

# Extraordinary Popular Delusions and the Madness of ICO Crowdfunding

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Shaanan Cohney, David Hoffman, Jeremy Sklaroff, & David Wishnick, *Coin-Operated Capitalism*, \_\_ **Columbia L. Rev.** \_\_ (forthcoming), available at [SSRN](#).

Oldthinkers unbellyfeel blockchain. We are told that blockchains, cryptocurrencies, and smart contracts are about to revolutionize everything. They remove fallible humans from every step where a transaction could go wrong, replacing them with the crystalline perfection of software. Result: clarity, certainty, and complete freedom from censors and tyrants.

And yet we still don't get it. Some oldthinkers think that not all regulation is tyranny, while others point to the environmentally disastrous costs of blockchain strip mining. And then there are those of us who think that the entire premise of blockchain boosterism is mistaken, because the new "smart" contracts are not so different from the old "dumb" contracts. *Coin-Operated Capitalism*, by a team of four authors from the University of Pennsylvania, is the best recent entry in this vein. It is a playful, precise, and damning look at how smart contracts actually function in the real world.

This is one of very few law-and-computer science articles that takes both sides of the "and" seriously, and is one of the best examples I have ever seen of what this field can be. It is a law-review article about an empirical study of contracts and software. To quote the star footnote's description of the authors' combined expertise, "[Cohney](#) is a fifth-year doctoral student in computer and information science at the University of Pennsylvania, where [Hoffman](#) is a Professor of Law, [Sklaroff](#) received a JD/MBA in 2018, and [Wishnick](#) is a fellow in the Center for Technology, Innovation and Competition." (Jeremy Sklaroff, the (alphabetically) third author, wrote an unusually good [law-review comment](#) on smart contracts last year.) Another nine research assistants helped, presumably with the extensive white-paper reading and coding. It takes a village to write a truly interdisciplinary article.

*Coin-Operated Capitalism's* target is the initial coin offering (ICO). As the name suggests, an ICO is a blockchain analogue to a corporate initial public offering (IPO) of equity shares. Instead of receiving stock in a new business, an ICO investor receives tokens that give her a stake in a new smart contract. The token typically gives the holder some transactional rights (the authors' example is to receive sodas from vending machines) and some control rights (e.g. to vote on investment opportunities, or to approve modifications to some of the terms of the ICO contract), both of which are coded into the smart contract. The promoters use the funds thereby raised for the associated venture (e.g., building and filling the vending machines), for the development and maintenance of the smart contract itself, and sometimes for further investments as directed by the new class of token-holders.

Anyone who has ever heard of securities law should be hearing alarm bells at this point. A typical ICO [walks and quacks](#) like "an investment of money in a common enterprise with a reasonable expectation of profits to be derived from the entrepreneurial or managerial efforts of others," which can trigger obligations to register with the Securities and Exchange Commission, disclose investment risks, and to screen investors in various ways. Indeed, some ICOs are [transparent attempts](#) to route around securities regulation, while others are [outright scams](#), dressing up old cons with new buzzwords. But there is an interesting and important class of what we might call "legitimate" ICOs. They have business models that

don't fit well with a traditional corporation (e.g. decentralized storage as in [Filecoin](#)) and they make a good-faith effort to use the funds for the benefit of and as directed by token-holding participants.

ICOs (both sketchy and legitimate) typically come with a "white paper"—it would be a prospectus in a securities offering, but we're not allowed to call it that—describing how the new coin will work and why investors should be confident enough in it to participate in the ICO. In the securities context, regulators and class-action lawyers have made a blood sport out of comparing a company's securities disclosures with its actual conduct. The authors of *Coin-Operated Capitalism* brilliantly do something similar with ICO white papers. They compare the promises made in the offering documents of the fifty top-grossing ICOs of 2017 with those ICOs' *own smart contracts*. An ICO, after all, is an investment specifically in the smart contract.

The results of the survey are sobering. Dozens of ICO smart contracts failed basic investor-protection checks:

- Some allowed the promoters to arbitrarily dilute the shares of ICO investors by issuing more tokens in the future (14 out of 50).
- Some allowed the promoters to immediately cash out their positions following the ICO with no vesting schedule (37 out of 50).
- Some allowed the promoters to modify the smart contract unilaterally—the equivalent of a corporation's founder revising its charter (39 out of 50).

In many cases, the smart contract code **directly contradicted** promises made in the supporting white papers and other ICO documents. In other cases, the ICO promoters either made no promises about these features in their white papers, or explicitly disclosed them. These cases, while less alarming, are in some ways even more puzzling. The blockchain triumphalism story is a story of code displacing law. An investor can rely on whatever the smart contract says, and emphatically should not rely on anything else. But these are smart contracts that let the promoters take the money and run: who in their right mind would rely on one?

One possibility is that the ICO market is full of dumb-as-rocks money: investors hear [blockchain blockchain](#) and lose all capacity for rational thought. If so, any ICO promoter who doesn't take the money and run is a holy fool for blockchain.

It could also be that ICO investors are smart but out of their depth. They know how to read a legal document closely, but don't yet understand that ICO due diligence requires a line-by-line code audit. With time, they may learn how to translate their expertise in corporate governance to smart-contract governance, but they're not there yet. *Coin-Operated Capitalism* finds some evidence that this understanding is seeping into the ICO investment community; another way to check would be to run a similar study on more recent ICOs.

Most interesting of all, maybe ICO investors correctly believe that they don't need to rely on the smart contracts. Even if a promoter has the technical capacity to dilute investors into a trivial stake or modify their rights out of existence, investors are rationally unafraid it would actually happen. Perhaps they expect to win the fraud lawsuit and collect on their judgment if it comes to that. Perhaps they know that the promoters are holy fools who will preach the [Gospel of Satoshi](#) even in the face of temptation. Perhaps they see that the projects will come crashing down if the promoters start to slink away and that the promoters themselves are better off staying the course. Perhaps they know where the promoters live and also know some burly men with guns. Or perhaps they think that the shame of forever being *that blockchain guy who took the money and ran* is enough to deter insider self-dealing.

But, as the authors explain, such arguments “are dangerous for ICO advocates. They show that advocates have already abandoned the high ground of ‘lex cryptographica.’” All of these safeguards are off the blockchain. It’s not that the smart contract protects investors. Instead, the legal system protects them, or the business community protects them, or business norms protect them. These are all things that are part of the glue holding modern capitalism together. The smart contract is just a starting point, an anchor that gives an important but incomplete description of people’s rights and responsibilities. The real work happens in the real world, not in the computations carried out by the smart contract. And if that’s right, then *what was the point of the blockchain?*

It is hard to dispute the authors’ conclusion that “no one reads smart contracts.” It is also hard to see these ICOs as anything other than open-and-shut fraud. It may not necessarily be *securities* fraud, but the code itself proves that it does not meet the promises being made about it. For all the rhetoric of tyranny and censorship, maybe regulators understand a few things about contracts, money, and human nature that smart contract promoters and investors do not.

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