

# INSURANCE DERIVATIVES: A TAX ANGLE\*

Viva Hammer<sup>†</sup>

## I – Introduction

### A. The Insurance Problem

The capital markets and the insurance/re-insurance industry have become increasingly interrelated in recent years. A large amount of this activity is concentrated in the area of catastrophic risk, since a single major catastrophe can result in claims that wipe out an insurer's entire reserves. This convergence was prompted in large part by Hurricane Andrew and similar natural disasters that tested the capacity of the insurance industry and confirmed suspicions that the industry as a whole was inadequately capitalized. To illustrate the potential shortfall, in 1997, estimates of the available capital of the combined U.S. insurance and reinsurance industries amount to roughly 300 billion dollars while the United States has total property measured in the trillions.<sup>1</sup> As a result of significant casualty losses in the early 1990's the cost of reinsurance has increased while some reinsurers have curtailed their business. This increase in cost and decrease in supply has led insurers to seek alternatives to traditional reinsurance to hedge their risks.

### B. The Capital Markets Solution

The capital markets have the ability to offer large amounts of capacity for catastrophe risks that the traditional reinsurance market is unable to supply. The sheer size of the capital market, combined with the fact that most capital markets portfolios have almost no catastrophe exposure, makes the capital markets a logical source for insurers looking for reinsurance coverage.<sup>2</sup> Recognizing the opportunity to provide specialized products to insurers as well as to assist investors in diversifying their own risk portfolios, the capital markets have begun to offer an array of non-traditional insurance related products that fill the gap left by traditional re-insurers. Catastrophic risk is thereby redistributed from insurance companies and spread to investors, including pension and mutual funds that are better able to absorb a catastrophic insurance loss.

### C. New Products – Old Law

In this article, we will look at some of the insurance products that have crossed into the capital markets since the early 1990's and describe some of the tax issues raised by these products. As is often the case, the marketplace is developing more rapidly than the available tax guidance.

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<sup>†</sup> Viva welcomes comments at vhammer@brandeis.edu

Therefore, the tax implications of the insurance derivative instruments discussed below will necessarily rely on general tax principals and the tax treatment of similar instruments.

## **II – Exchange Traded Insurance Derivatives**

### **A. CBOT/PCS Options**

#### **1. Background**

The Chicago Board of Trade (“CBOT”) introduced catastrophic futures and options trading in 1992.<sup>3</sup> The instruments were based on Insurance Services Office (“ISO”) data. At the outset, no real market interest was generated and the options were thinly traded. In 1995, the CBOT ended the trading of all catastrophic futures and the options were restructured to be based on indices of insured property and casualty losses maintained by Property Claims Services (“PCS”) which reflected a higher percentage of insurer’s actual claims. The PCS options were also thinly traded and trading became nonexistent by 2000. Thus, in 2000, the CBOT ceased trading of all PCS options.

#### **2. CBOT/PCS Structure**

Trading in PCS options was concentrated in options on nine catastrophic-loss indices based on geographic regions (a national index, five regional indices and three state indices). Options were available as either “small cap” or “large cap” contracts. Small cap contracts covered aggregate industry losses of 0-20 billion dollars and large cap contracts covered aggregate industry losses of 20-50 billion dollars.

#### **3. Valuation**

Each of the indices began at zero and increases by one point for every \$100 million of insured losses that occurred during the relevant time period. Each index point had a cash value of \$200 representing \$100 million in insured damage.

#### **4. Trading**

Trading in these types of options generally took place in the form of spreads with a call spread being the most common type of synthetic reinsurance protection. Buyers of a call spread created a layer of protection between two “strike” or exercise prices whose value is determined at the option’s expiration based on the aggregate catastrophe losses applicable to the parameters of the options contract.

##### **a. Call Spread**

A call spread involved the buying and selling of calls of the same expiration month but different strike values. Call spreads were used to buy a layer of protections between two strike values. The operation of a call spread purchase and its resemblance to traditional reinsurance is illustrated by the following example in which an insurer seeking reinsurance on \$50 million of losses in excess of \$100 million accomplishes the same result utilizing a call spread purchase.<sup>4</sup>

Ex: The insurer purchases calls on the desired index with a strike price of 125, and simultaneously sells calls on the same index with a strike price of 187.5. The result is a 125/187.5 vertical call spread with 4,000 contracts needed for \$50,000,000 coverage.  $[(187.5-125) \times \$200 \times 4,000 = \$50,000,000]$

#### b. Call Purchase

An insurer seeking to hedge against losses exceeding a certain amount could have also simply purchased PCS calls on the appropriate index.

Ex: The insurer could purchase 1000 contracts with a \$100 Strike Price at a per contract premium of 2 points. The cost to the insurer would be  $1000 \times 2 \times \$200 = \$400,000$ .

At maturity:

i) If the index is below 100, the option expires and no payments are due to the insurer and the insurer has “lost” \$400,000.

ii) If the index is above 100, the insurer receives a payment based on the index value. Thus, if the index is 120 at maturity, the insurer receives a payment of \$4,000,000  $[(120-100) \times \$200 \times 1000 \text{ contracts}]$  at a cost of \$400,000.

### 5. Settlement

After the risk period there was a “risk development period” in which options continued to sell. PCS options were European options and could have only been exercised on the expiration day at the end of the development period. However, they did not need to be held until expiration; they could have been offset, assigned or sold at any time after the initial purchase or sale. The risk development period allowed for the timely and accurate development of estimates of actual damage incurred.

### 6. Advantages of Exchange Traded Derivatives

Advantages of exchange traded derivatives over traditional insurance/re-insurance include the following:

a. Increased Market Efficiency

Public pricing and market transparency of exchange traded derivatives results in increased market efficiency.

b. Greater Flexibility and Adaptability

Unlike reinsurance contracts which typically are held until the end of a policy period, exchange traded derivatives can be bought and sold continuously to alter amount of risk protection and tailor it to changing needs of the insurer.

c. Increased Transactional Certainty

Having the exchange function as an intermediary with established margin requirements, and having enforcement mechanisms in place make legal challenge less likely.

d. Increased Accessibility

The ease of trade on an established market opens the reinsurance market to those who have not traditionally participated in the past potentially resulting in a large influx of needed capital.

7. Disadvantages of Exchange Traded Derivatives

Disadvantages of exchange traded insurance derivatives as compared with traditional insurance/reinsurance include the following:

a. Complex Structure

The complexity of PCS options made it difficult to generate market interest with unfamiliar investors.

b. Difficulty Matching Risks

Broad based PCS indices made it difficult to narrowly correlate risk to correspond to an insurer's risk portfolio especially for smaller insurers.

c. Relative Illiquidity

Due to limited exchange activity, PCS options lacked liquidity compared to other markets.

**B. Bermuda Commodities Exchange**

## 1. History

The Bermuda Commodities Exchange (“BCE”) was another attempt at establishing a forum for the exchange trade of insurance derivatives. It was the product of a joint venture between American International Group, Guy Carpenter and Company, and Chase Manhattan International Finance, and was opened in 1997.

## 2. Structure

BCE options were based on the Guy Carpenter Catastrophe Index (“GCCCI”) rather than PCS. The options were available at the zip code level, theoretically allowing insurers to correlate their coverage to their exposures much more precisely than relying on nine geographic indices, as the PCS options did.

## 3. Outcome

For reasons that remain unclear, the BCE did not succeed. Blaming lack of activity on a “soft reinsurance market,” trading on the BCE was suspended in August of 1999.

### **C. Other Exchange Traded Derivatives<sup>5</sup>**

#### 1. NYMEX Catastrophe Risk Index Futures and Options

In 2007, the New York Mercantile Exchange (“NYMEX”) began trading of catastrophe futures and options contracts. The NYMEX contracts were based on indices computed and maintained by Gallagher Re using data on industry losses (other than earthquake and terrorism) provided by PCS. NYMEX initially listed contracts on three regions: national, Florida, and Maine to Texas (excluding Florida). The NYMEX contracts settled at the end of March of the calendar year after which they were issued. However, the NYMEX contracts have currently ceased trading.

#### 2. CME Hurricane Futures and Options

Also in 2007, the Chicago Mercantile Exchange (“CME”) began trading of binary hurricane options, settled against the Carvill Hurricane Index. This index calculates the potential for damage for a particular hurricane by reference to its maximum wind velocity and hurricane radius. The CME options are based on either the total number of hurricanes or the largest hurricane with respect to the following regions: Gulf Coast, Florida, Southern Atlantic, Northern Atlantic, Eastern and Galveston-Mobile. The CME options are offered only as calls and provide a fixed dollar payout upon exercise.

#### 3. CCFE / IFEX Event-Linked Futures

Insurance Futures Exchange (“IFEX”) Event-Linked Futures are traded on the Chicago Climate Futures Exchange (“CCFE”) and cleared and margined by The Clearing Corporation. These contracts are cash settled contracts based on US Tropical Wind, Florida Tropical Wind, Gulf Coast Tropical Wind, Eastern Seaboard Wind, and Northeastern Wind. A buyer of these contracts selects the level of estimated total industry losses that would trigger a payout upon either a first, second, third, or fourth event basis. For example, a contract with a “2011 First Event Florida Tropical Wind \$10 Billion Loss Trigger” means that a cash payout is triggered upon the first Florida wind event occurring in 2011 which results in total industry losses (as confirmed by PCS) equal to or greater than \$10 billion. IFEX intends to introduce additional contracts based on U.S. and international catastrophe risks in the future.

#### **D. Tax Treatment of Exchange Transactions:**

##### **1. Section 1256:**

Catastrophic futures and options traded on an exchange may be subject to section 1256.<sup>6</sup> A “section 1256 contract” held by the taxpayer at the close of the taxable year is treated as sold for its fair market value on the last business day of the year and any gain or loss is taken into account at year end.<sup>7</sup> Under the so called “60/40 rule,” 60 percent of the capital gain or loss with respect to a section 1256 contract is treated as long term and the remaining 40 percent of the gain or loss is short term, without regard to the length of time the taxpayer actually holds the contracts. Any termination or transfer during the taxable year of the taxpayer’s rights with respect to a section 1256 contract by offsetting, by taking or making delivery, by exercise or being exercised, by assignment or being assigned, by lapse or otherwise is subject to these rules as well.<sup>8</sup>

##### **a. Definition of a Section 1256 Contact**

A section 1256 contract is:

- i. any regulated futures contract;
- ii. any foreign currency contract;
- iii. any listed non-equity option;
- iv. any dealer equity option; and
- v. any dealer securities future contract.<sup>9</sup>

##### **b. Definition of Regulated Futures Contract**

A regulated futures contract is defined as a contract with respect to which the amount required to be deposited and the amount which may be withdrawn

depends on a system of marking to market, and which is traded on or subject to the rules of a qualified board or exchange.<sup>10</sup>

A qualified board or exchange is:

- i. a national securities exchange which is registered with the Securities and Exchange Commission.
- ii. a domestic board of trade designated as a contract market by the Commodity Futures Trading Commission (“CFTC”), or
- iii. any other exchange, board of trade, or other market which the Secretary determines has rules adequate to carry out the purposes of section 1256.<sup>11</sup>

Proposed regulations issued in 2011 would limit the definition of a regulated futures contract to a futures contract. In addition to the current statutory requirements described above, the proposed regulations would also require a regulated futures contract to not be required to be reported as a swap under the Commodity Exchange Act.<sup>12</sup>

c. Definition of Listed Non-Equity Option

An equity option is any option to buy or sell stock, or the value of which is determined directly or indirectly by reference to any stock (or group of stocks) or stock index.<sup>13</sup>

A non-equity option means any listed option which is not an equity option.<sup>14</sup>

A listed option is any option which is traded on a qualified board or exchange.<sup>15</sup>

d. Application

Based on the above definitions, insurance catastrophe options traded on a qualified board or exchange may be deemed section 1256 contracts. For example, since the CBOT is a qualified board or exchange, which depends on a system of marking to market, PCS options if they still traded today would likely be subject to section 1256 as regulated futures contracts or listed non-equity options.

As discussed more fully in an article by Hammer, Bush and Kunkel, the Dodd-Frank Wall Street Reform and Consumer Protection Act (“Dodd-Frank”) introduced considerable uncertainty as to what constitutes a section 1256 contract.<sup>16</sup> Specifically, section 1256 was amended to exclude from the term section 1256 contract “any interest rate swap, currency swap, basis swap, interest rate cap, interest rate floor, commodity swap, equity swap, equity index swap,

credit default swap, or similar agreement.”<sup>17</sup> It is unclear what this list of exclusions means. The list mirrors a list of instruments described as notional principal contracts under the Regulations with the addition of credit default swaps.<sup>18</sup> However, the definition of a swap under Dodd-Frank is much broader, and includes certain options.<sup>19</sup> On September 15, 2011, the Treasury and the IRS issued proposed regulations that would harmonize the list of exclusions under section 1256(b)(2)(B) with swaps that qualify as notional principal contracts.<sup>20</sup> The proposed regulations would also exclude options on notional principal contracts from being section 1256 contracts and sets forth a tie-breaker rule which provides that if a contract meets the definition of a notional principal contract and a section 1256 contract, the contract’s characteristic as a notional principal contract would govern and cause it to be outside the rules of section 1256.

If section 1256 applies to PCS options (if they still traded today), such contracts would have to be marked to market at year-end. In addition, the options would have to be marked to market when exercised. Under the general rule for section 1256 contracts, the character of any capital gain/loss would be determined pursuant to the 60/40 rule. However, gain or loss on a section 1256 contract can be ordinary under other provisions of the code, such as section 1221(a)(7), which provides for ordinary gains and losses for qualified hedging transactions.

## 2. The Straddle Rules:

### a. Definition

A “straddle” is defined for tax purposes as offsetting positions with respect to personal property where there is a substantial diminution of risk of loss from holding any position by reason of holding one or more other positions with respect to personal property.

### b. Tax Consequences of Holding a Straddle

A taxpayer holding a straddle is generally permitted to take into account loss associated with one position only to the extent the loss exceeds the unrecognized gain with respect to one or more positions which were offsetting positions to the positions from which the loss arose.<sup>21</sup> In other words, losses incurred on closing a position in personal property are currently deductible only to the extent the losses exceed unrecognized gain on an offsetting position acquired before the loss was realized. Any loss subject to deferral pursuant to this rule may be carried forward and, subject to the application of the same rule, may be taken into account in the subsequent year.<sup>22</sup> Note, however, that the straddle rules do not apply if all offsetting positions making up a straddle consist of section 1256 contracts.<sup>23</sup>



### c. Offsetting Positions

A taxpayer holds offsetting positions if there is a “substantial diminution” of the taxpayer’s risk of loss from holding one position by holding another position.<sup>24</sup> A position is an interest (including a futures or forward contract or option) in personal property.<sup>25</sup> Personal property means any personal property of a type which is actively traded (i.e., for which there is an established financial market).<sup>26</sup> An established financial market includes a domestic board of trade designated as a contract market by the CFTC.<sup>27</sup>

### d. Application

Exchange traded insurance derivatives could potentially be part of a straddle subject to the straddle rules. For options that are not exchange traded, the application of the straddle rules is less certain. The definition of “position” contained in section 1092 is limited to an interest in personal property. Non-exchange traded derivatives may not satisfy the requirement of an interest in personal property and may technically be exempt from the straddle rules. However, there may not be a logical reason for this distinction in terms of the application of the straddle rules. Section 1092 predates these financial instruments and may simply be revised to reflect the realities of the marketplace and result in the expansion of the term position to encompass non-exchange traded insurance options as well.

If the straddle rules are applied to exchange traded derivatives, it is important to note that a taxpayer is treated as holding any position held by an entity with which the taxpayer files a consolidated return.<sup>28</sup> In addition, positions held by a flow through entity in which the taxpayer has an interest, such as a partnership, are treated as if the positions held by the partnership were held by the taxpayer.<sup>29</sup> Under section 1092(a)(1)(A), the IRS is not restricted to identifying one position held by a taxpayer as the exclusive offsetting position to any other offsetting position. The IRS can identify the offsetting positions, whether or not the taxpayer intended those particular positions to be offsetting. Therefore, it is necessary to identify all the potential offsetting positions within consolidated groups as well as flow through entities in which the taxpayer has an interest in order to determine their potential characterization for tax purposes.

## III – Catastrophe Bonds (“CAT Bonds”)

### A. Background

A CAT bond is another insurance derivative instrument that has become increasingly popular in recent years. Essentially, the insurer receives payment upon occurrence of a defined event while investors’ returns are negatively affected. A CAT bond is often characterized as “synthetic

reinsurance” since it parallels traditional reinsurance with the key replacement of capital markets investors for the reinsurer.

## **B. Structure**

A CAT bond is a structured note where the coupon payment and/or principal repayment to investors by the issuer is contingent upon the non-occurrence of a specified catastrophe like a hurricane or earthquake or other natural disaster. While numerous variations exist, a typical CAT bond is usually structured as follows:

1. An insurance company wishing to securitize its risk by issuing a CAT bond will typically establish an offshore special purpose vehicle (“SPV”).
2. The insurer then enters into an insurance contract with the SPV, and pays premiums to the SPV. In turn, the SPV assumes insurance coverage of an identified portfolio of the insurer’s catastrophe exposure.
3. The SPV issues a CAT bond to investors to transfer the assumed risk.
4. The SPV uses the proceeds of the bond sale to purchase high quality securities such as U.S. Treasury bonds.
5. The SPV pays bond investors a coupon equal to the return on U.S. securities and the reinsurance premium.

## **C. Investment Returns**

The SPV’s obligation is first to the insurer and second to the investors in the CAT bonds. As a result, interest and/or principal repayment to investors is contingent on the occurrence or non-occurrence of a specified catastrophic event. Numerous variations exist in terms of what portion of the investment is at risk (e.g. principal, interest or some combination of the two).

CAT bonds are attractive to certain investors because of their portfolio diversification benefits. Also, while the probability of a total loss of principal is relatively low, the yield received in the event a disaster does not occur is usually significantly higher than for other securities offered in the marketplace.

## **D. Variations**

Catastrophe bonds have been structured in a variety of ways. Often the issues have two or more tranches which differ as to security of interest and principal. Such tranches consequently have varying rates of return and are designed to appeal to and to attract investors with varying degrees of risk tolerance. It also is worth mentioning that as the CAT bonds have developed the bond issues have become more complex. Careful structuring has enabled issuers as well as investors to tailor specialized products to suit their individual reinsurance and portfolio needs.

## **E. Representative Transactions:**

1. Winterthur Insurance Co. issued the first publicly placed CAT bond. It was a three-year note with a coupon of 2.25 percent. In the event that weather related automobile claims exceeded a certain threshold (damage to 6,000 cars), interest would not be paid. Each note was also convertible into five shares of the company.
2. United Services Automobile Association (“USAA”) sold \$477 million of notes tied to U.S. hurricane losses. The notes provide the insurer with protection for 80 percent of the \$500 million risk layer between 1 billion and 1.5 billion of insured losses. The losses covered were those caused by a single hurricane, during a one-year period in certain coastal states. The notes were structured with two tranches. One was principal protected, paying LIBOR+2.73%, the other with principal at risk paid LIBOR+5.76%.
3. Swiss Re issued a \$137 million California earthquake bond that was comprised of three different tranches:

Class A Notes – paid LIBOR+2.5% and were 40% principal protected

Class B Notes – paid 10.5% and were principal protected

Class C Notes – paid 12% and were principal unprotected

Return of principal depends on the level of damage incurred, with predetermined dollar amounts causing 33%, 66% and finally 100% default. Class C notes were subject to complete default at a fairly low loss threshold.

## **F. Tax Treatment of CAT Bond Transactions**

### **1. Transaction Details**

To illustrate the structure, operation and tax treatment of CAT bonds, two notes are examined in detail below. As indicated above, a seemingly endless stream of variations exists; the following discussion is intended to broadly illustrate the basic operation of such bonds and point out the possible tax issues that may be encountered.

#### **a. Residential Reinsurance Limited (“Residential Re”)**

In conjunction with USAA, Residential Re offered \$450,000,000 of variable rate notes in June of 1998 with a maturity date of 6/1/1999. The notes covered property damage losses, as a result of a category 3, 4, or 5 hurricane, for the period 6/15/1998 through 5/31/1999 in 20 states and the District of Columbia. The trigger amount was damage in excess of 1 billion dollars to a maximum of 1.5 billion dollars. The notes provided for annual interest at 3 month LIBOR + 4.16%.

At maturity, the notes provide for a return of principal plus stated interest. However, if a major loss is incurred, the maturity date is extended to allow for an accurate

calculation of claims, and the principal is reduced by amounts paid out by Residential Re under their reinsurance agreement.

**b. George Town Re, Ltd. (“George Town”)**

In October 1996 George Town offered 204 “Units,” each consisting of a \$1,000,000 note plus the right to obtain two class B shares of the company. George Town is an SPV established to enter into a single reinsurance treaty with St. Paul Reinsurance Company Ltd. (“St. Paul Re”). The notes are designed to increase St. Paul Re’s capacity in five specified classes of insurance coverage including Property and other excess of loss insurance. The scheduled maturity date of the notes is March 1, 2007. Annual interest varies with the available net income of the SPV, and is calculated based on net premium income and investment income on securities.

In the event of default, the SPV pays the lesser of the principal amount plus the accrued available net income *or* the net asset value available to shareholders. Therefore, there is no guarantee of principal. In addition, within 60 days of maturity, note holders may exercise the right to obtain two Class B shares that are non-voting and give the holders the right to participate in the liquidation of the SPV. Class B shares are separable and freely transferable by the note holders.

2. Foreign Tax (Cayman Islands) Considerations:

a. Taxation of the SPV

The SPV is generally set up in the Cayman Islands or other tax haven where the company itself is not subject to any income, corporate, profits, capital gain or withholding tax.

b. Taxation of Note Holders

There are no direct Cayman Islands taxes or withholding taxes imposed on interest, principal or other amounts paid by the SPV. Often, under the Tax Concessions Law of the Cayman Islands, the SPV is able to get a written guarantee that no subsequently enacted tax shall apply to it for a period of 20 years.

c. The SPVs in both the Residential Re and George Town transactions above were set up in the Cayman Islands to take advantage of this favorable tax treatment.

3. United States Tax Considerations:

a. Taxation of the SPV

1. U.S. Trade or Business

Generally, the SPV is structured and operated in such a way that it would not be considered to be engaged in a U.S. trade or business. If for any reason the SPV were found to be engaged in a U.S. trade or business, the SPV would be subject to U.S. federal income tax, as well as the branch profits tax on any income effectively connected with such U.S. trade or business.<sup>30</sup>

2. Fixed or Determinable Annual or Periodic Gains, Profits and Income (“FDAP”)

Even if not engaged in a U.S. trade or business, the SPV may be subject to U.S. federal taxation at a rate of 30% on “fixed or determinable annual or periodic gains, profits and income” derived from U.S. sources, such as dividends and certain income on investments.<sup>31</sup>

3. Insurance Excise Tax

The United States imposes a 1% excise tax on reinsurance premiums paid to foreign reinsurers located in certain jurisdictions with respect to risks located in the United States (but does not apply to income effectively connected with a U.S. trade or business).<sup>32</sup>

4. Application

Both transactions have been structured to avoid activities that would lead to characterization as a U.S. trade or business. However, both would likely be subject to U.S. taxation on FDAP income as well as the 1% insurance excise tax.

b. U.S. Taxation of Note-Holders:

(1) Debt v. Equity

Classification of the notes (or portions thereof) as debt or equity is crucial for the determination of U.S. tax consequences. Many of the CAT bond structures are new and as a result there is no authority that directly addresses the characterization of such notes. In addition, different aspects of a note may be treated as different instruments with distinct tax treatment or there may be a note with two or more tranches that have to be analyzed individually to determine appropriate tax treatment. Offerings describe intended tax treatment but carefully acknowledge the

lack of authority regarding the treatment of the instruments involved and indicate that alternative characterization and treatment by the IRS is possible.

#### General Rules for Debt vs. Equity

##### (a) The Internal Revenue Code and Treasury Regulations

In determining whether CAT Bonds will be treated as debt or equity, the Code and Regulations provide little assistance. In 1969, Congress enacted section 385, authorizing the Treasury to issue Regulations to define “corporate stock and debt” for all purposes of the Code. The Regulations were to include a set of factors which would be taken into account in determining whether a particular instrument is debt or equity. Section 385(b) lists the following five factors that could be included, in addition to the other factors, in the Regulations:

- (1) Whether there is a written unconditional promise to pay, on demand or on a specific date, a fixed amount at a fixed interest rate in return for an adequate consideration;
- (2) whether there is a subordination to, or a preference over, the corporation’s other debt;
- (3) the corporation’s debt equity ratio;
- (4) whether there is convertibility into stock; and
- (5) the relationship between stockholdings in the corporation and holdings of the interest in question

##### (b) The IRS

The IRS has issued several revenue rulings and notices in which it set forth its views on the proper characterization of certain instruments. In Notice 94-47, 1994-1 C.B. 357, the IRS noted that the proper characterization of a particular instrument as debt or equity depends on the facts and circumstances surrounding the issuance of that instrument, and indicated that the following factors must be taken into account:<sup>33</sup>

- (1) whether there is an unconditional promise on the part of the issuer to pay a sum certain on demand or at a fixed maturity date that is in the reasonably foreseeable future;
- (2) whether the holders of the instruments possess the right to enforce the payment of principal and interest;
- (3) whether the rights of the holders of the instruments are subordinate to the rights of general creditors;
- (4) whether the instruments give the holders the right to participate in the management of the issuer;
- (5) whether the issuer is thinly capitalized;
- (6) whether there is identity between holders of the instruments and stockholders of the issuer;
- (7) the label placed upon the instruments by the parties; and
- (8) whether the instruments are intended to be treated as debt or equity for non-tax purposes, including regulatory, rating agency, or financial accounting purposes.

(c) Case Law

An examination of the case law on the debt/equity issue indicates that a few factors, some of which are mentioned in Notice 94-47, are most often cited as particularly important in determining whether an instrument is debt or equity. These are as follows:

(1) Right to Enforce Payment

A critical factor in distinguishing debt from equity is the right to enforce payment in the event of default. Creditors typically have the right to sue the issuer for the amount owing if the issuer fails to make scheduled payments. In contrast, equity holders ordinarily do not have the right to sue for repayment of their contributions.

(2) Certainty of Return

The right to receive a certain return, regardless of net earnings, is a hallmark of debt. If the payment of interest is discretionary, the instrument resembles stock rather than debt.

(3) Fixed Maturity Date

A fixed or ascertainable maturity date is virtually essential to debt classification, but it is not conclusive evidence of debt. In addition, the maturity date must not be too far in the future.

(4) Subordination

Subordination to general creditors is indicative of something other than a debtor-creditor relationship. Holders of debt instruments are usually on equal footing with general creditors in the event of a liquidation. If an instrument is not subordinated to the claims of other creditors, courts are likely to accord debt treatment.

(5) Intent of the Parties

Courts frequently emphasize the intent of the parties in their debt/equity analysis. They examine formal indicia of intent such as the name of the instrument and how the instrument was treated on the taxpayer's books of account.

(6) Participation in Gains of the Corporation

Participation in the income and gains of the debtor alone is generally not sufficient to cause an investment to be classified as equity, rather than debt. Although receiving payments based on an entity's performance is a characteristic often attributed to equity, many courts have held that the right of investors to share in the success of an enterprise is consistent with debt treatment. If, however, exercise of a conversion privilege is virtually certain because the specified ratio provides an "offer that can't be refused," the debt features of the instruments may be overlooked.<sup>34</sup>

(7) Label Applied by Parties

Section 385 requires that the characterization by the issuer at the time of issuance binds the issuer and all holders of the instrument unless the taxpayer discloses any inconsistent treatment of the instrument in the taxpayer's tax return.

d. Residential Re Transaction

i. Intended Tax Characterization

The prospectus for the Residential Re transaction suggests that the notes involved in the transaction will be treated as equity interests for U.S. federal income tax purposes. In addition, each note holder is required to acknowledge and agree to this treatment and must covenant not to take any action inconsistent with such treatment. If the equity characterization is respected, a U.S. note holder would be subject to the following tax treatment:

a) Interest Payments



Interest payments would be treated as dividends to the extent of current or accumulated earnings and profits of the company. To the extent such payments exceed current or accumulated earnings and profits, they will reduce the note holder's basis in the note. To the extent the payments exceed the note holder's basis, they would generate capital gain.

b) Disposition

No gain or loss is recognized by a U.S. note holder until a sale or other taxable disposition of a note. Any such gain or loss generally will be capital except possibly to the extent of accrued interest.<sup>35</sup>

ii. Comment:

While ultimate characterization is always an issue of facts and circumstances, the following factors strongly favor a finding of equity treatment for the Residential Re notes and thus tax treatment consistent with that described in the prospectus.

- a) Note holders do not have the right to enforce payment of principal/interest
- b) The notes are subordinated to other creditors (i.e., the reinsurer)
- c) The intent of the parties and labels applied to formal instruments clearly intend equity treatment

The notes could be subject to the Passive Foreign Investment Company ("PFIC") and Related Person Insurance Income ("RPII") rules discussed below.

e. George Town Transaction

i. Intended Tax Characterization

The George Town transaction is more complicated since it involves Units comprised of two parts. The prospectus presents the following tax treatment:

The Units will be treated as two separate instruments consisting of the "Rights" and "Notes." For U.S. tax purposes, the prospectus indicated Rights are intended to be treated as equity interests and Notes are to be treated as debt instruments. The purchase price of each Unit will be allocated between a Right and a Note based on their respective fair market values at the time of purchase.

a) Rights

The exercise of a Right will not be a taxable event for U.S. tax purposes. The exercising Right holder would take into account the holding period in the Right for purposes of determining whether any capital gain or loss realized upon sale or redemption of Class B shares obtained upon exercise of such Right is long or short term.

The Rights could also be subject to the PFIC and RPII rules discussed below.

b) Notes

1. Interest Payments

The Notes themselves would most likely be subject to the Regulations governing contingent payment debt instruments.<sup>36</sup> These Regulations apply to debt instruments with one or more contingent payments. In general, the method takes interest into account regardless of whether the payment is fixed or determinable in the tax year. The interest is calculated using rules similar to those for accruing OID on a non-contingent debt, which involves establishing a projected payment schedule, in order to determine the accrual of interest income. If the actual amount of a contingent debt payment is not equal to the projected amount, appropriate adjustments are made to reflect the difference.<sup>37</sup>

Any differences between the actual amount of the contingent payments made during the taxable year and the projected amounts are netted against each other. If the actual payments exceed the projected payments then the excess is treated as an additional payment of interest. If the projected amounts exceed the actual amounts, the difference first reduces the amount of interest taken into account for the year, and any excess is treated as ordinary loss to the extent of interest from the instrument included in prior taxable years. Any remaining excess negative adjustment may be carried forward for the succeeding taxable year. Any amounts carried forward but not used reduce the amount of gain or increase the amount of loss realized upon sale, exchange or retirement of the Notes.<sup>38</sup>

c) Dispositions

In general, any gain recognized by a holder on the sale, exchange or retirement of a Note will be treated as interest income. Any loss recognized by a holder will be treated as ordinary loss to the extent of the holder's prior interest inclusions, and thereafter will be treated as capital loss.

ii. Comments

Once again, the above analysis reflects the characterization provided in the transaction's offering documents. The ultimate decision will be based on a detailed facts and circumstances determination by the IRS.

a) Rights

It is likely that the characterization of the Rights as equity will be respected. Holders of Rights have the ability to obtain substantially all the company's common share ownership in order to participate in the liquidation of the company.

b) Notes

It appears that the characterization of the Notes as debt is less certain. While the Notes have a fixed maturity date (3/1/2007) and the intent of the parties to treat the instruments as debt is clear from the prospectus, other factors exist that may be used to support an equity characterization.

For example:

- 1) Interest is payable annually on 3/1 in an amount equal to "Available Net Income," if any, of the company with respect to the previous annual policy period. Therefore, there is no guaranteed minimum return, and there may be periods in which no payment is made. Such a lack of certain return might be indicative of an equity interest.
- 2) The Notes are subordinated to the company's obligations under the reinsurance treaty as well as an interest rate swap. If the assets of the company are insufficient to fund repayment of the Notes due to unforeseen liabilities, the Note holders would share in the net assets of the company as unsecured creditors, subject to the company's prior obligations pursuant to the reinsurance treaty and the swap. This may also be a factor that indicates an equity interest rather than a debtor creditor relationship.

(ii) Classification as a PFIC

The SPV could be classified as a PFIC if 75% or more of its gross income is passive income, or if 50% or more of the average value of its assets consist of assets that produce or are held for the production of passive income.<sup>39</sup> If the SPV were classified as a PFIC and the holders of the interest in the SPV were treated as owners of an equity interest, under the PFIC rules,<sup>40</sup> unless an interest holder is able to and does make a qualified

electing fund (“QEF”) election in the first taxable year in which the interest is acquired, any capital gain recognized on sale or disposition would be recharacterized as ordinary income and would further be treated as having been recognized pro-rata over the interest holder’s entire holding period. In addition, the amount of gain treated as having been recognized in prior taxable years would be subject to tax at the highest tax rate in effect for such years, and subject to underpayment interest.

a. George Town

The George Town prospectus states that it will provide right holders the information required to enable them to make a QEF election, thereby minimizing the tax consequences of PFIC characterization. This is particularly important since the Rights could potentially be characterized as equity resulting in significant adverse tax consequences.

b. Residential Re

The Residential Re prospectus indicates that the company will not provide to U.S. note holders the information required to make a QEF election. Since the Residential Re note is expected to be treated as equity, if SPV were a PFIC, U.S. note holders could be subject to adverse tax consequences under the PFIC rules.

(iii) RPII Rules

RPII is income (investment income and premium income) from the direct or indirect insurance or reinsurance of any U.S. person (or related person) holding equity in the company.<sup>41</sup> If the RPII rules were to apply, a U.S. interest holder would have to include in income for each taxable year its share of RPII income, determined as if RPII were distributed proportionately only to such holders.

Under the Subpart F Rules, the RPII rules apply to certain “Captive Insurance Companies” if:

1. 25% or more of the value or voting power of the company’s equity is held (directly or indirectly through foreign entities) by U.S. persons,<sup>42</sup> and
- 2a. the company has gross RPII greater than or equal to 20% of its gross insurance income or,<sup>43</sup>
- 2b. 20% or more of either the voting power or the value of the company’s equity is owned directly or indirectly through foreign entities by persons (directly or indirectly) insured or reinsured by the company or persons related to such insured or reinsured persons.

The language in both prospectuses indicates that the companies do not anticipate being subject to the RPII rules.

#### 4. Summary

The above examples were intended to reflect the possible tax issues that may arise when a CAT bond is issued. The specific tax consequences will depend on the structuring of the transaction and the tax status of the investors involved. The tax issues highlighted above, as well as others that may arise due to the specifics of the transaction should always be part of transaction analysis. While CAT bond transactions will primarily be motivated by the economic needs of an issuer and the investment objectives of the investor, tax consequences will almost certainly have a bearing on the economics of the deal and should be an integral factor in structuring any transaction.

### **IV – CAT Diversification (CATEX)**

#### **A. Background**

In 1995, with the approval of the New York State Department of Insurance, the Catastrophic Risk Exchange (“CATEX”) was created as an electronic marketplace for the exchange of catastrophe related risks among insurers. CATEX allows the trading of reinsurance contracts electronically. CATEX is a catastrophe risk exchange designed to allow insurers to swap one form of catastrophe risk for another to increase the diversification of risks within insurers’ underwriting portfolios. Insurers overexposed in certain types of risk have the opportunity to exchange that risk for more acceptable risks. The exchange provides an online trading floor for subscribers and allows negotiations to be transacted electronically, by telephone or by fax. It also allows for online collaboration in the drafting of contracts.

#### **B. Trading**

Insurance companies, re-insurers and brokers trade bundles of specific catastrophic risks segmented by type and region of loss. The units are then standardized in terms of equivalent risks and exposure and are traded in \$1,000,000 blocks. The standardization is achieved by determining proportional relativities between different risks. For example, 1 unit of California Earthquake Risk may equal 1.5 units of Texas Hurricane Risk. CATEX provides a benchmark rate based on historical losses and the most recent realized trades. The market then establishes new prices based on these benchmarks in response to current supply and demand. Each CATEX swap is a bilateral agreement that creates reciprocal reinsurance between the counterparties. No clearinghouse system exists, so each participant has counter-party credit exposure on the swap.

Because of its certification by New York State as a reinsurance intermediary rather than as an exchange, CATEX participants are limited to insurers, re-insurers and self-insurers. However, CATEX Bermuda, a recent joint venture between CATEX and the Bermuda Stock Exchange is a similar system which is designed to allow the participation of the capital markets.

### **C. Activity**

Overall CATEX was designed to increase reinsurance capital liquidity, efficiency, and transparency by bringing insurance buyers and sellers together through a centralized facility. As of late 1998 the exchange had less than 170 subscribers and 3 billion dollars of insured limit. In practice, rather than swapping insurance risk, the early exchange activities served primarily as a mechanism for sourcing standard reinsurance business. However, despite a slow start, CATEX usage has been gaining momentum and to date, there have been over 1,400 risks posted on CATEX. Over 500 transactions representing more than 3 billion of insured limit have been completed through the use of the exchange. Market interest has continued to grow and the CATEX exchange may become a significant player in the insurance/reinsurance derivative industry.

Unlike other insurance derivative products reviewed here, CATEX does not look outside the insurance industry to increase capacity. As mentioned above, it is licensed as a reinsurance intermediary and therefore, financial market companies are not allowed to access the CATEX system. Still, CATEX is relevant to this discussion in that it adopts capital markets concepts such as computerized exchange trading to facilitate the transfer of risk instruments and impacts the operation of the insurance/reinsurance industry as a whole.

## **V – Other Transactions: Puts, Swaps, Surplus Notes, Sidecars and ILWs**

Other transactions have also been structured to increase insurer's liquidity should their resources become inadequate. The following section will describe how these structures have been adapted for use by the insurance industry and provide examples of completed transactions. It is uncertain whether these instruments will be taxed in accordance with their form as derivatives or insurance contracts.

### **A. Catastrophe Equity Puts (“CatEPuts”)**

#### **1. Structure**

CatEPuts are contingent equity arrangements whereby the holder of the option (the insurance company) has the option to sell an agreed amount of its preferred stock to the option writer (generally a reinsurer or investor) at a predetermined price upon the occurrence of a trigger event. The trigger event is usually defined as a loss exceeding a certain threshold of insured losses. The CatEPut enables insurers to raise capital at a previously fixed price in the event of a catastrophic loss.

#### **2. Representative Transactions:**

- a. RLI Corp. issued 50 million worth of CatEPuts in October 1996. The structure allowed RLI to put up to 50 million of convertible preferred shares to Centre Re at a pre-negotiated rate in the event of a catastrophe.

- b. Horace Mann issued 100 million of CatEPuts in March 1997. The structure allowed Horace Mann to put up to 100 million of convertible preferred shares to Centre Re at a pre-negotiated rate if there are one or more catastrophes exceeding \$65 million in aggregate claims.

## **B. Catastrophe Swap (“CAT Swap”)**

### 1. Structure

Like a CAT bond, a CAT swap is contingent upon the occurrence or non-occurrence of a particular catastrophe. However, in a swap, the investor does not provide cash equal to the notional amount to be invested in a trust. Rather, the investor merely provides a letter of credit to guarantee its obligation thereby retaining control over its cash.

### 2. Representative Transaction

In a 1996 swap transaction involving Hannover Re, investors committed capital to the insurer in the form of letters of credit or Treasuries. In return the investors shared in the profits/losses of certain lines of the insurer’s business.

## **C. Contingent Surplus Notes (“CSNs”)**

### 1. Structure

CSNs provide an additional source of capital to insurers. They allow investors to place funds in a trust which is collateralized with Treasuries and pays an above market interest rate. In return, the insurer has the right to access the funds and issue CSNs in place of the trust collateral at any time during a specified period. The right to access the funds is not contingent upon the occurrence of a catastrophic event or loss trigger. As a result, the holders of the notes are primarily exposed to the default risk of the insurer.

### 2. Representative Transactions

- a. In 1995, Nationwide issued \$400 million of CSNs to institutional investors which could be accessed by the insurer for any business reason. Proceeds of the bond issue were invested in U.S. Treasuries. Investors are to receive 2.2% above the 10-year U.S. Treasuries until Nationwide elects to issue the surplus notes. If issued, the notes will have a thirty year maturity period and will carry a 9.922% coupon.
- b. In a similar arrangement, Awkwright Mutual Insurance Company (“Awkwright”) offered 100 million of CSNs in 1996. The funds would become available to the insurer when surplus is impacted as a result of catastrophic losses. Proceeds were invested in U.S. Treasuries, with investors receiving 2.5% above the 30 30-year Treasury rate. If Awkwright needs capital over a defined 20-year period, it can issue up to \$100 million of CSNs to the trust.

## **D. Sidecars**

### **1. Structure**

A sidecar is a reinsurance company that is created and funded by investors such as hedge funds to provide funds to an insurer/reinsurer in the event of catastrophic losses. The sidecar generally assumes a percentage of the insurer/reinsurer's catastrophe risk in exchange for a percentage of the insurer's premium. The sidecar also pays a commission to the insurer/reinsurer, which increases in proportion to the expected profitability. Sidecars usually stay in existence for one or two years. They are seen as good ways for investors to participate in the reinsurance market without investing in existing reinsurers who might have past liabilities or new reinsurers who have high initial costs.

### **2. Representative Transaction**

In December of 2005, the Bermuda-based sidecar, Flatiron Re, assumed a percentage of the premiums and potential losses of Arch Reinsurance Ltd.'s property, marine and other reinsurance. Investors, including hedge fund Farallon Capital and Goldman Sachs, put in a total of \$840 million in Flatiron Re.

## **E. Industry Loss Warranties ("ILWs")**

### **1. Structure**

ILWs are contracts that pay off in the event a specified industry-wide loss exceeds a particular threshold (generally based on data from PCS). The buyer (insurer) pays a premium to the issuer (a reinsurer or sometimes a hedge fund) of the ILW in exchange for the contract. Sometimes, the contract is dual-triggered based on industry-wide losses as well as the insurer's own losses from a catastrophe. A single-trigger ILW is considered a derivative contract while a dual-triggered ILW is considered a reinsurance contract. The term of the ILW is generally one year.

### **2. Representative Transaction**

In 2007, Aspen Insurance Holdings entered into a \$100 million ILW to provide protection against U.S. catastrophic wind events, with trigger events ranging from \$30 billion to \$50 billion in industry losses as reported by PCS.

## **VI – Conclusion**

The field of insurance derivatives is rapidly expanding and attracting greater sources of capital. Watching the development and evolution of these instruments and keeping up with the constant variations and innovations is itself a challenge. As can be expected, such rapid growth has preceded clear tax guidance



regarding many of these transactions. Therefore, tax law will continue to be followed with interest as significant amounts of capital continue flowing into insurance and related derivative products.

The driving force behind the development of these products is ensuring liquidity of insurers and their ability to honor their commitments even in the event of unforeseen circumstances. Understandably, the tax advantages and disadvantages will generally be secondary to the economics and capital raising functions of a particular transaction. Still, while not necessarily the motivator for these transactions, tax consequences must be understood, anticipated and applied so that the insurers and investors can structure their businesses and portfolios accordingly.

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<sup>1</sup> Kat, Harry, "Insurance Derivatives Need More Work for Their Potential to be Realized", *Derivatives*: September/October 1997.

<sup>2</sup> Canter, Cole and Sandor, "Insurance Derivatives: A New Asset Class for the Capital Markets and a New Hedging Tool for the Insurance Industry", *Journal of Derivatives* (Winter 1996).

<sup>3</sup> PCS Catastrophe Insurance Options: A User's Guide, Chicago Board of Trade, 1995.

<sup>4</sup> The following examples have been adapted from Satyajit Das "Insurance Derivatives, Part II: Cat Derivative Structures", *Financial Products*, February 11, 1999, Issue 107.

<sup>5</sup> See Bouriaux and MacMinn, "Securitization of Catastrophe Risk: New Developments in Insurance-Linked Securities and Derivatives," *Journal of Insurance Issues* (Spring 2009).

<sup>6</sup> Unless otherwise specified, all section references are to the Internal Revenue Code of 1986, as amended (the "Code"), and the Treasury Regulations promulgated thereunder (the "Regulations").

<sup>7</sup> Code Sec. 1256(a)(1)

<sup>8</sup> Code Sec. 1256(c)

<sup>9</sup> Code Sec. 1256(b)

<sup>10</sup> Code Sec. 1256(g)(1)

<sup>11</sup> Code Sec. 1256(g)(7)

<sup>12</sup> Prop. Reg. Sec. 1.1256(b)-1(b)

<sup>13</sup> Code Sec. 1256(g)(6)

<sup>14</sup> Code Sec. 1256(g)(3)

<sup>15</sup> Code Sec. 1256(g)(5)

<sup>16</sup> Pub. L. 111-203, H.R. 4173, adding Code Sec. 1256(b)(2)(B). See Hammer, Bush & Kunkel, "The Taxation of Dodd-Frank," *Tax Notes*, 11 July 2011 and 25 July 2011.

<sup>17</sup> Code Sec. 1256(b)(2)(B)

<sup>18</sup> Reg. Sec. 1.446-3(c)(1)(i)

<sup>19</sup> Dodd-Frank Sec. 721(a)(21)

<sup>20</sup> Prop. Reg. Sec. 1.1256(b)-1(a)

<sup>21</sup> Code Sec. 1092(a)(1)

<sup>22</sup> Code Sec. 1092(a)(1)(B)

<sup>23</sup> Code Sec. 1256(a)(4)

<sup>24</sup> Code Sec. 1092(c)(2)

<sup>25</sup> Code Sec. 1092(d)(2)

<sup>26</sup> Code Sec. 1092(d)(1) and Reg. Sec. 1.1092(d)-1(a)

<sup>27</sup> Reg. Sec. 1.1092(d)-1(b)

<sup>28</sup> Code Sec. 1092(d)(4)

<sup>29</sup> Code Sec. 1092(d)(4)(c)

<sup>30</sup> Code Sec. 882

<sup>31</sup> Code Sec. 881

<sup>32</sup> Code Sec. 4371, 4372 and 4373.

<sup>33</sup> Notice 94-47, 1994-1 CB 357

<sup>34</sup> See Rev. Rul. 83-98, 1983-2 C.B. 40.

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<sup>35</sup> However, if a U.S. note holder owns at least 10% of the notes, either directly or indirectly, some or all of the gain received by the note holder may be treated as ordinary income under Code Sec. 1248.

<sup>36</sup> Reg. Sec. 1.1275-4

<sup>37</sup> Reg. Sec. 1.1275-4(b)(2)

<sup>38</sup> Reg. Sec. 1.1275-4(b)(6)(i)-(iii)

<sup>39</sup> Code Sec. 1297(a).

<sup>40</sup> See Code Sec. 1291 through 1298

<sup>41</sup> Code Sec. 953(c)(2)

<sup>42</sup> Code Sec. 953(c)(1)(B)

<sup>43</sup> Code Sec. 953(c)(3)(A)