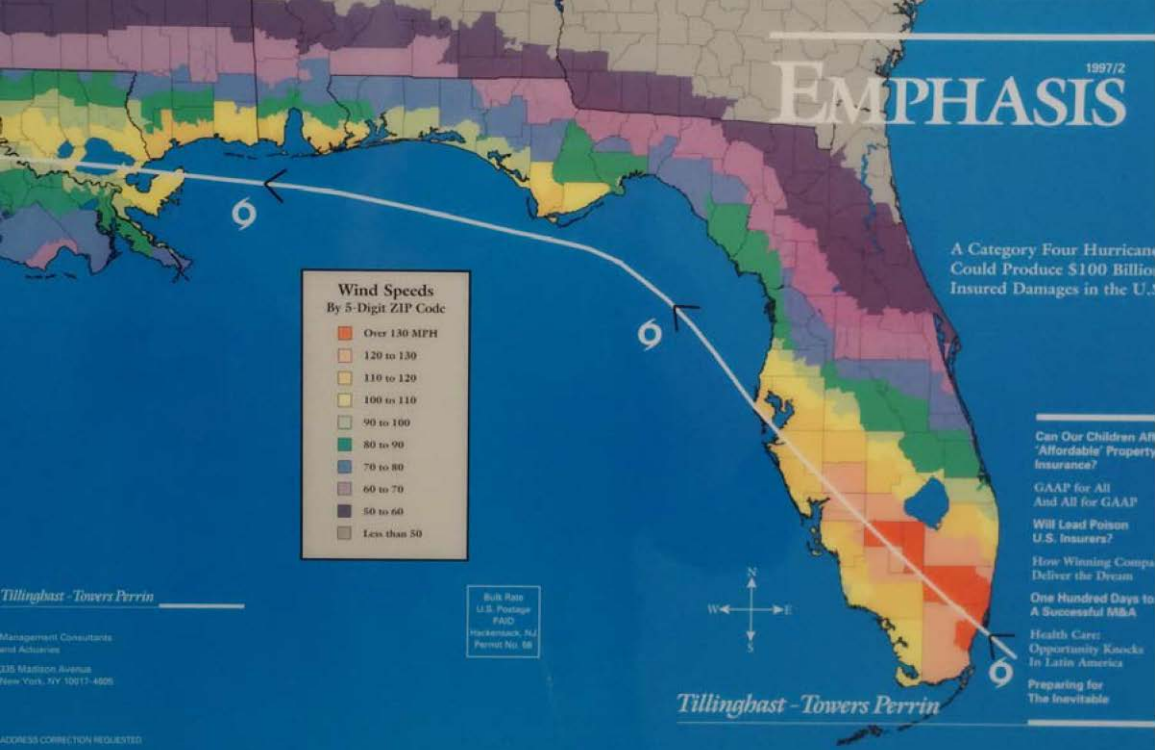

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Can Our Children Afford 'Affordable' Insurance?

Cheap insurance leads to construction in high-risk areas, larger losses from natural disasters and cost shifting to low-risk consumers and future taxpayers. Is this good public policy?

By Rade Thomas Musulin

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My first car was a 1971 Pontiac Bonneville. It had a 455-cubic-inch engine, one of the largest General Motors ever made, and got six miles on a gallon. An oil embargo and hours spent sitting in gas lines taught me a valuable lesson in economics. Being a rational consumer with no government guarantee of available and affordable gasoline, I traded in my gas guzzler for a subcompact model that yielded more than 30 miles per gallon.

Oil Crisis Versus Insurance Crisis. One can learn a number of lessons by comparing the oil crisis of the 1970s to the property insurance crisis of the 1990s. Cheap gasoline led to gas guzzlers. Gas shortages and price increases created incentives to shift to more fuel efficient cars. Cheap property insurance led to "insurance guzzlers" on beaches and earthquake faults. Government regulation of prices and promotion of subsidized pools, however, reduced incentives to limit building to more "insurance efficient" areas or types of structures.

A key difference between gasoline and property insurance involves the *use* of the raw material. One must have oil before the product (gasoline) can be made and sold. Insurance capital, on the other hand, is needed only after the product (policy) is sold and after a disaster causes losses to exceed current premium.

The government could not maintain pre-embargo gasoline prices without an immediate tax on someone to pay for the subsidy because a physical commodity must be obtained to make gasoline. In many cases, however, government tried to maintain pre-1992 property insurance prices by replacing private insurance capital with public debt capital (using bonds or assessments). As a result, subsidies would not be needed until after the next major disaster. This would protect high-risk consumers from economic reality and make it appear that government could deliver a service to the public at a lower cost than could the private sector.

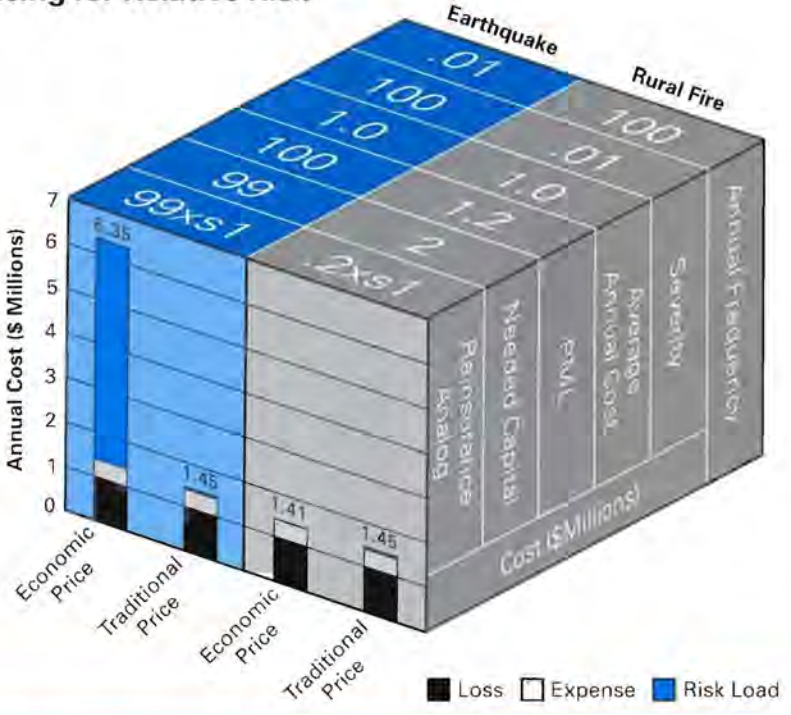
It is also far easier to replace a fleet of gas-guzzling automobiles than to retrofit millions of insurance-guzzling homes or move their occupants to safer ground. This makes the property insurance crisis more vexing.

Insurance priced at less than the full cost of expected losses plus an appropriate risk load fosters excessive development in high-risk areas, inadequate mitigation *and higher long-term costs to consumers*. Consumers will not begin to change their behavior as long as they are guaranteed "49 cent a gallon" premium insurance in high-risk areas.

Government is under pressure to control prices and mandate coverage in high-risk areas despite the possible adverse effect on public policy (both economics and the environment). Consumers bought coastal properties in periods when insurers willingly sold inexpensive coverage. Furthermore, powerful interests, including builders, realtors, bankers and local governments, profit from continued development.

An important role of insurance is to factor long-term expected loss and risk into economic decision-making by way of the insurance premium. In theory, the pricing system should help discourage overdevelopment or shoddy construction. Also, better anticipation of events like Hurricane Andrew would moderate the need for large post-event rate increases or non-renewals to reduce overconcentrations.

Exhibit 1
Pricing for Relative Risk



Contributing Factors. In practice, the system has not functioned well. The following factors contributed to the property insurance crisis.

■ **Erroneous Loss Estimates.** Limitations in both databases and technology, combined with years of few catastrophes and shifts in population demographics, led to gross errors in measurement of catastrophe exposures in the primary insurance market. These errors included inaccurate forecasts of long-term loss costs, serious underestimation of probable maximum loss (PML) and classification systems insensitive to catastrophe exposure.

■ **Misunderstanding of Risk Load.** For years, primary insurers, reinsurers and regulators all ignored true property catastrophe risk. Not only were long-term costs underestimated, but there was little provision for risk load to reflect the variance in loss costs. (Risk load is the compensating factor that makes various portfolios equally attractive.) Because capital must come from investors with the freedom to choose among opportunities, risk-adjusted insurance prices are needed to avoid shortages.

■ **Unrealistic Expectations of Stability.** Price volatility and periodic market constrictions are natural consequences of supply and demand on capital in catastrophe insurance. Capital will accumulate in low-catastrophe periods and drop after major disasters. Disruptions can be tempered by:

— improved pricing and risk assessment tools

— diversification of risk through capital or reinsurance markets.

Even in markets where risk is well diversified, financial instruments with external disruption have price volatility (e.g., commodity futures). Expecting insurance prices to remain stable after a catastrophic shock is not realistic.

■ **Unrealistic Standards of Affordability.** Property insurance is a relatively small portion of a family's budget, yet large percentage increases in premium are often branded as "unaffordable" by regulators, legislators, consumer groups and the media.

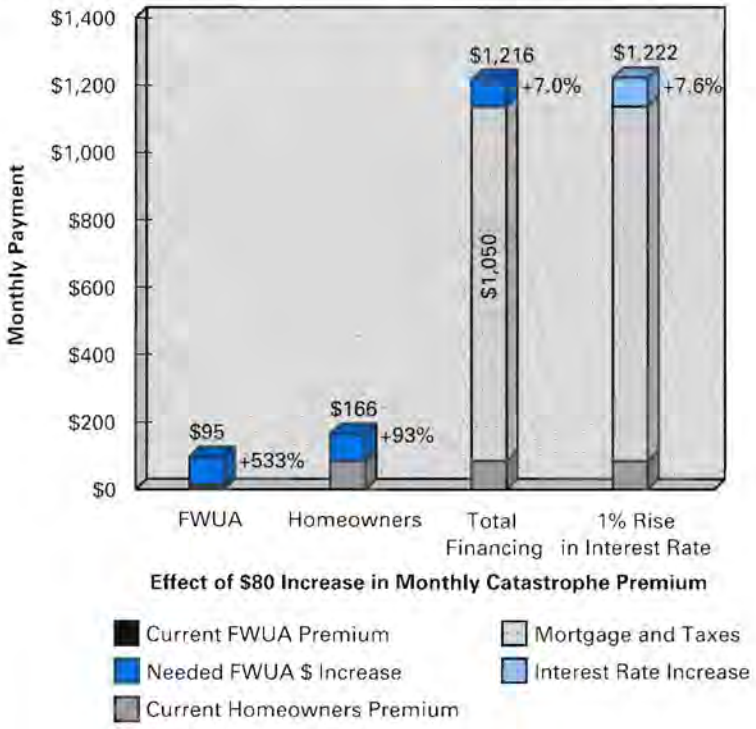
■ **Generous Coverage Levels.** Consumers and mortgage lenders have become accustomed to generous coverage options that can no longer be funded at premium levels acceptable to regulators.

■ **Regulatory and Free Market Clash.** Fundamentally, availability problems in high-risk areas reflect the conflicts of free market forces and the regulatory process. Better loss estimation and risk load analysis led to requests for sharply increased prices in high-risk areas. When government's response was nonrenewal restrictions and suppressed rate levels, availability crises ensued. It is obvious that insurers, regulators and legislators often have not fully appreciated each other's position.

Private market capacity depends on pricing responsiveness and the supply of capital. If government disrupts natural market forces and creates subsidies, the eventual losses will be greater because more people will take advantage of the underpriced insurance to build in high-risk areas. Government disaster assistance will grow because of gaps in insurance coverage. The public will also have to absorb costs of insolvencies in the private market and mushrooming residual market mechanisms.

Risk Load: the Real Pricing Problem. Insurers must maintain capital to guarantee claim payment in periods when losses exceed current premium income. The greater the variance of the loss for a portfolio of risks, the more capital an insurer must commit to ensure coverage. *Exhibit 1* illustrates the concept of pricing for

Exhibit 2
The Perception of Affordability Is Relative



relative risk. Compare two insurance portfolios with the same long-term expected loss, one for earthquake coverage, the other for rural fire. The earthquake portfolio exposes the insurer to a $100 million loss at a random time, while the largest annual loss the insurer of rural fire expects is $1.2 million. Absent reinsurance, the earthquake insurer must maintain more capital ($99 million) than the fire insurer ($200,000).

If an investor demands a 5% return on capital above a risk-free yield, the insurer would have to include a risk load of $4.95 million for earthquake and $10,000 for rural fire. The economic premium, including expected losses, expenses and risk load, would then be $6.35 million for earthquake and $1.41 million for rural fire. At this price, neither portfolio offers the investor/underwriter an advantage over the other.

Traditionally, primary insurers focused on expected loss and expense, virtually ignoring risk load or relying on permanently cheap catastrophe reinsurance. A small profit and contingency factor (often 5% of premium) was used. This method would yield the same price for portfolios with identical expected losses and expenses, even if their risk profile was substantially different. In *Exhibit 1*, this approach might yield a premium of $1.45 million for each portfolio. At this price, however, no prudent underwriter would accept the earthquake risk but would earn a profit above that needed on rural fire.

Recently, pricing methods have targeted total return on surplus — an improvement over the traditional method. Yet unless required surplus is determined correctly, these methods are likely to yield inaccurate answers. Using arbitrary measures of required surplus (e.g., premium to surplus ratio) usually fails to account for the risk inherent in the insured portfolio.

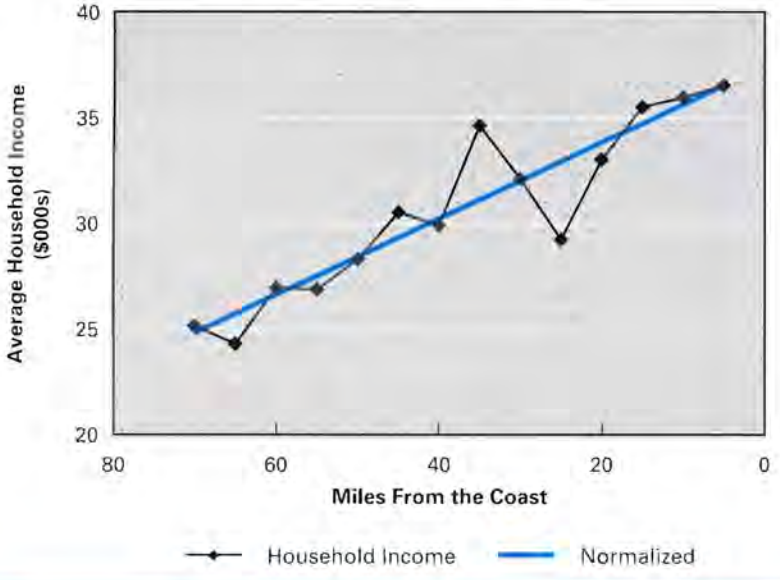
Risk load must address the concentration problem of areas prone to natural disasters. Consider two distributions of identical houses: 10,000 houses on one island versus one house on each of 10,000 islands. The expected annual hurricane loss might be identical, but in the former far more building material and workers would have to be stockpiled for use at that random time when the inhabited island was struck, leaving them idle for long periods. A true risk-adjusted insurance pricing system would provide disincentives to overconcentrate risks in coastal areas vulnerable to hurricanes.

Actuaries can develop prices that are theoretically adequate to cover both expected costs and a margin for risk. However, investors' demands for returns will depend on individual assessments of risk, how the insurance portfolio risk correlates with risks in their investment/insurance portfolios, and the relative supply of investment capital. Greater uncertainty may require more external capital in the form of equity investment or more reinsurance, which becomes part of the cost of capital. Thus, financial markets are playing an increasing role in determining the premiums needed to avoid insurance shortages.

Regulators (and even some actuaries) may be reluctant to accept a risk load that is not reducible to a formula or one that is unique to a particular insurer's portfolio, especially if the regulator views insurers like public utilities. Perhaps a commodity market model is more appropriate for lines subject to catastrophe.

'Solving' Availability Problems With Pools. For all the reasons mentioned, insurance availability shortages developed in many high-

Exhibit 3
Wealthier Floridians Live Closer to the Coast



risk areas in recent years. Government then stepped in with catastrophe pools to fill the vacuum. These pools were financed with capital from assessments (shifting cost to low-risk consumers) or from bonding (shifting cost, with interest, to future consumers). By relieving the need to attract market capital, government pools have a major pricing advantage that may crowd out the private market.

Growth of government pools also threatens to reduce the focus of insurance rating. Competitive private insurance develops more refined pricing to individual consumers through underwriting selection and actuarial-based classification plans. By removing underwriting selection and spreading the results widely, government pools tend to reduce individual incentives for loss control and increase reliance on regulatory methods (e.g., building code enforcement). It also offers the temptation to make the rates more "affordable" for some.

Affordability Should Be a Relative Issue. Affordability is often cited as a major problem in high-risk areas. *Exhibit 2* shows that the perception of affordability depends on how one measures it. In 1996, the Florida Windstorm Underwriting Association (FWUA) completed a rate study introducing computer-modeled loss costs. Based on rates for a sample beachfront risk, the indicated monthly premiums for FWUA insurance increased by more than 500% (or $80). However, the cost of coverage for fire, theft and other perils covered by homeowners insurance would remain unchanged, so the $80 increase would be a 93% increase in monthly total property insurance premium.

Furthermore, most consumers pay their property insurance through a mortgage escrow account, which includes taxes. These components are also unaffected by catastrophe insurance, so the $80 monthly increase would be only a 7% increase in total monthly finance payment.

If this consumer had an adjustable rate mortgage and experienced a 1% hike in interest rate, the monthly payment would rise by $86. Many would think that a fivefold increase in catastrophe insurance premium is unaffordable, but that same consumer may readily accept the risk of an even bigger change in the cost of living from a small increase in interest rate.

Consider also the unfairness of low-risk policyholders subsidizing high-risk ones. *Exhibit 3* shows that Florida income levels correlate inversely with distance from the coast, as one would suspect. Coastal properties are generally owned by wealthier individuals, whose insurance rates would be subsidized by those in the interior with lower incomes. Moreover, many of the FWUA policies are on secondary residences and vacation homes.

The Real Debate. The property insurance crisis is more than an argument over the use of computer modeling in catastrophe ratemaking or over insurance company profitability. It is really a debate over where people live, how they build their homes and who should pay for the inevitable losses — and when. Failure to impose economic reality on residents of high-risk areas removes a powerful incentive for loss mitigation and exposes unwitting residents of low-risk areas to huge liabilities in residual market assessments and tax dollars spent to fund disaster relief. The private insurance system should be allowed to price the risk up front, so that consumers factor the cost into their decisions before more homes are built that society cannot afford to rebuild.

The choice is also between paying bills today or paying them tomorrow. Although it is tempting to defer paying the indicated cost of insurance by creating pools and assessments, can our children afford to pay for our insurance guzzlers? □