

EXPERT COMMENTARY

Blockchain Technology and Reinsurance

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By now, most of you have heard of Bitcoin, the digital currency that has been used across the world for significant purchases and forms the preferred currency for perpetrators of ransomware. You may even know that it relates to something called blockchain technology. The news is full of stories about blockchain technology and is certainly big news in the financial services markets.

Recently, an insurance industry group has formed called B3i, which is an international insurance industry blockchain technology consortium. Now, I don't profess to be a blockchain expert or visionary, but given that at this writing 15 insurance and reinsurance groups have joined B3i, something must be going on. Let's take a look.

What Is Blockchain Technology?

Blockchain is a distributed ledger technology. Blockchain technology is defined in an article on PwC's website by Alan Morrison, titled

"Blockchain and Smart Contract Automation: Blockchains Defined," as "a distributed, decentralized transaction ledger, saved by each node in the network, which is owned, maintained, and updated by each node. It's a peer-to-peer system. No central authority manages the transaction flow."

So, analogizing it roughly to reinsurance, it is a form of a shared bordereaux, where the entries are made, saved, verified, and continued in order of transaction entry on each counterparty's secure computer system involved in a reinsurance transaction. Each of the individual bordereaux entries is related to the previous entry to ensure validity and immutability of the overall transaction. Essentially, the ledger is shared by all the parties to the transaction, and it allows all of them to see and verify the complete transaction and to avoid redundancy and inconsistency.

One of the touted values of blockchain technology is that each transaction is time-stamped, cannot be altered, and is verifiable. This reduces the need to audit and decreases human error. What this also means is that

each company in the blockchain holding sensitive and confidential information can better ensure that this information is protected from outside threats.

Where Is Blockchain Being Used?

Blockchain is the technology behind Bitcoin. It is also being used in certain financial services and banking sectors. It provides for a more secure way of doing direct business between peers and requires less human intervention. Using a common buzzword of today, it is a disruptive technology and has the potential to radically change the way certain business transactions are handled. It is also being used, at least as an experiment, for certain insurance-linked products like natural catastrophe swaps.

Why Is the Insurance and Reinsurance Industry Interested?

The insurance and reinsurance industry is interested in blockchain technology because it has the potential of reducing administrative workload, eliminating frictional costs, reducing, if not eliminating, inconsistency, and improving auditability. In other words, using blockchain technology may make certain insurance and reinsurance transactions faster, more convenient, and more secure. It also may make customers happier, especially with peer-to-peer transactions that are transparent between the contracting parties.

So, to figure all this out, some of the largest insurance groups in the world have come together in a consortium to test out blockchain technology in the insurance and reinsurance context. As Swiss Re describes it in [“Insurers and Reinsurers Launch Blockchain Initiative,”](#) “Blockchain offers huge potential for enabling digital contracts and transactions amongst multiple parties to be executed in a secure, transparent, and auditable way.” The testing will include transacting reinsurance contracts

among consortium members to realize a proof of concept. If it works, it will streamline communications and transactions and create a shared, transparent, and secure record of contract-related information. It will also reduce costs and improve efficiency in the way the industry works with its customers.

Another reason for the B3i consortium is to develop an industry-wide blockchain standard so that all members of the insurance and reinsurance industry will be able to transact business using the same blockchain methodology to ensure consistency and accuracy. Like all digital technologies, there are multiple ways to do similar things. To allow for a platform to exist for the entire industry, standardized methodologies are necessary to avoid disruptions and conversions between multiple systems. In other words, with an industry standard for digital contracting via a distributed ledger, the industry will avoid the problems it has with constantly having to convert or recode data from legacy systems or from one company or broker’s system to the other.

What Will Blockchain Disrupt?

If used to facilitate reinsurance transactions, Blockchain has the potential to radically change how certain reinsurance transactions are handled. Certainly, the use of reinsurance intermediaries will diminish in the process given the peer-to-peer nature of the technology. Gone will be the need for the reinsurers to ask the cedent for detailed premium and loss data on the reinsured book of business when all that detail will be part of the blockchain transaction ledger. Given that it will reside on both the cedent’s and reinsurers’ secure computer systems simultaneously, the need for separate premium and loss bordereau will be eliminated. A reinsurer can merely examine the ledger and will have at its fingertips all the premium and loss transactions entered by the cedent as part of the blockchain.

On the underwriting side, a similar disruption may occur. If insurance or reinsurance is placed directly from the policyholder or cedent to the insurer or reinsurers, the entire contracting process will be on one continuous blockchain ledger. As part of the contracting process, prior loss information, payroll information, property and location information, and the like will be entered as transactions on the ledger for the underwriter to see in real time. On the flipside, the policyholder or cedent will be able to see the transactions entered by the underwriters as the contract is put into place. Policy issuance will be more efficient and automated with digital signatures.

How Will Blockchain Make Reinsurance More Efficient?

According to a PwC report titled *Blockchain: The \$5 Billion Opportunity for Reinsurers*, the cost savings for reinsurers could be in excess of \$5 billion. This includes reducing processing time and cost of placement, reducing the time to settle losses, and bringing more efficiency to compliance issues, such as sanctions or cyber-security. Using blockchain technology for “smart contracts” could also increase efficiency and reduce costs. Imagine an entire reinsurance transaction on a single ledger from the original cession all the way through each retrocessional assumption. The entire process of placement, premium cession, loss cession, and payment can be shared among all parties simultaneously.

PwC believes that blockchain technology may reduce claims leakage and fraud and provide

sufficient efficiency so as to remove 15 to 25 percent of current expenses. Part of this includes avoiding having to rekey data. If the data is on the ledger, and each party can access the ledger, it does not need to be rekeyed into the reinsurer’s system and then into a retrocessionaire’s system and certainly not into a broker’s system.

Conclusion

With the rise of alternative capital and capital market instruments being used in the risk transfer domain traditionally dominated by reinsurers, reinsurers have long recognized the need to become more efficient and effective in providing risk transfer products to support their clients. Blockchain technology is just the latest effort by the reinsurance industry to modernize its way of doing business. The disruptive nature of blockchain technology has the potential of radically changing the way insurance and reinsurance are placed and used in the future. With B3i, the insurance and reinsurance industry is out front on this concept. How this will all shake out is hard to predict, but it certainly looks like blockchain technology may take the reinsurance business into the future.

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