentive to hire a janitor because it would not reduce her premium at all. This hazard of "morally" inappropriate behavior by insureds—of not taking what would ordinarily be cost-effective precautions—is "moral hazard."

Moral hazard is often a problem also in the third-party liability insurance context. Take, for example, automobile liability insurance. Beginning in the 1970s, most American states adopted a requirement that drivers be covered by automobile liability insurance.[83] In theory at least, drivers covered by liability insurance would take less care than those not covered. Without insurance, a negligent driver causing an accident would bear the cost of the harm the accident caused. With insurance, the driver no longer bears that cost, thus her *financial* incentive to take care to avoid an accident is diluted.[84]

A necessary but insufficient condition to the characterization of moral hazard is that the suboptimal behavior of the insured is *the result of* the insurance coverage. Thus, the insured's behavior must be examined in relation to her conduct in the state of the world where she was not covered. An insured who never arms the alarm in her house (even in states of the world where she was not insured) is a higher-risk insured and may pose a problem of adverse selection to the pool, but does not pose a moral hazard problem to the pool because her inefficient behavior is not *as a result of* the insurance coverage. In contrast, if an insured does not activate the alarm before she leaves the house—an inefficient behavior that is hidden from the insurer—as *a result of* the insurance coverage she is acting in a moral hazard way.

And why is such an action still an insufficient condition for the characterization of moral hazard? Because not every behavior of the insured—even if it is *because* he is covered— is necessarily suboptimal or poses a disturbing moral hazard problem. For example, there is a concern that health insurance brings about *ex-post* moral hazard because insured

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[83] Cohen & Dehejia, *supra* note 42, at 358.

[84] Whether or not this theoretical prediction holds in practice will be discussed below.

people consume more health services as a result of being insured. But not every over-consumption (relative to consumption in the absence of insurance) is problematic since the very purpose of insurance coverage is to ensure that when the insured person gets sick, she can afford expensive medical treatments that otherwise could not be provided to her. Although insureds may demand plastic surgery on the grounds that they have a medical need, may replace their eye glasses too often, or may visit the dental hygienist beyond what is reasonably necessary because they do not bear the full economic costs of these treatments, it is hard to believe that people will seek a heart transplant or brain surgery solely because they are insured.[85]

How can one tell when the insured's decision to get medical care is a legitimate and efficient, and when it is a moral hazard behavior which creates a social loss?

Here is a mental exercise that may help resolve this issue, at least theoretically. Suppose an insured needs a kidney transplant, which costs $50,000, and he is insured under a policy which enables him to choose one of two options. Option one: the insured undergoes the kidney transplant and the insurer will indemnify him for its $50,000 costs. Option two: the insurer would send him a check for $50,000 for his personal use. Now let's assume that Insured A tells the insurer that he is indifferent between the two options while Insured B says he prefers the check. What can we learn about A and B from their answers? An insured who really needed a kidney transplant will be indifferent between the two possibilities, since in each case he will undergo a transplant and remain financially neutral. This is our Insured A, and we can deduce therefore that A's decision to undergo a transplantation is efficient. The interesting point here is that A's decision is efficient even though it is quite possible that without the insurance money A might have chosen to not undergo the transplant. In other words, even though A's decision to undergo a kidney transplant *is a result of* the fact that he has insurance, his behavior is not considered a disturbing moral hazard. In fact, A's choice fulfills the very purpose of insurance.

In contrast, an insured who would prefer the check, B in our example, is signaling that undergoing a kidney transplant is not his preferred use of the money and therefore that is probably not an efficient option. Therefore, if the insurer offered Insured B only the option to be

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[85] JOHN A. NYMAN, THE THEORY OF DEMAND FOR HEALTH INSURANCE 104 (2003); John A. Nyman, *Is Moral Hazard Inefficient? The Policy Implications Of A New Theory*, 23 HEALTH AFF. 194, 195 (2004).

reimbursed for the costs for the surgery (option one above) and Insured B chooses to undergo the kidney transplant, it is clear that Insured B's decision to undergo the transplant is not only as a result of having an insurance coverage, but it is also inefficient. This situation reflects an inefficient allocation of resources and thus a disturbing moral hazard.

Another way to look at this is to notice that providing insurance coverage creates two effects. The first is an "income effect" that allows the insured to consume medical care he could not otherwise afford. Under the "income effect" the insured would have undergone these treatments under either of our options above. Over-consumption of medical treatments in such a case does not create a distortion in the efficient allocation of resources and is therefore not problematic. The second effect is a "substitution effect," whereby the insured will consume medical treatments he would not have consumed had he received cash in advance (just like insured B above). Only the "substitution effect" is problematic from a social welfare perspective because it *does* create a distortion in the efficient allocation of resources. As we shall see, the distinction between over-consumption due to income effect and substitution effect is important for empirical studies attempting to measure the social welfare costs of moral hazard.

Over-consumption due to income effect is one example of how what looks like moral hazard can actually increase social welfare. Another example engages the "theory of the second best."[86] For example, where medical services are provided in a non-competitive or monopolistic market the quantity offered is too low relative to the efficient outcome (known as the "first best"). In such a market, the excessive consumption of medical services due to (*ex-post*) moral hazard may offset some of the social loss due to smaller supply of medical services and bring on an increase in social welfare because it corrects the market failure stemming from the monopolistic market. In effect, the "excess" caused by moral hazard may bring the level of consumption closer to a socially desirable level, the "first best." The same holds when as a result of budget constraints, lack of information, or various cognitive biases, insureds do not consume enough medical services, for example preventive medicine. With preventative medicine, a certain level of consumption is required to prevent disease and save on future costs, so again moral hazard may lead to an increase in social welfare because it offsets a market failure. While these examples of

[86] R.G. Lipsey & R.K. Lancaster, *The General Theory of Second Best*, 24 REV. OF ECON. STUD. 11, 11 (1956-57).

the potential *benefits* of moral hazard are interesting from a theoretical standpoint, it is clear that, with few exceptions, moral hazard remains a problem that needs to be combated. The next sections discuss various contractual and doctrinal solutions to the moral hazard problem.

1. Contractual Solutions for the Moral Hazard Problem

On a theoretical level, solving moral hazard requires disincentivizing the deviations from the optimal level of care. Such a solution can be approached from multiple angles. The first approach involves the stick—punishing carelessness by denying coverage when the insured was negligent in preventing the loss, in minimizing the loss, or in exaggerating its scope. The second approach is the carrot—rewarding carefulness. Third, we can more closely align the insured's incentives with the insurer's, for example, by forcing the insured to bear some of the risk.

Let's start with the carrot. Essentially, moral hazard is a paradigmatic principal–agent problem where the agent (the insured) exercises at least some control over the level of risk that the principal (the insurer) incurs. One way to ameliorate this problem is to have the parties "contract on care" by coming to a mutually beneficial agreement where the insured agrees to take certain precautions in return for lower premiums. This approach requires insurers to first determine what people should do to lower the likelihood of an occurrence. With that information, the insurer then requires the insureds to take those measures as a condition of an insurance policy. Costly problems may arise for the insurer, however, in both ascertaining that information and in monitoring insureds, whether on a continuing basis or in retrospect.

In the example above if an insurer can monitor the property and know that the janitor in fact is doing his job, the insurer can reward the insured a "carrot" by lowering the premium to just over $10,000.[87] Alternatively, if the insurer discovers after the occurrence that the insured violated his obligation according to the policy to hire a janitor, the insurer can deny coverage (the stick). These methods align the incentives of the insured and the insurer and motivate the insured to do the socially optimal thing by hiring the janitor.

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[87] Another example of this contracting on care is the common practice of Israeli insurers to condition automobile insurance on the installation of electronic anti-theft devices.

While the carrot and stick approach would seem to solve the moral hazard problem, in many cases the insurer cannot effectively monitor the insured's care-taking behavior, nor can it cheaply investigate the reasons for the loss. Like in the case of adverse selection, carefully designing the policy contract may help. Deductibles and co-insurance clauses in the policy force insureds to bear some specified amount or percentage of harm (respectively), thereby forcing the insured to internalize some of the cost of an occurrence and incentivizing careful behavior. Policy limits, or caps on the total amount payable under the policy, similarly provide a strong incentive to avoid risky behavior and to minimize total harm. The higher the deductibles and co-insurance payments are, the lower the premiums are. Similarly, the lower the policy limits are, the lower the premiums are. While not a perfect solution—because it dilutes the ex-post coverage for the insured—this is another way of at least partially aligning the *ex-ante* interests of the insurer and the insured.

To better appreciate the way deductibles and co-insurance clauses magically align parties' incentives, let us return to our property owner and her $1 million property. This time, she has an insurance policy which contains a co-insurance clause of 35%, in this case $350,000, to be borne by the insured in the event she files a claim for a total loss of her property, leaving the insurer to bear a risk of $650,000. With no janitor and a 10% probability of an accident, the owner's premium is $65,000, her personal expected uninsured cost of fire damage is $35,000, and therefore her total expected costs are $100,000.[88] But, if she hires a janitor and the probability of an accident falls to 1%, her expected uninsured cost is now $3,500—one percent of the deductible—plus the $30,000 for the janitor's salary, totaling $33,500. Add to this the $65,000 premium charged and the total is $98,500, which is lower than without a janitor. Thus, with the deductible, an insured has a monetary incentive to hire the janitor, and thus reduce risk, even if doing that cannot be verified by the insurer. (Furthermore, that reduced risk can result in a lower premium because the risk is now only 1%, meaning premiums should really be only $6,500. With the lower premiums, overall

[88] The owner's premium is $65,000, because it equals the damage the insurer bears multiplied by the 10% chance of harm. Here, I am ignoring the administrative fees and profits also charged by the insurer. Her personal expected uninsured cost of fire damage is $35,000 because it equals the deductible multiplied by 10%.

expected costs for the insured are only $40,000.[89]) The result is that the insured, acting self-interestedly, decided to hire a janitor, even though that decision is not observable to the insurer, which is the socially efficient outcome. This is the way a well-planned co-insurance clause can solve a moral hazard problem in a way that is beneficial to all.

By and large, moral hazard is combated by deductibles in cases of small losses, co-insurance in cases of medium losses, and caps (or policy limits) in cases of large losses. Deductibles are fixed dollar amounts borne by insureds, say $1,000 for car insurance. They provide incentives to keep small claims out of the administratively expensive insurance system. This is especially important because including small claims in the system would mean a larger portion of premiums would go towards administrative costs. Co-insurance clauses are fixed percentages of the loss borne by the insured, say 35% of any claim as seen in the previous paragraph. They combat strategic behavior for medium claims because the dollar amount insureds have to bear increases with the claim. Lastly, caps, or policy limits, combat strategic behavior for large claims by forcing any costs above the cap onto the insured.

Unfortunately, deductibles and co-insurance are not perfect solutions for all lines of insurance. In the health insurance market, for example, the insured generally has to cover all expenses up to the deductible, then pays a portion (10–20%) of his care up to the out-of-pocket maximum, and then has no costs associated with additional insurance until he reaches his policy maximum. Therefore if the insured is conscious not just of the price of each item of care he consumes (like an MRI), but focuses on his expected expenditures for the entire year, then varying the deductible or the co-pay might not change the behavior of the insured as expected.[90] A recent paper by researchers at MIT and Stanford

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[89] $30,000 cost of janitor plus $6,500 premium plus $3,500 expected loss borne by insured. The insured will find it worthwhile to hire a janitor even when he initially misleads the insurer to believe he has a janitor (when in fact he does not) and in return is being charged only $6,500 as premium. Without a janitor his costs will be $41,500 ($6,500 premium plus $35,000 expected losses), whereas with a janitor his costs will be $40,000.

[90] For example, assume a deductible of $3,000, co-insurance of 20%, an out-of-pocket maximum of $5,000, and total expected medical costs of $20,000 for the year. Our hypothetical insured's co-insurance would be $3,400 (.20*17,000) and so his total costs ($6,400) would exceed the out-of-pocket max. If the deductible is lowered to $2,000 or raised to $4,000, his co-insurance costs still cause him to exceed his out-of-pocket maximum for the year and so will not change his

University found that insureds did in fact "look forward" to the future costs of medicine.[91] In other words, insureds take into account the actual price and the future price when making medical care decisions.[92] These results must be considered when an insurer is trying to influence consumer behavior through co-pay, deductibles, and co-insurance.

Another way the insurer can protect itself from moral hazard without exerting control over the insured is by classifying insureds according to their experience with the loss to be insured—called *experience rating*.[93] In other words, insurers threaten higher premiums for those insureds with the highest losses, incentivizing the insureds to invest in minimizing their losses (as well as reducing cross subsidization of high-risk insureds by low-risk insureds). Some insurers offer policies that are experience rated retrospectively, meaning that the premium is set after the loss experience is known. Insureds with lower losses receive refunds for part of their premiums, while a surcharge is levied on those with higher losses.

An interesting question is when experience rating, as opposed to deductibles or co-insurance, should be used to combat moral hazard. Experience rating is more often used for third-party rather than for first-party insurance, whereas deductibles and co-insurance clauses usually apply to first-party but not to third-party insurance. The reason is two-fold: First, deductibles better reduce the administrative costs associated with the processing of small claims, which are more prevalent in the first-party insurance context. Second, experience rating works better for repeat players, which are more often found in the third-party liability insurance context.[94]

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consumption. If co-pays for each doctor's visit count towards the out-of-pocket total, then they too will not influence a forward looking insured with high expected yearly costs.

[91] Aviva Aron-Dine et al., *Moral Hazard in Health Insurance: How Important Is Forward Looking Behavior?* 26-27 (Nat'l Bureau of Econ. Research, Working Paper No. 17802, 2012), *available at* http://www.nber.org/papers/w17802.

[92] *Id.*

[93] ABRAHAM, *supra* note 18, at 15.

[94] Patricia Danzon argued that liability insurance policies do not have deductibles because of the problem of reverse moral hazard, which will be discussed below. Specifically, the insured is exposed to moral hazard with respect to the insurer's legal defense efforts. Not having deductibles makes insurers bear the full costs of coverage in case they do not defend vigorously, and thus dilutes

However, in automobile insurance, which has a strong first party component to it, experience rating *is* prevalent (in addition to deductibles), whereas it does not exist in third-party medical malpractice coverage. The reason for that is primarily because automobile accidents are frequent enough and fault is often not hard to determine, whereas medical malpractice claims are too infrequent to allow estimating risk components for individual physicians and because it is widely believed that apparent differences in number of lawsuits among physicians are the result of chance or misinformation, not negligence. This stems from a belief that the legal system is incompetent in accurately determining doctors' fault.[95]

Lastly, as was mentioned above, sticks are also a possible means to control moral hazard. One stick that can mitigate moral hazard is to limit the types of occurrences for which the insurer will compensate the insured. Such *exclusions* typically include high-risk behavior or, in the case of liability insurance, intentional torts such as battery.[96] In an obvious way, exclusions pressure the insured party to avoid the proscribed behavior.

As was mentioned above, in addition to the *ex-ante* moral hazard, there is also an *ex-post* moral hazard, i.e. moral hazard that happens after the occurrence. One of the general concerns in this context is that in indemnity policies, the insured will not take sufficient measures to minimize the damage stemming from the realization of risk, or would file a claim for excessive losses. Here, transferring part of the risk to the insured (for example, by having deductibles) would not help because the covered event had already happened and the deductible is a sunk cost (In fact, there is a concern that the higher the deductible is, the greater the incentive the insured has to exaggerate a claim in order to recover the deductible amount).[97]

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the reverse moral hazard problem. Patricia M. Danzon, *Liability and Liability Insurance for Medical Malpractice*, 4 J. HEALTH ECON. 309, 319-20 (1985).

[95] However, this traditional explanation for insurers' failure to utilize experience ratings in medical malpractice insurance has been brought into doubt in recent years. *See* D. M. Studdert et al., Special Article, *Claims, Errors, and Compensation Payment in Medical Malpractice Litigation*, 354 NEW ENG. J. MED. 2024, 2031(2006) (saying that the malpractice liability system is relatively accurate in sorting claims and that most insurance dollars are spent on valid claims).

[96] Samuel A. Rea, Jr., *Insurance Law*, *in* 2 THE NEW PALGRAVE DICTIONARY OF ECONOMICS AND THE LAW 346 (Peter Newman ed., 1998) (discussing intentional acts in regard to insurance law).

[97] Georges Dionne & Robert Gagné, *Deductible Contracts Against Fraudulent Claims: Evidence From Automobile Insurance*, 83 REV. ECON. & STAT. 290, 298

Insurance companies deal with ex-post moral hazard in several ways. First, they refuse to insure non-pecuniary losses because proving their scope is hard and sometimes impossible.[98] Second, insurance companies audit claims that, due to different characteristics, are suspected to involve *ex-post* moral hazard. In such claims, insurers will involve private investigators, appraisers, and doctors to investigate the claim on their behalf. But because these investigations are expensive, insurers find it hard to commit to investigating all claims or even only those that are suspected. Thus, in many cases a random investigation of claims actually deters better than non-random investigations.[99] Moreover, false or exaggerated claims often lack external characteristics known to insurers to be highly correlated with false or exaggerated claims. In such situations post-occurrence investigations may be inefficient. Therefore, a better strategy is for insurance companies to design the policies so that insureds have fewer incentives to engage in ex-post moral hazard to begin with.

Indeed, one way to deal with such an ex-post moral hazard is by designing insurance contracts so that the incentives of the insured to exaggerate a claim are small. A simple way to do that is by substituting indemnity policies for stated-value policies, which require the insurer to pay the value stated in the contract regardless of the actual value of the loss.[100] In the jurisdictions that recognize stated-value policies, if the insured property is completely destroyed the insurer cannot look beyond the policy to determine the actual value of the property. Instead, the full

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(2001) (finding that in automobile insurance, the larger the deductible is, the larger the loss reported, especially in accidents with not witnesses).

[98] There is a debate in the literature whether the lack of insurance for non-pecuniary losses stem from insureds' lack of demand, or from lack of supply due to market failures. *See* Steven P. Croley & Jon D. Hanson, *The Non-Pecuniary Costs of Accidents: Pain-and-Suffering Damages in Tort Law*,108 HARV. L. REV. 1785, 1789-99 (1995); George L. Priest, *The Current Insurance Crisis and Modern Tort Law*, 96 YALE L.J. 1521, 1546-47, 1553 (1987); Ronen Avraham, *Should Pain-And-Suffering Damages Be Abolished from Tort Law? More Experimental Evidence*, 55 U. TORONTO L.J. 941, 945-46 (2005).

[99] Dilip Mookherjee & Ivan Png, *Optimal Auditing, Insurance and Redistribution*, 104 Q.J. ECON. 399, 413 (1989). Obviously, relying on third parties' investigations raises issues of collusion and fraud. *See* Ingela Algar & Ching-to Alberta Ma, *Moral Hazard, Insurance and Some Collusion*, 50 J. ECON. BEHAVIOR & ORG. 225, 226 (2003).

[100] *See, e.g.*, Bd. of Trs. of First Congregational Church of Austin v. Cream City Mut. Ins. Co. of Milwaukee, Wis., 96 N.W.2d 690, 695 (Minn. 1959).

value stated in the policy must be paid. The principle here is "caveat venditor"—insurers have to make sure at the contracting stage that the asset is properly valued. On the other hand, such contracts prevent a false representation as to the magnitude of the loss. Stated-value contracts provide certainty to both parties and reduce post-occurrence investigation costs. Insurance of jewelry is a common example of stated-value policies.

As we have seen before, there is always a tradeoff between providing coverage ex-post and not distorting incentives for proper behavior. While stated-value policies reduce the incentives for ex-post moral hazard they may under-indemnify a risk-averse insured, thereby creating a welfare loss. Insurance companies can, therefore, offer a hybrid between an indemnity contract (which fully compensates the insured but creates incentives for ex-post moral hazard) and a stated-value contract (where such incentives do not exist but the insured may find himself under-compensated). Such hybrid policies will be partially dependent on the size of the damage and will therefore induce weaker incentives for ex-post moral hazard. An example of this is a policy which under-compensates types of losses where false representations are relatively prevalent, such as back pain with no clinical markers, and generously compensates types of losses where false representations are extremely difficult, such as losses of limbs[101]

2. Doctrinal Solutions for the Problem of Moral Hazard

Moral hazard presents the greatest risk when the insured party has no personal stake in the property or person covered by the insurance policy. Thus, a simple method of countering that problem is to require the insured to have an *insurable interest* in the covered item. An insurable interest exists where the relationship between the beneficiary of the insurance contract and the thing to be covered are such that it is reasonable to assume the beneficiary has a significant benefit or advantage from the continued existence of the insured item. Thus, in life insurance an insurable interest exists where the relationship of the parties are such that there are

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[101] Keith J. Crocker & John Morgan, *Is Honesty the Best Policy? Curtailing Insurance Fraud through Optimal Incentive Contracts*, 106 J. POL. ECON. 355, 355 (1998). *See also* Alan O. Sykes, *"Bad Faith" Breach of Contract by First-Party Insurers*, 25 J. LEGAL STUD. 405, 429 (1996); Keith J. Crocker & Sharon Tennyson, *Insurance Fraud and Optimal Claims Settlement Strategies*, 45 J.L. ECON. 469, 470 (2002).

reasonable grounds, either pecuniary or contractual or by blood or affinity, to expect a significant benefit or advantage to the beneficiary from the continuance of the life of the insured.

In the early days of insurance, an insurable interested was not required. For example, in 1743 insurers offered 3:1 odds on the survival of George II when he personally led his army in the Battle of Dettingen.[102] Anyone could have purchased those contracts. Only in 1774 Britain enacted the Life Assurance Act which required the beneficiary to have an insurable interest. Since then more legislatures followed suit. However, courts have also played a role in shaping this practice by refusing to enforce insurance contracts that do not have an insurable interest. One pointed example is "murder policies." These are life insurance policies that de facto incentivize the murder of the insured by the beneficiaries of such policies. Courts typically void these policies and cut off the payment to the beneficiary in order to undermine their criminal incentive.[103] Moreover, courts have even shown a willingness to recognize wrongful death suits filed by insureds' families against the issuers of such policies. In this way courts have diluted the incentives of both murderous beneficiaries and irresponsible insurers to engage in life insurance policies where the beneficiaries have no insurable interest.[104]

Despite the obvious benefit of requiring an insurable interest, it is important not to over-void policies for formalistically lacking this requirement. Indeed courts have found insurable interests in various forms, including a legal or equitable interest in the property; a factual expectancy; a contractual right; and a legal liability. The most common insurable

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[102] Yoni Appelbaum, *Have Insurance Companies Forgotten the Meaning of Insurance?*, THE ATLANTIC, May 7th, 2012, *available at* http://www.theatlantic.com/business/archive/2012/05/have-insurance-companies-forgotten-the-meaning-of-insurance/256677/.

[103] *See* Saul Levmore & Kyle D. Logue, *Insuring Against Terrorism—and Crime*, 102 MICH. L. REV. 268, 315 (2003).

[104] Many states have statutorily imposed and defined insurable interest requirements. *See* 44 C.J.S. *Insurance* § 359 (2007). For example in California, Section 10110 of the Insurance Code, reads: "Insurable interest. Every person has an insurable interest in the life and health of: (a) Himself. (b) Any person on whom he depends wholly or in part for education or support. (c) Any person under a legal obligation to him for the payment of money or respecting property or services, of which death or illness might delay or prevent the performance. (d) Any person upon whose life any estate or interest vested in him depends." Cal. Ins. Code § 10110 (West 2005).

interest is a legal or equitable interest in property. Thus, a person has an insurable interest in the house she owns. The factual expectancy doctrine, however, makes clear that legal title to property is not a requirement for an insurable interest. Instead, an insured need only have a reasonably certain expectation for a gain or other pecuniary interest in the subject property. Thus, if there is a factual expectation that property will soon pass to a putative insured, that insured has an insurable interest. A contractual right to property can also create an insurable interest. This doctrine allows secured creditors, such as mortgagees, to obtain insurance for property securing a debt. Lastly, a legal liability gives rise to an insurable interest. If a putative insured is legally liable in the event of the destruction of certain property, but that insured does not have actual title to the property, an insurable interest still exists up to the value of the liability.

The common thread through all types of insurable interest is a direct and reasonably certain pecuniary interest in the object being insured. A merely speculative interest is not sufficient.[105] The exception to the general rule that pecuniary interest is enough to establish an insurable interest is life insurance, where a strong emotional interest between the beneficiary and the insured is also an avenue to an insurable interest.[106] Without the insurable interest requirement, insurance could be used to *create* risky situations instead of removing risk, as it is intended to do.

Another feature of most, especially first-party, insurance contracts that protects against moral hazard, and which is closely related to the insurable interest requirement, is the *indemnity principle*—an insured may only recover compensation up to the smaller of the amount covered and the amount lost. This principle mitigates the incentive of the insured to acquire too much coverage and then to cause the loss to her property when insurance coverage is greater than the value of the property covered. But, "value of the property" must be understood appropriately, as it typically reflects replacement cost and not actual cash value. For example, most goods have a lower cash value after they become used than when

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[105] *See, e.g.*, Gossett v. Farmers Ins. Co. of Wash., 948 P.2d 1264, 1272-73 (Wash. 1997).

[106] While often the beneficiary of a life insurance policy does have a pecuniary interest in the life of the insured, specifically the beneficiary has an interest in the continued stream of income from the insured, it is not a requirement. There is nothing that would prevent the purchase of life insurance benefitting a loved one when the beneficiary has no possible expectation of monetary gain from the insured's continued life.

purchased new, but insurance will typically cover the cost of replacement of a new warehouse, provided the moral hazard is not too great.

Whether the value to be paid is actual cash value or replacement value is an issue that can be contracted on. Many homeowners' insurance policies provide for replacement value in the event of total destruction of the property. The risk of moral hazard created when the actual cash value is significantly lower than the replacement value can be mitigated by only providing the replacement value if the recovery is actually used to replace the property.[107]

Although the indemnity principle applies to most insurance contracts, accident and health insurance are not fully included and life insurance is usually not at all included in that category. The reason for this is one of valuation; courts are reluctant to value a person's life or limbs. In the health and accident insurance contexts, courts do not want to engage in the evaluation of the medical treatment insureds have received and determine whether it is excessive or not. In the life insurance context, for instance, if it cannot first be determined what the actual value of a person's life is, it is impossible to determine if the amount of the policy exceeds that value. However, when the purpose of life insurance is strictly financial, say insuring the life of a debtor to guarantee recovery of the debt, the indemnity principle will dictate that the recovery will be limited to the amount of the financial interest, here the amount of the debt.

Another solution stemming from the indemnity principle is to prohibit over-insurance and under-insurance. As we saw, improper levels of first-party insurance potentially increase moral hazard by creating incentives for careless behavior that could result in windfall recoveries. One may wonder why states have to regulate the prohibition over-insurance and under-insurance. After all, the negative incentives created for insureds by over-insurance would be handled by the principle of indemnity which would prevent recovery which is too high. However, the administrative costs and information-gathering problems associated with fully enforcing the indemnity principle create a chance that over-insurance could lead to windfall recoveries despite the protections the indemnity principle provides. Stated-value policies, which were discussed above, may further enhance the problem if the value is not correctly established.

Moreover, over-insurance does not emerge solely due to the insured's strategic behavior. Often *insurers* have incentives to sell too

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[107] *See, e.g.*, Rhodes v. Farmers Ins. Co., 86 S.W.3d 401, 401-03 (Ark. Ct. App. 2002).

much coverage with the knowledge that the principle of indemnity will prevent courts from forcing them to ever pay the full value of the policy. This means that the insurance company can charge a premium that is higher than their actual risk associated with an occurrence. As a result, many states have solved the over-insurance problem by explicitly prohibiting in their codes over-insuring, thus reducing *both* parties' strategic behavior.

Under-insurance creates different, but potentially severe, negative incentives. In fire and property coverage, for instance, small losses are far more frequent than large losses. Yet, policy prices are determined linearly, increasing at a set rate as the value of the policy increases. Thus, $50,000 of coverage costs half as much as $100,000 of coverage, even if the value of the house is $100,000. The likelihood that any loss will only be partial creates a strong incentive to only purchase the $50,000 of coverage, and still be covered for the most likely losses. This incentive would distort the insurance market, diluting the incentives to purchase coverage for large losses, which is one of the fundamentals functions of insurance.

One can dilute the insureds' incentive to under-insure by setting the premiums based on the lower probability of a larger loss instead of a purely linear pricing system. However, a more common approach to address the problem of under-insurance is through coinsurance pegged to the value of the property. If an insured covers only a small portion of her property, her co-insurance will be higher. If, on the other hand, a policy is valued at the actual value of the property, little or no co-insurance will be required. For example, a homeowners policy may contain a clause that, in the event of a loss, and if the coverage is less than 80% of the replacement value, the insurer will pay only the proportion of the loss which the total coverage bears to 80% of the replacement cost.[108] Under such a clause, if a house is worth $100,000, but coverage is only $60,000, then the insurer will only pay 75% of any claim ($60,000 over $80,000 equals 75%). If, on the other hand, the insured purchases coverage of at least 80% of the value of the house, the insurer will pay 100% of any loss ($80,000 over $80,000 equals 100%). In this way, coinsurance provisions provide an incentive for insureds to purchase coverage for most of the value of their property.[109]

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[108] *See* KENNETH S. ABRAHAM, INSURANCE LAW AND REGULATION 272 (5th ed. 2010).

[109] *Id*. Some companies no longer price their policies using the linear approach described above but rather use a more complicated pricing method which allows them to abandon coinsurance terms. As early as 1981 some scholars had suggested

From the doctrine of indemnity follows the doctrine of *subrogation*, which allows a first- party insurer to step in for the insured and pursue his or her legal rights against tortfeasors after compensating for a loss. For example, suppose a water pipe bursts near an insured's house, and that insured makes a proper claim to her homeowner's insurance carrier. If that carrier pays the claim, it then has a right of subrogation to exercise the insured's legal rights. If the water pipe bursting resulted from a tort, the insurer has a legal right of action against the tortfeasor.[110] Subrogation keeps premiums lower in that it permits the insurers to recover part of their expenses from tortfeasors and by reducing insureds' moral hazard in that it avoids the potential problem of double-recovery which would exist if subrogation were not part of the insurance contract. Thus, subrogation is overall an efficient arrangement.

Extending the doctrine of subrogation, one could also argue that an insured should be prohibited from settling a tort case regarding a loss for which it carried insurance. Take for instance an insured who was tortiously injured in a car accident, and who is also covered by health insurance. The insurer, through its right of subrogation, is entitled to any recovery related to the medical expenses. The insured, therefore, has a strong incentive to structure any settlement in a way that none of the recovery is attributable to medical costs. In that way, the insured will have her medical costs paid for by the insurer, and keep the whole of the settlement. However, in doing so, the insured externalizes costs to the entire insurance pool. For this reason, it could be advantageous to allow first-party insurance companies to exert some control over settlements, or their structure, in these situations. Indeed, in practice there is often a three-way split among the plaintiff, her attorney and the insurer.[111]

Similar negative incentives exist in the context of third-party liability insurance. There, a tortfeasor covered by liability insurance may wish to avoid the burdens of litigation because any liability attributed to her would be paid by the insurer. To avoid litigation, the insured could therefore settle up-front for the policy maximum, even if the actual harm

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coinsurance was becoming obsolete. *See* Michael L. Smith & David L. Bickelhaupt, *Is Coinsurance Becoming Obsolete?*, 48 J. RISK INS. 95, 95 (1981).

[110] *See* State Farm Fire & Cas. Co. v. E. Bay Mun. Util. Dist., 62 Cal. Rptr. 2d 72, 74 (Cal. Ct. App. 1997) (quoting Self-Insurers' Sec. Fund v. ESIS, Inc., 251 Cal. Rptr. 693 (1988)).

[111] Tom Baker, *Blood Money, New Money, and The Moral Economy of Tort Law in Action*, 35 LAW & SOC'Y REV. 275, 304-08 (2001).

was less than the settlement amount. This behavior too externalizes costs to the pool and decreases the efficiency of the insurance market.

To prevent insureds from settling too often, or, more generally, from not defending the claim against them very vigorously, general liability policies impose on the insurer the duty to defend the claim. The idea is that it would be advantageous to allow the insurer to act on the insured's behalf, presumably with better resources and stronger incentives than the insured. But that creates a new problem as now the insurer is the agent of the insured, acting on his behalf. These agency relationships create the problem of "reverse moral hazard," which will be discussed below.

As mentioned above, there is also the danger of ex-post moral hazard where the insured exaggerates it losses in order to get monies he does not deserve. We saw that insurance companies have a number of contractual tools to deal with this problem.

One of them is the stated-value policy. These policies are common in lines of insurance where the principle of indemnity does not necessarily apply such as life insurance, health insurance and accident or disability insurance. Once the indemnity principle does not apply, the justification for subrogation falls as well.

Courts handle the problem of ex-post moral hazard in the same manner they dealt with misrepresentations that occur before the issuance of contract. When the insured does not cooperate with the insurer after the occurrence so that the insurer can determine its liability, or when the insured submits fraudulent claims, courts generally approve a reduction in the insurance benefits and often allow insurers to not pay them at all, even in cases where but for the insured's post-occurrence behavior (exaggerating his loss) the insured would have been entitled to reduced benefits. One may even argue that such situations justify damages paid to the insurer from the insured to further deter these misrepresentations.

3. Returning to the Two Islands Approach

As discussed above, one way to combat moral hazard is to use deductibles and caps on losses to align the incentives of the insurer and the insured. One common exclusion along these lines is the "loss of market" exclusion for business interruption insurance coverage. Business interruption insurance provides coverage for lost profits due to the interruption of business after a covered peril occurs, such as fire, flood, or wind. Business interruption insurance is typically added, by endorsement, to an insurance policy covering damage to an insured's property. The loss of market exclusion excludes from that coverage any lost profits due to the

business's market disappearing. The loss of market could be due to economic decline, competition, or shifts in demand that happened after the occurrence. The loss of market exclusion has been a source of increasing debate in recent years due to catastrophic events such as the 9/11 terrorist attacks on the World Trade Center and Hurricane Katrina, which have destroyed entire markets. The general question, as usual, is whether that exclusion should be honored.

To analyze whether the exclusion is desirable, we once again create two identical islands except that one island has the exclusion and one does not. On the island that ignores the loss-of-market exclusion, business owners can purchase insurance which essentially guarantees they make a profit even when the demand for their product will never bounce back after an occurrence. This might lead to a large moral hazard problem. After an occurrence, if it is guaranteed that a company will be covered up to its previous level of profitability, what incentive does that company have to strive to restore its earlier business efforts? After a fire, for instance, an owner of a restaurant with lost profits coverage would have no incentive to work hard to get back some business when she is guaranteed to make at least as much money as she was making before. That restaurant owner could take that lazy attitude until customers return on their own.

On the island that enforces the loss-of-market exclusion, however, there is no such moral hazard problem; the company must do everything it can to earn business back after a disaster. While this is an advantage, the disadvantage of the island is that there is less coverage. Due to an occurrence, a business may not be able to survive until the market returns. The reason for insurance in the first place is protecting the business in the event of a covered peril, so it is likely a reasonable insured would be willing to pay the higher premiums in exchange for the protection of her business.

The question becomes one of incentives. Economic analysis suggests that policies should not exclude loss of market (that is the policy should provide coverage) when the risk of moral hazard is relatively small. Consider for example *Duane Reade*, which dealt with business interruption insurance in the context of the 2001 attack on the World Trade Center.[112] The court decided that the destruction of the World Trade Center where Duane Reade ran a store, and Duane Reade's resulting lost profits, were clearly a covered peril, and that the "loss of market" provision did *not*

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[112] *See* Duane Reade, Inc. v. St. Paul Fire & Marine Ins. Co., 279 F. Supp. 2d 235, 238 (S.D.N.Y. 2003).

encompass the destruction a market due to terrorist attack.[113] In other words, because the market loss was due to a covered peril—the destruction of the business—the resulting lost profits were covered.

The court got it right, only for the wrong reasons. As the example with the fire in the restaurant above suggests, we want to provide incentives to business owners to work hard to restore customer traffic after an occurrence. Therefore the court is wrong to provide coverage for loss-of-market only because it was originally initiated by a covered peril. However, when it comes to catastrophic events, where there is nothing the business owner can do to bring customers back to his store (think about ground zero in the years post 9/11), there is no risk of distorting incentives. The interest in providing coverage should therefore prevail, and the market exclusion should not be honored.

However, it is unlikely a reasonable insured would want to pay for coverage to keep a business around in perpetuity even though there is no demand for the business. Thus, even in catastrophic events the coverage could not be unlimited. The *Duane Reade* court took this approach to the timing issue. It ruled lost profits were to be covered and the loss market exclusion should not be honored—in other words, coverage should last—only for the time it would reasonably take "to rebuild, repair, or replace" the specific store at issue.[114]

4. Moral Hazard—The Empirical Evidence

As discussed above in the section on empirical evidence for adverse selection, one problem with empirically measuring either moral hazard or adverse selection is distinguishing one's effects from the other. For example, an unhealthy person would be more likely to buy health insurance (adverse selection), while a person with insurance may be more likely to adopt unhealthy habits, knowing that he has insurance in case he became sick (moral hazard). In both cases the empiricist observes a correlation between high-risk individuals and scope of coverage. In other words, it is easy to observe a positive correlation between the demand for coverage and the number or scope of insurance claims, but it is difficult to determine whether this correlation is the result of adverse selection, moral hazard, or some combination of the two. This inability to separate the two problems poses policy consequences as well, since ameliorating either the

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[113] *Id.* at 239-40.
[114] *Id.* at 239.

potential welfare losses of moral hazard or adverse selection requires separate policy tools. To curtail moral hazard, insurers would increase deductibles to encourage healthful activities and discourage waste by exposing consumers to the true cost of their medical care.[115] To reduce the potential problem of adverse selection, on the other hand, requires stricter disclosure laws for potential insureds to allow insurers to better screen for pre-existing conditions, or alternatively, a health-insurance mandate as discussed above.

But not being able to distinguish between moral hazard and adverse selection is not the only problem with the empirical literature. Potentially a more worrisome problem is that the empirical literature fails to distinguish between the moral hazard which stems from the "substitution effect," and that which stems from the "income effect." As discussed above, the former is welfare decreasing and the latter is welfare increasing.[116] Thus, that people consume more healthcare because they have insurance is not worrisome from a policy making perspective as long as the excess consumption is due to the income effect. Similarly, the fact that people search for a job for a longer period of time because they have unemployment insurance is not necessarily worrisome, as long as the excess search period is only due to the impact of the insurance on their liquidity constraints.[117]

For several decades health economists have been finding evidence interpreted as ex-post moral hazard in health insurance. The most important study is the Rand Health Insurance Experiment, which randomized people into different insurance plans, thus eliminating adverse selection effects stemming from the insured's ability to choose the type of coverage she wishes. The Rand Experiment, as well as other studies, found that demand for medical care is elastic with respect to its out-of-pocket costs. In other

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[115] However, "cost-sharing" is a blunt and not necessarily efficient way of reducing over-consumption of health insurance. Empirical evidence shows that when consumers have to bear a higher proportion of their health costs, they do cut back on spending, but they do so on both frivolous and beneficial procedures. *See* Mary Reed et. al., *High-Deductible Health Insurance Plans: Efforts to Sharpen a Blunt Instrument*, 28 HEALTH AFF. 1145, 1145 (2009).

[116] *See supra* p. 69.

[117] Raj Chetty, *Moral Hazard Versus Liquidity and Optimal Unemployment Insurance*, 116 J. POL. ECON. 173, 173-75 (2008) (separating moral hazard effect and liquidity constraints effect in unemployment insurance).

words, people carrying health insurance *are* responsive to the personal cost of healthcare and therefore ex-post moral hazard exists.[118]

The Rand Experiment approach (as well as other studies) presents several empirical challenges to analyzing people's utilization of medical care as a function of their scope of insurance coverage. First, the scope of the plan coverage might be endogenous. Generous health insurance plans might boost utilization of medical services, or, areas where people need or demand more medical services will be areas where people demand more generous health insurance coverage, without these studies being able to isolate which one is operating in practice. Second, as was just discussed, not every variation in consumption that follows a variation in insurance coverage can be tied to ex-post moral hazard. It is conceivable that when insurance coverage expands, the consumption of medical services, especially by budget-constrained people, will increase since the price will become affordable. This is the income effect discussed above. It is only the increase in demand due to the substitution effect which is worrying, but such type of increase in demand is much harder to empirically identify.

So far I have dealt with ex-post moral hazard. An equally interesting question is the extent to which one would expect to see *ex-ante* moral hazard. It is worth mentioning that even a small effect is important because even if the chances the individual's moral hazard behavior has an impact on her probability of being involved, say, in a fatal accident is small, it may still cause a large social problem at the aggregate. Thus, for a population of 100 million people, a one percentage-point increase in the probability of a fatal accident creates a million more deaths.

In general, the empirical literature fails to establish ex-ante moral hazard in health care.[119] In the context of automobile insurance, one would think that an insured driver is not going to drive more recklessly than he otherwise would, as there are plenty of uncompensated losses associated with an accident (including uncompensated bodily injuries) besides the cost of repairs. Yet, using an instrumental-variables approach, Cohen and Dehejla find evidence that automobile insurance does have moral hazard

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[118] The Rand study found an overall medical-care price elasticity of about -0.2, which means that as the personal costs increases by say, 10%, the demand for medical care decreases by 2%. *See* Peter Zweifel & Willard G. Manning, *Moral Hazard and Consumer Incentives in Health Care*, *in* HANDBOOK OF HEALTH ECONOMICS 410, 454. (A.J. Culyer & J.P. Newhouse eds., Elsevier Science B.V. 2000).

[119] *Id.* at 446.

costs, leading to an increase in traffic fatalities.[120] Because they cannot distinguish between the income effect (careful drivers drive more miles which might be optimal despite the increase in fatalities) and the substitution effect (careful drivers no longer take care, which is always not optimal) caused by automobile insurance, Cohen and Dehejla cannot identify the net welfare effect of automobile insurance.[121]

E. REVERSE MORAL HAZARD

Just like there is reverse adverse selection, there is arguably also reverse moral hazard. It is not insured parties alone that behave strategically once the insurance contract is in place—insurers are similarly the perpetrators of opportunistic behavior, finding it easy and advantageous to mistreat their insureds once they are locked in a contract.[122] This is especially true because barriers to litigation can prevent insureds from challenging insurer abuse.

While insurers and policyholders have similar interests at the ex-ante contractual stage, a fundamental conflict of interests arises in the post-occurrence stage. At the contractual stage they will agree to a policy that minimizes total loss-related costs, including defense costs, because that will be efficient and will keep the premiums low. But ex-post (after insurance is purchased and claims arise) the insurance company might have different incentives than the insured about whether the loss should be covered and—

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[120] Alma Cohen & Rajeev Dehejia, *The Effect of Automobile Insurance and Accident Liability Laws on Traffic Fatalities*, 47 J.L. & ECON. 357, 357 (2004). *See also* Sarit Weisburd, *Identifying Moral Hazard in Car Insurance Contracts* 27 (Hebrew Univ., Working Paper, 2010), *available at* http://pluto.mscc.huji.ac.il/~saritw/moralhazard_sep12.pdf.

[121] Similarly, Bernard Fortin and Paul Lanoie have documented an increase in work injuries correlated to the implementation of North American workers' compensation programs, which provide employees with fast access to damages for work related injuries. Bernard Fortin & Paul Lanoie, *Incentive Effects of Workers Compensation: A Survey, in* HANDBOOK OF INSURANCE 421, 421 . (Georges Dionne ed., Kluwer Academic Publishers 2000).

[122] As far as I know, the idea of reverse moral hazard was first mentioned by Patricia Danzon. *See* Danzon, *supra* note 93. *See also* Eric D. Beal, *Posner and Moral Hazard*, 7 CONN. INS. L.J. 81, 97 (2000); William Choi & Lan Liang, *Reverse Moral Hazard of Liability Insurers: Evidence from Medical Malpractice Claims*, 39 APPLIED ECON. 2331, 2331-32 (2007). .

in liability insurance contract—how defense of the claim should be exercised.

Take for example, the insurer's decision whether to cover a claim. After the occurrence, insurers have the dual role of both deciding whether a certain claim is covered under the policy, and paying the damages associated with that claim if it is determined to be covered. As one would expect, insurers often have the economic incentive to decide coverage exists in as few situations as possible, knowing that they are often effectively insulated (or "insured") from being sued due to insureds' lack of sophistication, knowledge, and resources. This is a reverse moral hazard. (While one could imagine a system where insurers are not the judge and financier of a claim, and instead these decisions are made by separate entities, that is not the world we live in.)

As with ordinary moral hazard, there are multiple ways to counter reverse moral hazard on a theoretical level. First, full and detailed disclosure of the coverage decisions insurers make could be required, whether to potential customers (thus harnessing market forces to eliminate unethical insurers) or complaining insureds (thus exposing the unethical practices). Second, such disclosure could be used to punish opportunistic behavior by insurers. Insurance regulators, for instance, could analyze the disclosures and impose fines on, or revoke the licenses of, the worst behaving insurance companies. Third, individual insureds could have a legal claim for damages resulting from bad faith denial by insurers. Fourth, independent and simplified alternative dispute resolution mechanisms could make it easier to challenge insurers' decisions.[123]

Doctrinally, there are several principles of contract law which serve to mitigate the effects of reverse moral hazard. One is the interpretive principle of *contra proferentem*—that ambiguities in any contract will be construed against its drafter. For insurance contracts, the drafter of course is the insurer. Thus, the doctrine of *contra proferentem* prevents insurers from taking advantage of gray areas of policy coverage and instead incentivizes clear, unambiguous policy writing. However, whether or not that incentive outweighs the incentive to maintain ambiguous, boilerplate policy terms, is a very complicated question.[124]

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[123] *See* Daniel Schwarcz, *Redesigning Consumer Dispute Resolution: A Case Study of the British and American Approaches to Insurance Claims Conflict*, 83 TUL. L. REV. 735, 810-11 (2009).

[124] Bad boilerplate is often perversely incentivized by the very rulings that would seem to cut against it in that a term that has an established, known cost may

Ambiguities come in multiple forms. A policy can be ambiguous because it is vague in and of itself.[125] A policy can also be considered ambiguous if it does not address a certain situation. An example of this is litigation arising out of the attack on the World Trade Center where it was unclear, based on the language of a policy, whether each plane strike was an "occurrence," or the entire event was an "occurrence."[126] Lastly, a policy can be ambiguous if two or more of its provisions conflict. For example, a Second Circuit case found a policy ambiguous when one of its provisions seemed to extend airplane insurance to trips between the United States and the Caribbean, and another provisions indicated the policy only applied to flights over the continental United States.[127] To generalize, a policy is ambiguous if "it is reasonably susceptible to two meanings."[128] Even if the policy writing is clear, it can still be opportunistic when an insurer includes unambiguous, but still self-advantageous, provisions. This is an issue because insureds may be unaware of the provision and its impact on the insurance coverage, and may think they are covered for an occurrence when under the stated policy terms they are not. To counteract that problem, courts have applied what have been called "allied" doctrines with *contra proferentem*, including waiver, estoppel, and the "insured's reasonable expectations" doctrine.[129]

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be more valuable than one whose cost or benefit is unknown. For more on the complex relationship of policy drafters and the courts, *see* Michelle E. Boardman, *Contra Proferentum: The Allure of Ambiguous Boilerplate*, 104 MICH. L. REV. 1105, 1111 (2006).

[125] *See,* Columbia Heights Motors, Inc. v. Allstate Ins. Co., 275 N.W.2d 32, 34 (Minn. 1979).

[126] *See* World Trade Center Props., L.L.C. v. Hartford Fire Ins. Co., 345 F.3d 154, 158 (2d Cir. 2003). The policy limited recovery to $3.5 billion per occurrence. *Id.* If each plane strike was an occurrence, the insured could collect a total of $7 billion, whereas if the entire event was an occurrence, the insured could only collect $3.5 billion. *Id*.

[127] Vargas v. Ins. Co. of N. Am., 651 F.2d 838, 840 (2d Cir. 1981) (involving a trip from New York to Puerto Rico, with stops in Miami and Haiti to refuel, where the airplane crashed before it reached Puerto Rico). The court found, because the policy was ambiguous, the policy covered the incident. *Id*. at 842.

[128] Kenneth S. Abraham, *A Theory of Insurance Policy Interpretation*, 95 MICH. L. REV. 531, 537 (1996).

[129] *See* Robert E. Keeton, *Insurance Law Rights at Variance with Policy Provisions*, 83 HARV. L. REV. 961, 967 (1970). The term "insured's reasonable expectations" was coined by Professor Robert Keeton in 1970 when he recognized that courts provide coverage even when the exclusion is not ambiguous.

Though recognized in only a minority of jurisdictions, the reasonable expectations doctrine allows courts to enforce an insurance contract despite an unambiguous exclusion contained therein if the exclusion goes against the reasonable expectations of the insured. Some jurisdictions distinguish between sophisticated and unsophisticated insureds, recognizing that sophisticated parties may contract for such exclusions in exchange for lower premiums.[130] Waiver and estoppel are heavily fact-dependent doctrines, with courts relying on the particulars of the policy and the relationship between the insured and insurer to determine whether coverage should be granted despite a policy term indicating otherwise.[131] The societal value of the reasonable expectations doctrine is examined in more detail, via an application of the Two Islands Functional Approach, in the next subsection.

As mentioned previously, a special type of reverse moral hazard exists in liability insurance policies around the decisions regarding the defense of a claim. Problems of reverse moral hazards arise because the insurer acts as an agent of the insured, but might maximize its own interests rather than the insured's interests. For example, because insurers often care only about their financial exposure in a specific case, they may prefer to settle a lawsuit instead of litigating. But the insureds, whose reputation and livelihood depend on the outcome, might prefer to defend against such suit in court to clear their name. Another example is when an insured's potential liability to its victims is higher than the policy limit, but any potential settlement would be at or close to the policy limit. The insurer has incentives to pursue the litigation because the payout would be the same, while the insured might be happy to settle for the amount of the policy limit, because this will ensure he or she bears no personal liability.[132]

Parties combat reverse moral hazard through the design of the insurance policy. As was mentioned above, many liability insurance contracts include provisions requiring the insurer to defend a suit unless the insured consents in writing to a settlement. Over time, courts have also found ways to deal with reverse moral hazard in the context of defense decisions. For example, courts have often penalized insurance companies

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[130] *See* Hazel Glenn Beh, *Reassessing the Sophisticated Insured Exception*, 39 TORT TRIAL & INS. PRAC. L.J. 85, 85-86 (2003).

[131] *See* ABRAHAM, *supra* note 107, at 70-71.

[132] *See* Charles Silver & Kent Syverud, *The Professional Responsibilities of Insurance Defense Lawyers*, 45 DUKE L.J. 255, 266 (1995) (discussing these problems and many other conflicts of interest arising in such situations).

who subordinate the insureds' interests to their own.[133] That helps solve the first problem mentioned above, where insurers settle and consequently harm the insureds. With respect to the second problem, where insurers *refuse* to settle and harm the insureds, several states' supreme courts have affirmed judgments against insurance companies for bad faith refusal to settle where they gambled with their insureds' money. In *Crisci*, for example, an insurer refused to settle a claim by a tenant against the landlord (the insured).[134] The insured's policy limit was $10,000; the lowest settlement demand by the plaintiff-tenant was also $10,000. As a test for whether an insurer has liability above a policy limit after it refused to settle, the court relied on whether a prudent insurer *without* policy limits would have accepted a settlement offer. In that case, the court believed such an insurer would have settled and therefore awarded the insured damages in the amount she had to pay to her tenant.[135] This rule prevents insurers from gambling with insured's money.[136]

Interestingly, and somewhat counter-intuitively, insurers' power to strategically refuse to settle which seems to harm the insured when viewed from an ex-post perspective, may in fact benefit the insured when viewed from the ex-ante perspective. Such strategic behavior by the insurer functions as a commitment device that the insurer would reject victims' excessive settlement offers.[137] Thus, insurers may extract better settlements from the insureds' victims, which will lead to lower premiums to the class of insureds. Still, if settlement negotiations fail, the insured might discover she has to pay judgment way beyond the policy limit, a risk she might not want to bear.

In more extreme scenarios, it is even possible to get punitive damages if the insurer denied coverage while violating the covenant of good faith and fair dealing. Insurers who attempt to take advantage of an insured in an improper manner may be required nonetheless to pay out on

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[133] Kent Syverud, *The Duty to Settle*, 75 VA. L. REV. 1113, 1116 (1990).

[134] *See*, *e.g.*, Crisci v. The Sec. Ins. Co. of New Haven, 426 P.2d 173, 175 (Cal. 1967).

[135] *Id.* at 177.

[136] *See also* Alan O. Sykes, *Judicial Limitations on the Discretion of Liability Insurers to Settle or Litigate: An Economic Critique*, 72 TEX. L. REV. 1345, 1373-74 (1994) (using an economic analysis of bad faith claims for refusal to settle to suggest courts should not interfere with contracts between insureds and insurers).

[137] Michael J. Meurer, *The Gains from Faith in an Unfaithful Agent: Settlement Conflicts between Defendants and Liability Insurer*s, 8 J.L. ECON. & ORG. 502, 502-22 (1992).

an insurance policy where a repudiation of the insurance contract or a denial of coverage is made in bad faith.[138] *State Farm Mutual Auto Insurance Co. v. Campbell* showed punitive damages against insurance companies for bad faith denial of coverage are available, even if there are due process limits to the size of the punitive damages award.[139] In *State Farm*, the liability insurer refused to settle a car accident case even though "a consensus was reached early on by the investigators and witnesses that Mr. Campbell's [the insured's] unsafe pass had indeed caused the crash."[140] Rejecting the at-policy-limit settlement offer, State Farm told Campbell he need not worry as he would not be held liable for the accident. The jury returned a verdict three times the limit of Campbell's policy, and, at first, State Farm refused to cover the excess, or the cost of appealing the judgment. At one point State Farm even told the Campbells they would have to sell their house. After the Campbells lost the appeal State Farm did pay it in full, but that was too little too late as in a separate lawsuit against State Farm the court awarded punitive damages for its treatment of Campbell.[141] While this case sends a clear message to insurers to not deny coverage in bad faith, it has been argued that claims against insurers for bad faith denials of coverage cause more harm than good due to courts' limited abilities to accurately identify opportunistic behavior by insurers.[142] In sum, insurers in third-party liability policies usually assume the duty to defend the insured. This gives insurers control over the case and thus works to prevent insureds from failing to defend a claim vigorously or settling with the insurers' funds too easily.[143] At the same time, requiring an insurer to receive the insured's consent on any settlement agreement and imposing liability for a bad-faith refusal to settle by the insurance company lowers the agency costs associated with the fact that insurers act on behalf of the insureds.

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[138] *Silberg v. Cal. Life Ins. Co.,* 521 P.2d 1103, 1108-09 (Cal. 1974); Chandler, *supra* note 44, at 850-52.

[139] State Farm Mut. Auto. Ins. Co. v. Campbell, 538 U.S. 408, 429 (2003).

[140] *Id.* at 413.

[141] *Id.* at 413-14.

[142] *See* Alan O. Sykes, "*Bad Faith" Breach of Contract by First-Party Insurers*, 25 J. LEGAL STUD. 405, 443 (1996).

[143] In contrast, Directors and Officers insurance policies state that it is the insured's responsibility to defend a claim when one occurs. Yet, these policies still prohibit the insured from settling without the insurer's consent.

1. Returning to the Two Islands Approach

An excellent candidate for the Two Islands analysis for this section is the reasonable expectations doctrine. Take for instance a Minnesota Supreme Court decision from 1985. In *Atwater Creamery*, the issue was whether an insurance policy covered a break-in where there was no visible evidence of forcible entry.[144] The policy quite clearly excluded coverage where there is no physical evidence of *forcible entry*. Yet, the court decided that despite the language of the policy, where it is clear that a burglary happened by unrelated parties, there should be coverage. In ignoring the language of the policy the court relied on the reasonable expectations doctrine, with a focus on the ex-post bargaining power of the parties, not the future effects of its decision.[145]

Under the two islands functional approach, the question in that case should have been, all else being equal, whether an island that allows the physical-evidence exclusion is better than an island that does not allow the exclusion. To answer that one needs to inquire about the function of the exclusion. The exclusion is designed to screen out coverage for burglaries by someone associated with the insured—inside jobs. The island that allows the exclusion places the costs of burglaries without physical evidence on insureds, yielding two effects on insureds: insureds are motivated to monitor their property against an inside job, and they will be more likely to take precautions to prevent clean "out-side" burglaries by locking their property or using alarm systems. In other words, the exclusion reduces moral hazard associated with insurance burglary policies by incentivizing the insured to take optimal care. One could expect there will be fewer burglaries as a result of the exclusion, and premiums will be lower, both social benefits.

On the other island, where the exclusion is not enforced, insureds will have less incentive to secure valuables, and may even be incentivized to defraud insurers by burglarizing their own property. Either way premiums and social loss would be higher.

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[144] Atwater Creamery Co. v. W. Nat'l Mut. Ins. Co., 366 N.W.2d 271, 274 (Minn. 1985).

[145] *See id.* at 277-79. The Iowa Supreme Court in *C & J Fertilizer, Inc. v. Allied Mut. Ins. Co.*, cited by the Minnesota Supreme Court in *Atwater*, also relies on fairness to the insured to apply the reasonable expectations doctrine to ignore a similar definition of burglary. *C & J Fertilizer, Inc. v. Allied Mut. Ins. Co.*, 274 N.W.2d 169, 177 (Iowa 1975).

It seems therefore that as a general matter excluding burglaries where there is no sign of forcible entry is desirable because "inside jobs" are hard to detect by the insurer and relatively easier to prevent by the insured. The exclusion therefore maximizes social welfare for the entire pool of insureds. Between providing more coverage (for clean outside jobs) and not distorting the incentives to take care against inside jobs, the latter seems a better option.[146]

But, in the *Atwater Creamery* case there was no suggestion that anyone associated with the insureds was involved in the burglary. Furthermore, it was clear that proper precautions were taken to secure the property.[147] The Minnesota Supreme Court decided to provide coverage in this case. Was that a good decision? In this situation, the island the Minnesota Supreme Court chose would still fight the moral hazard problem because by conditioning its decision on the finding that no insider was involved the court did not dilute the incentives insureds have to not participate in self-burglaries and to take adequate precaution. At the same time, in those situations where the insured acted in a socially beneficial way, that is, when she took optimal precautions, providing coverage (by ignoring the language of the contract) would distribute the risk of clean "outside jobs" across the entire pool of insureds. Most likely a welfare gain.

While the court's opinion in *Atwater Creamery* might well maximize the pool's welfare, one needs to remember that the down-side of the decision is that it opens the door for costly, case by case analyses of every similar situation. For this reason, and because it provides coverage in cases such as clean outside jobs, the island the Minnesota court chose would have higher premiums than an island with the full exclusion enforced. Insureds, however, might prefer higher premium in exchange for the additional coverage.

The result in this case is not unambiguous, and to determine the best island empirical data comparing the increased risk of extending

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[146] Daniel Schwarcz comes to the opposite conclusion about these clauses, arguing that the potential moral hazard benefits of the exclusions are low because there is little that can be done to prevent against internal thefts, and if insurers do have evidence of fraud then they can deny the claim on that basis. *See* Schwarcz, *supra* note 65, at 1288. Schwarcz also notes that many of these clauses were rejected by courts decades ago, but have since returned to homeowners policies. *Id*.

[147] *Atwater Creamery*, 366 N.W.2d at 274.

coverage to clean inside jobs (which should be excluded) against the net benefit of covering clean outside jobs (which should be covered) is needed. Selectively ignoring the exclusion would certainly combat moral hazard more than always ignoring the exclusion, and would likely be less effective at combating moral hazard than always honoring the exclusion, but where in that spectrum the Minnesota court's decision would fall is unclear. Furthermore, the administrative cost of selectively ignoring the exclusion is also hard to determine, although it is certainly more costly to selectively ignore the exclusion than always honoring it or always ignoring it: a bright-line rule will almost always be cheaper to enforce than a case-by-case analysis. Thus, the Minnesota court's decision can be justified if clean outside jobs is such a prevalent phenomenon that covering them provides more benefit than covering only dirty, or forced-entry, outside jobs creates costs in forgone coverage, and if the administrative costs associated with proving an incident were not an inside job are not too large.[148]

As this example has demonstrated, the two islands analysis will not always provide the answer, but it does give us a good, basic framework for answering the question.

F. SUMMARY

This section discussed the major impediments to the efficient insurance contract—hidden characteristics and strategic behavior. These problems manifest themselves in adverse (and reverse adverse) selection and moral (and reverse moral) hazard. According to the economic analysis of law, one of the main roles of insurance law is to protect the parties from strategically exploiting hidden information. Indeed, the contractual and doctrinal solutions discussed in this section do just that. These solutions, however, do not come without a price tag. For both adverse selection and moral hazard the challenge is to strike a balance between diluting both parties' strategic behavior while providing maximum coverage, and the two islands approach can often help courts and other decision makers strike that balance.

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[148] One may still wonder why insurers did not find a simple way to design language that supplements the forced entry requirement. Their failure to do so suggests that insuring clean outside jobs is hard to do without also creating a big loophole into which many inside jobs will fit.

III. OTHER IMPEDIMENTS TO EFFICIENT INSURANCE CONTRACTS

The previous section discussed informational problems and the strategic behavior they create as impediments to an efficient insurance contract. However, there are many other systemic factors that impede the creation of efficient insurance contracts including transaction costs, externalities, correlated risks, non-competitive pricing and insures' irrational behavior. In this section I briefly discuss them. At the end of the discussion of these five additional impediments I will use the two islands approach to analyze a solution to one of them- the problem of correlated risks.

A. TRANSACTION COSTS

One systemic impediment to insurance contracts is transaction costs, part of the larger administrative costs category.[149] Such costs arise in the arranging and executing of a transaction, and in extreme cases may exceed the value that the transaction itself would create. Thus, the transaction, which would otherwise be efficient, is not pursued by the parties.[150]
In the insurance world, one common solution to the transaction cost problem has been the standard form. Standard forms have long been thought to present several advantages for the parties to an insurance contract: (1) creation of economies of scale in drafting which may lower premiums; (2) greater likelihood of terms with predictable meanings; (3) facilitation of price competition; and (4) facilitation of the collection and aggregation of claim and loss data for use in rate-setting. This subsection evaluates the current usage of standard forms as a way of combating transaction costs.

Addressing the first potential advantage, the economies of scale for insurance contracts were once especially valuable because insurance contracts must be filed and approved by state regulators. This gave insurers a strong incentive to collectively draft their contracts and submit a single contract for approval, rather than having each one approved

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[149] Administrative costs include any extra cost incurred in the business of insurance. They include transaction costs, but also the costs necessary for any insurance company to run, the costs to market policies to consumers, the costs in adjudicating disputes, etc.

[150] ABRAHAM, *supra* note 18, at 14.

individually.[151] Recently though, new changes have reduced these regulatory burdens. As of today, all fifty states and the District of Columbia utilize an electronic platform called the System for Electronic Rate and Form Filing (SERFF), which provides for easier approval of policy forms.[152] Indeed, a study of homeowners insurance policies, finds anecdotal evidence suggesting that the vast majority of insurance policies submitted to state regulators are approved.[153] If new contract forms are easily approved, then regulatory transaction costs may now be almost nonexistent, and the benefit from economies of scale from collective policy drafting lessened.

Moving on to the second advantage, insurers may rationally prefer the predictability of complicated terms which courts have already interpreted over the clarity of untested terms.[154] The stability of standard forms is further increased due to path dependency where insurers fear that deviation from the traditional language of the contract might be perceived as an attempt to mislead insureds. Yet, the actual benefit of predictability of meaning is difficult to ascertain, as courts have often diverged on the meaning of even common terms such as "sudden."[155] Thus, this benefit of the standard form may also be overstated.

Third, many scholars have argued that standardized forms allow for competition because consumers can more easily compare coverage and pricing details.[156] On the other hand, when the standard forms are drafted collectively and every insurer uses the same form, the forms eliminate competition over the substance of the coverage provided and discourage innovation in the formulation of terms. Indeed, in the early 1900s a standard insurance form and pricing schedule were proposed specifically to prevent "ruinous competition" between insurers.[157] More recently, an entity called the Insurance Services Organization (ISO) has produced

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[151] Schwarcz, *supra* note 65, at 1272.

[152] *See* Nat'l Assoc. of Ins. Comm'rs, *About SERFF*, SERFF, http://www.serff . com/ about.htm (last visited Aug. 27, 2012).

[153] Schwarcz, *supra* note 65, at 1276.

[154] *See id*. at 1273 (arguing that "network effects" are created by a wealth of case law applying contract language, especially in the property and casualty insurance lines where policies attempt to categorize a large number of potential future scenarios, and that insurers will use specific language to "tap into this pool of precedent").

[155] *See* Just v. Land Reclamation, Ltd., 456 N.W.2d 570, 573 (Wis. 1990).

[156] Schwarcz, *supra* note 65, at 1272.

[157] *Id*. at 1270.

standard forms and aggregated data in the property and casualty lines. Until the late 1980s, the ISO also published advisory rates with its standard forms, a practice which dampened competition between insurers.[158] While these rates could not be mandatory due to antitrust laws, they did provide a potential vehicle for price-fixing or collusion within the insurance industry. This history suggests that standard forms may actually reduce competition rather than facilitating it, although the jury is still out on this benefit. Indeed, the life and health insurance business have survived and thrived without the existence of an ISO-like entity.

The last benefit of the standard form to be analyzed is that it allows the aggregation of loss data, which can only be done when companies utilize the same coverage. While this was once important for insurance companies, most modern insurers are very large, and are able to collect enormous amounts of information that is specific to their company—specific information that is more relevant to their risk calculations than what would be collected from all insureds under a standard form.[159] Technological advances have also helped in this area, reducing its importance.

To sum up, the standard form may still reduce transaction costs, but its actual benefit to insurers and insureds could be overstated. In practice, however, the insurance industry may actually be moving away from the standard form. This is evidenced by recent finding that there is now "substantial heterogeneity" in homeowner's insurance policies. Rather than solving problems related to transaction costs and competition, however, this change may just create a whole new set of problems as consumers lack the ability to comparison shop between policies. [160]

B. EXTERNALITIES

Another impediment to efficient insurance contracts is the externality problem. Externalities, or more particularly negative externalities, are costs of an action or transaction that are projected onto

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[158] ABRAHAM, *supra* note 107, at 34.

[159] Schwarcz, *supra* note 65, at 1275.

[160] *See id*. at 1318 (finding that in practice the variety between insurance forms can make it impossible for consumers to comparison shop because they lack access to policy information and many of the contract details are extremely complex). While Schwarcz only investigated homeowners policies, this trend may also hold true for other types of insurance coverage.

non-parties or society as a whole, rather than being borne by the parties to the transaction. One of the principle justifications of the American tort system is to force wrongdoers to pay for the harm they cause. In other words the tort system forces tortfeasors to internalize their externalities. Liability insurance helps insulate tortfeasors from paying for their actions, thus it makes negative actions cheaper, and externalizes some of the costs onto society—or at least onto the tortfeasors' insurers.[161] On this view, liability insurance is a welfare reducing institution.

Interestingly, liability insurance also prevents externalities. Some individuals and companies are judgment proof, meaning they do not have enough assets to pay for harm they may cause. Because a judgment proof entity will not have to compensate victims in the event of a loss, it has a lower incentive to take care than a non-judgment-proof entity. In contrast, insured entities are not judgment-proof, thus they may have more incentive to take care than non-insured entities, as long as the insurance company can provide them incentives to take care.[162] Requiring an otherwise judgment-proof driver to carry insurance leaves him or her to bear the cost of dangerous driving (via higher premiums) rather than leaving the victim or society (via the tax and transfer system) to pay.

If liability insurance both externalize costs and prevents cost externalization at the same time, is it a welfare decreasing or welfare increasing institution? The insurance industry has developed ways to deal with negative externalities, mainly through experience rating, and refusing to insure certain high-risk entities or activities. Knowing that their premium might go up if they are in a car accident, drivers take more care thus at least partially internalizing the social costs of driving with insurance coverage.
But not all is so rosy with liability insurance. Historically, liability insurers tried to limit their exposure by writing in the insurance contract clauses—called diminution clauses—which allowed them to reduce their own liability on account of the insolvency of the insured (the wrongdoer), in essence restoring the judgment-proof problem.[163] The diminution clauses

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[161] *See* Steven Shavell, *On the Social Function and the Regulation of Liability Insurance*, 25 GENEVA PAPERS ON RISK & INS. 166, 175 (2000).

[162] *See* Steven Shavell, *Minimum Asset Requirements and Compulsory Liability Insurance as Solutions to the Judgment-Proof Problem*, 36 RAND J. ECON. 63, 63 (2005).

[163] Chandler, *supra* note 43, at 854. The historical reason for this is that in the past liability insurance policies provided true indemnification for losses incurred by policyholders. A condition for true indemnity is that the policyholder pay the

imposed costs on the victims of the insured, who were not fully compensated for the harm they suffer. These clauses exacerbated the moral hazard problem because these potential tortfeasors paid lower premiums that reflected that not all their victims were compensated. As with other problems discussed in this paper, insurance law has developed internal doctrines to remedy many of these more nuanced types of externalities, including this one. Nowadays, anti-diminution laws, also called bankruptcy provisions, prohibit the inclusion of diminution clauses into the policy.[164]

Another insurance law doctrine developed to combat externalities arises in the context of subrogation. As we saw above, it is a general principle of subrogation, and a common clause in first-party insurance contracts, that if the insured releases a wrongdoer of liability when, otherwise, the first-party insurer would have had a claim against that wrongdoer through its right of subrogation, then the insured forfeits his claim under the policy.[165] This protects the insurer's ability to exercise its subrogation rights. The general principle prevents insureds from externalizing the cost of harm caused to them onto their first-party insurers. If the rule was not so, insureds could exchange a release of liability for something of benefit from the wrongdoer, and still require the insurer to pay for the harm. However, courts have made an interesting exception for releases of liability of the wrongdoer *prior* to the wrongful action.[166] Such release often comes up in construction contracts where the contractor is released from any liability arising during its performance of the contract. In exchange for the liability release, the hiring company (the insured) receives a discount. The hiring company then has to rely on its first-party coverage.

Despite the potential externalities, courts allowing prior liability releases can be justified in several ways. First, when insureds are unsophisticated, exculpatory clauses are often contained in fine print on standard form contracts that people do not read—such as the common

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loss and ask to be reimbursed. In the case of judgment-proof policyholders, insurers benefited automatically from policyholders' inability to pay.

[164] The interplay of mandatory minimum liability coverage with prohibitions on diminution of coverage in bankruptcy works an interesting effect, in that it weakens the protection bankruptcy laws provide for insureds by requiring them to spend prospectively on insurance—a payment that cannot be discharged, since it is in advance—for the benefit of victims whose claims are dischargeable.

[165] *See, e.g.*, Great N. Oil Co. v. St. Paul Fire & Marine Ins. Co., 189 N.W.2d 404, 408 (Minn. 1971).

[166] *See id.* at 406-07.

limitation of liability in parking garages tickets. Even if a driver sees the limited liability notice, it is probably not reasonable to ask drivers to notify their first-party insurers every time they enter a parking garage that they have just agreed to release the parking garage from liability and therefore that the first-party automobile insurer is exposed to higher risk. Second, when insureds are sophisticated, the practice of releasing putative wrongdoers from liability can be justified if first-party insurers can better monitor or risk-classify their insureds than liability insurers of construction contractors can monitor or risk-classify their insureds or insureds' clients. This can happen if first party property insurers know well the value and risks associated with the property they insure whereas the contractor's third party liability insurers may have less information about those whom their insureds may damage in the course of their activities. In any case, it should be remembered that first party insurers can easily deal with this externality by explicitly requiring insureds not to release putative wrongdoers from liability, even prior to the act, in the policy.

Insurance law also proscribes, in many instances, liability coverage for fines incurred from intentional misconduct and for punitive damages. That sort of coverage, if permitted, would remove the deterrent effect of fines by reducing or eliminating the cost to the actor himself; in other words, by allowing him to externalize that cost.[167] For this reason, some countries do not allow indemnity for criminal sanctions. Courts should also be cautious in interpreting too broadly insurance policy clauses providing coverage for civil fines (such as in Directors and Officers policies) and carefully consider any externalities that such policies may create. The more broadly courts construe that fine coverage, the freer insureds are to violate whatever law imposes the fine and force their costs onto society. Such coverage allows insureds to participate in whatever activity the fine provision is intended to curb without bearing the cost of the fine.[168]

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[167] *But see* George L. Priest, *Insurability and Punitive Damages*, 40 ALA. L. REV. 1009, 1012 (1989) (cautioning that as views change regarding punitive damages, it may become more desirable to allow insurance for them).

[168] *But see* Tom Baker & Sean Griffith, *Predicting Corporate Governance Risk: Evidence from the Directors' and Officers' Liability Insurance Market*, 74 U. CHI. L. REV. 487, 533 (2007) (finding some deterrence effect from directors and liability insurance because the providers seek to factor in the risk of legal violations into the premiums).

C. CORRELATED RISKS

Correlated risks are those risks that, if they come to fruition, will affect a large portion of the insurance pool. Hurricanes, floods, and acts of war are examples of these types of risks.[169] They pose a problem for insurers for two reasons: they affect a large portion of the insurance pool—meaning the insurer will have to have access to a lot of cash to honor claims; and the timing of when the risk will occur is unpredictable. Thus, in a year when a correlated risk occurs, an insurer's loss ratio will be extremely high—meaning the insurer must pay out far more than it takes in. Covering correlated risks therefore would require insurance companies to keep large amounts of capital liquid, something the institutional infrastructure of the capital markets makes very unappealing.[170] Without liquid capital to pay claims, however, an insurance company would become insolvent when correlated risks come to fruition.

Correlated risks are not so much an impediment to efficiency but a category of risks that are generally hard to insure. As discussed above, the insurance market works because risk-averse insureds transfer their risks to the insurer who spreads those risks among all the insured parties. In this way the insurer fills a large pool by charging small premiums to cover the losses of the unfortunate few whose risks come to fruition. The law of large numbers allows an insurer to charge a certain premium which reflects only a small fraction of the actual loss an individual would suffer if the risk materializes. The ratio of the losses paid out over the premiums collected—plus any interest made on capital held—is called the loss ratio.[171] In order to be sustainable, the loss ratio must be under one—or 100%,

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[169] An interesting form of correlated risk appears in the liability insurance context and is called "sociolegal risk." *See* PATRICIA M. DANZON, MEDICAL MALPRACTICE: THEORY, EVIDENCE, AND PUBLIC POLICY 177-78 (1985). In some situations, for example, one high court ruled all commercial general liability policies within the court's jurisdiction covered expenses incurred due to America's Superfund statute. A.Y. McDonald Indus., Inc. v. Ins. Co. of N. Am., 475 N.W.2d 607, 621 (Iowa 1991). With one court ruling, liability insurers in the jurisdiction were exposed to millions of dollars more liability than they were previously.

[170] Dwight M. Jaffee & Thomas Russell, *Catastrophe Insurance, Capital Markets, and Uninsurable Risks*, 64 J. RISK & INS. 205, 208, 213 (1997).

[171] *Id.* at 211.

depending on the scale used—meaning the premiums collected in a given year are greater than the losses paid out.[172]

How can one deal with correlated risks? Sometimes the state takes it upon itself to provide insurance for such risks. Flood insurance created through the National Flood Insurance Act of 1968 is one example. Sometimes the state provides reinsurance for such risks. The Terrorism Risk Insurance Act of 2002 is an example of that. Other times, insurers have to find their own solutions. As is well known, insurers extend their protection through diversification of risk. Diversification of the risks to which the insurer (through the insured parties) is exposed occurs in two ways: diversification with regard to a particular risk and across different types of risks.[173] For particular risks, the principle is essentially the same as the law of large numbers. More individuals protecting against the same risk reduces the uncertainty faced by any one of them, provided the risks are not perfectly correlated with each other. For different types of risks, the overall chance of loss is reduced by hedging exposure related to the risk of a particular event, such as a tornado, against exposure to other events, such as a fire.

Because insurance is often sold through retail, many policyholders are localized in the same geographic regions—making the hurricane risk correlated between a large bulk of the insureds. That is why diversification—both in covering different types of risk and covering larger geographical areas—is so important to protect against correlated risks. Another way to protect against correlated risks is purchasing reinsurance in local or foreign markets, and when the private market cannot supply it, from the government.[174] Lastly, insurers often exclude those types of risks

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[172] *Id.* at 208. The rare exception—loss ratios over 1—could come in sectors where the risk materializes long after premiums are collected such as life insurance. Another possibility is insurance for rare events—like natural disasters—where the premiums collected in a given year are less than the losses paid out if the event happens, but because the event only happens rarely, say an average of every 10 years, the company can still make a profit.

[173] TOM BAKER, INSURANCE LAW AND POLICY: CASES, MATERIALS, AND PROBLEMS 4 (2d ed. 2008).

[174] Government programs—such as the National Flood Insurance Program—can provide insurance for correlated risks, though the value of public sector involvement is up for debate. *See* Howard Kunreuther & Mark Pauly, *Rules Rather than Discretion: Lessons from Hurricane Katrina*, 33 J. RISK & UNCERTAINTY 101, 102-03 (2006). *But see* J. David Cummins, *Should the*

from their policies—war, pollution and flood exclusions in homeowners' policies are such examples. Those who want flood or pollution insurance must get it separately. At the end of this section I apply the two-island approach to the problem of correlated risks.

D. NON-COMPETITIVE PRICING

Another obstacle to efficiency to be discussed is non-competitive pricing. Pricing problems arise when there are significant impediments to competition between insurers, whether on account of capital requirements, unfair competition, or regulatory standards.[175] As in any market, such conditions result in inefficiently high prices and lead to a less-than-ideal amount of insurance being purchased. It must be noted, though, that legal interference to correct these pricing problems may create more costs than benefits, for example, where premiums are artificially kept down, which may cause insurers to respond by reducing the quality of their contracts.

The problem of competitive pricing is linked to problems discussed above. Collectively drafted standard form contracts and path-dependency present parallel problems, in that they limit insurers' flexibility to offer differing, competitive terms to insureds, thus harming overall competition. Offering contracts which deviate from norms might be interpreted as an attempt to mislead consumers. Similarly, it has been argued that both plaintiff and defense lawyers have incentives to keep insurance contracts complicated in order to maintain their role as informed intermediaries between insurers and insureds. Sometimes, the result could be inefficiently restrictive or onerous terms, especially in compulsory insurance regimes where insurers have greater capacity to dictate terms.

Limited competition has long been considered a social negative, and is regulated by federal antitrust law. Insurance, though, was considered a matter of state law under the U.S. Constitution, and the insurance market was therefore traditionally exempt from antitrust law. In 1945, reacting to a U.S. Supreme Court case which subjected insurance companies to federal antitrust laws,[176] Congress enacts the McCarran-

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Government Provide Insurance for Catastrophes?, 88 FED. RES. BANK ST. LOUIS REV. 337, 338 (2006).

[175] ABRAHAM, *supra* note 18, at 13.

[176] United States v. Se. Underwriters Ass'n, 322 U.S. 533, 552-53 (1944), *superseded by statute*, McCarran-Ferguson Act, 15 U.S.C. §§ 1011-1015 (2006), *as recognized in* U.S. Dep't. of Treasury v. Fabe, 508 U.S. 491 (1993).

Ferguson Act, which provided that federal antitrust law would apply to the insurance market in each state beginning in 1948 unless the state had passed its own legislation. Within several years, every state passed its own legislation which preempts the McCarran-Ferguson Act. Today, insurance markets are still largely exempt from federal antitrust laws.

E. RATIONAL (OR IRRATIONAL) BEHAVIOR BY THE INSURED

The final obstacle to be discussed is irrational behavior. Much of the behavior by insureds discussed in this Primer has been assumed to be rational. However, as in many other areas, consumers do not always make the economically efficient decision when it comes to insurance. The field of behavioral economics, which explores and explains how people act in the real world, provides some useful insights into how best to take advantage of a variety of irrational biases held by the majority of insureds. Some of the major decision-making anomalies that affect insurance companies include: loss aversion, status quo bias, choice overload, value of zero, availability bias, and hyperbolic discounting—and the list goes on.[177] The field of behavioral economics is too large to be covered in a paper of this length, but the following discussion provides a taste of how behavioral economics might be helpful in complimenting the theories of insurance law discussed in other sections.

The first bias amongst insured is loss aversion, or the idea that people feel more pain from a loss than they do pleasure from a gain.[178] In other words, the joy and pain in losing twenty dollars and gaining twenty dollars would not cancel each other out (despite the equal but opposite economic outcomes). For insurance purposes, this translates to a preference for steady premiums rather than rates that vary up and down over time. Loss aversion also explains one of the most irrational decisions a consumer can make: purchasing an extended warranty. Under this theory, the insured categorizes the extended warranty as a cost rather than a loss. Therefore the cost of the warranty is weighed less than the expected

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[177] Christine Jolls et al., *A Behavioral Approach to Law and Economics*, 50 STAN. L. REV. 1471 app. at 1548-50 (1998); Jeffrey Liebman & Richard Zeckhauser, *Simple Humans, Complex Insurance, Subtle Subsidies* 7-8 (Nat'l Bureau of Econ. Research, Working Paper No. 14330, 2008), *available at* http://www.nber.org/papers/w14330.

[178] Jolls et al., *supra* note 177, at 1484.

loss from product failure, and that product-loss calculation is exaggerated because of loss aversion.[179]

Status quo bias has also proved to be very powerful in predicting behavior, and basically resonates with the idea of inertia from physics. This translates into people being more likely to accept form contracts (which represent the status quo) rather than making individual choices.[180] Much of this may have its roots in loss aversion, or that people are worried about making a choice that ends up being risky. When faced with a variety of options, discussed below as choice overload, many insureds opt to keep the status quo. A natural quasi-experiment that demonstrates the power of the status quo bias took place couple of decades ago.[181] Changes in Pennsylvania and New Jersey automobile insurance laws introduced the option of giving up some of one's right to sue, with a corresponding reduction in insurance rates. In New Jersey, the default was to have a reduced right to sue, and a driver had to opt in to the full right to sue by paying more. In Pennsylvania, the default was retaining the full right to sue, and one could receive a discount for opting out. Since the option is the same and only the default is different, one would expect that insureds would act based on whether the reduction in premiums was worth the lost right to sue, leading to similar results in both states. Instead, only twenty percent of drivers in New Jersey opted into the full right to sue, and seventy-five percent of Pennsylvania drivers retained this right.[182] In other words, about three-fourths of all drivers did nothing.

A related anomaly is choice overload which predicts that when given too much information potential insureds may become overwhelmed and do nothing, even if their actions would be beneficial. Insurers must be aware of the danger of increasingly complex terms as it may serve to confuse buyers and cause them to not make the best choices for their situation.[183] Health care is a great example of the numerous decisions that must be made by an insured. Even if the employer has made many of the

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[179] Tom Baker & Peter Siegelman, *Law and Economics after the Behavioral Turn: Learning from Insurance,* 27 (Oct. 10, 2011), http://www.law.harvard.edu/programs/petrie-flom/workshop/pdf/baker.pdf.

[180] *See supra* Part 2.C.

[181] Eric. J. Johnson et al., *Framing, Probability Distortions, and Insurance Decisions*, 7 J. RISK & UNCERTAINTY 35, 48 (1993).

[182] *Id.*

[183] However, insurers may be intentionally confusing insureds via choice overload. S*ee* Schwarcz, *supra* note 66, at 1268 ("[F]irms may be exploiting consumer ignorance to draft inefficiently one-sided contracts.").

choices for their employees, an employee still must choose a plan (PPO, HMO, etc.), pick a deductible and finally decide when and how much medical care to consume.[184] These decisions can be very difficult, and behavioral studies have shown that human beings are not good at predicting high-consequence, low-probability risks (even though they must do this to choose their efficient level of insurance).[185]

A phenomenon that extends well past the insurance world is people's bias towards the value of zero. Individuals are very attracted to free promotions, to the point of acting irrationally. For example, when Amazon.com rolled out its free shipping promotion for all orders above a certain dollar value the Amazon.com operation in every country except for France saw an increase in sales. In France, Amazon.com was charging the equivalent of $.20 instead of nothing for shipping on large orders, and this tiny amount was enough to prevent the increases in order size seen in other countries.[186] The value of zero applies equally to insurance too, as consumers will appreciate additional services at "no additional cost."[187] Of course the costs of the policy just include these services, but the customer feels like they are getting something for free.

An additional decision making anomaly relevant to insurance is the availability bias. This theory details how people generally assess the chances of an event occurring based upon specific examples in their lives, and can also be thought of as a rule of thumb bias.[188] As was mentioned earlier in the paper, the expected yearly cost of an incident is the probability of the event multiplied by its cost. This means that if people think the probability is higher, they will be more likely to purchase insurance. A great example of the availability bias comes from 1990 when a business consultant and self-proclaimed climatologist predicted there to be a .5% chance that an earthquake would occur in eastern Missouri during an upcoming two day span.[189] This prediction received significant press

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[184] Liebman & Zeckhauser, *supra* note 177, at 5–6.

[185] *Id.*

[186] Bridge Strategy Grp. LLC, *Behavioral Economics: A New Frontier for Insurance?*, A VIEW FROM THE BRIDGE (May 2009), http://www.bridgestrategy.com/topics/behavioral_economics.

[187] For example, 21st Century Insurance offers a free Security Advantage Program to all its customers which includes roadside assistance, identity theft restoration, and travel and medical assistance. *21st Roadside Assistance*, 21ST CENTURY INS, http://www.21st.com/insurance-products/security-advantage.htm.

[188] Jolls et al., *supra* note 177, at 1477.

[189] Johnson et al., *supra* note 180, at 37.

coverage but was refuted by other earthquake experts. Still, State Farm reported that more than 650,000 policyholders added earthquake insurance to their homeowners policy, mostly in the two months prior to the predicted date.[190] The earthquake never happened, but people were still made more aware of the chances of an earthquake and therefore wrongly calculated the earthquake probability to be higher than it actually was. More broadly speaking, it has been shown that "[p]eople tend to conclude, for example, that the probability of an event (such as a car accident) is greater if they have recently witnessed an occurrence of that event than if they have not."[191]

The last bias to be discussed here is hyperbolic discounting. This occurs when individuals use a large discount factor to compare current benefits to future benefits.[192] If you have heard of the time value of money[193] then this concept should sound familiar. However, most people will use the wrong discount factor when deciding between present consumption and future benefit. This leads to underinvestment in future health care and a lack of preventative medicine. In theory a rational insured would make the correct choice about their health care plan and undergo economically efficient preventative care, but behavioral economics predicts, as indeed was empirically confirmed, that this does not happen in the real world.

This section has discussed the irrationality of insureds, and it adds a few additional layers of complexity to the analysis of efficient insurance contracts. Most importantly, the irrational behavior by insureds must be taken into account when making ex-ante predictions, and many times it can be worked into the models we use to predict behavior. The other important takeaway is that our theoretical solutions to market inefficiencies are not perfect. The full effects of behavioral economics is beyond the scope of any introduction to law and economics, but know that applications of the theoretical and contractual solutions to the impediments to efficient

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[190] *Id.* at 38.

[191] Jolls et al., *supra* note 177, at 1477.

[192] Liebman & Zeckhauser, *supra* note 176, at 7-8.

[193] This concept holds that money now is better than money later, and that the exact amount greater it is can be calculated based upon the expected rate of return. If interest rates are 5%, then the "present value" of receiving $1000 in five years is $783.53. In other words, if you received that amount and invested it you would have $1000 in five years. Among many things, this is why the lotto payouts are higher if you opt for the installment plan rather than a lump sum—the lotto organization invests the rest of the money and ends up paying less overall.

insurance contracts are able to account for both the rational and irrational behavior of insureds.

1. Returning to the Two Islands Approach

For brevity's sake I will not apply the two islands approach to every one of the impediment discussed in this section. Instead I will apply it only to the problem of correlated risks. The two island approach shows the utility of exclusions associated with correlated risks. Consider the flood exclusion in homeowner's policies. On one island, floods are excluded, and on another they are covered. If a flood hits each island, the majority of houses on that island are going to be damaged. On the island that does not cover floods, premiums will be lower than the island where floods are covered. Without more, it is a close call—higher premiums with coverage or lower premiums without coverage. The answer depends on the probability of flood, people's risk aversion, the size of the losses, and other factors. However, the analysis must consider that floods are a correlated risk. This fact likely makes the island without coverage more desirable. On the other island, because the flood will hit all of the insureds, the insurer might not have enough cash to pay all of the premiums, leading to insolvency, or will have to charge exceedingly high premiums to cover such an island-wide event. An insolvent insurer is clearly not good for insureds, and therefore flood exclusions, and other catastrophic correlated risk exclusions, are socially useful. Of course, insureds can always purchase flood insurance separately from companies—or public agencies—which specialize in such risks, but that is a different issue from whether a general homeowner's policy should have such coverage.

Two cases demonstrate how courts do, and how they should, use the economic factors discussed above to interpret flood exclusions in homeowners policies. *Kane v. Royal Insurance Company of America* involved a standard flood exclusion clause and a dam failure in Colorado. The court found that because the water damage occurred from a natural body of water invading normally dry land, it was unambiguously a flood under the policy. [194] In *Ferndale Development Co. v. Great American Insurance Co*., on the other hand, a burst water pipe was found not to be a flood under similar terms in an insurance policy.[195]

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[194] Kane v. Royal Ins. Co. of Am., 768 P.2d 678, 681 (Colo. 1989).

[195] Ferndale Dev. Co. v. Great Am. Ins. Co., 527 P.2d 939, 940 (Colo. App. 1974).

In each of these cases the respective courts based their decisions on interpretations of the meaning of "flood." Is there really a difference between a flood caused by a failing dam and a flood caused by a ruptured valve on a city water line? Under the functional approach the relevant question is the purpose of the flood exclusion which, as discussed above, it is to prevent insurers from being exposed to correlated risks. A dam failure will likely lead to the inundation of a large area, possibly an entire town. This is the same type of correlated risk that the flood exclusion is meant to avoid. On the other hand, a burst pipe is likely to only affect a small number of houses around the pipe. This type of occurrence is not likely to lead to correlated losses, thus it should not be interpreted as being under the umbrella of the flood exclusion.

In today's world of large, national insurance companies, though, correlated risks actually threatening insurers' solvency are less likely. Most insurers cover insureds across a state, or the entire country. It is unlikely any one flood will affect a large percentage of a given insurer's insureds. Thus, in our ongoing example, the islands are quite large, and the risk of a flood leading to insolvency is small. If there is no threat to a large portion of the insurance pool, there is actually no correlated risk problem. The question becomes again whether higher premiums for coverage are better than lower premiums for no coverage. This is another example of a situation where more empirical information as to what a rational insured would do behind the veil of ignorance is necessary. That is the proper question behind any insurance dispute. Unfortunately, the needed empirical evidence to answer this question (such as the frequency and distribution of floods, their costs, etc.) is often missing, so courts will have to decide based on other framework. But as long as the question is focused in the right direction, more and more often the right answer is within reach.

F. SUMMARY

As has been shown, there are many additional impediments to the efficiency of the insurance market in addition to moral hazard and adverse selection. Transaction costs, externalities, correlated risks, non-competitive pricing, and irrational behavior all serve as partial barriers to the maximization of social welfare. While various strategies can be employed to battle each of these impediments, none of the strategies are completely effective and they often create additional problems that must be dealt with. Standard forms are an ideal example. While they are useful in lowering transaction costs, they certainly do not eliminate them. Furthermore, the forms may sometimes lower competition and even make it easier for

insurers to collude when fixing their pricing. Consumers' irrational behavior vis-à-vis standard forms is another reason for concern. When courts or legislatures examine a particular legal problem in insurance law, all of the impediments must be kept in mind and the effects on these inefficiencies of any new rule or reform must be considered. Over time, through judicial decision-making, doctrine should be refined so as to consider the function of the exclusion before a court. On the one hand, insurers should not be able to use their greater bargaining power—including greater resources and expertise—to unfairly take advantage of insureds. On the other hand, exclusions generally serve a useful purpose, and if courts do not consider that purpose when ruling whether to uphold or void an exclusion, they risk creating a less efficient insurance market and hurting the entire pool of insureds.

IV. CONCLUSION

The modern insurance market arose from a desire to manage and distribute risks. It is, by definition, a system where customers pay now to receive financial protection later, if they need it. Like many other consumers, purchasers of insurance need protection. Unlike other sales situations, however, there is an inherent need to protect the sellers—insurers—as well. Insurers should be seen as a nexus of insureds. The reason that both parties need protection arises primarily from informational impediments. These main impediments are: adverse selection, reverse adverse selection, moral hazard and reverse moral hazard. In addition, many other impediments to efficiency arise in the insurance context, including: administrative costs, negative externalities, correlated risks, non-competitive pricing and irrational behavioral. Other impediments, such as conflicts of interest, were not discussed in this paper. Most insurance policy clauses, and almost all of the appropriate ones, are designed to address one or more of these impediments.

Any lawyer or judge dealing with the insurance field should keep the impediments in mind. Judges in particular should consider the function an exclusion clause plays in the policy before they decide whether to honor it. In most circumstances insurers have unquestionably more bargaining power, putting them in a better position than insureds to protect themselves. For this reason insurers' actions should be closely policed. That being said, just because a certain exclusion seems to treat an insured harshly in a given case does not mean it should be voided. The question is not so much whether the plaintiff who suffered a loss should recover based on the language of policy, because deciding questions of coverage based

solely on the language of the policy is never simple. Rather, the question should be whether a rational plaintiff behind a veil of ignorance would have been willing to pay for the disputed coverage without knowing whether he would ever need it, given that such coverage might distort parties'—and the entire insurance pool's—incentives. This is exactly the pool of insureds' perspective, and this is the efficient insurance contract paradigm employed here.

The two islands functional approach facilitates a users' ability to determine which side of a dispute maximizes social utility. It relies on the ex-ante perspective to refocus a decision from the (often heart wrenching) effects on a specific insured to the overall impact on the pool of insureds and, if externalities exist, on society. This refocusing is made easier in the insurance context once the view of insurers is appropriately shifted from a faceless company to a pool of similar people who all pay money to the insurance company in exchange for its possible protection later. The two island approach allows the analyst to balance the advantages of extended coverage against the possible incentive distortions such extension carries while considering all of the possible effects of either side of a ruling. The result of this inquiry is often that more information is necessary. While this is not ideal, at least it focuses the decision-maker in the proper direction. In other words, the right question is always the first step towards the right answer. The two island approach offers a way to find the right question and not infrequently even answer it.