



Discussion on: “Programmable money: next generation blockchain based conditional payments” by Ingo Weber and Mark Staples

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JEL Classification E00 · E42 · G21

We congratulate Ingo Weber and Mark Staples for their remarkable ideas, opening up an entirely new direction in payments using blockchain. The paper introduces a new type of programmable money that can make conditional payments more efficient and reliable.

Having policies directly attached to the money itself is very interesting, and we think it has much potential application due to its flexibility. Besides all the centralized applications mentioned in the paper, we believe this technology can also be decentralized to create a more efficient “vouchers” market and, more importantly, create incentives for environmental issues or any philanthropic cause. We understand that adding policies to a coin will potentially decrease its value, but it can be used as marketing/promotion or to make the coin usable in environmentally friendly companies, transforming it into a “green coin”. Another version that can be explored is that instead of adding restrictions on where to use the money, it could be programmed to add a “red flag” when used in something, for instance, not ecological, and in principle decreasing the value of the coin. However, if too many policies exist, it would be tough to create liquidity for all of them. Second, if everyone were able to create policies, there might be many coins with bad intentions and loopholes on the conditions for the policies to drop. Although we can argue that the free market would give the correct value to the coin with weak policies, however until that happens, it would be enough for people not to trust in future products.

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Additionally, even if the article considers policies involving on-chain information, we could go even further. For example, using Chainlink hybrid contracts, it is possible to get reliable off-chain information so that smart money could improve efficiency, for instance, in gambling houses or the creation of options and market orders.

However, we have some concerns about centralized systems with several funders. If the coins are indistinguishable after being used, the service providers do not know where they should redeem their token for fiat currency, and a funder might end up paying back what they are not supposed to. This can be solved if we have a central identity responsible for that, but in that case, the funders would have to pay upfront, and that would generate a loss of capital if the spender ended up never using the tokens. Another simple solution would be using separate ERC-20 tokens for each service, especially in simple systems where the only option for the service providers is to redeem the tokens for fiat currency directly from the funder.

Another topic that we were interested in and thought it would be important to be discussed in the paper is how this technology would impact the people trying to abuse the system by paying verified providers for a different service. Corruption, in general, is a severe topic, and we need to make sure people are not trying to take advantage of social benefits. On the one hand, with smart money, we can have access to the data in real-time. It would be faster to find outliers and easier to track dishonest people, making it a great tool in this aspect. On the other hand, since this system is so easy to use, it will also make it easier for someone to abuse the system for a bit of money, so maybe we need more data to understand the impact of this topic.

In conclusion, we think there are several possible uses for this technology to make conditional payments more efficient, especially in small centralized applications. However, controlling how the money can be spent could give too much power to only one identity, so we would be very curious to see new decentralized projects using this technology and how they would deal with the scalability and security concerns once it is decentralized.

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