

October  
2011



# Captive Insurance Company Reports

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## Seven Deadly Investment Sins

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Too many captives are flirting with investment sins—and we are not talking about exotic investments. We are talking about those tried-and-true fixed income investments that populate most captive investment programs.

What am I talking about? These investment sins are ignoring or not recognizing seven risks that can seriously affect investment returns. In no particular order, these include the risks from credit, default, downgrade, interest rate changes, inflation, prepayment, and reinvestment risks.

Before delving into this discussion further, let me back up a bit. When it comes to captive oversight, captive owners and their managers are well versed in managing the liability side of a captive's balance sheet. That is where the claims are paid, where the underwriting results are tabulated. Risk management techniques such as loss control and claims management are designed to keep costs under control, while buying reinsurance is focused on capping a captive's liability. Fronting insurance is a necessity for most captives, so emphasis is on using insurers that are solvent and charge a reasonable fee for use of their paper.

However, when it comes to the asset side of the balance sheet, the investment strategy gets conservative and often does not appear well thought out. Often, captives are either too conservative (such as being heavily invested in T-bills or money markets) or too aggressive. Aggressiveness is particularly no-

ticeable offshore, where they may have large equity allocations or allocations to hedge funds and other alternatives that are not prudent for portfolios of their size, and oversight becomes lax.

Frankly, few captive practitioners are trained to and know how to invest assets for an insurance company! Frequently, the only investment goal is to assure there is money readily on hand to pay claims and assuage regulators that the investment portfolio meets their li-

quidity needs. This often leads to a conservative investment strategy, usually composed of safe, liquid investments—typically fixed income in nature. These are “safe” investments, meant to allow a captive owner to sleep well while the captive manager feels comfortable that he won’t get into any trouble.

*CICR comment:* At a recent Bermuda captive conference, one of the speakers, a captive manager, lamented that too many captives have too much money sitting idly in these conservative investments, some for decades, with no appreciable need for such excess liquidity!

Unknowledgeable investors think that by mitigating “credit risk” (e.g., T-bills) and “liquidity risk,” by staying short or liquid, that they are investing conservatively. Not necessarily. Unfortunately, other risks may be exacerbated by this strategy (sector, interest rate, etc.). Perhaps most importantly, surplus growth and capital accumulation—which are often longer-term goals for captives—are severely restricted by a negative “real” return from such conservative investing.

*CICR comment:* Investment yields of 1 percent do not even cover inflation; hence, a negative “real” return.

This failure to grow surplus at a competitive rate may jeopardize a captive’s long-term financial position and actually increase a captive’s overall enterprise risk. How is that possible? Because if one incorporates either sophisticated dynamic financial analysis or even the more simplistic asset-only frontier analysis to the interplay between liabilities and the assets designed to support them, *a conservative investment which does not account for seven investment risks increases the probability of reaching terminal surplus*—in other words, of going bankrupt.

By design, conservative investments generate less return on investments. In exchange, they are considered safe and less volatile. In the worst case, they do not build sufficient capital



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Published monthly by IRMI:  
 International Risk Management  
 Institute, Inc.  
 Jack P. Gibson, Publisher  
 Bonnie Rogers, IRMI Editor  
 12222 Merit Drive, Suite 1450  
 Dallas, TX 75251 • (972) 960-7693  
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to buffer through unpredictable but often inevitable adverse claims experience.

*CICR comment:* As many captive owners price their insurance premiums at “expected” losses, by definition they have not priced for a significant “outlier” claim event. As actuaries understand, pricing just at “expected” leads to bankruptcy in the long run (unless they have a well-structured reinsurance program above the captive designed to protect volatility to a captive’s balance sheet).

In just the normal case, these conservative investment insurers will be at a competitive disadvantage in the commercial market as overall financial performance will be diminished. Especially for group captives that are competing against commercial insurers raiding their client base, this is a missed opportunity.

### **The Seven Deadly Sins**

In essence, even fixed investments have risk. Too often, these are not considered enough when designing an investment portfolio.

As a primer on bonds, a major fixed asset class used by insurers, it is valuable for readers to understand that the price of a bond is inversely related to the interest (aka coupon) it pays. In other words, as interest rates rise, the value of a bond falls. Conversely, if interest rates fall, bond values rise. Anything that affects the value of the bond’s coupon paid will cause a bond’s value to change as well.

Here is how it works. Newly issued bonds are typically issued at a face amount of \$1,000 with a coupon rate (the basis for semiannual interest payments) reflecting current interest rates. Existing bonds (those previously issued) are locked into the coupon rate corresponding to the date they were issued. Therefore, as interest rates fluctuate over the life of the bond, the only variable that can change on existing bonds that can adjust the bond’s yield is the market value.

That is, an investor would no longer be willing to pay \$1,000 for an existing bond with a coupon of 2 percent if he/she were able to buy a new bond for \$1,000 that paid the current coupon rate of 3 percent. However, the investor *would* be willing to pay an amount less than \$1,000 for the existing bond, provided that the yield of the two bonds were equal (ignoring all other factors). So, the existing bond would be offered at a “discount” reflective of the increase in current interest rates. This is how rising interest rates lower the market value of existing individual bonds or bond portfolios; conversely, how falling interest rates increase the market value of existing bonds or bond portfolios.

For the risks we describe below, these risks can drive bonds yields, a measurement of return given the bond’s coupon rate and market value, higher, thereby causing the bond’s value to drop. Many of these risks have risen noticeably recently. Those risks include:

- ✓ **Credit**—Generally, credit risk relates to the financial condition of the bond issuer. This affects the market value of the bond. The stronger the credit rating, the lower the yield. Conversely, if the credit rating weakens, yields rise, and in classic bond pricing, the bond value decreases as interest rates rise.
- ✓ **Default risk**—The price investors are willing to pay for a bond is primarily determined by the likelihood of the bond issuer can repay the principal and meet the interest payments on the instrument. In essence, it depends on the issuer’s financial strength. Rating agencies, such as Standard and Poor’s and Moody’s, provide a useful assessment of this risk.
- ✓ **Downgrade risk**—Even if an issuer has the ability to make interest payments on bonds, its financial condition can deteriorate prior to a bond’s maturity date. A rating downgrade by a rating agency or individual analyst would indicate increased risk of the principal not being paid at the bond’s maturity date, and this means greater default risk. Downgrade risk

therefore serves to reduce the market value of the outstanding debt (bonds) of currently solvent issuers.

- ✓ **Interest rate risk**—Generally, as interest rates change, the price or market value of bonds of various maturities moves inversely: as one goes up, the other goes down.
- ✓ **Inflation risk**—Inflation reduces purchasing power. Therefore, expectations of rising inflation rates reduce the value of future cash flows, payments of interest, and principal at maturity. Real rates of return are calculated by taking the nominal (actual) rate of return and subtracting the inflation rate. Investors will always require that a bond's yield exceed the inflation rate plus a "risk" premium.
- ✓ **Prepayment risk**—Many fixed income instruments, such as mortgage backed securities, municipal bonds, etc., have a prepayment or call option allowing the bond to mature prior to the stated or expected maturity date. This risk forces the investor holding the bond to reinvest the proceeds of the bond into an entirely new instrument. Unfortunately, this could have less favorable financial returns that might have existed at the original maturity date.
- ✓ **Reinvestment risk**—This risk represents the possibility that a current investment yield will be replaced at some future date by a lower yielding instrument. (Issuers of higher yielding bonds retire these bonds in favor of lower yielding bonds all the time, conditions permitting.) Bonds with longer maturities have the largest reinvestment risk because market conditions and yield levels are more uncertain over longer time horizons. This risk also affects any future income, dividends, or interest when reinvestment of the income will produce lower returns than under current conditions.
- ✓ **Liquidity risk**—The ability to liquidate a bond or bond portfolio directly affects its market value and return. Bonds or bond portfolios that are less liquid have higher risk exposure to changing market conditions. Maturities, market availability, and trading volume are among the many factors affecting liquidity risk for individual

bonds. For example, Treasury bills have short maturities, high trading volumes, and are generally available in the marketplace. Treasury bills have low levels of liquidity risk as compared to real estate or long-term bonds. Bond portfolio characteristics—such as average or effective maturity as well as bond mandate types, such as short, intermediate, or long—indicate successive levels of increasing portfolio liquidity risk.

I call these the seven (well, technically eight when we include liquidity) deadly sins of fixed income investments. Too often, these risks are ignored (and are almost always inappropriately balanced in an insurer's portfolio). In the past, these risks were considered too insignificant to dominate an investment strategy for many captive insurance companies. (*Note:* Large insurers have been aware of these risks.) However, these ignored risks are now being noticed, beginning with the economic recession and investment problems that started in 2008. Recently, investment worries have begun again. These include the impending risk of inflation, the emerging worldwide debt crisis, growing federal and state budget deficits, a staggering economy, and trade deficits within the United States.

These risks all affect fixed income investments. By not considering them, these threats are an investment mistake that should be avoided.

### **Designing an Investment Strategy**

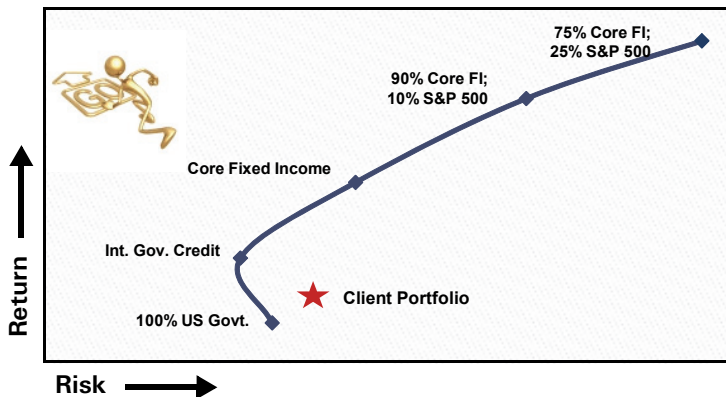
Once captive team members have recognized and incorporated these investment risks, they need to adjust their investment strategy to account for these risks. Leading insurance asset management consultants or investment managers can optimize a captive's current portfolio using sophisticated software. The optimization software accounts for the captive's risk tolerance, as stated in its investment guidelines. The key variables are the captive's projected liquidity and cash flow needs as well as regulatory, tax, and accounting considerations. The

result is to find allocations that combine bonds (and equities, if appropriate) of different sectors, credit qualities, maturities, etc., to position the portfolio on the “efficient frontier.”

Strategic asset allocations are best determined using an analytic system that incorporates enterprise-wide risk. Dynamic financial analysis (DFA) is the most sophisticated of these as it uses a Monte Carlo simulation to incorporate the interaction between, and variability of, an insurer’s assets and liabilities under thousands of economic scenarios, using different asset allocations.

More often, simpler applications of a similar methodology are most appropriate for captives and better match the sophistication level of their requirements. These approaches will also build a computer model of the captive, allowing management to observe how the company behaves, incorporating assets and liabilities with different asset allocations under different market conditions.

### Efficient Frontier Analysis



CapVisor Associates, LLC

Efficient frontier represents an infinite number of portfolio combinations whereby the portfolio yields the highest return for any given level of risk as dictated by the market. In our graphic illustration, the client’s portfolio can be optimized by selecting a portfolio with an allocation lying on the efficient frontier line either directly above or to the left of their current position. A portfolio directly above would provide higher returns at the current level of risk. Similarly, a portfolio lying on the efficient frontier directly to the left of the current portfolio would provide the optimal portfolio at the current return level with less risk. Of course, a captive insurer could choose any portfolio combination lying between those two points to improve, or optimize, its investment program.

Portfolio optimizations provide improvement by “tactically” modifying bond allocations to obtain the best risk/reward tradeoff for any given company. Strategic allocations, such as using an investment time horizon of 3 to 5 years, deal with optimizing the percentages of cash, bonds, stock, and other alternatives.

Drilling down further on optimizing strategies requires much more explanation than we have in this article. Suffice for now that the captive owner recognize a model exists which can help improve a captive’s asset allocation, especially given the seven deadly risks that come with fixed assets. The goal is to improve on the understanding of the risks and techniques a captive investment manager may employ, which will improve a captive’s investment returns without increasing risk. ■

