

ESG Analysis

Sustainability Performance of CAT Bonds

Starting Points, Function and Evaluation

Natural disasters pose great challenges for the economy in general, the insurance industry in particular as well as society. The rise in weather-related natural disasters, demographic change and an increase in insured value in the affected regions lead to increased insurance losses at a high volatility. As a result, the demand for protection and insurance coverage is growing.

Since the late 1990s, the capital market has developed into a substantial and responsible carrier of insurance risks, alongside the traditional reinsurance market. Particularly in the area of natural disasters, the capital market plays a key role by providing additional capacity on top of traditional reinsurance which has a stabilizing effect on the global reinsurance system.

The example of hurricanes and major earthquakes impressively shows that catastrophe bonds play an important part globally in the financial protection of civil societies which are particularly exposed to such risks.

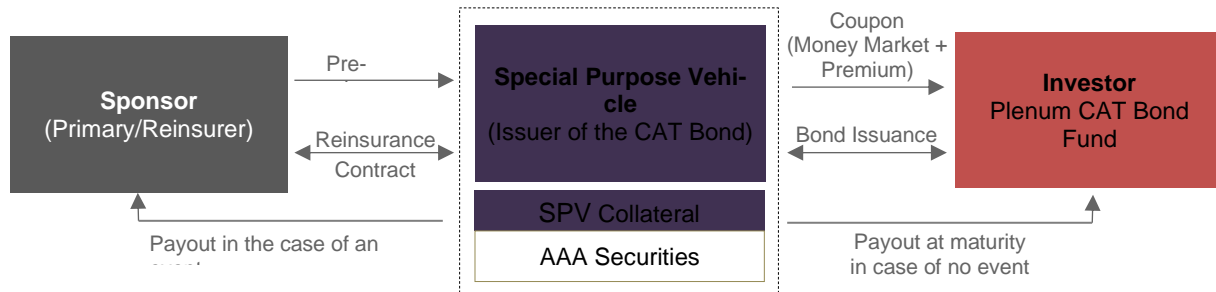
1. Function and Structure of Catastrophe Bonds

Catastrophe bonds transfer the risk of a natural disaster event to investors who pay for part of the losses. In return, investors receive an insurance premium. From the investor point of view, catastrophe bonds are useful for diversifying a portfolio, since natural disasters occur regardless of the development of a national economy or the stock market which is why they have little correlation with traditional asset classes. This was impressively demonstrated in the 2008 financial crisis.

A catastrophe bond is structured (see chart below) to minimize the credit risk both of the sponsor ceding the risk and the investor. The reinsurance contract between the special purpose vehicle (CAT bond) and the sponsor provides for a maximum loss amount in case of the occurrence of a natural disaster event. Unlike the investor, the special purpose vehicle typically has a reinsurance license. For the duration of the risk period, the sponsor regularly pays a pre-defined reinsurance premium to the special purpose vehicle which is part of the periodic coupon payments. The capital to collateralize the potential liabilities arising from the reinsurance contract is raised by issuing the CAT bond. For the term of the bond, the issue proceeds are deposited in a so-called collateral trust account and invested in low-risk short-term US treasury bills.

If no natural disaster event occurs during the term, the CAT bond investor receives back the principal in addition to the current coupon payments (insurance premium plus return on the deposited collateral). If, however, an event covered under the reinsurance contract does occur,

the sponsor can draw on the deposited capital to meet his obligations, thus reducing the outstanding principal in proportion to the loss amount.



2. Starting Points of ESG Analysis

2.1. Insurance Book of Business

In general, catastrophe bonds provide reinsurance coverage to insurance companies, however, they have no direct financing function. This means that catastrophe bond holders do not invest in debt securities or capital shares of the same company. As a result, ESG analysis of catastrophe bonds refers primarily to the insurance book of business, i. e. the insured risks. It is therefore not the investment side of an insurance company (asset side of the insurance balance sheet) that is the focus the analysis.

As regards the ultimate recipient of the insurance benefit, a distinction is made between individuals and companies. If the insurance benefit is paid to an individual as is the case in building insurance for example, it can be safely assumed that the transaction is ESG neutral. This makes the client segment and type of insurance benefit (residential, commercial, industrial, extreme mortality) key differentiators with respect to the method of ESG analysis. Bonds covering industrial risks can be problematic in terms of sustainability, since they may include risks from controversial industries and therefore require a deeper analysis of the business sectors covered.

The categories “commercial” (small business – non-industrial, transportation, small vehicles, other personal) or “extreme mortality” are also considered inoffensive as, by definition, they do not cover controversial industries. However, since there is no standard definition among the sponsors, a more detailed analysis of the “commercial” category is imperative.

2.2 Use of Funds in the Case of an Event

Only in the case of an event is the cedant entitled to draw down funds to indemnify his policyholders. In the case of indemnity-based transactions, these funds can only be used if the cedant can prove that he has paid insurance benefits to the insured parties (paid claims clause). This is to ensure that the policyholders benefit from the insurance payment.

In the case of bonds with parametric or industry loss triggers, the occurrence of an event, provided it reaches the trigger point, results in a payment to the cedant. If and to what extent

policyholders have sustained losses is not relevant. This means there is a basic risk equivalent to the discrepancy between the actual loss and the payment received from the CAT bond.

Since it requires an insurance event to trigger a payment of the catastrophe bond and claims of the insured parties have to be given priority, it can be assumed that even if the cedant goes bankrupt, the payment from the CAT bond will benefit the insured parties concerned.

2.3. Investment of Collateral and Premiums

In a CAT bond, unlike the fixed assets of an insurer, collateral and premiums are usually held in US money market funds or World Bank bonds within the special purpose vehicle.

The special purpose vehicle cannot employ a return-oriented investment strategy with respect to the issue proceeds of the catastrophe bond since they serve as collateral for the insurance risks and a shortfall in cover during the term has to be avoided by all means. Consequently, the collateral has to be invested at low risk. So, it is a structural measure designed to avoid default risks rather than a return-oriented investment.

2.4. Secrecy Jurisdictions

ESG analysis also needs to address the question whether the company domicile of special purpose vehicles in secrecy jurisdictions such as Bermuda or the Cayman Islands constitutes a problem. Drivers for the choice of domicile are: fewer bureaucratic obstacles, high flexibility, time and know-how available on site. Bermuda in particular boasts a well-established insurance industry with a large number of operating companies which has taken decades to build.

The vast majority of special purpose vehicles issuing CAT bonds are domiciled in offshore financial centers. These financial centers are criticized in particular for their role as tax havens and lack of transparency with regard to money laundering. Why the choice of domicile of CAT bond SVPs can be regarded as uncritical with respect to aggressive tax avoidance is set out in the following.

All methods of aggressive tax planning are aimed at not generating taxable income in high-tax jurisdictions, but in tax havens. Looking at the cash flow of CAT bonds, it soon becomes clear that there is no tax avoidance involved. The sponsor pays premiums to the special purpose vehicle for the risk assumed by the investor. These premiums are costs for the sponsor. While they do reduce the taxable profit, they remain due to the investor and do not revert to the sponsor. Hence, there is no transfer of income.

Income incurred by the special purpose vehicle from the money market investments and the insurance premiums received is distributed to the investor as a coupon. The income for the investor consequently is not transferred to a tax haven either, but is to be taxed in the tax domicile of the client, based on locally applicable law.

2.5. Conclusion

It is the reinsurance contract that takes center stage in the ESG analysis. In the segments “commercial” and “industrial”, an in-depth analysis is required to identify ESG non-compliant components.

3. Catastrophe Bonds and Sustainability

3.1 Fundamental Contribution of the Insurance Industry

In essence, the business model of insurance is characterized by the fact that the insurance company collects premiums (costs for assuming the loss occurrence probability and loss amount) in order to cover losses and/or finance the reconstruction in the case of an event. The policyholder pays an insurance premium which is a fraction of the sum insured. To make this possible, insurance companies calculate the price and thus the probability of occurrence of the loss to be covered.

The insurance industry promotes individual responsibility both on the public and the private side. This follows from the fact that a lack of prevention and caution in handling risks leads to higher claims payments which, in turn, result in increased insurance premiums. To avoid the additional expense in the form of higher premiums, the policyholder will change his behaviour to the extent that the loss can be avoided or reduced. At state level, this disciplinary effect frequently results in stricter building regulations (improved structural design, increased resistance of buildings) or enhanced infrastructure, for instance through higher levees or more effective drainage systems to mitigate the increasing risk of flooding.

Loss and damage research of insurance companies reveals cause-and-effect relationships which influence risk. Understanding these relationships allows for targeted risk-mitigating measures to be taken.

Providing capital for making good the damage caused by natural disasters is a core function of the insurance industry which involves taking social responsibility to a high degree and is sustainable.

3.2. Increasing Resistance

Reinsurance is basically about protecting insurance companies or pools. The general sustainability contribution of the insurance industry and CAT bonds is mostly of an indirect nature. However, the sustainable impact of catastrophe bonds becomes apparent when reconstruction following a natural disaster is delayed or does not happen at all because of insufficient insurance coverage. The long-term effects of doing no reconstruction are often far worse and financially more expensive than doing reconstruction immediately following the disaster. This becomes particularly apparent when taking the 2010 earthquakes of the same magnitude in Christ Church (New Zealand) and Port-au-Prince (Haiti) and comparing the current relative development status of the two cities and societies.

Fighting Poverty

In many cases, real estate is the livelihood of private households and makes up the bulk of their assets. Protecting it against the negative effects of insurance events reduces the risk of poverty in the case of an event and ensures prosperity. In extreme cases, the absence of insurance protection can result in an exodus of people and industries.

Time is a crucial factor to minimize negative aftereffects of disaster events. A rapid deployment of capital through catastrophe bonds in the event of a loss helps to stabilize the affected societies and to master the challenges facing them in the aftermath of a disaster event (such as epidemics, migration waves, unemployment, reconstruction, etc.).

Improving Health

An increasing number of governments and international organizations use catastrophe bonds as an instrument against the spread of pandemics. In 2017, the World Bank launched the first ever pandemic insurance in the form of a CAT bond in the amount of USD 500 million to ensure the financing of emergency measures to prevent the spread of pandemics (Pandemic Emergency Financing Facility – PEF). The CAT bond was structured in such a way that the premiums were financed by various industrialized countries such as Germany and Japan whereas the risk of losses was assumed by the capital market.

Scientists believe that an outbreak like the Spanish flu of 1918 today would claim more than 33 million lives in just nine months. The costs are estimated at nearly five percent of the worldwide BIP. According to the head of the World Bank, this would be equivalent to more than USD 3.6 trillion. After the Ebola outbreak in West Africa in 2014, which revealed major shortcomings of the crisis management system, it turned out that the economic losses were USD 10 billion.

CAT bonds make a major contribution by quickly and purposefully providing financial resources for fighting pandemics.

Promoting Global Partnership for Sustainable Development

Mobilizing additional financial means from various sources enables even emerging and developing countries to afford to safeguard against natural disasters. The World Bank, countries and subsequently the capital market perform important financing functions. Covering earthquake, flood, weather event and pandemic risks is the basis prerequisite to create confidence among investors to bolster the economy of a developing country. What good are investments if they become worthless because of a natural disaster and reconstruction is out of the question? Guarantees of financing reconstruction by insuring assets are crucial for attracting international capital. Instead of tax money, private funds are provided through the capital market. For instance, in early 2018 the World Bank once again transferred USD 1.4 billion to the financial market for coverage of earthquake risks in Columbia, Chile, Peru and Mexico.

Stabilizing the Insurance Business

Assuming that insurance losses will further increase due to demographic factors and a growing frequency of natural disasters, the capital market plays a key role in covering such risks. For equity and diversification considerations, the risk-bearing capacity of the traditional insurance industry for extreme risks is limited. Outsourcing insurance risks to the capital market therefore reduces the vulnerability of the insurance industry in the event of a disaster.

Is the reinsurance system up to the great challenges and is there sufficient equity to cover the future growth of losses? In 1992 when hurricane Andrew in the US caused an insured loss of USD 15.5 billion, several insurers subsequently had to file for insolvency. Covering these so-called peak risks requires a high equity backing of insurance companies. It quickly became clear that the increase in natural disaster events called for additional cover capacities. At the same time, it dictated the need to raise alternative risk coverage capital in order to stabilize the traditional insurance system which is known to be a very intricate network. This was achieved with the help of the capital market through so-called insurance-linked securities.

4.1 Conclusion

Applying ESG criteria to catastrophe bonds requires a new way of thinking. It is not the investment side that takes center stage in the analysis, but the insurance contract. This is because the core business of the insurer happens on the liability side of the balance sheet and the payout of catastrophe bonds is linked to a specific event and therefore occurs purposefully.

Using catastrophe bonds as an instrument for the risk transfer to the capital market not only strengthens the resilience of economy and society, but also stabilizes the traditional insurance system and provides additional risk coverage capacity.

Disclaimer: This document was issued for information purposes only. It reflects the opinion of Plenum Investments Ltd. and aims to promote a better understanding of how to look at catastrophe bonds from a sustainability perspective. In no way is it intended to be used as investment advice.