Ed Shadman
ACAS, MAAA
shadman@cascoconsulting.com

Ask the Actuary: Capacity

Q: What is capacity and what is its role in insurance?

Capacity is the basic underlying financial driver of insurance markets. It is the level of protection an entity's financial strength provides against the risk of a large loss.

Insured's Point of View

A typical homeowner does not have the financial capacity to deal with the loss of his home to a fire. Meanwhile, a real estate holding company (REHC) has the capacity to withstand a small fire loss but not a large one. Therefore, a market for fire insurance is created due to the homeowner's inability to withstand the loss of a home valued at $200,000, or the inability of the REHC to withstand the loss of an apartment building valued at $5M.

Insurer's Point of View

Capacity also determines how much insurance an insurer is able to offer. For example, the Thinly Capitalized Insurance Company (TCIC), with $5M of surplus, cannot expose itself to a potential claim that may wipe out its surplus. It can offer a policy to the homeowner but not to the REHC. An old industry standard suggests limiting the potential loss caused by a single event to no more than 10% of the insurer's surplus. REHC looking for coverage for a building valued at $5M will need an insurer with at least $50M in surplus.

Just as significantly, capacity level and insurance prices are connected. In order to protect policy holders, regulations limit investment strategies for insurance companies. Therefore, the insurance operations need to be profitable to prevent capital from fleeing in search of a higher rate of return in a less regulated investment environment.

Let us assume TCIC offers our homeowner a policy for a premium of $400 which includes a $20 profit/risk margin. This transaction eliminates the homeowner's risk of loss but TCIC will be required to set aside an amount (for example $100) of surplus to make sure there are enough funds to pay outstanding claims if losses prove to be much worse than expected. At $100 of surplus set aside per policy, TCIC will be limited to writing no more than 50,000 policies before its $5M surplus is exhausted.

At $20 of profit per policy for 50,000 policies, TCIC expects to earn $1M of income from insurance operations, or a 20% return on it $5M surplus capacity. However, insurance pricing is affected by competition, so TCIC will have difficulty selling 50,000 policies at that price since competitors with excess capacity of their own seeking less than 20% return will undercut its pricing.

Ask the Actuary: **Capacity** (continued)

Self-Insurer's Point of View

Self-insurers, including captives, RRGs, pools, and other risk retention programs look at capacity from both an insured's and an insurer's point of view. A self-insurer isn't looking to justify its self-insurance program through profits but rather through the avoidance of paying for commercial insurer's profits and expenses as well as avoiding the instability of commercial insurer rates through hard and soft markets. In other words, a self-insurer wants to shield its organization against the impact of insurance industry capacity swings. Hard markets are caused by reductions in overall industry capacity, resulting in higher profit/risk margins especially for riskier lines of business. This exposes insureds to large increases in pricing not necessarily driven by loss experience. At the same time, a self-insurer must view capacity in terms of the risk of loss the organization is willing and able to withstand.