

DAOs & Don'ts aka Dictators, Cartels & Pyramids: Insider Asymmetries in Tokenised Peer-To-Peer Networks*

Dr. Wassim Z. Alsindi^[0000-0002-6701-0655]

Parallel Industries wassim@pllel.com
<http://www.pllel.com>

Abstract. The focus of this work is to relate the asymmetric advantages enjoyed by “insiders” observed throughout human society - encapsulated most widely as the agency problem in economic theory - with those being observed in tokenised peer-to-peer (P2P) networks. This project brings the gravity of the varying governance issues being experienced in **all** open cryptocurrency and blockchain-architected networks to the forefront and will encourage public debate on the matter. There is no formal research in the field to date that has uncovered the novel social attack vectors that are being explored in this work. The intended audiences are both the cryptocurrency ecosystem participants and stakeholders (as defined below) and also the wider public, media, regulators, lawmakers, politicians and investors. The ensuing debate over possible courses of action intended to ameliorate inequality of outcome and opportunity present in today's cryptocurrency protocol networks will be of wide significance. This information is of sufficient magnitude and urgency that lead developers on major cryptocurrency projects have come forwards citing instances of chronic governance failures through informal channels and calling for public debate. Carefully structured network incentives and well-designed Decentralised Autonomous Organisations (DAOs) are proposed as potential mechanisms by which inherent asymmetries in P2P networks may be mitigated.

In every resource ecosystem - commoditised or otherwise - there exists the potential for imbalances, unfairness and asymmetry of information, capital and influence. Much work has been done in the realm of legacy finance and economics to model, predict, parameterise and rationalise the contributing factors and implications of such heterogeneities. Within the emerging analysis of open P2P cryptocurrency networks, the nature of trust-minimised distributed digital ledgers employing blockchain-type architectures allows for objective analysis of network traffic, token distribution and observation of explicit power structures within the network. Stakeholder constituents within these networks such as miners/producers, developers and node operators are effectively imbued with the authority to partake in network activities such as coin mixing, network software management, transaction routing, validation or block creation. Further there may exist a series of shadow power structures, facilitating control of aspects of a cryptocurrency network by a cabal of

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powerful insiders who may exercise a disproportionately large amount of influence over the path that the network in question may face through the media of in-protocol or extra-protocol governance mechanisms. This work explores amongst other phenomena, the emergence of a “*Social Sybil*” asymmetric governance vector whereby striated cadres of network insiders (developers, marketeers, miners) gradually consolidate effective power and influence by arbitraging or gaming the existing protocol governance mechanisms using intimate knowledge of their function. Blockchains constitute distributed data structures which are typically sequenced temporally for the purposes of record-keeping with increased transparency, verification, finality, auditability and tamper-evidence with respect to hierarchical databases more commonly encountered. As such, shadow power structures in a blockchain-architected cryptocurrency must behave in a more clandestine manner in order to effect influence without making their activities and techniques evident. Such an imbalance in the stakeholder power structures may be concealed through the surreptitious exploitation of insider information asymmetry and may act as a tool of subterfuge constituting *decentralisation theatre* should attempts be made to obfuscate the inequality in network influence, control and concentration in order to maintain a pretence of valuable characteristics such as censorship-resistance, unconfiscatability, immutability or tamper-evidence. Initial investigations in this early-stage project has uncovered incontrovertible evidence of power structures in cryptocurrency networks corresponding to historical analogues of personality cults, technocracies, striated structures similar to India’s caste system, *de facto* cartels and effective dictatorships.

Keywords: Cryptocurrency · Blockchain · Cartels.

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