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Captive Insurance News

Basics of Loss Development Triangles

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Congratulations; you have just been asked to serve as a new board member for a captive insurance company or a risk retention group (RRG). While you may well be an expert in your chosen profession, serving as a board member for an insurance company, even a captive insurer or RRG, requires you to exercise your fiduciary responsibility to ensure the captive is financially sound. This article, which is the second in a series, is intended to provide a basic grounding in the important topics of loss development triangles and "Schedule P" reserve. (See the first article in the series: "Key Concepts for New Captive Board Members (http://www.captive.com/news/2017/02/13/key-concepts-for-new-captive-board-members).")

Obviously, the financial fundamentals discussed below are only a starting point and, like all good directors, you should seek to continue your education in insurance as you grow into your role. The article also assumes the captive or RRG is in existence and is not just being organized. Future articles in this series will focus on key elements of a feasibility study on which directors should focus.

In our first article (http://www.captive.com/news/2017/02/13/key-concepts-for-new-captive-board-members), we covered how to understand the statement of actuarial opinion. Loss development triangles play a central role in how your actuary goes about preparing and issuing his or her opinion. If you are like most new members of captive insurer boards, the key concept of loss development triangles is new to you. Rest assured that even insurance industry professionals find this topic to be challenging; however, to really understand how your captive is performing, it is imperative that you develop a basic appreciation for this analysis.

As a board member, you will want to know whether your captive files either a full or modified version of the National Association of Insurance Commissioners (NAIC) annual statement. If it does, one section of the NAIC statement is called Schedule P and is really a set of loss development triangles. Therefore, we use these terms interchangeably in this article.

Loss development triangles are a methodology developed by the actuarial profession to track how claims, both known and unknown, change over time. Let's start with the premise that insurance is one of the few, if not the only, industries where the cost of the product (in this case losses from claims) being offered is not known before the price is set. A typical insurance policy offers coverage for losses suffered during a period of time, which is usually annually but policy periods do differ. With certain lines of insurance, an injury or damage may occur during the policy period but not be known for a substantial period of time thereafter. Depending on the type of insurance coverage being provided under the policy, the timing of when a known event is reported as a claim to the captive insurer also will vary. The industry uses terminology such as "short-tail" and "long-tail" to describe how long it may take for a claim to be reported and eventually settled.

Property claims fall into the "short-tail" category. If the building housing your business burns down, you don't wait to notify the insurance company. Liability claims and workers compensation claims are longer-duration (i.e., "long tail") claims because it may take a period of time before the claim is known or is reported to the captive insurance company. Losses that have occurred but that the insurer may not have any information on are known as "incurred but not reported," often abbreviated as "IBNR," losses.

The next thing to understand is no matter whether a loss is a short-tail (property) or long-tail (liability or workers compensation) loss, the estimate of the actual dollars necessary to pay, or settle, the claim will likely change over time. By way of example, think about an accident involving your car where no one is injured, but there is substantial damage to your vehicle. You will immediately report the claim to your insurance company, and it will have a loss adjuster do an analysis of the damage. This will be the amount the insurer uses to set up the opening reserve (what it thinks the claim will cost) on its books. But, once the body shop gets your car, it finds the damage to the frame or subcomponents is more extensive than initially thought. The cost to settle your claim has now increased, or for purposes of this article your "loss has developed" (i.e., changed over time).

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While we used a fairly simplistic example in the article, the estimates for losses associated with liability and workers compensation claims take longer to develop as new information becomes available. A loss development triangle is a way of arranging and capturing these changes over time. The evaluation period is normally annually and is based on either the policy year or accident year. An example of a loss development triangle is shown below.

ACCIDENT	DEVELOPMENT (in months)								
YEAR	12	24	36	48	60	72	84	96	108
2008	$404	$986	$1,342	$1,582	$1,736	$1,833	$1,907	$1,967	$2,006
2009	$387	$964	$1,336	$1,580	$1,957	$1,813	$1,903	$1,949	
2010	$421	$1,037	$1,401	$1,604	$1,729	$1,821	$1,878		
2011	$336	$753	$1,029	$1,195	$1,326	$1,395			
2012	$257	$569	$754	$802	$958				
2013	$193	$423	$589	$661					
2014	$142	$361	$463						
2015	$160	$312							
2016	$122								

By arranging the data in this way, it is easy to see the change in estimated losses or development over time. Losses change for two primary reasons. First, as we noted above, sometimes losses that belong to a certain accident year are not known or reported until a later date (i.e., IBNR). Second, case reserves, those amounts set up by the claims examiners on behalf of the captive insurer, must be adjusted as additional information on the claim becomes known. It is also possible claims thought to have been settled or closed may need to be reopened due to unanticipated changes.

If you have access to Schedule P, you will note loss development triangles are used for several types of data. Actuaries produce triangles for paid losses, incurred losses, and IBNR losses. All of these triangles allow the actuary and the captive's board members to get a picture of trends in claims. For example, using the loss development triangle above, you'll note the losses reported annually have declined over time from $404 in accident year 2008 to $122 in accident year 2016 at 12 months. The board member is going to want to know whether this decline is due to better risk control measures, more stringent underwriting, a change in claims management approaches, or a decline in the number of policies issued or some combination of the former.

Board members will find the ability to understand the concepts in loss development triangles gives them a much bigger and better picture of the overall financial health of their captive insurer. It allows the board to ask strategic questions of management about pricing, claims handling, and loss reserving, which are key concepts you should know and understand.

Read "Insurance Pricing—A Key Concept for Captive Board Members (http://www.captive.com/news/2017/03/08/insurance-pricing-key-concept-for-captive-board-members)," the third article in this "Key Concepts for Captive Board Members" series.