RESEARCH NOTE

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Australian interest in insurance-linked securities grows as sophisticated wholesale investors seek genuine opportunities to diversify their portfolios

Brookvine's Response to Recent Investor Questions

PREAMBLE

There are few genuine alternatives for private Australian investors to property, shares and bonds that produce a consistent return independent of the direction of equity and bond markets. Large institutional investors have long had access to a greater array of ‘alternatives’ but private investors have seen little innovation in this category. Insurance-linked securities may offer one of the few genuine, accessible and liquid sources of diversification to these investors.

Brookvine helps private wealth investors challenge convention and access top tier alternatives. For the last five years we have offered an insurance-linked securities fund managed by Fermat Capital, the undisputed pioneer of the asset class.

BACKGROUND TO THE INVESTMENT OPPORTUNITY

Many of the largest participants in the global insurance market issue catastrophe bonds, commonly known as ‘cat bonds’, a type of insurance-linked security (ILS). Why? Because in the event of a major natural disaster these insurance companies would simply not be able to cover their full economic exposure to loss.

The most compelling feature of this asset class is that it’s not linked to financial market turmoil unlike traditional asset classes, such as equities, bonds and currencies. Furthermore, investors are more than adequately rewarded for the risk they assume. This funding is an integral part of the capital base needed to maintain a properly functioning insurance market.

Dr John Seo is the world’s largest investor in cat bonds[1]. His company, Fermat Capital, is the undisputed expert in this asset class with over US$5 billion invested. They have managed ILS through every major natural event and period of financial turmoil since the inception of the market in the late 1990s.

During Dr Seo’s recent visit to Australia, wholesale investor appetite was high as genuine opportunities to diversify portfolios are increasingly hard to find. Since the global financial crisis, many investors have concluded that their portfolios lack sufficient downside protection and are overexposed to sharemarkets.

ILS are one of the few asset classes with return drivers that are fundamentally different to those of mainstream equity and credit markets. Most alternatives, such as hedge funds, private equity, bank hybrids and infrastructure cannot stake this claim.

Fermat Capital has partnered with Brookvine to offer local access to this asset class for the first time with the Australian-registered Fermat ILS Yield Fund. With a five-year track record, the Fermat ILS Yield Fund is attracting increased interest from wholesale investors. This is not surprising given long-term returns of cash + 4–6% with a very high degree of capital stability.

1. Dr Seo’s work in catastrophe bonds was featured in a Michael Lewis cover article for the New York Times Magazine (‘In Nature's Casino’, 26 Aug 2007). Dr Seo has also testified as an expert witness on alternative risk-transfer markets before US Congress and was recently appointed to the Advisory Committee on Risk-Sharing Mechanisms (ACRSM) by the US Treasury Department. Dr Seo received a Ph.D. in biophysics from Harvard University (1991) and a B.S. in physics from M.I.T. (1988).

Notwithstanding, investors must understand the 'worst case' scenario for the Fund in the event of a major natural disaster. The simplest explanation of this is that it could be similar to the drawdown of an equity portfolio during a major stock market crash but, there is a far smaller chance of this occurring and investors are paid a 'premium' that more than adequately compensates for this risk.

RESPONSE TO RECENT QUESTIONS

Recent engagements with investors have raised some excellent questions including the role of ILS, incorporation of ILS into a diversified portfolio, timing entry into the ILS market, benefits of diversification within an ILS portfolio and the performance of the ILS market.

A selection of these questions and our answers is included below.

1. At current yields does it make sense to wait for an opportunity to enter the ILS market at a more attractive point in the cycle, particularly given that it has been so many years since the ILS market experienced a significant event?

At current yields (cash +4–6%), we believe cat bonds are trading at spreads that are very attractive compared to equivalently rated high yield corporate bond spreads, which means, investors are actually being paid to diversify. This reflects the structural premium in practice.

Regarding significant events (catastrophes), just because the world has not experienced a major insured catastrophe loss for some time does not mean that it becomes increasingly likely that any particular geographical concentration of property will be hit.

Every year the planet experiences about two dozen each of hurricanes and earthquakes of a magnitude significant enough to cause a large drawdown in the Fund's unit price. They are relatively common events, however, the occurrence of catastrophes in a geographical region with a concentration of trillions of dollars in property is extremely rare. Such property concentration is necessary for a 'hit' to cause a major drawdown in the Fund's unit price akin to a major sharemarket crash. The precise geographical placement of these events is completely random. Prediction of such events and their precise location is impossible, nor do catastrophes correlate with past events.

Certainly, if an investor had perfect foresight and knew a big event was happening later today, they would invest tomorrow and that is undeniably the perfect time to invest. However, at a return of cash +4–6%, waiting anything over four years for the 'big opportunity' would likely see the opportunity cost outweigh the gains from drastically widening spreads. Considering the structural premium and diversification benefits currently on offer in the normal market, it is difficult to mount an argument around timing an investment.

2. What is the worst case scenario for the Fund? What does such an event look like?

The most commonly accepted industry estimate of the 'Big One' is a catastrophic event which produces an insured loss the size of which is expected to occur once every hundred years (or 1% p.a. chance of occurring).

Within the Fermat ILS Yield Fund, the maximum 1 in 100 year event loss would result from, for example, a major Florida hurricane causing approximately US$200bn in insured losses. In this scenario, trillions of dollars in property concentrated in a major Florida city such as Miami would be utterly devastated. The

drawdown on the Fund in such a case would be approximately 25%.

By comparison, the most recent major single-event insured loss was caused by Hurricane Katrina in 2005, which caused a 4% drawdown in the month in which the hurricane occurred. The most severe event in modern history was the Great San Francisco Earthquake and Fire of 1906, which saw up to 75% of that city's population made homeless. Were this event to occur in San Francisco today, we estimate the impact on the Fund would be a drawdown in the order of 20%.

3. What is the size of the market?

The public catastrophe bond market in which Fermat is primarily invested stands at US$24bn as of the end of January 2017. From the inception of the ILS market in the late 1990s, this market has grown at a rate ranging from 15% to 20% p.a. The current outlook is that this strong growth will continue at a slightly more moderate range of 10%-15% p.a.

4. The size of the market seems inconsequential. Why is this market so important?

Compared to the estimated US$4 trillion of insurance premiums written each year and the global reinsurance market size of US$350 billion, the cat bond market of $24 billion seems very small. However, the maximum exposure that the global reinsurance industry is widely thought to be able to have to any single peril[2] is estimated to be roughly $25 billion.

Without the capital relief provided by the ILS markets, including the cat bond market, insurance companies would be forced to find alternative sources of reinsurance capital in order to keep writing insurance premiums. There are few alternative options. This $24 billion of capital relief is in fact an integral part of the capital base needed to maintain a properly functioning insurance market.

5. Why are spreads so much lower than in previous years?

Cat bond spreads are currently sitting within the long term equilibrium range of cash +4–6% p.a. This spread is closely related to the long term equity cost of capital in the insurance industry. A better question to ask is 'Why were spreads so much higher in prior years?'

The cost of capital for insurers rises sharply immediately following significant losses, as do insurance premiums. Since Fermat's inception, three years have seen events that impacted the market enough to cause spreads to widen:

- 2005: Hurricanes Katrina, Rita and Wilma and the largest aggregate loss ever.
- 2009: Flash bankruptcy of Lehman, which disrupted the financial health of reinsurers on the asset side of their balance sheets.
- 2011: Japan's Tohoku earthquake and the second largest aggregate of insured losses.

Widened spreads typically persist for two to three years, which created the impression that they remained wide for the entire period of 2006 to 2014. In fact, they did begin to narrow prior to each subsequent event year.

The 2005, 2008 and 2011 disruption sequence was, by many measures, unprecedented in modern history. The absence of any significant catastrophe events in the period since 2011, which is a more normal experience, has

2. Probable cause (catastrophe) that exposes a person or property to the risk of damage, injury, or loss, and against which an insurance cover (policy) is purchased.

seen spreads track back to their equilibrium levels.

6. How should investors view the role of the Fermat ILS Yield Fund in a diversified portfolio?

The ILS asset class displays a unique characteristic which differentiates it from other asset classes that typically make up a diversified portfolio—the source of the risk of loss is independent of the source of return. The source of return to an ILS is an insurance company, which pays a structural premium related to its equity cost of capital, while the risk of loss is driven by the occurrence of completely independent events with a remote risk of loss.

This characteristic has two important implications:

1. The structural premium received is typically greater than is warranted by the risk; and

2. The risk of loss is not influenced or altered by volatility in financial markets.

In the current market, the carrying yield on the Fermat ILS Yield Fund is significantly higher than that of equivalently rated high yield corporate debt. As at 27 Feb 2017, the Fermat ILS Yield Fund had a margin above AUD cash rates of 4.59% vs the Bank of America Merrill Lynch US High Yield Index margin of 3.75%.

Historical analysis shows that the returns of the Fermat ILS Yield have a very low correlation with the returns of both equity and bond investments.

In determining the allocation within a portfolio to the Fermat ILS Yield Fund, the following should be considered:

1. The asset class is liquid, with the Fund offering weekly pricing and monthly applications and withdrawals;
2. Returns are stable and structurally related to the equity cost of capital of insurance companies and therefore are higher than equivalently rated corporate debt; and
3. Correlations with traditional and other alternative assets are low, which improves portfolio diversification.

Investors receive both a yield premium and a diversification benefit—a double improvement to the portfolio Sharpe ratio. Existing investors in the Fermat ILS Yield Fund have disclosed that the typical allocation ranges from 1% to 10%+ of their total portfolio.

7. Is climate change/global warming having an impact or likely to have an impact on the Fund?

The most significant climate change–related impact on the Fund would be from an increase in the number of major hurricanes making landfall, particularly on the East Coast of the United States.

There is a significant and growing body of research concerning the effects of climate change on the frequency and severity of hurricanes. Not surprisingly, the research is highly technical and the evidence is not conclusive that hurricanes are in fact increasing in frequency and severity. The most notable recent comment from the Intergovernmental Panel on Climate Change (5th Assessment Report)[3] stated:

> In summary, confidence in large scale changes in the intensity of extreme extratropical cyclones since 1900 is low. … No robust trends in annual numbers of tropical storms, hurricanes and major hurricanes could be identified over the past 100 years in the North Atlantic basin.

3. See https://www.ipcc.ch/index.htm

Insurers have no incentive to understate the risks embedded in their portfolios, as doing so would only see them out of business in the long term, whereas rising risk means insurers can charge higher and higher premiums for coverage.

What this implies in the practical sense is that the models used to assess individual bonds in the Fund portfolio are unlikely to be understating the risk. Importantly for investors, even if the risk of loss from a major hurricane was growing, the return being paid in the form of yield on the portfolio would also rise and, certainly in Fermat's view, investors remain well compensated for that risk.

Perhaps the simplest point to understand is that cat bonds are typically issued with 3–5yr maturities, while climate change is at least a multi-decadal phenomenon. Any new climate change outlook is built into the modelling process, with a bias to conservatism on the investor's behalf, in a much shorter time frame than the change in the science.

8. What is the 'disaster gap' and why is it such an important factor?

The 'disaster gap' is the key driving factor of the structural source of returns to investors. The return to an investor in the Fermat ILS Yield Fund is directly related to the equity cost of capital to insurers. In the absence of a natural event with extremely limited risk of occurrence, this structural return is highly stable and not impacted by financial markets.

As the gap grows between the total insurance industry exposure to an extreme natural disaster and the amount of insurance and reinsurance capital available, regulators and ratings agencies are forcing insurers to take steps to improve their ability to cover claims with an increasingly remote likelihood of occurrence. One of the avenues to improve claims capability in remote scenarios is to pay capital market investors to share some of the risk.

This concept is explained in detail in the Brookvine/ Fermat paper titled "Catastrophe Risk – The Disaster Gap and the Economic Case for Insurance Linked Securities."

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