

## Financial Disasters and the Creation of Risk Pools

**T**WENTY YEARS AGO, I WITNESSED one of the oldest methods in the world for dealing with personal financial disasters. I was in New Delhi, in a camera shop, totally enthralled as a Sikh gentleman expertly improvised parts to fix my old-fashioned camera. The door of the small shop was open, and while the camera expert was working, we heard the ancient wail of a beggar asking for alms. It was a young woman in ragged clothes, standing in the doorway and pleading for help in the singsong voice that has been heard for millennia. She might have been widowed or disabled by an accident, but the Sikh didn't ask. He simply reached into a basket of small coins he kept by the door and dropped a couple of them into her basket. She murmured thanks and moved on to the next shop.

We have beggars in Chicago, as everybody who has a daily walk from a commuter train station to the office knows. I have encountered beggars in Toronto, and in Amsterdam, and in many other places. There can't be many places in the world without them.

Almost every religion in the world must be represented in India, and they all encourage or even mandate giving money to beggars. People who think about how society should be structured seem to agree that it's bad to live in a society that lets people starve. Yet, the small coins

that beggars can accumulate in a day seem hardly enough for a decent meal. A beggar's life is a hard one.

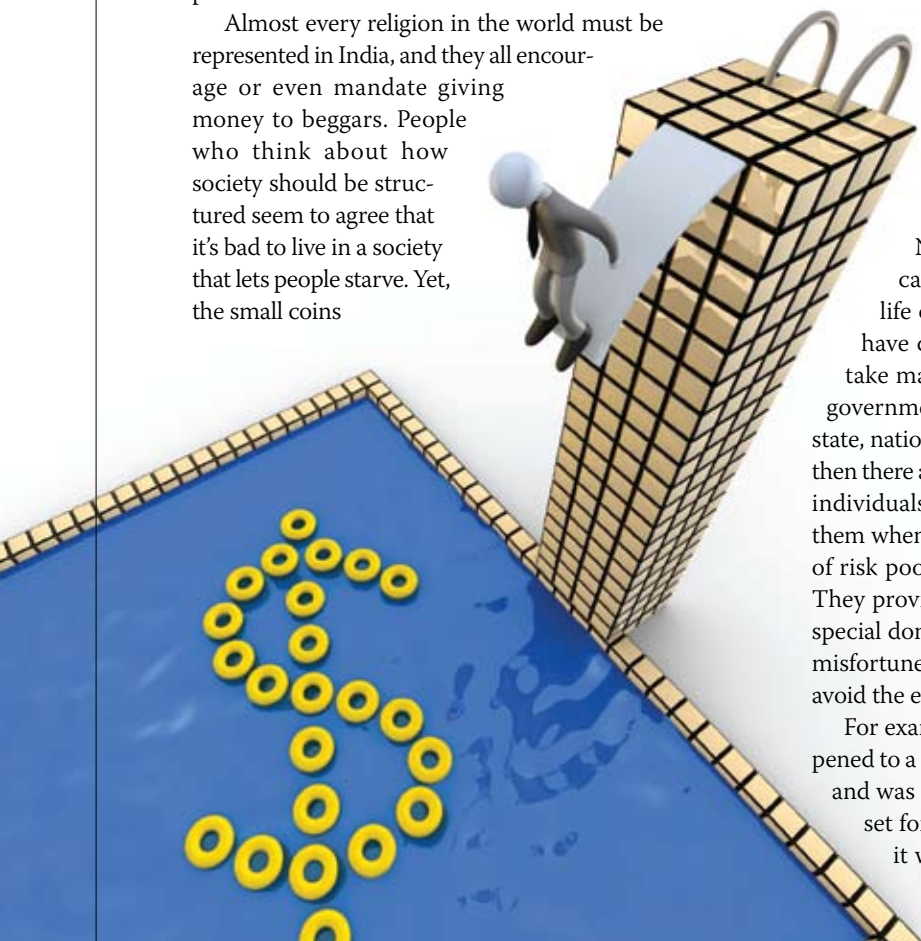
Clearly, if begging is the world's oldest financial security program, it's not a very good one. I would argue that it isn't a financial security program at all. It's at the bottom of the list of human economic conditions, beneath poverty. You are reduced to begging only when all other alternatives have failed—family networks, employment, government programs, and institutional charity.

### A Better Way

No one likes to imagine a world where a significant percentage of the population is reduced to a life of begging. That's why most modern societies have developed various ways to minimize it. These take many forms, including welfare programs run by governments and charitable organizations on the local, state, national, and, in some cases, international level. And then there are those arrangements that are designed to keep individuals with income or assets (or both) from losing them when bad things happen. These involve the creation of risk pools and are frequently referred to as insurance. They provide a way for people to plan ahead and are the special domain of the actuary. People who experience the misfortune that the pool is designed to cover can at least avoid the extra trauma of dealing with destroyed finances.

For example, what if my house burns down? This happened to a friend of mine whose house was hit by lightning and was a total loss. My house is a major retirement asset for my wife and me (as it was for my friend), and it would be a financial disaster for us if it burned down. Therefore, I participate in the risk pool called fire insurance. Each year, all of us in the pool contribute a relatively minor amount, and the small number of participants whose houses actually do burn down are taken care of financially.

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Or, what if I had been diagnosed with cancer before my retirement and couldn't work for six months? How would I have supported my family if I hadn't been able to work? This happened to my next-door neighbor, who has a wife and three small children. Fortunately, many employees are covered by a risk pool called disability insurance. There's usually one risk pool for short-term disability and a different risk pool for long-term disability. Employers, who offer these as employee benefits, contribute relatively small amounts for each of their employees. Those who suffer sickness or accident and can't work continue to receive a significant portion of their salary, paid for by the risk pool. If the short-term risk pool is the only one used, the individual's job may be protected.

Governments also organize risk pools. The government of Canada uses a risk pool to pay for the health insurance costs of its citizens, funded by income from a dedicated value-added tax. The U.S.

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government has a complex Social Security program that uses dedicated taxes to provide benefits (under specified circumstances) to dependent survivors of someone who dies prematurely, to those who experience disability of long duration, and to retirees who face the risk of outliving their assets. Dedicated taxes in the U.S. are also assessed to help fund the separate risk pool, Medicare.

The list of events that can lead to fi-

nancial disasters is a long one. An auto accident can be a financial disaster. So can an accident on the job. Natural disasters can cause major financial disruption and disaster. As many of us live longer, we enter an age group whose chance of needing long-term nursing home care grows substantially. The list goes on and on.

**Pro Bono Publico**

By virtue of the skills and resources it brings to the arena, every profession has its special area of public interest. For the actuarial profession, it lies in the design and management of risk pools, and we have multiple tasks to perform in meeting this responsibility.

As actuaries, we determine how much each participant has to contribute. The amount may vary with individual circumstances (smokers pay more to belong to a risk pool for premature death, for example), it may rise from year to year to take account of upward health insurance

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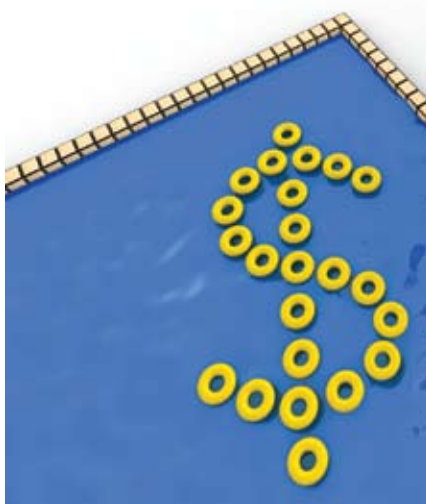
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cost trends, it may even bounce around as interest rates fluctuate.

We frequently are part of a team that manages a risk pool, monitoring its financial performance from year to year, or even month to month, to make sure that there continues to be enough money to pay promised benefits. We often get involved in compiling data or in promulgating combined data from many similar risk pools to help everyone set adequate contribution levels and monitor solvency more accurately. We take on the job of trying to estimate the amount of surplus assets necessary in case there's a major disaster (such as a hurricane, earthquake, or out-of-control epidemic) or more claims than average in a particular year. The risk pool mustn't run out of money! All these functions are absolutely vital to its ongoing success.

There are functions in the life of a risk pool that actuaries cannot perform or control. We can't keep a private company from terminating a pension plan that its employees are counting on. We can tell a governmental entity how much money it should contribute to the pension plan for its employees, but we can't force it to contribute the money. We can't force society to provide health coverage for the uninsured if the political will is lacking. We can't force individuals to join a particular risk pool if they think they can't afford it.

Still, most risk pools work well and contribute stability to our society. Isn't this something for us to be proud of? We actuaries don't think about this very much, actually. Perhaps most of us find satisfaction in our work because of its complexity. It takes skill to manage a risk pool in the messy real world where there are unpredictable disasters, competent and incompetent managers, people trying to collect benefits beyond what the risk pool was intended to provide, and positive and negative statistical fluctuations. We find considerable satisfaction in trying to meet these challenges. Even when things are on an even keel (and that doesn't always last), there's satisfaction in knowing that we had a part in making a complex system work smoothly and that promised benefits are being paid.



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My first actuarial job was with a life insurance company. After a few years, the time came when the bigwigs felt I could be trusted to attend a sales convention. I had a dim view of agents then, possibly because part of my job was to analyze, in the wake of a customer complaint, the occasional bad sales illustration of one of our less competent agents.

In one convention session, a life insurance agent spoke of how casually he first entered the field of persuading people to buy life insurance. He did it because he was good at it and could make a good living that way. He didn't think much about the significance of what he was doing. Then one of his clients died prematurely, leaving a non-working widow with several small kids to raise. He went out to the client's house to present the check, probably \$250,000 in today's dollars, which wasn't much but was going to be enough to buy some time for the widow. She didn't have to cope with an immediate financial disaster, and she had several years' cushion as she created the next chapter of her and her kids' lives. From that point on, the agent said, he sold life insurance with conviction and pride.

I left the session with a new understanding of the insurance business and its value to society. I also acquired a new appreciation for the work of a good life insurance agent, not to mention my behind-the-scenes contribution to the risk pool.

I feel twinges of pride when a friend's financial situation is saved because of insurance. My friend whose house burned down was able to retire as planned because his fire insurance risk pool rebuilt his house. My next-door neighbor had a good part of his salary provided by short-term disability insurance as he battled cancer. He didn't have to sell his house, his job was held for him, and family life continued without the distractions of extreme financial pressure. He was able to start working from home after six months, and the high cost of the successful cancer treatments was covered by his health insurance. Behind each one of those risk pools, there were actuaries whose work days were spent actively worrying about whether present contribution levels were adequate, whether there would be enough money in the long-term future to pay benefits, and how to keep the program solvent and functioning.

Risk pools contribute to the stability of modern society by providing ways for individuals to deal with many types of financial disaster. The numbers and statistical distributions that actuaries work with represent real people. Participants in the public and private risk pools that we help to design and manage are often unaware of our presence behind the scenes. (In fact, their eyes glaze over when we try to tell them what we do.) But whether they know it or not, they depend on us. Once in a while, we should find a quiet corner and reflect on how important our programs are to society and to its many constituents. We should feel proud of what we do. ●

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