



SMITH + CROWN

ORIGINAL RESEARCH

2019 Review: Distributed Governance

2019 saw substantial governance activity among projects in the blockchain industry. With many projects actively implementing and using their intended on-chain governance models, the year's events provide some of the strongest contrasts yet between different approaches and philosophies.

What Notable Happened with Governance in 2019?

Any project considering how to manage the trust of its various stakeholder groups may find insights from how projects grappled with key issues in 2019, be they questions surrounding financing project developments to challenges involving stakeholders in different forms of decision making. Project activity for the year, overviewed in the following calendar, summarizes many of the concrete actions projects took.

Figure 1
2019 Governance Developments

The below table summarizes many of 2019's most notable governance developments.

Q1 2019	Q2 2019	Q3 2019	Q4 2019
Budgeted Proposal discontinued	Developers publish Taproot and Schnorr signature BIPs.	Dash elects investment foundation supervisors.	Developer 'army' to review Taproot and Schnorr BIPs
Contractor invoicing delay reduced. Decred Bug Bounty program launched. Decred approves decentralized exchange RFP proposal and Events and Marketing budgets. Consensus change made to fix Lightning Network sequence approved. Amendments to Decred Constitution submitted.	Dash establishes legal Trust entity that core group is accountable to. Dash establishes a venture investment	Privacy Strategy revealed. Multiple market maker offers made, discussion around method for choosing. i2 Trading chosen as Decred's designated market maker.	Istanbul Hard Fork Live. Muir Glacier Hard Fork live.
EOS ratifies End User Agreement, supplanting the 'interim' constitution.	Amendment to Decred Constitution approved. Consensus change regarding Block Header Commitments proposed. Method of approving payments to contractors passed.	'Regproducer' Block Producer performance standards passed by proxy voting. EOS Reforms summarized by EOS GO/Lumi Wallet.	Monero Implements Hard Fork, removes GPU mining
Ongoing votes to adjust to stability fees.	EOS Burns \$167 million worth of BIP Treasury Funds.	Ongoing votes to adjust to stability fees.	Z-cash dev fund proposed: founder's rewards to expire November 2020. Z-Cash reaches Trademark Agreement.
DigiXDAO platform launches.	Ongoing votes to adjust to stability fees.	Steemit adds a treasury DAO via hardfork.	'Store of Value improvement plan' proposed, including possible inflation and consensus changes.
Melonport DAO Council to utilize aragonOS.	First vote of year to decrease stability fee; vote stalls due to turnout.	Melonport DAO launches.	V1.5 consensus change candidates released for testing ahead of upcoming vote.
Ox proposes 'more formal' voting process for 'ZEIPs' ZEIP-23 is 'alpha' for Ox voting system.			Ongoing votes to adjust to stability fees. Multi-Collateral DAI ratified; individual cryptosassets need voter approval.
Aragon Mesh DAO formed.			'Ragnarok' DAO dissolution mechanism proposed. Dissolution mechanism integrated in advance of vote.
DAO stack publishes guide to its reputation-based voting protocol. Alchemy Genesis Beta delayed.			Voting on proposed Ox v.3. Ox v.3 goes live, adds staking.
			Aragon Court v1 deploys to Ethereum Mainnet.
			DAOstack publishes mission, principles, and incentive details, targets Nov 21st soft launch.

Some events standing out include:

- 2019 was a year where many on-chain governed projects began conducting meaningful votes, offering some of the first concrete evidence for the advantages and tradeoffs of these systems, and participation metrics for projects conducting token-based voting.

- 2019 saw two major trademark handoffs, the 'Zcash' logo from [Electric Coin Company to the Zcash foundation](#), and the 'MakerDAO logo' from the [Maker Foundation to the Dai Foundation](#). These developments offer some evidence of foundations' willingness to make good on a 'decentralize over time' strategies and highlight related growing pains.
- Two major token supply burns occurred in 2019, one by [EOS](#) and the other by [Stellar](#). Several decisions balanced choices surrounding managing an asset's inflation and performance as store of value with choices surrounding continued development and dApp funding
- 2019 saw development and release of new tools and systems. Steemit, Ox, Melonport, and DigixDAO launched new DAOs. Aragon's distributed court system went live, DAOstack proposed reputation-based voting, and Gitcoin Grants did a round of 'Quadratic Funding.'

METHODS OF FUNDING CORE AND DAPP DEVELOPMENT REMAIN AN ISSUE

The processes surrounding project and dApp development funding were a key issue motivating many first-generation systems of on-chain governance. These projects, in contrast to the at-the-time prevailing donation-based models—perceived as lacking transparency, sufficient community direction, and of inconsistent revenue—aimed to resolve the viewed shortcomings through on-chain processes and issuance models, often in the form of a community managed treasury DAO.

How funding decisions get made remains is likely to remain as live and as loud an issue in 2020 as it was in 2014+, as is suggested by several of 2019's developments:

- In 2019, [Steemit](#) and [Ox](#) implemented new DAOs with an explicit goal of supporting dApp development, while Melonport, critical of token-based voting, opted for [a council based DAO structure](#) that informs such decisions.
- With zCash's founders rewards set to end in November 2020—some of which funds development, in addition to compensating early investors— the project is [actively debating how to fund future work](#). It is worth noting that developer funding has emerged even recently as [a major concern](#) among Bitcoin Cash miners: a group of BCH mining pools comprising a majority of the network's identified hash rate will, for six months, divert 12.5% of the block reward through a Hong Kong corporation. [Advocates characterized](#) the development as providing a stable, adequate and independent source of funding for critical development work; [critics questioned](#) who would manage the new funds and described the miner driven soft-fork as 'coercive.'

- In contrast, EOS and Stellar elected to burn token supplies previously targeted for development. On May 8th, [EOS's block producers voted to burn \\$130 million](#) in treasury funds, rather than distribute funds to developers, with the move characterized as addressing issues with inflation. On November 4th, [the Stellar foundation burned half the total supply of Lumens](#), citing diminished returns with giveaways and airdrop programs and desire for a leaner organization. Additionally, Stellar's Protocol 12 update, implemented shortly before the burn by a validator vote, removed the network's inflation mechanism; [Stellar claims the mechanism did not work as intended](#), with most users opting to redirect inflation to themselves, rather than toward development work.
- DASH, one of the earliest projects to implement an operating project DAO, [is actively evaluating options for increasing its proposal system's flexibility](#) to address perceived shortcomings, whilst also considering changes to its block reward allocations and Masternode collateral, meant to improve the asset's utility as a store of value.
- Decred's Politeia saw several instances of discussion, debate, and decisions on the process for conducting and approving contractor decisions and using treasury funds. For instance, in January, [steps were taken to reduce delays in contractor invoicing](#), in May, [a proposed method for decentralizing treasury spending passed](#), and, in August, [the approach for selecting among multiple market maker offers was decided](#), leading to [i2 Trading's selection](#) in September as Decred's designated market maker.

Questions project's grapple with include: What sources can or should funding come from in the first place? What areas of project development should funds be directed to at what opportunity costs? How should the project decide between competing contractors? Do initiatives funded continue to be worth the effort, and from whose perspective should effectiveness be assessed?

Many of the year's conversations touched on these themes: [discussion around supporting a z-Cash development fund](#) through a 10% cut of block rewards touch on tradeoffs between better incentivizing the mining that secures a network and funding further privacy developments. The decisions to burn portions of EOS and Stellar token supplies turned on the perceived need and effectiveness of continued airdrops, dApp development, and community growth. Marketing in particular, but also market making and software development were the primary areas on-chain treasury DAO's [Decred](#) and [Dash prioritized treasury allocations](#), according to some reviews and classifications of project activity.

NEW GOVERNANCE MODEL & MECHANICS

- Project governance is not only about how projects execute chosen objectives; it is also about how and by whom such objectives are determined in the first place. It is from this perspective that new mechanics, infrastructure, or methods of governance can be particularly exciting, for what new possibilities in representation or oversight of power they allow. With many notable projects opting for a 'transition over time from more centralized to more decentralized' strategy, such mechanisms and infrastructure are also of interest for how they might facilitate such changes.
- The beginning of 2019 saw some projects [questioning whether token-based voting](#) was consistent with a distributed protocols' goals for providing a 'level playing field'. Melonport's [counsel DAO formed in light of such discussions](#), while DAOstack [published details](#) on a burnable, non-transferable, decayable 'reputation' token mechanism, intended to address some of the issues with token-based voting. DAOstack's subsequent ['Genesis 1.0' mission statement](#) proposes an integration of the mechanic.
- 2019 also saw some progress in testing new systems and release of infrastructure. Bitcoin Grants conducted a round of [quadratic funding](#), an application providing some concrete data about a [voting mechanism](#) for which there are [great expectations](#). Aragon Court, a protocol intended to distributedly resolve subjective disputes, [went live on mainnet](#) in November; 2020 will likely offer uses cases useful for evaluating the infrastructure's functionality. Coinbase Custody [developed infrastructure](#) allowing MKR holding clients to participate in MakerDAO governance while storing funds offline.
- Sentiments surrounding [EOS's release of an End User Agreement \(EUA\)](#), which supersedes its former constitution, help demonstrate what is at stake with methods of governance. The EUA, ratified February by 15 of 21 block producers (BPs), is notably silent on the issue of BP vote buying, a practice prohibited (if unactionably) by the former constitution, and which EOS supporters have expressed concerns over, leading some to [conclude that the practice has been normalized](#). The subsequent BP decision to [burn \\$167 million in funds](#) collected to support dApp development through a WIP proposal system, rather than agree on a method for distributing the fund, likewise represents a point of disagreement between community and BP vision for the project. Reportedly, when asked by Coindesk what the company had done to help create new dapps, BP EOS Wiki replied "We would not answer this question although we are incubating dapp/app. All is because this is not a 'legal duty' of being a block producer, please read the EUA." On the other hand, in August, new standards for BP performance were passed via proxy voting, leading to some optimism that [reforms might be implemented independent of BP support](#).

How Much Participation in Governance Was There in 2019?

Many newly-operational systems of on-chain governance made decisions in 2019 via token based voting systems, offering some concrete data on respective levels of participation. Participation levels are of interest for several reasons:

- Typically, proposals voted upon have a quorum threshold—votes in Decred’s Politeia, for example, are only valid if 20% of eligible tickets participate. Low participation can stall decision making, as was evident in May [when a MakerDAO vote over lowering the stability fee failed](#) due to insufficient participation. In this respect, conclusions about a project’s capacity to manage itself effectively may be informed by trends in participation.
- There is at least a perception, if not reality, that decisions made with higher participation have greater legitimacy, are better informed, or are otherwise indicative of healthier governance or more effective decision-making processes. While the exact particularities of a token-based voting system can provide reasons for interrogating theses in this ballpark, actual participation rates should also inform conclusions about a particular system’s respective legitimacy, effectiveness, fairness, etc.
- To a certain extent, levels of participation in governance can be a gauge of the broader community interest in the project. That is, all things being equal, if governing stakeholders—presumably among a project’s most dedicated, vocal, or committed supporters—are not taking an active interest in the project, less-committed community supporters are less likely to have an active interest.

Given participation's significance, the discerning reader ought consider several caveats with metrics before forming overall conclusions. First, participation in most cases refers to the percent of total eligible token/ticket voting yes, no, and, varyingly, abstaining. Since votes are not cast on a 'one person, one vote' ratio, 'higher participation' does not necessarily mean that decisions were informed by many people's perspectives; a few 'whales' participating in governance can have a higher token participation rate than a decision reflecting the input of vastly more smaller-token holders.

This is not a merely theoretical concern; [Coindesk](#) writes:

For the first time in 5 months, MakerDAO token holders agreed to reduce accumulating interest – called the Stability Fee – on all MakerDAO DAI loans from 19.5 percent to 17.5 percent. However, the majority vote threshold itself was actually reached by a total of two large token holders who collectively staked 54,000 MKR tokens and outweighed other polling options which had a higher number of individual voters but a lower number of tokens staked overall.

Second, some activities arguably constitutive of 'participation' in governance are not reflected in token-voting participation metrics. In some cases, users enter or exit token holding positions for reasons concerning overall project direction. Such investment and dis-investment activity, when conducted for specific reasons, can be conceived as [a form of participating in project governance](#). Similarly, participation metrics may not reflect the activities occurring in official and unofficial venues, proposals discussions or community polling. Where such discussion or polling informs or influences token holders' decisions, there is a sense in which forum contributors also 'participate' in project decision making. For governance with open proposal systems, 'contracter' activity can be an equally important indicator for system health or efficiency, as the range and quality of choices available for token holders to decide can depend on the proposals contractors made available to vote on.

Finally, while voting is a method for stake-holders to exercise agency, a project's particular decision-making structure lends color to the 'consensus', 'compromise', or 'alignment' represented in even high-participation, high-consensus decisions. In some cases, foundations decides what items will be voted on and when (i.e. Multi-Collateral Dai basket constituents are approved by MKR vote but not originally selected by token holders), while voters do so in others (after receiving multiple PR offers, Decred voters first voted whether to secure a partnership at all, before addressing the question of which), and even independent contractors also can determine whether and when a proposal gets moved to a vote. These factors can

limit the degree to which token holders can be characterized as exercising complete agency over project direction, versus oversight against the foundation's leadership or the contracting community, and offer greater dimension to agreement's character than a simplifying 'decentralized' or 'centralized' might suggest. On the other hand, voting or veto power over a more limited question still represents a meaningful spectrum of governance participation, can expedite trivial decisions and make processes more efficient, and can give experts a more substantial if not fully decisive role in decision making.

Caveats and qualifications aside, what notable participation data was made available in 2019? MakerDAO, and Decred have publicized graphs of yearly proposal activity that offer some insight into governance participation.

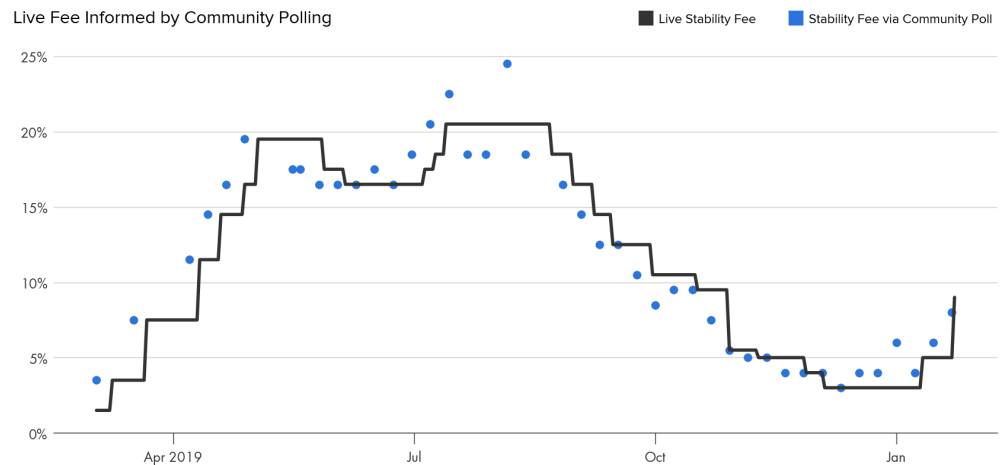
MAKERDAO STABILITY FEE CHANGES

A prominent example of distributed governance is MakerDAO, a crypto-collateralized stablecoin that saw considerable growth in 2019. MakerDAO's Dai parameters, such as its [stability fee](#), are governed by a dual voting system through the MKR token: a community poll provides a non-binding mechanism for community input, while a binding executive vote implements changes. In the past year, most such community polls have concerned changes to the stability fee. By comparing the live stability fee (as decided through executive votes) with results from periodic community polls, as below, one can observe that changes to the stability fee have broadly tracked the non-binding pollings recommended level of change. While there may be overlap in participation by key community members across each vote type, this relationship does suggest that MakerDAO's community polls are a meaningful mechanism for community input.

Figure 2

Dai Stability Fee in MakerDAO

Source: Smith + Crown analysis of mkr.gov.science

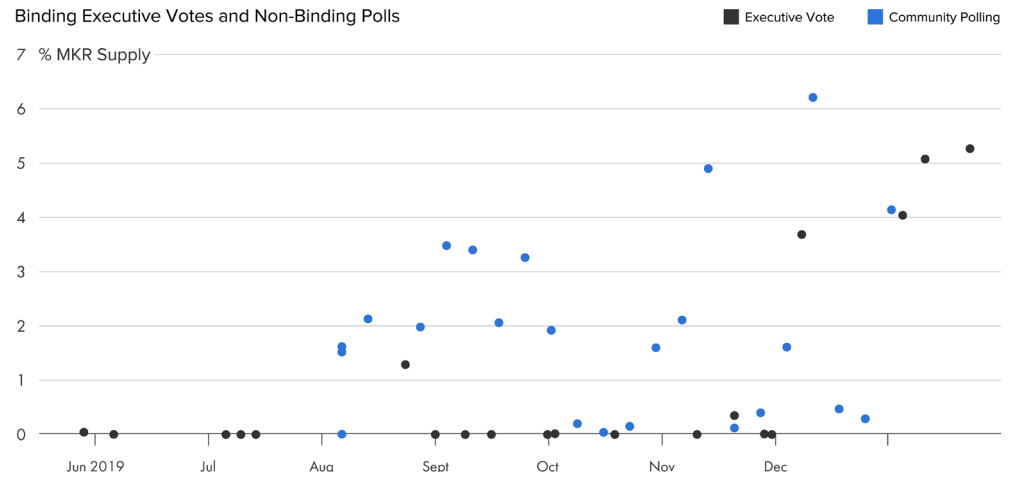


Participation in MakerDAO governance increased modestly over the year, to a high of roughly 6% of the supply participating in recent votes. The Maker Foundation, which holds roughly 25% of the supply, [does not participate](#).

Figure 3

MakerDAO Governance Participation

Source: Smith + Crown analysis of mkrgov.science



What to make of such participation metrics depends on what the appropriate comparison class is, among other factors. MakerDAO's Head of Community Development, Richard Brown, [suggests that such votes should be compared to corporate governance](#):

MakerDAO is not a representative voting system. It's not a representative democracy. It's more akin to a shareholder vote in a publicly traded company. And that is a very well understood mechanism as well. People already know how that works. There's expectations and paradigms that go along with that. One of the challenges that we have in this space is that people are still confused by the word vote and we have a lot of people that are engaged in the system that may not be familiar with the traditional business world. And so they think, "Okay, I have a vote that means that it's one person, one vote. And we should all be equally able to move the system in the direction that we want." And it's important for people to realize that that's fundamentally not the way that the system is designed.

As Brown goes on to emphasize, MakerDAO votes are more a matter of determining the right stability fee, where 'right' is understood as keeping the Dai pegged to the dollar. In terms of voter behavior, that subject matter could (or should) incline MKR holders without the relevant backgrounds to defer to (self-selecting) experts on economics or finance. Likewise, the transaction fee associated with polling

and executive votes may magnify effects of ‘rational apathy’ in voter behavior; as Zachariadis, Cvijanovic and Groen-Xu (2017) write:

When discretionary voters have ex-ante similar preferences to regular voters, that is they agree, they free-ride on regular voters, leading to lower participation... In contrast, when discretionary shareholders disagree with regular voters, they have a higher chance of being pivotal and therefore there is greater (discretionary) participation, or an underdog effect.

These findings are presented as a starting point for further, more nuanced discussions of reasonable benchmarks in distributed governance, rather than an output. Whether corporate governance is the right benchmark for distributed governance mechanism participation rates—or the right benchmark for MakerDAO specifically—is worth further exploration. Typical corporate governance decisions are arguably not as technical as a stability fee change for a stable coin protocol. Research on participation rates suggests that MakerDAO’s participation rate is quite low relative to broader corporate governance: [Zachariadis, Cvijanovic and Groen-Xu \(2017\)](#) found that the average turnout among discretionary voters in corporate governance was higher than that some democratic election voting; average turnout was 73% in 2013 compared to the 2016 U.S. election’s 57%. [Nili and Kastiel \(2016\)](#) found that, among S&P 500 companies voting in 2015, 21.7% of shares were non-voting. While such a simple comparison is problematic without deeper discussion, MakerDAO’s stalled vote suggests that a sober assessment of realistic quorum thresholds combined with strategies for increasing participation rates broadly (so that decisions which naturally and rationally suffer from low participation still clear quorum) are questions the field will need to wrestle with.

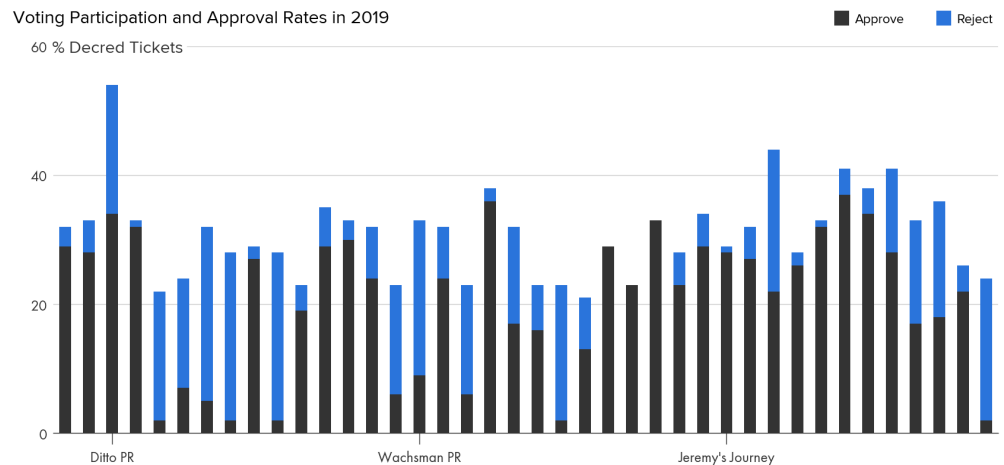
DECRED’S POLITEIA ACTIVITY

Decred’s Richard Red has tracked platform governance activity in some visually compelling ways. The below published graph is based on a [report on Decred’s ‘first year’](#), a period between October 16, 2018 and October 16th, 2019. Akin to Dash, would-be contractors can submit proposals, impacting monthly agendas. Voting in Decred uses tickets. The ticket system is integrated with the project’s PoS consensus layer, and DCR holders who participate in the PoS validation and governance stake DCR to receive ‘tickets’, which exist as a non-tradable cryptoasset on the Decred network. A vote is valid only if a quorum threshold is met; 20% of eligible tickets must vote yes or no. A proposal is approved if it receives 60% yes votes.

Figure 4

Decred Politeia Governance

Source: Smith + Crown analysis of Politeia



One of Decred's earliest major decisions was over which, if any, PR/Communications firm to partner with, with offers submitted by both the Wachsman and Ditto firms. Participation levels for this event, 50+%, represent a 'high water' point. Participation levels for [September's decision among market makers](#), outside the range of collected data, were comparable; i2 Trading was approved as official market maker with 41% of eligible tickets participating, and passed with 68% approval. [Jeremy's Journey](#), a proposal to fund the writing and publication of a personal journey article promoting Decred, [was rejected at 48.6% approval of 44% total participation](#). The amount requested was 100 DCR (around \$3000 as valued at the time), with the level of participation for scale of request making the event more notable.

Red's efforts to [categorize treasury allocation spending](#) suggest that marketing, market making and software development were the three major domains where voters approved funding. Red found that proposals with over 90% approval tended to come from proposers who already were contractors, and related to software development, policy and research. The Decred treasury size began October 2018 at \$23 million and, [as of January 1st](#), is valued at \$10.9 million USD.

Conclusion: Myriad Participation Mechanisms

Looking forward to 2020, developments in governance in 2019 affect and motivate future governance decisions in myriad ways. Strong differences among projects' missions, stakeholders, needs, and resources means a given development's relevance will vary for each project. Yet, as all projects depend, if to different degrees, on managing the trust of different stakeholder groups, any project will benefit from a clearer catalog of the varieties of 'tools' available for 'involving', in all its extremes, various stakeholder groups in project decision making.

The term 'participation' can be understood as an abstraction from a family of more concrete relations—inform, consult, advise, oversee, decide, etc—which the project and its stakeholders stand in, varying in manner and degree stakeholders shape final decisions, in who has a more active or passive role, time required, and so on. The following forms of participation help illustrate, though do not exhaust, such a spectrum:

- Educating stakeholders on the extent that a ['credibly neutral'](#) mechanisms treats participants fairly; informing them on the game-theory, economics, etc underlying them and its presumptions.
- Constructing polls whose sourcing and aggregation methods more strongly support a claim to represent a group view; to claim with merit that the end user group's preferences informed, though did not determine, the project's decisions on issues impacting usability.
- Consulting non-voting developers, lawyers, or financial experts, who assess and report on the likely ramifications of code updates, user agreements, or partnerships.
- Empowering particular stakeholder groups to decide on code changes, either through hard-forking or token-based voting.



In this sense, governance mechanisms, both on and off-chain, provide organizations options for facilitating different forms for participation, options with different appropriateness for different stakeholder groups, and with unique costs or limitations that should be understood. Choice of governance mechanisms can be shaped by questions of which of the more concrete modes of participation is feasible and appropriate to include which stakeholder groups in, with factors like how much the stakeholder is impacted by the matters decided on, what risk to the project the process opens up, whether a decision type requires special expertise, etc informing final choices. Additionally, projects conceiving of governance mechanisms so might better manage community trust by communicating more precisely what they are committing to via a process for distributed governance, and the considerations supporting its choice to include or exclude particular groups.

Taking a final step back, what is the larger point of interest in such mechanisms? Two unguarded thoughts present themselves. First, while projects vary in ambition and vision, in many cases, a project's *raison d'être* is to offer alternatives to institutions seen as flawed in exercise of control, be it over monetary policy, personal data, the web, credit ratings, and such. Success—let alone successful governance design—in these cases means much more than building a functioning product: it means finding a way to replace a flawed system with a more fair one, then sustaining the new system as long as nothing better is on offer. A project's roadmap to fully realizing such ambitions will change as the year's events unveil new information on what mechanisms are possible and what approaches have shown potential for 'success', as defined in terms of a project's particular mission.

Second, the year's experiments with forms of project governance are of interest for some of the same reasons new developments in mechanism design or rewards engines are. As these latter expand the industry's imagination for how cryptoeconomic systems might be designed to incentivize and organize economic activity at scale, so to might new governance designs be understood as process for generating or managing non-financial incentives to trust and build upon a given protocol. Project's with less generous rewards mechanisms yet more appealing missions or visions for use case may, none the less, attract talent when work can reasonably be understood as building towards or sustaining such values; purposiveness is a less fungible incentive than purely economic rewards. Developments in modes of project governance will continue to be important to follow so long as they remain a factor in propping up—or undermining—communities' trust.

