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Stranded Assets from Climate Change – Should Insurance Companies be Alarmed?

March 6, 2020 By Key Coleman

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Key Coleman discusses the impact climate change could have on the value of insurance companies' investment portfolios.

Climate change from the burning of fossil fuels has many implications for the US economy. One consideration that deserves greater attention is the impact climate change could have on the value of insurance companies' investment portfolios. Given that insurance company assets are comprised almost entirely of investments (i.e., there is no raw material, inventory, etc., on the balance sheet), the potential of "stranding" an entire class of investment securities is of utmost concern.

How do assets become stranded?

"Stranded assets" is the term used to denote assets on insurance companies' balance sheets that have suddenly declined in value or become illiquid as a result of climate change or other closely related issues. Needless to say, an unexpected drop in policyholders' surplus (PHS) could wreak havoc on the balance sheets of US insurers, impacting their capital, capacity to insure and solvency. But, is this a fear that lies in the distant future, or one that should concern insurance companies today?

In response to this question, it is important to understand how assets can become stranded. For carbon extractors, lower demand for fossil fuels combined with increased costs can alter the "extraction equation." If lower demand drives prices below a breakeven point of, say, $40 a barrel for certain oil reserves, these reserves will become inaccessible. At the same time, an increase in costs of, say, $8 a barrel, will further impact the extraction decision, and expand the inventory of stranded reserves. If the reserves are stranded, the investment values will soon follow suit.

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For heavy users of fossil fuels, such as electric utilities, there are additional variables at play. For example, changes in technology are soon expected to lower the cost of alternatives to thermal coal, a significant source of electricity generation worldwide. The Carbon Tracker Initiative estimates:

"It will be cheaper for Japan to build new offshore wind than run coal plants by 2025, calling into question the government's pro-coal stance and its implications for energy consumers."

The timely delivery of such technology would further strand coal reserves while potentially rendering the coal-burning infrastructure of electric utilities obsolete. As a result, insurers holding the securities of coal or electric utility companies would be impacted.

How Much is at Stake for the Insurance Industry?

Insurance companies are the second largest institutional investor in the US, after pension funds. The largest 40 insurance company groups hold almost half a trillion dollars in carbon-related investments:

Oil & Gas Companies $221 Billion

Electric/Gas Utilities $237 Billion

Coal Companies < $2 Billion

Total $459 Billion

While these carbon assets represent less than 10% of cash and invested assets of the entire US insurance industry, a sudden decrease in their value would drastically impact insurers. The Life Insurance industry would feel the impact disproportionately in comparison to the Property & Casualty

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(P&C) industry. As shown below, life insurers' PHS represents just over 9% of assets, so a relatively small decline in assets would cause a more significant impact to PHS.

In contrast, P&C companies would require a much larger reduction in assets (roughly 40%) to eliminate their PHS entirely. On the other hand, P&C companies require this level of PHS to conduct business; they are in no position to weather losses from their investment portfolio because such losses would, at the very least, curtail their premium writings and could trigger regulatory alarms such as those associated with Risk Based Capital (RBC).

Could Fossil Fuel Demand Actually Decrease in the Near Term (Enough to Matter)?

Demand could decrease very swiftly, especially if we are talking about the change in preference from one fossil fuel to another (i.e., coal to oil, or oil to natural gas). To see the impact of a drop in demand for oil, one need look no farther than California. California has significant oilfields, yet, production of crude oil is down 60% since 1985. While the regulatory environment has certainly added costs to production in the last 35 years, that is not the only reason for the general decline. Rather, much of the decline is attributable to inexpensive natural gas that has supplanted oil production. Producers would rather stop production, leaving a well idle until oil prices rise again. As a result, there are currently 35,000 idle (but not decommissioned) oil wells in California today.

What are additional drivers that would cause stranding of oil assets?

Increases in costs would also impact the extraction equation. For example, decommissioning costs represent the future costs of taking assets out of service permanently. Drilling

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companies post reclamation bonds to guarantee this cost in case they are insolvent when the future decommissioning is required. However, the Times/Public Integrity investigation found that reclamation bonds posted by California's seven largest drillers cover only about $230 per well, while the average cost to plug and decommission an onshore orphan well (i.e., one with an insolvent owner) in California is $68,000, and can be much higher depending on the location and population density.

This raises the question of whether solvent drilling companies have the right amount set aside on their own books to decommission their wells – if not, then greater costs would need to be recognized. A study published in the Petroleum Accounting and Financial Management Journal provides a "Report Card" on the industry's disclosure of Oil & Gas decommissioning liabilities (referred to as the Asset Retirement Obligation (ARO)), and claims the industry's ARO is actually much larger than what is disclosed in financial statements. From an accounting standpoint, a more rigid standard went into effect long ago, but this study concludes that implementation of the new standard has produced results that are far from "economic reality."

In 2003, the Financial Accounting Standards Board put in place SFAS No. 143 (later codified as ASC 410-20) to address the estimation of the ARO covering decommissioning, plugging and abandonment costs in the oil and gas industry. SFAS 143 is a fair value measure that replaced SFAS 19 which used amortization and depreciation to reflect the expense of decommissioning assets. Previously, under SFAS 19, it was possible to exclude overhead and internal costs. The new standard, as a fair value measure, was designed to more closely recognize actual expenses when incurred. However, even under the new standard, data shows that there are frequently late-life ARO revisions that occur just prior to asset retirement. This same Report Card gave the industry a failing

grade in two important areas: estimating its ARO, and funding its ARO.

Correcting this problem will have consequences. First, as oil companies true-up their ARO for existing wells, they may suffer an increase in liabilities impacting their balance sheet. Second, as they consider new projects, increasing the estimate of decommissioning costs in the extraction equation will make marginally profitable oil assets unprofitable to extract.

Other Factors impacting the Value of Carbon Securities

Global financial firms with $118 trillion in assets under management have committed to make climate risk disclosures in 2020. Further, pension funds and other institutional investors are tightening their socially responsible investing standards. To the extent that these large institutional investors divest carbon investments, future capital expenditures will become more difficult for the industry to finance, further raising the industry cost of capital and placing downward pressure on the value of the underlying securities.

Conclusion

Insurers have a great deal at stake and need to pay close attention to climate change issues that impact their invested assets. Former California Insurance Commissioner, Dave Jones stated the risk of inaction succinctly as follows:

“I do not want to sit by and then discover in the near future that insurance companies’ books are filled with stranded assets that have lost their value because of a shift away from the carbon-based economy, jeopardizing their financial stability and ability to meet their obligations, including paying claims to policyholders.”

The insurance industry, with its substantial investment portfolio, is dependent upon the stable valuation of carbon assets. As other institutional investors divest these assets, however, insurers should expect values to erode and should be prepared to address their increasing risk of holding stranded investments.

About the Author

Key Coleman is Executive Director of Litigation Economic & Forensic Consulting Group LLC (https://lefcg.com), in Greater Philadelphia, Pennsylvania. Key performs financial analysis and forensic accounting, often relating to insurance or reinsurance disputes. He has written several articles on the impact climate change could have on the insurance industry, and has provided commentary to insurance industry news outlets including A.M. Best TV.

Sources

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[3] "Assets or Liabilities? Fossil Fuel Investments of Leading US Insurers", Ceres, by Cynthia McHale and Rowan Spivey in collaboration with Mercer, June 2016, p. 5-7

[4] Ibid, p. 4

[5] Interestingly, historical data shows that once a well is idle for 10 months, there is a 50% chance it will never produce again. "The toxic legacy of old oil wells: California's multibillion-dollar problem," by Mark Olande and Ryan Menezes, *The Los Angeles Times*, 2/7/2020, p. 4-8

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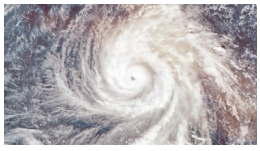

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