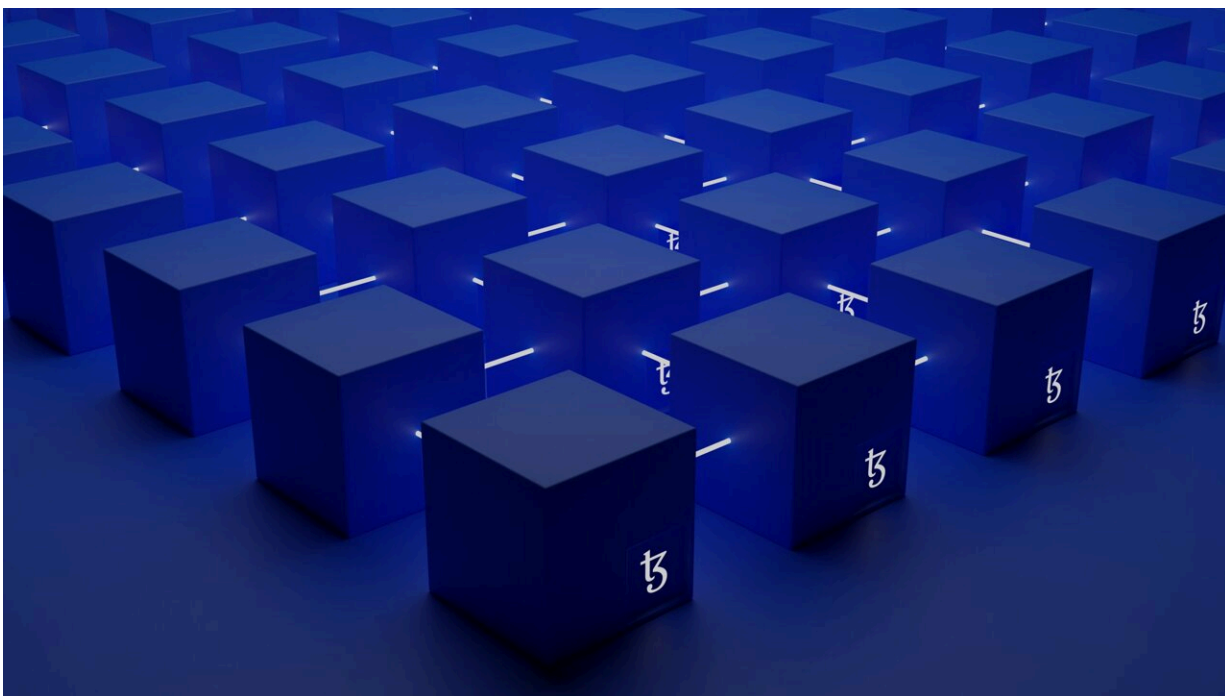


# Professor highlights challenges in adopting blockchain for asset-backed securities

August 30 2024, by Alvin Lee

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Mention "Asset-backed securities" (ABS) to certain finance professionals and investors, and the turmoil of the 2008 Financial Crisis immediately comes to mind. The causes of this generation's version of The Great Depression have been thoroughly documented, ranging from a low-interest rate environment to a lack of transparency in the collateralization of subprime mortgages that served as the underlying

assets for trillions of dollars' worth of securities.

Since then, the US Securities and Exchange Commission (SEC) have set requirements for issuers of ABS to list all underlying assets on their websites. In various countries such as the US and Switzerland there have been blockchain-based ABS, where all underlying assets are placed on blockchains in the name of transparency.

In a project that concluded in March 2024, Dean of the SMU School of Accountancy, Professor Cheng Qiang, who is also the Lee Kong Chian Chair Professor of Accounting, looked at over 10,000 tranches in 4,000 ABS deals issued in China between January 1, 2015, and June 30, 2021. He found only 25 tranches in 14 ABS deals that were issued using blockchain technology.

The project, titled "The economic value of blockchain applications: Early evidence from asset-backed securities," found that these tranches of ABS had "an average yield spread [of] 31.4 basis points lower than other tranches," which "translates into a saving of RMB9.6 million in interest payments over the life of an average ABS deal with a principal of RMB 1,181 million." The study is [published](#) in the journal *Management Science*.

## **So why are so few issuers taking advantage of blockchain technology?**

"First, a lot of issuers don't know the benefits of blockchain," Professor Cheng told the Office of Research. "We have spoken to an issuer who is doing it on blockchain and even they don't really understand the benefits from the investor's point of view. For them, the benefit is the reduction in the cost of issuance such as compiling the information, putting it together so that [rating](#) agencies can access the information, etc. instead

of interest payments.

"The second thing is that blockchain technology isn't widely used by corporations. Some corporations developed it for other purposes. For example, JD.com developed blockchain technology to track the products that it sells online, especially for the high-value products such as maotai (茅台酒) wine and designer bags whose authenticity can be proven via blockchain. JD.com then used this technology to issue ABS."

He adds, "This technology is not available to a lot of issuers so they have never thought about its benefits. Developing and running this technology is also costly. But for ABS issuance, the costs might be a bit lower compared to an IPO which involves a very big base; an ABS blockchain involves a relatively smaller number of participants, so the costs are manageable. It's really about the awareness of the benefits as well as access to the technology."

## **Increasing transparency, cutting costs**

Professor Cheng points out that [institutional investors](#) such as [pension funds](#) and [insurance companies](#) are the usual buyers of ABS, and as such would find the transparency offered by blockchain technology reassuring. Even if these buyers do not look through all the information, Professor Cheng notes that "issuers have no incentives to mislead investors knowing that they have access to all the information."

For the most part, investors rely on rating agencies such as Moody's and Standard and Poor's (S&P) where "AAA" is the highest rating that comes with a lower interest payment, with a sliding scale to "D" (default) with corresponding increases in interest rates to reflect investment risk. It raises the issue of ratings shopping by issuers, especially those with risky underlying assets such as subprime mortgages, to raise its ABS's rating to reassure investors and reduce interest payments.

"The impact isn't on whether ratings agencies will get the business—it's about the number of hours they will need to produce a rating," notes Professor Cheng. "Whether it's a blockchain-based ABS or otherwise, they are looking at the underlying assets to evaluate their quality and assign a rating based on the assets' risk. Without blockchain, you'll just have to trust the ratings agency because investors don't have access to information about the underlying assets.

"But rating agencies get their income from the issuers and not the investors, which is similar to auditors. That's where ratings inflation comes from. Even with everything published on the blockchain, the average investor probably won't bother to look at underlying assets; they'd rather look at the rating.

"Would rating agencies be paid less for a blockchain-based ABS compared to regular ABS? We don't know. Without blockchain, the rating agencies had to spend more time to sample the underlying assets and evaluate their risk. With blockchain, the issuer is doing some of the work that ratings agencies used to do, and all that is left to do is evaluate the risk of the assets on blockchain."

## **Finding efficiency, finding consensus**

The research also found that blockchain in ABS reduces the level of retained interest—the proportion of the ABS retained by the issuer—by about 20%, suggesting increased investor confidence and a higher take-up rate. Given that investors usually do not want to hold the riskiest tranches, it perhaps suggests some investors do read through the details.

While Professor Cheng's research suggests potential for wider adoption of [blockchain technology](#), he reiterates that "the number of users of a blockchain in the ABS issuance setting is relatively small, and thus the cost of running and maintaining the blockchain is low [whereas] the cost

of using blockchain in a large initial public offering might outweigh the benefits."

With regard to new approaches in achieving consensus in a blockchain network to publish any changes in the makeup of collateralized assets, he pinpoints the energy-intensive nature of the technology.

"For ABS, using blockchain is less energy intensive because the number of investors is small since it's usually just institutional investors. IPOs could involve thousands and maybe even millions of people, so that will become very energy intensive. That's probably why some bonds are issued on blockchain—usually there's a minimum quantum that naturally reduces the number of eligible investors," Professor Cheng explains.

He concludes, "Finding an energy-efficient way to find consensus will be critical for the wider adoption of blockchain."

**More information:** Xia Chen et al, The Economic Value of Blockchain Applications: Early Evidence from Asset-Backed Securities, *Management Science* (2023). [DOI: 10.1287/mnsc.2023.4671](https://doi.org/10.1287/mnsc.2023.4671)

Provided by Singapore Management University

Citation: Professor highlights challenges in adopting blockchain for asset-backed securities (2024, August 30) retrieved 31 August 2024 from <https://techxplore.com/news/2024-08-professor-highlights-blockchain-asset.html>

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