Voters' Preferences and the Willingness to Pay for Voting Rights: New Evidence from Decentralized Finance

Romain Rossello* Stefano Balietti† Stefan Kitzler‡ Pietro Saggese§

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ABSTRACT

While corporate governance theory predicts substantial voter-level heterogeneity in the willingness to pay for voting rights, empirical evidence has remained scarce due to data limitations and limited governance proposal heterogeneity in traditional finance. We use the new laboratory that is the governance of Decentralized Finance platforms where governance proposals are high-frequency and span a wide set of subjects to analyze over individual 230,000 votes and bring new supporting evidence of how voters' preferences shape the distribution of voters' willingness to pay for voting rights. Voters opposing the status quo are willing to pay significantly more for voting power, with large variations across proposal subjects. Through a novel vote-level measure of the probability of being pivotal, we confirm untested recent corporate governance theory predictions that increasing pivotality fundamentally reshapes how preferences are valued, amplifying, attenuating, and even reversing average effects on the willingness to pay for voting rights. At the proposal level, we recover established corporate governance results to further validate our new laboratory.

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*Corresponding author, HEC Paris, romain.rossello@hec.edu

†Private sector, stefanobalietti.com@gmail.com

‡Complexity Science Hub Vienna and AIT Austrian Institute of Technology, kitzler@csh.ac.at

§IMT Scuola Alti Studi Lucca, pietro.saggese@imtlucca.it. We are very grateful to Francois Derrien, Johan Hombert, Paul Voss and Guillaume Vuillemey for very helpful comments and suggestions. This work has benefited from a State grant managed by the Agence Nationale de la Recherche under the Investissements d'Avenir programme with the reference ANR-18-EURE-0005 / EUR DATA EFM.

1 Introduction and Literature Review

How does willingness to pay for voting rights vary with voters' preferences? Although a large empirical corporate governance literature has long documented valuation of voting rights varying across markets and across governance contexts, implicitly treating this valuation of voting rights as homogeneous among shareholders, recent corporate governance theory (Levit et al. (2023), Speit et al. (2023)) shows that the value of voting rights is inherently heterogeneous at the voter level. When voters differ in characteristics, preferences or exposure to proposal outcomes, willingness to pay for voting rights can vary sharply, even within the same governance proposal. Finding empirical support for these theories requires measuring whole distribution of voters' value of voting rights and despite clear theoretical predictions, empirical supporting evidence has remained scarce.

This absence of evidence is, however, not accidental. In traditional corporate governance settings, the entire distribution of revealed willingness to pay for voting rights is not observed and governance proposal-level variation is limited both within and across firms. Most votes typically focus on executive compensation and governance mechanics such as say-on-pay or director elections and are highly predictable issues, leading the literature to focus on the subset of contested votes (Cuñat et al. (2012), Cuñat et al. (2016), Cuñat et al. (2020)). Even high-profile proposals that spark intense public debate are still accepted with very high scores (i.e. Tesla's approval of Elon Musk's unprecedented \$1 trillion compensation plan passed with over 75% support[1]). Such general high consensus implies that the probability for any investor to be pivotal is almost all the time negligible. As a result, even if vote-level estimation were feasible, new corporate governance theories also predict that the lack of variation in disagreement of the shareholder base would imply little within proposal voter-level variation in valuation of voting rights.

We estimate the revealed vote-level willingness to pay for voting rights in Decentralized Finance (DeFi) platforms' governance, computing the exact price of token holdings

[1] https://www.latimes.com/business/story/2025-11-06/tesla-shareholder-vote-on-1-trillion-musk-pay

around governance proposals' record dates. With these within-proposal vote-level estimates, we provide new evidence, in line with corporate governance theory predictions, that voter-level preferences' heterogeneity is a key determinant of voters' willingness to pay for voting rights. Voters' stance toward the status quo, their prior participations, preferences of their past votes, and the persistency of their preferences over time create important within-proposal variation in their willingness to pay for voting rights. By developing a new method to derive the vote-level probability of being pivotal, we also show that, again in line with corporate governance theory predictions, pivotality can reshape how voters' preferences are priced (amplifying, attenuating, or even reversing average effects of voters' preferences).

Data from DeFi platforms governance deliver four advantages relative to traditional corporate governance to be able to provide evidence of how voter-level heterogeneity in preferences shapes the valuation of voting rights. First, voting data are high frequency and observed at the individual vote level, enabling us to track investors' voting behaviors and how the same investor's valuation of voting rights varies across time and proposal types. Second, these platforms operate without managerial control: all decisions are made directly by the platforms tokenholders (management delegation is heavily reduced). Governance proposals therefore exhibit rich heterogeneity in content, spanning governance rules, partnerships, cybersecurity, and feature development, which generates substantial variation in disagreement among voters and in saliency. Third, proposals are voted on independently of one another rather than bundled together, allowing us to isolate willingness to pay for voting rights for a given proposal, instead of observing an aggregate valuation across multiple simultaneous decisions, as is typical in general shareholder assemblies. Governance proposals are associated with precise record dates which allows us to compute value of voting rights by comparing the price of acquiring tokens for a given proposal immediately before and immediately after the record date. Fourth, voting power is acquired in decentralized markets in which the supply of liquidity is known and token prices are determined by fixed mathematical formulas, allowing us to eliminate the endogeneity of block-purchase prices present in traditional financial markets while preserving market-clearing conditions. Blockchain data provide block-level precision (12 second granularity) on transaction prices, allowing us to simulate the exact cost of acquiring tokens.

Our first result establishes that within-proposal willingness to pay for voting rights varies greatly with voters' preferences and characteristics. We show that voters with preferences against the status quo have a systematically higher willingness to pay for voting rights of 14% more than voters who align with the status quo. This effect varies sharply across proposals subjects. Voting against the status quo in a features development proposals is associated with an 8.3% increase in the willingness to pay for voting rights whereas voting against the status quo in a partnership proposals is associated with a 32% increase in the willingness to pay for voting rights. Beyond contemporaneous preferences, voters' prior participations and persistency in dissent can further amplify or attenuate their willingness to pay for voting rights.

Our second and most important result shows that preferences alone are not sufficient to explain the willingness to pay for voting rights, as predicted by corporate governance theory, pivotality fundamentally reshapes how preferences are priced. We find novel empirical evidence of both the "preference-amplification" channel of pivotality theorized in Levit et al. (2023) where increased pivotality exacerbates the effect of a voter's underlying preferences on their willingness to pay for voting rights and of the "preference-convergence" channel theorized in Speit et al. (2023) where pivotality attenuates, or even reverses, the average effect of a voter characteristic on willingness to pay for voting as valuation shifts from idiosyncratic preferences toward the proposal's common value when the voter's probability of being pivotal is increasing. To provide these results, we first design a novel voter-level estimate of the probability of being pivotal (based on the proposal-level design of Maug and Rydqvist (2009)). With these non-linear probabilities of being pivotal, we show, among other results, that consistent dissent in cybersecurity proposals increases the willingness to pay on average and is increasingly amplified with voters' probability of being pivotal (in line the preference-amplification channel). By contrast, consistent dissent in business strategy proposals reduces willingness to pay on average, but this effect is sharply attenuated, and eventually reversed, as voters become more pivotal (in line the preference-convergence channel). These findings show that the interaction between preferences and willingness to pay for voting rights is not trivial and fundamentally evolves as voters become more pivotal.

Finally, to confirm the external validity of our laboratory, we show that well-established traditional finance corporate governance results, supported by both theory and empirical evidence continue to hold in the DeFi governance setting. Averaging willingness to pay across voters at the proposal level, we recover a strong negative relationship between the contemporaneous value of voting rights and past voter turnout (as theorized in pivotal voter models Rydqvist (1987), Feddersen (2004), Messner and Polborn (2004), Maug and Rydqvist (2009), Speit et al. (2023) and supported by empirical evidence in Agarwal et al. (2025)). A 10% increase in expected turnout is associated with a 16% decrease in average willingness to pay for voting rights. Similarly, greater past consensus is associated with significantly lower contemporaneous valuations of voting rights (Bach and Metzger (2019), Li et al. (2022), Levit et al. (2023)). Exploiting the rich heterogeneity of governance contexts in DeFi, we show that aggregate willingness to pay for voting rights varies substantially across proposals' contexts, with effects that are systematically stronger among the most influential voters.

This paper first and foremost contributes to the growing literature in corporate governance which formalizes that accounting for heterogeneous investor preferences profoundly transforms how we understand efficiency, voting outcomes, and the pricing of control-contingent claims. Shareholder voting outcomes and their welfare implications do not depend only on aggregate information or firm value, they also depend on how heterogeneous preferences affect participation, voters alignment, and strategic behavior in governance. Heterogeneous preferences affect which shareholders participate in voting (Levit and Malenko (2011), Kakhbod et al. (2023), Zachariadis et al. (2019), Levit et al. (2024), Chen et al. (2025)), for which governance outcomes investors are likely to vote (Brav et al. (2024), Barry et al. (2026)), efficiency of traditional governance structures (Malenko and Malenko (2024), Döttling et al. (2024)), which takeovers are efficient (Bond and Levit (2024)), and introduce new dimensions of competition among asset managers (Malenko et al. (2025)). Our paper complements this literature by providing direct vote-level evidence on how voters' heterogeneous preferences make their willingness to pay for voting rights vary even within the same governance proposal. More broadly, this paper contributes to the larger corporate governance literature that emphasizes the central role of pivotality in one-share-one-vote governance (Surveys include: Shleifer and Vishny (1997), Adams and Ferreira (2008), Burkart and Lee (2008), Yermack (2010), Edmans and Holderness (2017), Dasgupta et al. (2021), Malenko (2024)). While prior work has highlighted pivotality as a key determinant of voting behavior, voter-level probability of being pivotal could not directly be measured. By designing a voter-level estimate of this probability, we provide voter-level evidence that the probability of being pivotal is not only a scaling factor for voting incentives, it can also modify how heterogeneous preferences are reflected in the valuation of voting rights.

Secondly, this paper contributes to the literature which develops techniques to measure the value of voting rights. Existing recent empirical approaches in traditional finance typically infer the value of voting rights from option-implied valuations, or equity lending markets; financial products that are not developed enough in the DeFi setting (Kalay and Pant (2010), Kalay et al. (2014), Kind and Poltera (2017), Karakaş and Mohseni (2021), Kind et al. (2024), Evans et al. (2025)). We show how the valuation of voting rights can instead be measured in DeFi, where voting power can be traded on decentralized markets, which determine prices of governance token purchases with a mathematically fixed formula and block-level precision data on the supply of liquidity, around governance proposals' record dates.

Finally, this paper contributes to the rapidly growing literature on DeFi and Decentralized Autonomous Organizations (DAOs) governance by identifying which governance contexts and voters' preferences are associated with high value of voting rights. While early work has documented participation patterns of key participants (such as DeFi platforms' founders), concentration of voting power, and the challenges in designing the governance DAOs (Surveys include: Biais et al. (2023), Han et al. (2025)[2]), recent papers have emphasized the close parallels between corporate governance and DAO governance. Rossello (2024) shows that conflicts of interest between large and small tokenholders and their effects on governance token prices closely mirror those observed in traditional finance. Cong et al. (2025) highlights that blockholders who put forward governance proposals can trade and profit on the informational content of those proposals, echoing evidence that governance actions convey new information as in the traditional finance setting. Going one step further, we actually use this laboratory to test new untested predictions from corporate governance theory. We also contribute to this literature by putting forward that debated partnerships proposals command a substantially higher willingness to pay for voting rights than other proposals, especially among influential voters and that tokenholders' willingness to pay for voting rights decreases sharply for business strategy proposals. Those findings implying that expanding the span of voting rights through reduced managerial delegation does not guarantee meaningful tokenholder involvement.

Section 2 describes the DeFi governance, explains how we construct vote-level measures of willingness to pay for voting rights, presents databases and descriptive statistics. Section 3 and 4 develops our empirical framework based on corporate governance theory and documents how voter preferences, experience, and probability of being pivotal shape willingness to pay for voting rights. Section 5 presents robustness tests. Section 6 shows that at the proposal level we recover traditional corporate governance results and studies the role of heterogeneity of governance contexts. Section 7 concludes.

[2]Papers about participation patterns: Kitzler et al. (2023), Goldberg and Schär (2023), Appel and Grennan (2023b), Fracassi et al. (2024), Juette (2025). Papers about voting concentration: Barbereau et al. (2022), Fritsch et al. (2022), Appel and Grennan (2023a), Laturnus (2023), Sun et al. (2024), Eisermann et al. (2025), Balietti et al. (2025). Papers about designing the governance of DAOs: Cong et al. (2021), Cong et al. (2022), Bakos and Halaburda (2022), Ferreira et al. (2023), Han et al. (2023), Ferreira and Li (2024), Abadi and Brunnermeier (2024), John et al. (2025), Zheng (2026), Fabi et al. (2026).

2 DeFi Governance, Empirical Measures and Data

DeFi refers to a class of blockchain-based platforms that provide financial services—such as trading, lending, and asset management—through smart contracts[3]. Prominent DeFi protocols include Uniswap, MakerDAO, Aave, and Compound. As of January 2026, the an aggregate market capitalization of DeFi is around USD 105 billion[4]. These platforms typically finance their development by issuing their own governance tokens, which both represent cash-flow claims and serve as the primary instrument for voting. For their governance, those platforms are organized as decentralized autonomous organizations (DAOs) where decisions are made by tokenholders over a wide array of subjects such as protocol rules, upgrades, and strategic direction. Voting typically follows a one-token-one-vote rule (analogous to the one-share-one-vote voting rule in traditional finance) with some proposals subject to quorum requirements, and governance proposals are predominantly taken through binary approval voting ("for" or "against"). A defining feature of DeFi governance is the deliberate reduction of managerial delegation as opposed to traditional finance. Platforms rely on tokenholder voting to determine a wide range of governance outcomes. Governance proposals in DeFi therefore span a much broader set of topics and generate substantial variation in both the content, saliency and tokenholder disagreement in governance decisions.

2.1 Uniswap v2 Liquidity pools data and computing the cost of holding voting rights

To obtain the voter-level willingness to pay for voting rights we use block-level on-chain trading data from Uniswap v2 liquidity pools of DeFi platforms' governance tokens. Uniswap v2 is a constant-product automated market maker in which each liquidity pools hold reserves (x, y) of two tokens (in our case, the DeFi platform governance token and the ETH token from the Ethereum blockchain). It enforces an invariant $x \cdot y = k$ constant

[3]A more detailed introduction to DeFi can be found in Auer et al. (2024).
[4]Source: https://www.coingecko.com/en/categories/decentralized-finance-defi

product rule, so trades move prices mechanically as a function of liquidity provisions. On Uniswap v2 pools, liquidity providers supply token pairs to the pool in proportion to the prevailing pool price, thereby determining the depth of available liquidity. In return, they receive fees on each trade executed in the liquidity pool. Traders interact with the pool by exchanging one token for the other at prices determined endogenously by the pool's reserve ratio, with each trade updating reserves and mechanically moving prices according to the constant-product rule. As a result, for any given pool, the exact cost of acquiring additional units of governance tokens is a deterministic function of the trade size and the liquidity supplied by liquidity providers. Because token prices are mechanically determined by the pool's constant-product formula, which defines a bonding curve mapping quantities into prices, and the supply of liquidity is publicly observable, the cost schedule is known to all market participants. This structure allows us to measure, with block-level data, the realized cost of acquiring voting power through token purchases. In a Uniswap v2 pool with reserves x and y, purchasing $\Delta x > 0$ units of x (i.e., withdrawing Δx from the pool) requires depositing an amount Δy such that the post-trade reserves satisfy $(x - \Delta x)(y + \Delta y) = xy$, therefore:

$$\Delta y = \frac{xy}{x - \Delta x} - y = \frac{y\Delta x}{x - \Delta x}.$$

We exploit the proposals' record dates to isolate the cost of acquiring voting rights. Let proposals be indexed by k and voters by i. Each proposal k has a record date t_k determining which tokens are eligible to vote. Let $q_{ik} > 0$ denote the number of votes held by voter i that are eligible at t_k. If $P_k^{\text{pre}}(q_{ik})$ denotes the market value of purchasing q_{ik} on a Uniswap V2 liquidity pool immediately before t_k, and $P_k^{\text{post}}(q_{ik})$ the value immediately after t_k. We define the cost of acquiring voting rights as the record-date price wedge of purchasing q_{ik} governance tokens on Uniswap v2 Governance Token/ETH liquidity pool as

$$\Delta P_k(q_{ik}) = P_k^{\text{pre}}(q_{ik}) - P_k^{\text{post}}(q_{ik}) = \frac{L_{t_{k-}}^{\text{ETH}} q_{ik}}{L_{t_{k-}}^{\text{Gov Token}} - q_{ik}} - \frac{L_{t_{k+}}^{\text{ETH}} q_{ik}}{L_{t_{k+}}^{\text{Gov Token}} - q_{ik}} \tag{1}$$

$\Delta P_k(q_{ik})$ captures the market-priced value of having voting rights attached to the purchase q_{ik} tokens for proposal k[5] since cash-flow rights do not change across the record date and only voting eligibility differs.. $L^{\mathrm{i}}_{t_{k-}}$ (respectively $L^{\mathrm{i}}_{t_{k+}}$) correspond to the liquidity in the Uniswap v2 liquidity pool of token $i \in \{\text{Gov Token, ETH}\}$ just before (respectively just after) the record date t_k. Given the deterministic mapping between quantities and total acquisition costs of voting power implied by the pricing rule, each observed level of voting power corresponds to a point on the inverse demand curve for governance tokens which allows us to recover revealed willingness-to-pay for voting rights. In Section 3.1, we further highlight how this mathematically determined inverse demand for voting power is theoretically underpinned as the voters' revealed willingness to pay for voting rights.

A key advantage of using Uniswap v2 liquidity pools block-level data is that, unlike in traditional finance settings, we can compute exactly the willingness to pay for voting rights at the time it should be obtained in order to give access to voting rights on a given governance proposal. In traditional financial markets, voting rights are acquired through order-book trading in which sellers endogenously adjust their quotes in response to buy orders, so the price at which blocks of shares are acquired reflects strategic supply responses, particularly during periods when voting rights become valuable. In contrast, governance tokens traded on constant-product market makers face a fixed, non-strategic supply of liquidity, so prices adjust mechanically rather than strategically. Although there is no bilateral bargaining or discretionary quote-setting, the market-clearing condition continues to hold, as prices move deterministically to equate token demand with the available liquidity in the pool. This structure allows us to recover the counterfactual price that would prevail for a block purchase of voting power under a deterministic pricing rule, enabling a precise measurement of the cost of acquiring voting rights that is not confounded by unobserved bargaining, dealer behavior, or strategic price setting.

To mitigate some of the mechanical price impact as the block of token purchased gets

[5]As the Uniswap v2 liquidity pool is (Gov Token, ETH), the price of the token purchase q_{ik} is in ETH which we then convert to dollars using the price of ETH in dollars for the same block

larger, we smooth the simulated purchase price evenly around the proposal record date by averaging over the ten blocks preceding (for the price of the voting power purchase before the record date) and the ten blocks following the record date (for the price of the voting power purchase before the record date). Given a block time of 12 seconds on the Ethereum blockchain, this corresponds to a window of approximately two minutes before and after the record date. Computing the cost of acquiring the full amount of voting power as a sequence of smaller trades executed against the contemporaneous pool reserves observed in each block also allows us to circumvent the constraint that a single large purchase could exceed the available depth of the liquidity pool, particularly for large token purchases.

We acknowledge that this approach abstracts from potentially more advanced trading mechanisms available in some other trading venues or more developed techniques to get access to voting rights (such as centralized exchanges[6], alternative decentralized venues such as Uniswap v3[7], or by staking or acquiring staking tokens), and future research could exploit richer data from alternative decentralized or centralized exchanges; nevertheless, by the law of one price, the resulting economic magnitudes should not differ. Consequently, the cost of acquiring voting power inferred from Uniswap v2 pools provides a valid benchmark for the market price of governance rights, even when alternative acquisition paths exist.

2.2 Voting Data and LLM Classification of proposal subjects

We also construct a governance dataset from Snapshot, a widely used off-chain voting platform for DAOs and DeFi protocols. Using the Snapshot API, we collect all governance proposals and associated vote-level records from September 2020 through January 2024 for a set of large economically meaningful DeFi protocols with substantial and repeated

[6]Using centralized exchange data might not be the best idea as in centralized exchanges the key identification advantage of a fixed, non-strategic liquidity supply vanishes due to endogenous order-book responses.

[7]Uniswap v3 pools would also enable a mathematically determined estimation of the cost of acquiring voting power but are not used in this paper because there are not enough pools with governance tokens.

governance activity[8] (frequent proposal creation and broad participation). All DeFi platforms in our sample use a one-token-one-vote voting rule[9]. We drop from the voting sample votes with zero voting power, which mechanically cannot affect the outcome. A key strength of the Snapshot data is its vote-level granularity. For each proposal, we observe the full set of voter addresses and their individual choices, as well as each voter's voting power as computed by Snapshot's strategy at the proposal's snapshot block. All voting rights are measured based on tokenholdings prior to the governance proposal record date. This yields a panel of votes in which we can track how the same voter behaves across time and across proposal types, and how their revealed preference (e.g., dissent vs. alignment with the prevailing side) affects the valuation of voting rights. We also compute proposal-level participation measures such as turnout, defined as the total number of voters present in a proposal, Nakamoto numbers (number of participation it takes to reach 50% of the total token engagement in a proposal), Gini indexes, and margins of victory (MOV) defined as:

$$\text{MOV} = \frac{\text{Score}_{\text{prevailing}} - \text{Score}_{\text{losing}}}{\text{Total Token Engagement}}$$

The margin of victory of a proposal is the score difference between the status quo and the losing outcome scaled by total voting power cast on the proposal. The margin of victory definition captures how contested the governance proposal was: when the margin of victory approaches 0, the proposals was extremely contested proposals, when the margin of victory approaches 1 then there is full consensus among the voters on which proposal outcome to implement. Because the score is measured in voting-power units, the margin of victory directly gives information on the extent to which marginal voting power could plausibly shift the outcome.

[8]The filtered sample of DeFi platforms corresponds to a subset of the one used in Rossello (2024) keeping DeFi platforms that have a Uniswap v2 pool for their governance token. The sample is representative of the DeFi market and the detailed list of DeFi platforms can be found in Appendix H.

[9]While Snapshot allows platforms to specify different voting rules for different eligible tokens (staked tokens, LP tokens, Polygon or Arbitrum versions of the native governance token) and how those tokens are aggregated into voting power, this sample is restricted to DeFi platforms for which the one-token one-vote voting rule with the native governance token is always available to tokenholders.

To encode the heterogeneity in proposal subjects, we ask OpenAI GPT-4o LLM model to classify the text bodies of the Snapshot proposals. We classify each proposal into one of five high-level subjects: **Governance, Partnership, Business Strategy, Feature or Cybersecurity**. This taxonomy is intentionally parsimonious and provides a simplified, empirically tractable version of more detailed governance-proposal taxonomies developed in the data analytics literature (Ziegler and Welpe (2022), Ziegler et al. (2024)), while remaining sufficiently granular to capture economically meaningful proposal heterogeneity across and within DeFi platforms. Appendix F provides more details about the mapping of proposals to subject categories along with illustrative examples for each class.

Finally, we merge our vote-level governance data from Snapshot with our block-level token liquidity pool data from Uniswap v2, enabling us, with over 238000 votes over 39 DeFi platforms, to study how the valuation of voting rights varies with both voter-level preference heterogeneity.

2.3 Descriptive statistics

Table 16 provides a comprehensive overview of the DeFi governance environment in our sample, highlighting substantial heterogeneity across platforms, proposal subjects, and voting outcomes. The dataset spans 39 DeFi platforms, with a high governance activity: the average platform has 74 proposals. Governance, Features and Cybersecurity proposals are the most frequent categories on average (22-23 on average), while partnership, business strategy, occur less often. In contrast to traditional corporate governance settings where the vast majority of shareholder proposals typically focus on executive compensation and governance mechanics such as say-on-pay or director elections, with relatively few substantive categories beyond these core areas[10], DeFi platforms, which feature substantially lower management delegation, exhibit a wide range of proposal

[10] While shareholder voting in traditional corporate governance has historically been concentrated on a narrow set of topics, such as executive compensation, director elections, and routine governance matters (like renewing the contract of the auditor of the firm), recent years have witnessed the emergence and growing prominence of new proposal subjects, particularly those related to ESG issues He et al. (2023), Di Giuli et al. (2025), Fich and Xu (2025). These proposals have expanded the scope of shareholder engagement.

subjects, from governance and partnership initiatives to feature development, business strategy, and cybersecurity decisions, generating far richer contextual variation that translates into pronounced differences in how voter value voting rights are valued across decision domains.

At the proposal level, outcomes are generally consensual as margins of victory close to one, but this masks important subject-level differences. Business strategy proposals exhibit noticeably lower margins of victory on average, suggesting more contested outcomes, whereas cybersecurity and governance proposals tend to reach stronger consensus. Turnout also varies substantially across and within subjects, with features and governance proposals attracting the highest participation, while business strategy proposals display lower engagement. Measures of voting power concentration indicate that governance in our sample is, on average, highly concentrated: the Nakamoto number is low on average (4). The Gini index of voting power concentration in proposals is high on average (0.67), consistent with prior work on DAOs documenting substantial concentration of voting power (Laturnus (2023), Appel and Grennan (2023b), Han et al. (2025), Cong et al. (2025))

Finally, Table 16 documents the large dispersion in willingness to pay for voting rights. It is highly skewed, with substantial differences between median and upper-tail values, reflecting pronounced heterogeneity among voters. This strong right skew motivates our use of logarithmic transformations of our willingness to pay for voting rights measure in the linear regression framework to mitigate the influence of large observations. We further conduct a robustness test in Section 5.2 designed to explicitly account for this skewness, our main results remain unchanged. The cumulative distribution of voting power across voters is illustrated in Figure 2. Overall, Table 16 illustrates that DeFi governance is characterized by rich cross-platform, cross-subject, and cross-voter heterogeneity, motivating our vote-level analysis of willingness to pay for voting rights. More detailed proposal-level and DeFi platform statistics are reported in Table 16.

3 Isolating voters' preferences impact on their willingness to pay for voting rights

3.1 Corporate governance theory underpinnings

Let $Q_k > 0$ denote the total number of tokens which were cast on proposal k. We define the share of the votes held by voter i in proposal k as:

$$s_{ik} = \frac{q_{ik}}{Q_k}$$

where $q_{ik} > 0$ denote the number of votes held by voter i that are eligible at t_k.

Let U_{ik} be the voter i's utility gain from governance proposal k. We can decompose this utility gain into a proposal-level (common) component and a heterogeneous preference component depending on whether voter i's preferred outcome is implemented (as in Levit et al. (2023)):

$$U_{ik} = U_k + \theta^\top X_{ik},$$

where U_k is a proposal-level utility gain common to all voters and X_{ik} is a vector of voter characteristics capturing voter-level heterogeneity in utility gains.

Let π_{ik} denote the probability that block q_{ik} is pivotal for the preferred outcome of voter i to be selected for governance proposal k. π_{ik} can be written as a function of the vote share of voter i and proposal characteristics Z_k (such as the the disagreement among tokenholders) :

$$\pi_{ik} = \pi(s_{ik}, Z_k),$$

The willingness to pay for voting rights attributed to q_{ik} tokens is the expected utility gain that the voting rights attached to q_{ik} are pivotal for the preferred outcome to be implemented. Pivotality enters here the willingness to pay for voting rights multiplicatively (Speit et al. (2023), Levit et al. (2023)). We can write that:

$$\mathrm{WTP}_{ik}(q_{ik}) = \pi_{ik}\, U_{ik} = \pi(s_{ik}, Z_k)\Big(U_k + \theta^\top X_{ik}\Big)$$

Individual willingness to pay for voting rights $\mathrm{WTP}_{ik}(q_{ik})$ being not directly observable, our framework measures the willingness to pay for voting rights as it is revealed in equilibrium through the market value $\Delta P_k(q_{ik})$. Voters differ in their willingness to pay for voting power due to heterogeneous preferences and probabilities of being pivotal, and these heterogeneous willingness to pay determine how much voting power voters optimally choose to hold. In our setting, governance tokens are traded on constant-product automated market makers that pin down a deterministic identity-independent price schedule $P_k(q)$. Heterogeneity in willingness to pay is therefore reflected in the quantities of voting power chosen by voters. In our regression framework, we capture how voter characteristics and pivotality translate into higher or lower equilibrium willingness to pay for voting rights, net of the mechanical effect of the vote share, as revealed by the market value of the voting power that voters chose to hold within a proposal. While individual surplus is not directly observed, differences in willingness to pay are reflected in voters' positions along the common pricing schedule at the proposal level.

Conceptually, it is also important to distinguish between the revealed willingness to pay for voting rights measured in this paper and the voting premium theorized in Levit et al. (2023). Our empirical measure captures a realized willingness to pay associated with the equilibrium holding q_{ik}, identified through the record-date price wedge $\Delta P_k(q_{ik})$. This wedge reflects the value that an investor attributes to the voting power embedded in the position actually held at the time of the vote. By contrast, the voting premium is a concept defined on marginal shares that an investor could acquire (also depending on both pivotality and idiosyncratic preferences over outcomes). Because we do not observe the counterfactual marginal shares that were not purchased, we do not attempt to identify or measure the voting premium. Our approach therefore deliberately focuses on revealed willingness to pay for voting rights at observed holdings, rather than on marginal valuations that are unobservable in this setting.

3.2 Isolating within-proposal variation of the willingness to pay for voting rights

We use proposal fixed effects to absorb variations which are common to all voters around proposal k. Importantly, proposal fixed effects help in addressing a classic concern in the voting premium literature by absorbing any proposal-wide information shock about the firm's fundamentals ahead of a given governance proposal. Although the proposal-level common-value component U_k is common to all voters and absorbed by proposal fixed effects, how much each voter is affected the common-value component U_k still varies within proposals with the vote share of each voter. Proposal fixed effects therefore do not eliminate within-proposal heterogeneity in how strongly that common-value component is reflected in the voter's valuation of voting rights. As a result, the pivotality-scaled stake $\pi_{i,k}U_k$ varies across voter blocks within the same proposal. Formally, the within-proposal transformation is

$$\pi_{ik}U_k - \overline{\pi}_{\cdot k}U_k = U_k\Big(\pi_{ik} - \overline{\pi}_{\cdot k}\Big)$$

which does not vanish unless pivotality is constant within proposal. Therefore, in order to isolate how voter-level preference heterogeneity $\pi(s_{ik}, Z_k) \cdot \theta^\top X_{ik}$ affects willingness to pay for voting rights cleanly, we explicitly control for within-proposal variation in $\pi_{ik}U_k$ using proposal level controls interacted with our proxy for pivotality. We choose explicitly proposal-level controls which may affect willingness to pay for voting rights once interacted with our pivotality proxy. Those two variables are:

- **Turnout** T_k, the number of voters which cast a vote in a given proposal as a proxy for the importance of the proposal[11].
- **Margin of victory** $MOV_k \in [0, 1]$ to proxy for disagreement among tokenholders. MOV_k is 0 if the two scores for either outcome of the governance proposal are

[11] Li and Yermack (2016) provides empirical support to using turnout as a proxy for saliency. Saliency-related characteristics of meetings are systematically associated with higher voter turnout.

exactly equal and if one outcome has all the votes in its favor. This means that the closer MOV_k is to 0, the more debated the proposal.

Since T_k and MOV_k are constant within proposal, they are absorbed by proposal fixed effects when entered alone.

3.3 Baseline Specification

Our baseline specification to measure the willingness to pay for voting rights WTP(q_{ik}) is therefore:

$$\Delta P(q_{ik}) = \beta_1^\top X_{ik} + \eta_0\, s_{ik} + \eta_1\, s_{ik} T_k + \eta_2\, s_{ik} MOV_k + \eta_3\, s_{ik} MOV_k T_k + \mu_k + \varepsilon_{ik} \tag{2}$$

In this specification, the proposal fixed effects μ_k absorb all proposal-level components (including value creation of the proposal) common to all tokenholders. The control variable s_{ik} captures the baseline relationship between vote share (our proxy for pivotality) and the willingness to pay for voting rights. The proposal level controls interacted with our pivotality proxy aim at controlling for the within-proposal pivotality-scaled common utility gain $\pi_{ik} U_k$. $s_{ik} T_k$ controls for how pivotality may interact with the general importance of a given governance proposal (proxied by proposal turnout) and how it may affect the voter-level willingness to pay for voting rights. $s_{ik} MOV_k$ controls for how pivotality may interact with the proposal level of disagreement among tokenholders (proxied by proposal margin of victory) and how it may also affect the voter-level willingness to pay for voting rights. $s_{ik} T_k MOV_k$ controls for how pivotality may interact with both proposal importance and the level of disagreement among tokenholders at the same time which may also affect the willingness to pay for voting rights. These terms aim to absorb to the best of our ability the residual within-proposal variation in $\pi_{ik} U_k$ that proposal fixed effects cannot remove.

β_1 therefore identifies the voting fraction weighted-average within-proposal effect of voter preferences on the willingness to pay for voting rights holding voting fraction s_{ik}

(our proxy for pivotality) and its interactions with the proposal environment constant.

3.3.1 Noise and scaling WTP(q_{ik}) by q_{ik}

Many theoretical papers characterize the value of voting rights per unit of voting power (e.g., the value of a marginal vote), which naturally motivates scaling by the number of votes. In our setting, we observe $\Delta P(q_{ik})$, a noisy measure of the willingness to pay WTP(q_{ik}) for a given token amount q_{ik}. If we write $\text{WTP}(q_{ik}) = \Delta P(q_{ik}) + \nu_{ik}$ where ν_{ik} is our measurement noise, analyzing the per-vote object $\Delta P(q_{ik})/q_{ik}$ also divides ν_{ik} by q_{ik} and amplifies mechanically the noise for small token-holdings q_{ik}. This issue is particularly important in our dataset as many voters hold fractional shares ($q_{ik} < 1$). For such observations, even modest measurement error in $\Delta P(q_{ik})$ translates into substantial dispersion in $\Delta P(q_{ik})/q_{ik}$. As a consequence, per-vote scaling can disproportionately weight small holdings. This is why we choose to conduct our analysis at the block level and control for pivotality directly through vote share $s_{ik} = q_{ik}/Q_k$ (and related interactions), rather than mechanically scaling the dependent variable by q_{ik}.

3.4 Results: Voters' preferences average influence on willingness to pay for voting rights

We first evaluate in Table 1 how the voting fraction s_{ik} our proxy for pivotality, influences the willingness to pay for voting rights of voters[12]. Focusing on column (4), we find a strong positive (mechanical) relationship. A 1% increase in the voters' vote share is associated with 37.7% increase in willingness to pay for voting rights. The negative and significant effect of the control variable "Vote share x MOV" shows that the more debated the proposal (the lower the margin of victory of the proposal), the higher the impact of our proxy for pivotality on the willingness to for voting rights. A greater the

[12] Coefficients relate to the effect on the willingness to pay for voting rights for which $\log_{10}$ is applied. For indicators variable their effect in percentage is is therefore $100\times(10^{\beta}-1)$. For variables involving vote share, we calculate the effect of a 1% increasing in vote share on the willingness to pay. We focus on observations with a positive willingness to pay for voting rights, which are the most straightforward to interpret as negative values may reflect demand for tokens for purposes other than voting rights.

saliency of the proposal (proxied by greater turnout for in the proposal), "Vote share x Turnout", also increases the impact of our proxy for pivotality on the willingness to for voting rights as our.

Table 1 about here

Table 2[13] shows first that voters who participate repeatedly in governance proposal value voting rights more. Each additional participation in governance proposal is associated with 0.37% in willingness to pay for voting rights. To show that heterogeneity in preferences shapes willingness to pay for voting rights, we first focus on contemporaneous voting behavior and show how voters voting against the status quo have a higher willingness to pay for voting rights. Column 2 shows that voters voting against the status quo have an increased average effect (across subjects) willingness to pay for voting rights of 14.2% relative to voters which voted for the status quo. In Column 3, we then detail how this effect differentiates across proposal subjects. This increase is always significant but varies across subjects. Voting against the status quo in Governance, Features or Cybersecurity proposals, is associated with an average increase in the willingness for voting rights of respectively 15.6%, 8.3% and 12.5%, when voting against the status quo in Partnership or Business strategy proposals is associated with an average increase in the willingness for voting rights of respectively 32.7% and 42.3%. Overall this first table shows how contemporaneous voting preferences, namely dissent on specific subjects, heterogeneously shape voters' willingness to pay for voting rights.

Table 2 and Figure 3 about here

Table 3 focuses on another set voters' characteristics, namely previous voting experience. Focusing on control variables which have a significant impact in both Column 3 and 4, we show how prior participation proposals also heterogeneously shape the willingness to pay for voting rights. In business strategy and features proposals, previous

[13]The findings presented in table 2 - 4 should be thought of as "holding the effect voting fraction (our proxy for pivotality) constant".

voting experience is associated with an average increase in willingness to pay for voting rights, respectively of 42.5% and 29.8% respectively relative to voters which have never voted on these topics before. However in governance and partnership proposals, previous voting experience is associated with an average decrease in willingness to pay for voting rights relative to voters which have never voted on these topics before, respectively of 9.7% and 28.4%. A previous voting experience in a debated[14] or cybersecurity proposals has no statistically significant effect on the willingness to pay for voting rights.

We also evaluate how previous preferences, namely previous voting experience against the status quo influences voters' willingness to pay for voting rights. We show in Column 3 that previous dissent is associated with an average effect (across subjects) of raising the willingness to pay for voting rights by 11.7% relative to voters who have not. Detailing how this effect differentiates across proposal subjects, we find great heterogeneity again. A previous voting experience voting against the status quo in governance, business strategy or debated proposals has no statistically significant effect on the willingness to pay for voting rights. However, previous dissent in partnership proposals amplifies the average negative effect by 8.1% and a previous dissent in features attenuates the average positive effect by 16.7%. Finally, when the average effect of a previous voting experience of voting in a cybersecurity proposal was not significant, previous dissent in cybersecurity proposals is associated with an average increase in the willingness to pay for voting rights of 11.5%. Taken together, these results indicate that willingness to pay for voting rights is shaped not only by contemporaneous preferences but also by voters' historical voting characteristics and preferences. As theorized in Levit et al. (2023), prior participation in specific proposal categories could convey information about the structure of the voting base and the likelihood that an individual vote would be pivotal in future governance proposals. Repeated exposure to voting outcomes allows voters to learn how aligned or divided the electorate is on a given subject, thereby refining beliefs about the marginal effectiveness of their vote. Consequently, historical preferences and experiences operate as an important channel through which voters update their

[14]Defined as a governance proposal with low margin of victory (low margin of victory being the quartile of proposals with the lowest margin of victory).

perceived probability of being pivotal, shaping their willingness to pay for voting rights in contemporaneous governance decisions.

Table 3 and Figure 4 about here

Building on the insight of Table 3, we next examine whether when these voting characteristics and preferences are persistent over time they influence willingness to pay for voting rights. Table 4 examines how persistency in voting preferences (previous and contemporaneous preferences) shape the willingness to pay for voting rights. Focusing on controls which are significant in both column (3) and (4), persistence in participation in governance and partnership (in past and current proposals) is associated with an average higher willingness to pay for voting rights for those voters, respectively of 16.1% and 38.6% (although only significant at the 10% level for persistency in participation in partnership proposals). In contrast, persistent participation in business strategy proposals is associated with a lower average willingness to pay for voting rights of 39% suggesting that repeated exposure to decision-making on this subject reduces the marginal value of formal voting rights, potentially due to learning about limited influence of voters on this given subject. Whereas persistence in voting on business strategy proposals led to an attenuated willingness to pay for voting rights, persistent dissent in business strategy proposals on the contrary is positively associated with willingness to pay for voting rights indicating that voters who repeatedly oppose the status quo in business strategy decisions place greater value on voting power. Persistent dissent in business strategy proposals[15] is associated with an average increase in the valuation of voting rights of 16.5%. By contrast, persistent dissent in governance proposals is negatively associated with willingness to pay for voting rights, suggesting that repeated opposition in governance proposals may be associated with disengagement or lower expected influence. Persistent dissent in governance proposals[16] is associated with an average attenuation in the valuation of voting rights of 7.5%. Lastly persistent dissent in features proposals is associated with a positive average increase in the willingness

[15]Combined with the average effect of persistence in voting on business strategy proposals.

[16]Again, combined with the average effect of persistence in voting on governance proposals.

to pay for voting rights of 19.5%. In this table as well, the effect on the willingness to pay for voting rights of joint previous and contemporaneous voting preferences exhibits strong heterogeneity across voters characteristics.

Taken together, the evidence across Table 2 – Table 4 highlights substantial heterogeneity in how voters' characteristics and preferences shape their valuation for value voting rights. Those results thereby provide first empirical support for shareholder voting theories predicting that willingness to pay for governance power is fundamentally a voter-level quantity rather than a quantity that can be solely assessed at the proposal level.

Table 4 and Figure 5 about here

Importantly, all of the results discussed in this section are obtained while holding vote share constant (our proxy for pivotality), the estimated coefficients therefore isolate how the average voter preference or characteristics influences the willingness to pay for voting rights. In the following section, we run a new regression specification to further examine how variation in pivotality amplifies or attenuates the effect of voters' preferences and characteristics on their willingness to pay for voting rights.

4 How pivotality shapes voters' preferences effects on the willingness to pay for voting rights

4.1 Motivation for a non-linear proxy of pivotality

In the baseline specification, the coefficient vector β_1 captures the average effect of voter characteristics on willingness to pay for voting rights (evaluated at the average level of pivotality, here proxied by the share of votes held by voters s_{ik}). However, corporate governance theory predicts that the valuation of voting rights depends not only on preferences on average but also on the probability of being pivotal interacted with those preferences. As a result, the impact of a given characteristic on willingness to pay for voting rights may differ substantially between weakly pivotal and highly pivotal voters. To allow for this heterogeneity driven by the voters' probability of being pivotal, we would like to estimate a second specification that interacts voters' preferences and characteristics with their probability of being pivotal. This interaction framework would enable us to distinguish average preference effects from how those effects are amplified or attenuated as voting blocks become more pivotal.

To allow for voters' preferences and characteristics effects to vary with voters' pivotality, we could estimate the following second regression:

$$\Delta P_k(q_{ik}) = \beta_1^\top X_{ik} + \beta_2^\top (X_{ik} \times s_{ik}) + \eta_0\, s_{ik} + \eta_1\, s_{ik} T_k + \eta_2\, s_{ik} MOV_k + \eta_3\, s_{ik} T_k MOV_k + \mu_k + \varepsilon_{ik} \tag{3}$$

where the marginal effect of a control for a given voter characteristic X_{ik} on the willingness to pay for voting rights is then :

$$\frac{\partial}{\partial X_{ik}} \Delta P_k(q_{ik}) = \beta_1 + \beta_2\, s_{ik}.$$

In this regression design β_1 captures the average effect of a voter characteristic or preference and β_2 captures how the effect of the given voter characteristic or preference X_{ik} is amplified/attenuated as the voter has a greater vote share.

However, when proxying pivotality with s_{ik}, the fraction of votes held by voter i in proposal k, we implicitly assume that the probability of being pivotal increases proportionally with the vote share. Such a linear specification is difficult to reconcile with theory. In pivotal-voter models, a voter's action affects outcomes only when the aggregate vote of others lies sufficiently close to the decision threshold. As a result, pivotality is inherently non-linear in the fraction of the votes held: small stakes are almost never pivotal, while sufficiently large stakes can induce a sharp increase in the probability of being decisive. To align our empirical analysis with this theoretical intuition, we refine the notion of pivotality and construct a voter-adapted measure of the probability of being pivotal that maps fraction of the votes held into a non-linear probability of being pivotal in the governance proposal. Our method echoes Maug and Rydqvist (2009) at the vote level and captures the sharp rise in pivotality as the voter's fraction becomes large relative to the uncertainty in others' votes. We build our proxy for probability of being pivotal in two steps: First, estimating the voter-level propensity to vote in favor of the status quo via a logit model and secondly aggregating the predicted voter-level propensities to vote in favor of the status quo to construct a voter-level probability of being pivotal in a given governance proposal.

4.2 Measure of the probability of being pivotal first step: Estimating the voter-level propensity to vote in favor of the status quo

A voting rule for proposal k requires that the total weight of votes in favor of a given outcome reach a threshold $A_k \in [0, Q_k]$, where Q_k is the total voting power cast in proposal k[17]. Let the individual vote v_{ik} be binary with $v_{ik} = 1$ if voter i votes in favor of the status quo in proposal k. S_k defines the total "In favor of the status quo"[18] weight as $S_k = \sum q_{ik} v_{ik}$ where q_{ik}, as in the previous section, denotes the number of tokens held by voter i in proposal k. We can then define the "In favor of the status quo" weight excluding i as $S_{-i,k} \equiv \sum_{j \neq i} q_{ik} v_{jk}$. If voter i votes "Against of the status quo" then $S_k = S_{-i,k}$; if i votes "In favor of the status quo" then $S_k = S_{-i,k} + q_{ik}$. The pivotality event is the event that voter i changes the outcome by switching her vote:

$$Piv_{ik} \equiv \Big\{ \mathbf{1}\{S_{-i,k} + q_{ik} \geq A_k\} \neq \mathbf{1}\{S_{-i,k} \geq A_k\} \Big\}.$$

This event is equivalent to the condition

$$Piv_{ik} \iff \mathbf{1}\Big\{ S_{-i,k} < A_k \leq S_{-i,k} + q_{ik} \Big\} \iff S_{-i,k} \in [A_k - q_{ik},\, A_k]$$

[17]This voting rule is always $\frac{1}{2} Q_k$ in our sample.

[18]As the distributions used to estimate P^{piv}_{ik} later in the paragraph are symmetric, the following reasoning would be exactly equivalent if it were to be done for the "Against the status quo" weight.

Hence we can denote the probability of being pivotal as

$$P_{ik}^{\text{piv}} = \Pr\Big(S_{-i,k} \in [A_k - q_{ik},\ A_k]\Big).$$

The probability of being pivotal depends on the distribution of $S_{-i,p}$, which is not directly observed ex ante. We estimate individual vote propensities using predetermined voter characteristics[19] and proposal fixed effects. Let μ_k denote proposal fixed effects capturing common information about proposal k. We first estimate a logit model of voting "In favor of the status quo":

$$\Pr(v_{ip} = 1 \mid X_{i,k}, \mu_k) = \Lambda\Big(\mu_k + \beta^T X_{i,k}\Big)$$

where $\Lambda(\cdot)$ is the cumulative distribution function of the standard logistic distribution and $X_{i,k}$ is the vector of voter characteristics. Let $\widehat{\beta}$ and $\widehat{\mu}_k$ denote the fitted parameters. The predicted propensity that voter i votes in favor of the status quo on proposal k is

$$\widehat{v}_{ik} = \Lambda\Big(\widehat{\mu}_k + \widehat{\beta}^T X_{i,k}\Big)$$

The first step provides a mapping from historical voter characteristics to voter-level propensities to vote in favor of the status quo about how different types of voters tend to vote. This approach closely parallels Maug and Rydqvist (2009), where voters are assumed to hold beliefs about others' voting probabilities when evaluating the likelihood of being pivotal. In our setting, $\widehat{\nu}_{ik}$ varies with voter characteristics, while preserving the same logical role of beliefs in the construction of pivotality.

[19] We are careful to use historical preference based-characteristics from voters hence not predicting a propensity to vote in favor of the status quo in proposal k with variables about the choice of voter i in proposal k

4.3 Measure of the probability of being pivotal second step: Constructing the non-linear probability of being pivotal

Assuming conditional independence of other voters' votes given observables. For a fixed i, the probability that another voter j votes in favor of the status quo is $\nu_{jk} \sim \text{Bernoulli}\Big(\widehat{v}_{jk}\Big)$ with $j \neq i$. Then the expected "In favor of the status quo" vote weight excluding i is the weighted Poisson-binomial sum $S_{-i,k} = \sum_{j \neq i} q_{jk}\nu_{jk}$. Its mean is $\widehat{\mu}_{-i,k} \equiv \sum_{j \neq i} q_{jk}\widehat{\nu}_{jk}$ and its variance is $\widehat{\sigma}^2_{-i,k} \equiv \sum_{j \neq i} q^2_{jk}\,\widehat{\nu}_{jk}\Big(1-\widehat{\nu}_{jk}\Big)$

When the number of voters in proposal k, N_k is large, the weighted Poisson-binomial sum $S_{-i,k} = \sum_{j \neq i} q_{jk}\nu_{jk}$ admits a normal approximation by the Lindeberg–Lévy Central Limit Theorem[20].

$$S_{-i,k} \approx \mathcal{N}\Big(\widehat{\mu}_{-i,k},\, \widehat{\sigma}^2_{-i,k}\Big),$$

The pivotality probability is then approximated by

$$P^{\text{piv}}_{ik} = \Pr\Big(S_{-i,k} \in [A_k - q_{ik}, A_k)\Big) \approx \Phi\left(\frac{A_k - \widehat{\mu}_{-i,k}}{\widehat{\sigma}_{-i,k}}\right) - \Phi\left(\frac{A_k - q_{ik} - \widehat{\mu}_{-i,k}}{\widehat{\sigma}_{-i,k}}\right),$$

where $\Phi(\cdot)$ is the standard normal CDF and $\widehat{\sigma}_{-i,k} = \sqrt{\widehat{\sigma}^2_{-i,k}}$.

We incorporate this non-linear P^{piv}_{ik} (the non-linearity of the cumulative distribution can be seen in Figure 6) as our proxy for pivotality in a third regression in order to estimate the willingness to pay for voting rights:

$$\Delta P_k(q_{ik}) = \beta_1^\top X_{ik} + \beta_2^\top (X_{ik} \times P^{\text{piv}}_{ik}) + \eta_0\, P^{\text{piv}}_{ik} + \eta_1\, P^{\text{piv}}_{ik} T_k + \eta_2\, P^{\text{piv}}_{ik} MOV_k + \eta_3\, P^{\text{piv}}_{ik} T_k MOV_k + \mu_k + \varepsilon'_{ik} \tag{4}$$

In this new regression design β_1 still captures the average effect of a voter preference-based but β_2 now captures how the effect of the given voter preference characteristic X is amplified/attenuated as the voter's non-linear probability of being pivotal increases.

[20] Provided that no single voting weight dominates the total variance

4.4 Economic intuition of the possible results

When β_1 and β_2 share the same sign and are both significant, it implies that pivotality amplifies how strongly preferences are reflected in the willingness to pay for votes. This corresponds to the 'preference-amplification channel' theorized in Levit et al. (2023). When investors become more pivotal, additional trades are more likely to shift the effective median voter and thus more strongly price heterogeneous personal preferences (their own biases toward an outcome) rather than only common-value considerations.

When β_1 and β_2 are both significant and have opposite signs, as pivotality grows, the average effect of a characteristic attenuates and may cross zero at $P_{ik}^{\text{piv}\star}$. This case corresponds more to a 'preference-convergence channel' in which the characteristic matters (β_1 is significant) but is counteracted by outcome-based common value improvement as the voter (which holds a large amount of tokens) becomes decisive. This channel is more consistent with the theory developed in Speit et al. (2023).

If β_1 is significant but β_2 is not, preference-based characteristic X affects the willingness to pay for voting rights on average, but this effect does not systematically vary with pivotality. If β_2 is significant but β_1 is not, preferences do not matter for weakly pivotal investors, but begin to matter only once pivotality increases, indicating that $X_{i,k}$ influences the willingness to pay for voting rights only through the 'preference-amplification' channel. In that case, heterogeneous preferences are economically relevant only when investors become sufficiently pivotal for their trades to affect the expected voting outcome.

Finally, joint non-significance of β_1 and β_2 has also an interpretation across both frameworks. If votes lack pivotality and outcomes are highly unlikely to changed by marginal trades[21], preference-based characteristics, whether on average or scaled by pivotality are not priced and therefore have not effect on the willingness to pay for voting right.

[21]The median voter is unlikely to be moved so much so as to change the outcome of the proposal in the Levit et al. (2023) framework.

4.5 Results: The role of pivotality in shaping preference-based characteristics' influence on willingness to pay for voting rights

The average effects of preference-based characteristics on the willingness to pay for voting rights, β_1, reported in this section are globally consistent with the previous regression design, exhibiting qualitatively similar patterns, comparable quantitative magnitudes, and unchanged levels of statistical significance.

Table 5 about here

Table 6 examines how previous voting experience affects the willingness to pay for voting rights and how this effect varies with voters' probability of being pivotal. The estimates reveal substantial heterogeneity across proposal types for how previous voting experience affects the willingness to pay for voting rights. Having voted in debated proposals before is associated with an average statistically significant decrease in willingness to pay for voting rights of 10.8% relative to voters which did not. The fact that both the average effect and its interaction with P^{piv} share the same sign implies that this negative valuation effect is amplified as voters become more pivotal. A 1% increase in the probability of being pivotal, adds 2% in how past participation in a debated proposals decreases the voters' willingness to pay for voting rights relative to voters which did not. For governance and partnership proposals (Column 2), the average effect of previous participation is negative and significant (-9.7% and -28.2% respectively, as in Table 3), while the interaction with pivotality is not statistically significant. This pattern indicates that previous preferences matter on average for these proposal types, but their effect does not systematically vary with pivotality. For business strategy and features proposals, the average effect of previous participation is positive and significant (32.5% increase and 30.6% increase respectively, as in Table 3). Again, this pattern indicates that previous preferences matter on average for these proposal types. These results show that previous voting experience influences the willingness to pay for voting rights. In the case of debated proposals, the economic intuition for this results is emphasized by Levit et al. (2023), following debated proposals, voting bases are more extreme and acquiring additional voting power requires purchasing tokens from highly biased holders, thereby lowering the incentive to pay for voting rights. The findings in Table 6 are a first evidence that the willingness to pay for voting rights is shaped by a complex interaction between individual preferences and the probability of being pivotal, rather than by preferences or voting power in isolation.

Table 6 about here

Table 7 examines how voting against the status quo in previous proposals affects willingness to pay for voting rights, and how this effect varies with voters' probability of being pivotal. Previously voting against the status quo is associated with an average (across subjects) statistically significant increase in willingness to pay of 9.2% relative to voters who did not. In column 2, we see that voting against the status quo in a debated proposal before is associated with an average statistically significant increase in willingness to pay of 8.3% relative to voters who did not do so. Importantly, the interaction of the indicator with P^{piv} is statistically significant and positive. Each 1% increase in the probability of being pivotal lowers the willingness to pay for voters which voted against the status quo in a debated proposal before by 1.8% as opposed to those who did not. This pattern corresponds to the preference-convergence channel described in Section 3.4.3. While voting against the status quo in a debated proposal reveals strong preferences that matter on average, these voter-level characteristics are attenuated as voters become more pivotal. Voters increasingly internalize outcome-based, common-value considerations. For previous votes against governance proposals, only the interaction with pivotality is negative and statistically significant. Each 1% increase in the probability of being pivotal lowers the willingness to pay for voters which voted against the status quo in a governance proposal before by 1.1%. For previous votes against the status quo in business strategy proposals, the average effect is significant and negative (-11.4%) but the interaction with pivotality is positive. Each 1% increase in the probability of being pivotal increases the willingness to pay for voters which voted against the status quo in a business strategy proposal before by 31.9%. This pattern is also consistent with a preference-convergence channel in which voter-level characteristics are attenuated as voters become more pivotal. Previous votes against the status quo in features proposals is associated with a significant reduction in willingness to pay for voting rights on average of 14% (as in Table 3), while the interaction with pivotality is not statistically significant. Finally, previous votes against the status quo in cybersecurity proposals is associated with a positive and significant average increase in willingness to pay of 7.3% (as in Table 3) and the interaction with pivotality is also positive. Each 1% increase in the probability of being pivotal increases the willingness to pay for voters which voted against the status quo in a cybersecurity proposal before by 1.78%. This pattern indicates a strong preference-amplification channel in which dissent becomes increasingly valuable as the voter becomes decisive.

Table 7 about here

Table 8 examines how persistency of voting on a given subject affects willingness to pay for voting rights, and how this effect varies with voters' probability of being pivotal. Persistency in voting in partnership proposals exhibits a positive average effect on willingness to pay for voting rights of (39% although only statistically significant at the 10% level), with a positive and significant interaction with pivotality. Each 1% increase in the probability of being pivotal increases willingness to pay for voters which vote persistently on partnership proposals by 4.3% relative to the voters which do not. The result for this characteristic corresponds to a preference-amplification channel. For business strategy proposals, we recover that the average effect of persistency on the willingness to pay for voting rights is negative (-38%, as in Table 4). Overall, the results in Table 8 shows that persistency of voting on given subject contributes to the heterogeneity that shapes voter-level willingness to pay for voting rights.

Table 8 about here

Table 9 examines another preference-based characteristic of voters, namely the persistence of voters, defined as repeated voting against the status quo on the same subject category. At the aggregate level across proposals (Column 1), persistent dissent across all proposals has no statistically significant average effect on willingness to pay, nor does it exhibit a significant interaction with pivotality. Therefore persistent dissent alone does not have an effect on the willingness to pay for voting rights. For debated and business strategy proposals, persistent dissent of voters is associated with statistically significant increase of the average increase in willingness to pay for voting rights (23% and 16.5% respectively) while the interaction with pivotality is not significant. For partnership proposals, persistent dissent has no significant average effect, but the interaction with pivotality is positive and statistically significant. Each 1% increase in the probability of being pivotal raises the willingness to pay for voting rights for voters which vote persistently against the status quo in partnership proposals by 4.3% and doubles the effect found in Table 8 for these voters[22]. Persistent dissent in governance proposals is associated with an average decrease on the willingness to pay for voting rights of 18%. The coefficient for the interaction with pivotality is also negative consistent with a preference-amplification channel of pivotality for those voters. Each 1% increase in the probability of being pivotal reduces the willingness to pay for voting rights 3.6% by an extra for voters showing persistent dissent in governance proposals relative to voters who do not have this preference-based characteristic. For business strategy proposals, persistent dissent of voters is associated with a sharp average increase in willingness to pay for voting rights of 292%. However, the coefficient for the interaction of the indicator with pivotality is negative. Each 1% increase in probability of being pivotal lowers sharply the willingness to pay for voting rights of voters showing persistent dissent in governance proposals by 9.6% relative to voters who do not. For business strategy proposals persistent dissent results correspond to a preference convergence channel.

Table 9 about here

The results from Table 5 to Table 9 emphasize that, beyond average effects, the

[22]In this regression the coefficient for the coefficient "Voting in a partnership proposal before and voting in a partnership proposal now x P^{piv} is statistically significant and equal to 1.488, corresponding to an incremental effect of this characteristic on the willingness to pay of 3.5% (for each 1% increase in the probability of being pivotal).

influence of voter-level characteristics and preferences on willingness to pay for voting rights depends on a nuanced interaction with the voters' probability of being pivotal. The probability of being pivotal can substantially amplify, attenuate, or even reverse the average effect of a given preference-based characteristic on the willingness to pay for voting rights. The heterogeneity in how individual voters value governance power implies that even at the voter level, identical preference-based characteristics may translate into markedly different valuations of voting rights.

5 Robustness tests

5.1 Robustness test: Filtering out non-binding proposals and delegated voting

Our first robustness test is grounded in the institutional details of DeFi governance, we restrict the sample to proposals for which voting outcomes have direct and binding implications for the platform. In particular, we exclude so-called "Temperature Check" proposals, which are explicitly designed to be non-binding rather than decision-making votes. These proposals are intended to gauge community sentiment and do not mechanically trigger changes to the platform. We identify and exclude these observations by filtering proposals whose titles or descriptions contain keywords commonly associated with non-binding votes (e.g., “temperature check”, “temp check”, etc...). This institutional filtering ensures that pivotal probability and voting power are measured only in contexts where governance outcomes are consequential for the platforms. We also conduct a second filtering by excluding proposals that rely on delegated voting, as delegation breaks the one-to-one mapping between an address's observed token holdings and its effective voting power. Under delegation, an address may cast votes on behalf of other token holders, implying that the voting weight observed on-chain does not correspond to the economic stake owned by the voter. By contrast, we do not exclude proposals that allow voting via staked governance tokens, provided that voting with native governance tokens remains an available option. In these cases, both represent claims on the same underlying governance rights, and therefore should be priced equally (even though balance amounts could differ). This choice also circumvents a data limitation, namely the absence of Uniswap v2 liquidity pools for staked governance. We show that our empirical results remain qualitatively and quantitatively unchanged after this robustness test, some of our results have even a stronger statistical significance.

Results of the first robustness test about here

5.2 Robustness test: Refinements to the Pivotal Probability Estimation with Large voting weights

As a second robustness test, we reassess the measurement of pivotal probability by replacing the normal approximation with a richer approximation that is better suited to environments with highly concentrated voting power. The normal approximation to the Poisson–binomial distribution appropriate when ownership is relatively dispersed. However, this approximation should be adapted in instances where the voting power is highly concentrated among a small number of shareholders. In such settings, such as our own, aggregate voting outcomes are driven by discrete and asymmetric shifts associated with individual large shareholders rather than by smooth aggregation across many small voters. As a result, the distribution of voting outcomes is typically skewed and heavy-tailed, and pivotal events are determined by a few configurations involving blockholders rather than by marginal fluctuations around the mean. By allowing pivotal probability to better reflect the true distribution of voting outcomes under concentrated ownership, we ensure that our empirical results are not driven by misspecification in settings where control is inherently discrete and unevenly distributed. We refine our normal approximation by incorporating higher-order moments (e.g., skewness and kurtosis) and hence to correct for deviations from normality. We also show that our results remain qualitatively and quantitatively unchanged after this robustness test.

Results of the second robustness test about here

6 Proposal-level willingness to pay for voting rights: Established results and new evidence from contexts heterogeneity

6.1 Building proposal-level willingness to pay aggregates

After documenting substantial vote-level heterogeneity in willingness to pay for voting rights in the last section, we next aggregate our measure at the proposal level to test whether the traditional corporate governance cross-sectional predictions and results re-emerge in our Decentralized Finance laboratory. Moving to proposal-level analysis also forces us to choose a control group at the proposal level. Ideally this benchmark would clearly differ from the rest of the proposals on only one dimension. To that end, we select proposals with subject category "cybersecurity" as the control group. We choose these proposals as the control group as they are the most consensual proposals in terms of ex post voting outcomes. As evidenced in Table 13, which reports differences in mean margin of victory for different subjects relative to cybersecurity, every other subject category average margin of victory has a negative statistically significant difference with the average margin of victory across cybersecurity proposals (larger winning average margins of victory means less debated outcome on average). Intuitively, cybersecurity proposals also tend to be perceived as the closest to common-value proposals from which every users benefit (e.g. cyber risk mitigation and resilience, regulatory compliance), so they are less likely to trigger ideological disagreement or distributive conflict across voter types; as a result, there is typically less reason for investors to pay a premium to influence the outcome of these votes relative to more contested governance topics (such as business strategy proposals or partnership proposals). The systematic difference in margins of victory across proposal subjects is also evident visually in Figure 1, which shows that cybersecurity proposals consistently exhibit higher and more stable margins of victory across DeFi platforms than other proposal subject categories. A natural concern with this cybersecurity proposals as a control group is that they might differ from other proposal types along many more dimensions beyond consensus, so that any observed differences in willingness to pay could reflect systematic differences in the composition or concentration of voting power rather than differences in how contested the proposals are. In Table 14, we show that the Gini index of vote distribution is not systematically different between cybersecurity and the other subjects. Using cybersecurity proposals as a control group therefore isolates proposals which primarily differ from other proposals in terms of voters alignment rather than mechanical changes in the concentration/repartition of voting weight. This is exactly what we want as a credible benchmark which could be akin to "common value" proposals.

When aggregating willingness to pay at the proposal level, we rely on two measures rather to accommodate for the fact that the distribution of vote-level willingness to pay for voting rights is highly right-skewed, with a small number of votes exhibiting very large values relative to the mass of the distribution. To address this, we report in every table both the average proposal-level willingness to pay for voting rights and the 90th percentile of proposal-level willingness to pay for voting rights. Using these two measures allows us to distinguish changes in the general willingness to pay for voting rights from changes that are concentrated among the most influential voters. We focus only on proposal-level results which are statistically significant for both measures.

6.2 Traditional Finance Results Recovery

We next use the proposal-level aggregation of willingness to pay to recover two results from the corporate governance literature on the value of voting rights. Both results speak directly to when votes are most valuable, either because they are more likely to be pivotal or because they can influence contested outcomes, hence, providing natural benchmarks to further test the validity of our laboratory. The first result concerns the role of shareholder participation in shaping the value of voting rights, while the second focuses on how the degree of disagreement among shareholders affects may increase the value of those voting rights.

A first prediction we seek to recover follows directly from corporate governance theories that emphasize pivotality as the source of value of voting rights (Zingales (1995), Maug and Rydqvist (2009), Levit et al. (2023), Speit et al. (2023), Levit et al. (2024)), is the negative relationship between shareholder turnout and the value of voting rights. This is a long standing result in corporate governance theory and has recently been tested to be true in the de-facto voting power framework of Agarwal et al. (2025). The key economic intuition is that when turnout is high, the voting base is large, and any individual vote represents a smaller fraction of votes cast; as a result, the probability that a marginal vote is pivotal is low. The hypothesis is therefore that willingness to pay for voting rights should be decreasing in expected voter turnout, because voting power is diluted as participation rises.

The second prediction we aim to recover relates to how the degree of disagreement surrounding a proposal (Li et al. (2022), Levit et al. (2023), Levit et al. (2024)) shapes the average willingness to pay for voting influence. When proposals are closely contested (in our setting, when the margin of victory is small), the expected outcome lies near a pivotal cutoff, and small reallocation of voting rights can affect the probability of an outcome prevailing over another. In such environments, votes become valuable because marginal influence can tilt the outcome. By contrast, when proposals pass with large margins, outcomes are effectively predetermined, and marginal voting power has little effect on who determines the outcome. The hypothesis is therefore that the average willingness to pay for voting rights should be higher for more debated proposals.

To formally recover those proposal-level traditional finance results we estimate the following linear specification:

$$Avg_k(\Delta P_k(q_{ik})) = \beta_1 \; Avg \; Turnout_k + \beta_2 \; Avg \; MOV_k + \gamma^\top X_{k,d} + \mu_{d \times Year} + \varepsilon_{k,d} \quad (5)$$

In this specification, **both** *Average Turnout* **and** *Average MOV* **are constructed as rolling averages computed strictly up to and excluding—the focal pro-**

posal p. This timing is essential for interpretation: these variables capture the general governance environment prevailing on the platform prior to proposal p, rather than being mechanically influenced by the outcome or voting behavior on the proposal itself. *Average Turnout* is defined as the log of the rolling average voter participation across proposals on a given DeFi platform up to proposal p, while *Average MOV* is the rolling average margin of victory over the same pre-proposal window. In addition, we control for platform size and trading activity using the log of the two-week rolling average of market capitalization and the log of the two-week rolling average of total token trading volume, both measured around the start date of proposal p. To capture changes in liquidity and market attention directly tied to governance events, we include the log of ETH trading volume in the Uniswap v2 pool for the ETH/token pair, computed as a 10-block average both before and after the start date of proposal p. Proposal content is controlled for using proposal-type indicators. We further include a crisis-month indicator that equals one during months associated with major crypto-financial disruptions (notably the FTX collapse and the Silicon Valley Bank failure), as well as weekly rolling ETH and BTC price correlations with the DeFi platform's native token. Finally, all regressions include DAO $\times$ Year fixed effects, which absorb time-varying, platform-specific shocks, such as protocol upgrades, changes in governance rules, user base expansions, or macro crypto cycles.

The proposal-level regressions reported in Table 10 strong recover the two traditional finance results discussed above. First, we find a negative and statistically significant relationship between prior voter turnout and willingness to pay for voting rights. Across all specifications, higher average turnout in the pre-proposal governance environment is associated with significantly lower willingness to pay, both on average and in the upper tail of the distribution. In column 4 (and column 8 respectively), we observe that a 10% increase in average turnout is associated with a 16% decrease in willingness to pay for voting rights (respectively a decrease of 21.9% for the 90th percentile). We find a results which also validates in this context the intuition is that when participation is high, voting power is dispersed across a larger base of active voters, reducing the likelihood that any individual vote is pivotal. Second, the results also strongly confirm the role of proposal disagreement in shaping the value of voting rights along the prediction of Levit et al. (2023). Past average margin of victory has a negative and highly significant coefficient in all specifications. For the Average proposal-level willingness to pay for voting rights, a 1% increase in average margin of victory reduces willingness to pay by 3.8% (4.9% respectively for the 90th percentile willingness to pay for voting rights). Importantly, the effect of turnout and margin of victory is substantially stronger at the 90th percentile than at the mean, suggesting that low participation primarily increases willingness to pay among voters with the highest strategic incentives. Beyond these core results, we uncover a more subtle and somewhat surprising pattern in proposal content. Conditional on turnout, margin of victory, and a rich set of controls, governance proposals exhibit systematically lower willingness to pay for voting rights than cybersecurity proposals, which serve as our consensual benchmark. This finding is not mechanically implied by lower margins of victory alone. One possible interpretation aligned with Levit et al. (2023) is that governance proposals attract a voting base with more extreme preferences and therefore shifting the expected outcome requires purchasing votes from shareholders with very strong biases, dampening the marginal value of votes.

Table 10 about here

6.3 Heterogeneity Across Proposal Contexts and Aggregated Willingness to Pay

In addition to validating established corporate governance mechanisms, the heterogeneity of proposal contexts in decentralized finance allows us to isolate how learning about pivotality and voter polarization across proposals alters aggregate willingness to pay for voting rights relative to our "common-value" cybersecurity benchmark. To do so, we estimate a series of proposal-level regressions that follow the same specification as Equation 5 in the previous section. All baseline variables and controls from the previous proposal-level regressions are retained as controls for those new regressions. We add new indicators capturing the immediate governance context, namely the subject category preceding the current vote and whether this subject category was debated.

Table 11 shows that willingness to pay for voting rights depends also on the immediate governance context created by the preceding proposals. Focusing on results that are statistically significant for both average proposal-level WTP and the 90th percentile WTP, we find two robust patterns. First, the presence of a debated partnership proposal immediately before the current proposal is associated with a significantly lower willingness to pay for voting rights, with an estimated decrease of 71% of the average willingness to pay (96% for the 90th percentile willingness to pay) relative to the average willingness to pay on cybersecurity "common-value" proposals. Second, when the preceding proposal is a debated business strategy proposal, willingness to pay increases sharply, by 229% for the average willingness to pay (456% for 90th percentile). These results suggest that partnership proposals play an important role, as willingness to pay for voting rights in "common-value" cybersecurity proposals following partnership proposals is substantially lower. In contrast, business strategy proposals do not appear to command value from voters as "common-value" cybersecurity proposals that follow debated business strategy votes exhibit markedly higher willingness to pay for voting rights. One potential explanation, consistent with Levit et al. (2023), is that the voting base differs sharply across proposal types. Business strategy proposals may attract a highly polarized electorate, in which voters with strong preferences are unwilling to sell their tokens except at very high prices, reducing incentives to acquire voting power during the proposal itself but increasing willingness to pay in subsequent votes once pivotality has been revealed. Finally, and consistent with earlier findings, these contextual effects are substantially amplified in the upper tail of the distribution, indicating that the most influential voters respond most strongly to changes in the governance context.

Table 11 about here

Table 12 extends the previous analysis by examining persistent governance contexts, in which the same proposal type, and whether the proposal is debated, appear both before and during the current proposal. Focusing again on coefficients that are statistically significant for both average proposal-level willingness to pay and the 90th percentile willingness to pay, two salient patterns emerge. First, sequences involving debated partnership proposals both before and now are associated with a very large increase in willingness to pay for voting rights relative to "common-value" cybersecurity proposals. The average willingness to pay for voting rights during this sequence of proposals is 12 times the average willingness to pay for voting rights in cybersecurity proposals (23 times for the 90th percentile willingness to pay). The strong positive effect associated with debated partnership proposals in Table 12 further reinforce the evidence from Table 11 that partnership proposals play an important role in shaping voting incentives as they systematically generate large shifts in willingness to pay for voting rights. Second, repeated exposure to debated features proposals is associated with a significant reduction in willingness to pay relative to "common-value" cybersecurity proposals with estimates of a decrease of 76.1% for average willingness to pay for voting rights (82.5% for the 90th percentile willingness to pay). These results indicate that not all persistent disagreement raises the value of voting rights: when repeated contestation reflects entrenched polarization rather than genuine outcome uncertainty, willingness to pay may decline. The new findings in Tables 11 and 12 reinforce the conclusion that past polarized voting bases shape current willingness to pay for voting rights in important ways.

Table 12 about here

7 Conclusion

Overall, this paper bridges new corporate governance theories on how voter-level heterogeneity shape corporate governance efficiency and outcomes and data limitations in traditional corporate governance to bring new supportive evidence of those theories.

Using the novel laboratory that is DeFi platforms' governance, this paper provides the new vote-level evidence on how heterogeneous voter preferences and characteristics shape their willingness to pay for voting rights. Leveraging vote-level high frequency data of a laboratory which exhibits a lot of variation in proposal types, we first show how voter-level willingness to pay for voting rights reflects heterogeneity in voters' preferences, experiences, and perceived probability of being pivotal. Our results highlight that both contemporaneous and previous preference-based characteristics of voters play a central role in shaping their willingness to pay for voting rights.

Our main finding is that these preference-based effects on the willingness to pay for voting rights are highly pivotality-dependent: the same voter characteristic can have qualitatively different effects on willingness to pay for voting rights depending on the probability that the vote is pivotal. The probability of being pivotal can not only exacerbate average voters characteristics and preferences effects, but depending on the characteristic pivotality can attenuate or even reverse this effect which naturally maps to existing corporate governance frameworks.

Our ability to provide such granular estimates lies in the richness of the data environment available for the governance DeFi platforms. The high frequency of voting events and the wide variation in proposal types generate a large number of distinct governance contexts within a relatively short time span. This allows us to observe sharp changes in pivotality, saliency, and voter composition that could be difficult to capture in traditional corporate finance settings, where voting events are infrequent and institutional environments are comparatively stable.

Aggregating willingness to pay at the proposal level, we show that classic results from the corporate governance literature re-emerge in this decentralized finance setting, validating the external relevance of our laboratory. In particular, we recover the negative relationship between expected voter turnout and the value of voting rights and the positive relationship between proposal-level disagreement and willingness to pay for voting rights as predicted by corporate governance theory. Importantly, these effects are substantially stronger in the upper tail of the willingness-to-pay distribution, indicating that strategic incentives are concentrated among the most influential voters. We also provide new evidence that heterogeneity in proposal contexts and past voting bases dynamically shapes willingness to pay for voting rights. We show that willingness to pay responds systematically to recent governance history. Partnership proposals emerge as particularly important in shaping future voting incentives.

A Tables Appendix

Table 1 – Vote share

	log_{10}(Willingness to pay for voting rights)			
	(1)	(2)	(3)	(4)
Vote share s_{ik}	8.108***	14.66***	13.62***	13.89***
	(0.2222)	(0.8398)	(0.8188)	(0.8445)
Vote share s_{ik} x MOV_k		-7.402***	-6.938***	-7.251***
		(0.9148)	(0.8881)	(0.9168)
Vote share s_{ik} x $Turnout_k$			0.0007***	0.0005**
			($7.61e^{-5}$)	(0.0002)
Vote share s_{ik} x MOV_k x $Turnout_k$				0.0002
				(0.0003)
Proposal FE	Yes	Yes	Yes	Yes
Observations	238638	238638	238638	238638
R^2	0.693	0.695	0.698	0.697

Notes: This table reports estimates from the regression specified in Equation 2, which relate the willingness to pay for voting rights to a set of control variables defined in Appendix C. Standard-errors in parentheses are clustered at the proposal level. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1.

Table 2 – Number of Participation and Voting Against the status quo

	log_{10}(Willingness to pay for voting rights)		
	(1)	(2)	(3)
Number of participation	0.0016***	0.0016***	0.0016***
	(0.0001)	(0.0001)	(0.0001)
Voting against Status Quo (SQ)		0.0577***	
		(0.0107)	
Voting against SQ in a Governance proposal			0.0633***
			(0.0200)
Voting against SQ in a Partnership proposal			0.1229***
			(0.0369)
Voting against SQ in a Business strategy proposal			0.1533***
			(0.0409)
Voting against SQ in a Features proposal			0.0348**
			(0.0172)
Voting against SQ in a Cybersecurity proposal			0.0513**
			(0.0222)
Controls	Yes	Yes	Yes
Proposal FE	Yes	Yes	Yes
Observations	238638	238638	238638
R^2	0.698	0.698	0.699

Notes: This table reports estimates from the regression specified in Equation 2, which relate the willingness to pay for voting rights to a set of control variables defined in Appendix C. Controls are the controls variable in Table 1. Standard-errors in parentheses are clustered at the proposal level. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1.

Table 3 – Past Voting Experiences

	log_{10}(Willingness to pay for voting rights)			
	(1)	(2)	(3)	(4)
Voted in a debated proposal before	-0.0466***	-0.0323***	-0.0447***	-0.0186
	(0.0125)	(0.0121)	(0.0120)	(0.0126)
Voted in a Governance proposal before		-0.0479***	-0.0576***	-0.0444***
		(0.0124)	(0.0125)	(0.0124)
Voted in a Partnership proposal before		-0.1543***	-0.1583***	-0.1450***
		(0.0139)	(0.0138)	(0.0139)
Voted in a Business strategy proposal before		0.1434***	0.1388***	0.1540***
		(0.0156)	(0.0157)	(0.0142)
Voted in a Features proposal before		0.0978***	0.0884***	0.1132***
		(0.0156)	(0.0154)	(0.0161)
Voted in a Cybersecurity proposal before		-0.0038	-0.0099	-0.0089
		(0.0119)	(0.0119)	(0.0114)
Voted against SQ before			0.0483***	
			(0.0084)	
Voted against SQ				-0.0025
in a debated proposal before				(0.0130)
Voted against SQ				-0.0118
in a Governance proposal before				(0.0093)
Voted against SQ				-0.0368***
in a Partnership proposal before				(0.0095)
Voted against SQ				0.0005
in a Business strategy proposal before				(0.0250)
Voted against SQ				-0.0793***
in a Features proposal before				(0.0138)
Voted against SQ				0.0474***
in a Cybersecurity proposal before				(0.0085)
Controls	Yes	Yes	Yes	Yes
Proposal FE	Yes	Yes	Yes	Yes
Observations	238638	238638	238638	238638
R^2	0.699	0.701	0.702	0.702

Notes: This table reports estimates from the regression specified in Equation 2, which relate the willingness to pay for voting rights to a set of control variables defined in Appendix C. Controls are the controls variable in Table 1 - Table 2. Standard-errors in parentheses are clustered at the proposal level. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1.

Table 4 – Persistency of Proposal-Type voting

	log_{10}(Willingness to pay for voting rights)			
	(1)	(2)	(3)	(4)
Voted in a debated proposal before and votes in a debated proposal now	0.0352 (0.0532)	0.0363 (0.0524)	0.0328 (0.0521)	0.0257 (0.0501)
Voted in a governance proposal before and votes in a governance proposal now		0.0560** (0.0268)	0.0552** (0.0268)	0.0651** (0.0263)
Voted in a partnership proposal before and votes in partnership proposal now		0.1398* (0.0796)	0.1395* (0.0796)	0.1417* (0.0804)
Voted in a business strategy proposal before and votes in business strategy proposal now		-0.2107*** (0.0816)	-0.2106*** (0.0815)	-0.2194*** (0.0810)
Voted in a features proposal before and votes in a features proposal now		-0.0329 (0.0275)	-0.0334 (0.0275)	-0.0389 (0.0275)
Voted in a cybersecurity proposal before and votes in a cybersecurity proposal now		0.0012 (0.0220)	0.0011 (0.0220)	0.0012 (0.0222)
Voted against SQ before and votes against SQ now			0.0191 (0.0167)	
Voted against SQ in a debated proposal before and votes against SQ in a debated proposal now				0.0451 (0.0418)
Voted against SQ in a governance proposal before and votes against SQ in a governance proposal now				-0.0989*** (0.0318)
Voted against SQ in a partnership proposal before and votes against SQ in a partnership proposal now				-0.0452 (0.0670)
Voted against SQ in a business strategy proposal before and votes against SQ in a business strategy proposal now				0.2859*** (0.0982)
Voted against SQ in a features proposal before and votes against SQ in a features proposal now				0.0774*** (0.0288)
Voted against SQ in a cybersecurity proposal before and votes against SQ in a cybersecurity proposal now				0.0013 (0.0304)
Controls	Yes	Yes	Yes	Yes
Proposal FE	Yes	Yes	Yes	Yes
Observations	238638	238638	238638	238638
R^2	0.702	0.702	0.702	0.702

Notes: This table reports estimates from the regression specified in Equation 2, which relate the willingness to pay for voting rights to a set of control variables defined in Appendix C. Controls are the controls variable in Table 1 - Table 2. Standard-errors in parentheses are clustered at the proposal level. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1.

Table 5 – Pivotality, Number of Participation, and Voting Against the status quo

	log_{10}(Willingness to pay for voting rights) (1)	(2)	(3)
P^{piv}	4.962***	5.061***	5.085***
	(0.3277)	(0.3582)	(0.3656)
P^{piv} x MOV	-1.697***	-1.776***	-1.805***
	(0.3786)	(0.3984)	(0.4060)
P^{piv} x Turnout	0.0002***	0.0002***	0.0002**
	($7.34e^{-5}$)	($7.21e^{-5}$)	($7.41e^{-5}$)
P^{piv} x Turnout x MOV	$-6.36e^{-5}$	$-5.43e^{-5}$	$-4.55e^{-5}$
	($7.64e^{-5}$)	($7.51e^{-5}$)	($7.72e^{-5}$)
Number of participation		0.0017***	0.0017***
		(0.0001)	(0.0001)
Voting against Status Quo (SQ)		0.0736***	
		(0.0112)	
Voting against SQ x P^{piv}		-0.2005	
		(0.1910)	
Voting against SQ in a Governance proposal			0.0754***
			(0.0205)
Voting against SQ in a Governance proposal x P^{piv}			-0.4952
			(0.3355)
Voting against SQ in a Partnership proposal			0.1293***
			(0.0371)
Voting against SQ in a Partnership proposal x P^{piv}			-1.022*
			(0.5821)
Voting against SQ in a Business strategy proposal			0.2080***
			(0.0445)
Voting against SQ in a Business strategy proposal x P^{piv}			-0.4231
			(0.3947)
Voting against SQ in a Features proposal			0.0402**
			(0.0175)
Voting against SQ in a Features proposal x P^{piv}			0.2989
			(0.2850)
Voting against SQ in a Cybersecurity proposal			0.0817***
			(0.0254)
Voting against SQ in a Cybersecurity proposal x P^{piv}			-0.1953
			(0.3940)
Proposal FE	Yes	Yes	Yes
Observations	210960	210960	210960
R^2	0.665	0.667	0.667

Notes: This table reports estimates from the regression specified in Equation 4, which relate the willingness to pay for voting rights to a set of control variables defined in Appendix C. Standard-errors in parentheses are clustered at the proposal level. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1.

Table 6 – Pivotality and Past Voting Experiences

	log_{10}(Willingness to pay for voting rights)	
	(1)	(2)
Voted in a debated proposal before	-0.0582***	-0.0498***
	(0.0140)	(0.0133)
Voted in a debated proposal before x P^{piv}	-1.030***	-0.8767***
	(0.1660)	(0.2004)
Voted in a Governance proposal before		-0.0443***
		(0.0139)
Voted in a Governance proposal before x P^{piv}		-0.4024*
		(0.2414)
Voted in a Partnership proposal before		-0.1438***
		(0.0156)
Voted in a Partnership proposal before x P^{piv}		-0.2277
		(0.1778)
Voted in a Business strategy proposal before		0.1223***
		(0.0180)
Voted in a Business strategy proposal before x P^{piv}		-0.3551*
		(0.1939)
Voted in a Features proposal before		0.1159***
		(0.0173)
Voted in a Features proposal before x P^{piv}		0.2676
		(0.2465)
Voted in a Cybersecurity proposal before		-0.0036
		(0.0132)
Voted in a Cybersecurity proposal before x P^{piv}		0.1426
		(0.2281)
Controls	Yes	Yes
Proposal FE	Yes	Yes
Observations	210960	210960
R^2	0.667	0.670

Notes: This table reports estimates from the regression specified in Equation 4, which relate the willingness to pay for voting rights to a set of control variables defined in Appendix C. Controls are the controls variable in Table 5. Standard-errors in parentheses are clustered at the proposal level. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1.

Table 7 – Pivotality and Past Voting Against the status quo

	log_{10}(Willingness to pay for voting rights) (1)	(2)
Voted against SQ before	0.0382***	
	(0.0089)	
Voted against SQ before x P^{piv}	0.1104	
	(0.2334)	
Voted against SQ in a debated proposal before		0.0347**
		(0.0142)
Voted against SQ in a debated proposal before x P^{piv}		-0.7850***
		(0.2154)
Voted against SQ in a Governance proposal before		-0.0113
		(0.0100)
Voted against SQ in a Governance proposal before x P^{piv}		-0.4801***
		(0.1806)
Voted against SQ in a Partnership proposal before		0.0027
		(0.0089)
Voted against SQ in a Partnership proposal before x P^{piv}		0.1808
		(0.3412)
Voted against SQ in a Business strat proposal before		-0.0526**
		(0.0265)
Voted against SQ in a Business strat proposal before x P^{piv}		1.202***
		(0.3802)
Voted against SQ in a Features proposal before		-0.0658***
		(0.0147)
Voted against SQ in a Features proposal before x P^{piv}		-0.2166
		(0.1934)
Voted against SQ in a Cybersecurity proposal before		0.0309***
		(0.0087)
Voted against SQ in a Cybersecurity proposal before x P^{piv}		0.7653***
		(0.1870)
Controls	Yes	Yes
Proposal FE	Yes	Yes
Observations	210960	210960
R^2	0.670	0.671

Notes: This table reports estimates from the regression specified in Equation 4, which relate the willingness to pay for voting rights to a set of control variables defined in Appendix C. Controls are the controls variable in Table 5 - Table 6. Standard-errors in parentheses are clustered at the proposal level. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1.

Table 8 – Pivotality and Persistency of Proposal-Type voting

	log_{10}(Willingness to pay for voting rights) (1)	(2)
Voted in a debated proposal before and votes in a debated proposal now	0.0526 (0.0533)	0.0549 (0.0526)
Voted in a debated proposal before and votes in a debated proposal now x P^{piv}	0.7430 (0.5334)	0.6583 (0.5352)
Voted in a governance proposal before and votes in a governance proposal now		0.0530* (0.0298)
Voted in a governance proposal before and votes in a governance proposal now x P^{piv}		0.2726 (0.3433)
Voted in a partnership proposal before and votes in partnership proposal now		0.1432* (0.0861)
Voted in a partnership proposal before and votes in partnership proposal now x P^{piv}		1.821** (0.7872)
Voted in a business strategy proposal before and votes in business strategy proposal now		-0.2083** (0.0948)
Voted in a business strategy proposal before and votes in business strategy proposal now x P^{piv}		0.4550 (0.5208)
Voted in a features proposal before and votes in a features proposal now		-0.0374 (0.0306)
Voted in a features proposal before and votes in a features proposal now x P^{piv}		0.7229** (0.3371)
Voted in a cybersecurity proposal before and votes in a cybersecurity proposal now		0.0052 (0.0240)
Voted in a cybersecurity proposal before and votes in a cybersecurity proposal now x P^{piv}		0.5754* (0.3450)
Controls	Yes	Yes
Proposal FE	Yes	Yes
Observations	210960	210960
R^2	0.671	0.671

Notes: This table reports estimates from the regression specified in Equation 4, which relate the willingness to pay for voting rights to a set of control variables defined in Appendix C. Controls are the controls variable in Table 5 - Table 7. Standard-errors in parentheses are clustered at the proposal level. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1.

Table 9 – Pivotality and Persistency of Dissent and Proposal-Type voting

	log_{10}(Willingness to pay for voting rights)	
	(1)	(2)
Voted against SQ before and votes against SQ now	0.0260 (0.0174)	
Voted against SQ before and votes against SQ now x P^{piv}	-0.3126 (0.3136)	
Voted against SQ in a debated proposal before and votes against SQ in a debated proposal now		0.0900** (0.0438)
Voted against SQ in a debated proposal before and votes against SQ in a debated proposal now x P^{piv}		-0.2439 (0.6508)
Voted against SQ in a governance proposal before and votes against SQ in a governance proposal now		-0.0857*** (0.0311)
Voted against SQ in a governance proposal before and votes against SQ in a governance proposal now x P^{piv}		-1.058** (0.5107)
Voted against SQ in a partnership proposal before and votes against SQ in a partnership proposal now		-0.1034 (0.0659)
Voted against SQ in a partnership proposal before and votes against SQ in a partnership proposal now x P^{piv}		1.835** (0.9192)
Voted against SQ in a business strategy proposal before and votes against SQ in a business strategy proposal now		0.5934*** (0.0908)
Voted against SQ in a business strategy proposal before and votes against SQ in a business strategy proposal now x P^{piv}		-4.431*** (1.161)
Voted against SQ in a features proposal before and votes against SQ in a features proposal now		0.0665** (0.0289)
Voted against SQ in a features proposal before and votes against SQ in a features proposal now x P^{piv}		-0.1213 (0.5298)
Voted against SQ in a cybersecurity proposal before and votes against SQ in a cybersecurity proposal now		0.0448 (0.0336)
Voted against SQ in a cybersecurity proposal before and votes against SQ in a cybersecurity proposal now x P^{piv}		-1.160* (0.5950)
Controls	Yes	Yes
Proposal FE	Yes	Yes
Observations	210960	210960
R^2	0.671	0.672

Notes: This table reports estimates from the regression specified in Equation 4, which relate the willingness to pay for voting rights to a set of control variables defined in Appendix C. Controls are the controls variable in Table 5 - Table 8. Standard-errors in parentheses are clustered at the proposal level. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1.

Table 10 – Proposal-Level Determinants of Willingness to Pay for Voting Rights

	Average WTP				90th Percentile WTP			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Average turnout	-0.7441***	-0.7419***	-0.7560***	-0.7571***	-1.065***	-1.061***	-1.079***	-1.074***
	(0.2304)	(0.2310)	(0.2321)	(0.2384)	(0.3089)	(0.3108)	(0.3187)	(0.3175)
Average MOV	-1.730***	-1.709***	-1.667***	-1.680***	-2.251***	-2.223***	-2.173***	-2.169***
	(0.4676)	(0.4794)	(0.5168)	(0.5135)	(0.6195)	(0.6336)	(0.6560)	(0.6518)
Governance proposal		-0.1341**	-0.1304**	-0.1305**		-0.1590**	-0.1546**	-0.1576**
		(0.0634)	(0.0623)	(0.0622)		(0.0746)	(0.0729)	(0.0736)
Partnership proposal		-0.1457	-0.1489	-0.1501		-0.1568	-0.1607	-0.1588
		(0.2279)	(0.2283)	(0.2282)		(0.2408)	(0.2414)	(0.2408)
Business strategy proposal		-0.0210	-0.0221	-0.0227		-0.0531	-0.0545	-0.0555
		(0.1357)	(0.1346)	(0.1345)		(0.1802)	(0.1788)	(0.1782)
Features proposal		-0.0495	-0.0459	-0.0442		-0.0529	-0.0484	-0.0491
		(0.0533)	(0.0500)	(0.0501)		(0.0832)	(0.0790)	(0.0788)
Crisis Month			-0.3793	-0.3847			-0.4637	-0.4663
			(0.4080)	(0.4142)			(0.3515)	(0.3568)
Weekly ETH correlation				-0.1017				0.0866
				(0.2588)				(0.1831)
Weekly BTC correlation				0.1062				-0.0151
				(0.2145)				(0.1751)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DAO x Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2587	2587	2587	2587	2587	2587	2587	2587
R^2	0.448	0.449	0.451	0.451	0.466	0.467	0.468	0.468

Notes: This table reports estimates from the regression specified in Equation 5, which relate the average and 90th percentile willingness to pay for voting rights to a set of control variables defined in Appendix C. Standard-errors in parentheses are clustered at the DeFi platform level. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1.

Table 11 – Proposal-Level Governance Context

	Average WTP			90th Percentile WTP		
	(1)	(2)	(3)	(4)	(5)	(6)
Governance proposal before this proposal	-0.4392	-0.4351	-0.4421	-0.5091	-0.5056	-0.5190
	(0.2613)	(0.2616)	(0.2656)	(0.3315)	(0.3318)	(0.3372)
Partnership proposal before this proposal	-0.6032**	-0.5989**	-0.5484*	-0.6552*	-0.6514*	-0.5764
	(0.2880)	(0.2891)	(0.2967)	(0.3435)	(0.3449)	(0.3529)
Business strategy proposal before this proposal	-0.5219*	-0.5183*	-0.5541*	-0.4367	-0.4335	-0.4811
	(0.3027)	(0.3029)	(0.3104)	(0.3738)	(0.3741)	(0.3833)
Feature proposal before this proposal	-0.3900	-0.3849	-0.3848	-0.4103	-0.4057	-0.4061
	(0.2418)	(0.2419)	(0.2440)	(0.3114)	(0.3117)	(0.3132)
Cybersecurity proposal before this proposal	-0.3574	-0.3547	-0.3488	-0.3811	-0.3788	-0.3671
	(0.2420)	(0.2422)	(0.2424)	(0.3083)	(0.3086)	(0.3096)
Debated proposal before this proposal		-0.1140			-0.1010	
		(0.0854)			(0.1059)	
Debated governance proposal before this proposal			0.0335			0.1720
			(0.1028)			(0.1365)
Debated partnership proposal before this proposal			-0.9782***			-1.383***
			(0.3317)			(0.4235)
Debated business strategy proposal before this proposal			0.5175**			0.7456***
			(0.2044)			(0.2454)
Debated features proposal before this proposal			-0.1103			-0.0846
			(0.1326)			(0.2190)
Debated cybersecurity proposal before this proposal			-0.2610			-0.3893
			(0.2995)			(0.3583)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
DAO x Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2587	2587	2587	2587	2587	2587
R^2	0.452	0.452	0.453	0.467	0.47	0.471

Notes: This table reports estimates from the regression specified in Equation Equation 5, which relate the average and 90th percentile willingness to pay for voting rights to a set of control variables defined in Appendix C. Controls are the controls variable in Table 10. Standard-errors in parentheses are clustered at the DeFi platform level. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1.

Table 12 – Proposal-Level Persistency of the Governance Context

	Average WTP			90th Percentile WTP		
	(1)	(2)	(3)	(4)	(5)	(6)
Governance proposal before	-0.1393	-0.1393	-0.1362	-0.1845	-0.1844	-0.1712
and governance proposal now	(0.0924)	(0.0923)	(0.0932)	(0.1229)	(0.1228)	(0.1248)
Partnership proposal before	-0.4555	-0.4550	-0.6124	-0.2549	-0.2556	-0.4301
and partnership proposal now	(0.4209)	(0.4204)	(0.4026)	(0.4691)	(0.4674)	(0.4642)
Business strategy proposal before	-0.3318	-0.3314	-0.3718	-0.3656	-0.3661	-0.4331
and business strategy proposal now	(0.2339)	(0.2319)	(0.2733)	(0.4164)	(0.4137)	(0.4716)
Features proposal before	0.1753	0.1752	0.2181	0.2317	0.2318	0.2837
and features proposal now	(0.1402)	(0.1396)	(0.1484)	(0.1619)	(0.1612)	(0.1708)
Cybersecurity proposal before	-0.1990	-0.1991	-0.1814	-0.1422	-0.1421	-0.1120
and cybersecurity proposal now	(0.1810)	(0.1811)	(0.1791)	(0.1923)	(0.1926)	(0.1966)
Debated proposal before		0.0184			-0.0231	
and debated proposal now		(0.2794)			(0.3543)	
Debated governance proposal before			-0.1600			-0.3770
and debated governance proposal now			(0.2217)			(0.2685)
Debated partnership proposal before			2.096***			2.362***
and debated partnership proposal now			(0.5281)			(0.6425)
Debated business strategy proposal before			0.3571			0.6576
and debated business strategy proposal now			(0.3978)			(0.6033)
Debated features proposal before			-0.6222**			-0.7580**
and debated features proposal now			(0.2786)			(0.3593)
Debated cybersecurity proposal before			-0.2308			-0.4582
and debated cybersecurity proposal now			(0.4137)			(0.5174)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
DAO x Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2587	2587	2587	2587	2587	2587
R^2	0.455	0.455	0.456	0.472	0.472	0.474

Notes: This table reports estimates from the regression specified in Equation Equation 5, which relate the average and 90th percentile willingness to pay for voting rights to a set of control variables defined in Appendix C. Controls are the controls variable in Table 10 - Table 11. Standard-errors in parentheses are clustered at the DeFi platform level. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1.

Table 13 – Differences in Mean MOV Relative to Cybersecurity

	Mean MOV (Subject − Cybersecurity)			
	(1)	(2)	(3)	(4)
Governance	-0.05^{***}			
	(-3.796)			
	$(2.04e^{-3})$			
Partnership		-0.066^{**}		
		(-2.126)		
		$(4.27e^{-5})$		
Features			-0.047^{***}	
			(-3.786)	
			$(7.495e^{-7})$	
Business strategy				-0.134^{***}
				(-4.244)
				$(9.091e^{-5})$

Each row reports the difference in mean MOV between the subject category and Cybersecurity proposals. The first statistic in parentheses is the Welch t-statistic testing equality of means. The second statistic in parentheses is p-value of the Kolmogorov-Smirnov statistic testing equality of distributions. Stars denote significance of the Welch test. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

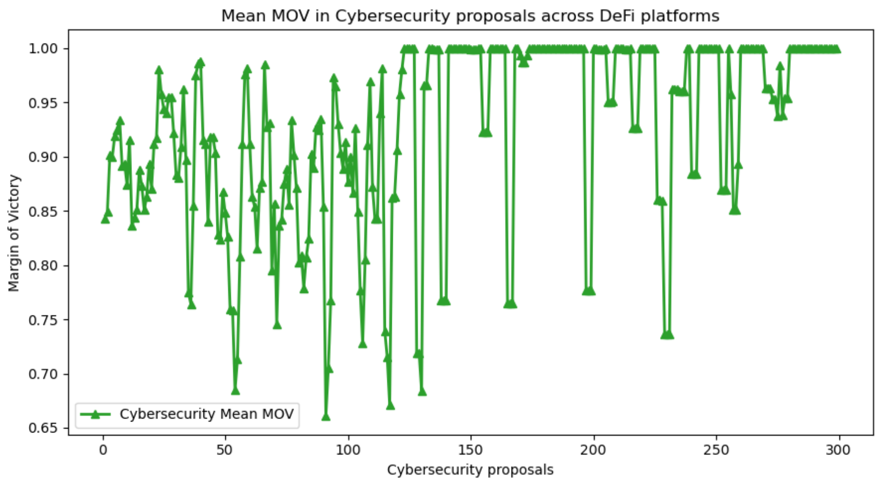
Table 14 – Gini Index by Subject and Differences Relative to Cybersecurity

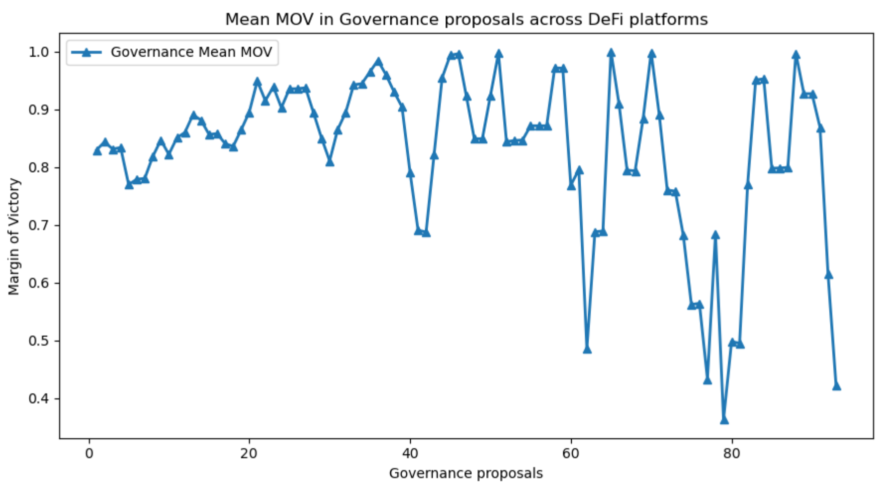
Subject	Mean Gini	Mean Diff (Subj − Cyber)	p-value
Governance	0.686	0.000561	0.961
Partnership	0.654	-0.031483	0.263
Business strategy	0.67	0.010630	0.617
Features	0.657	-0.027955**	0.0214
Cybersecurity	0.685	—	—

Each row reports the proposal-level mean Gini index for proposals in the subject category, the difference in mean Gini relative to Cybersecurity, and the p-value from a t-test of equality of means (subject vs Cybersecurity). Signif. Codes: ***: 0.01, **: 0.05, *: 0.1.

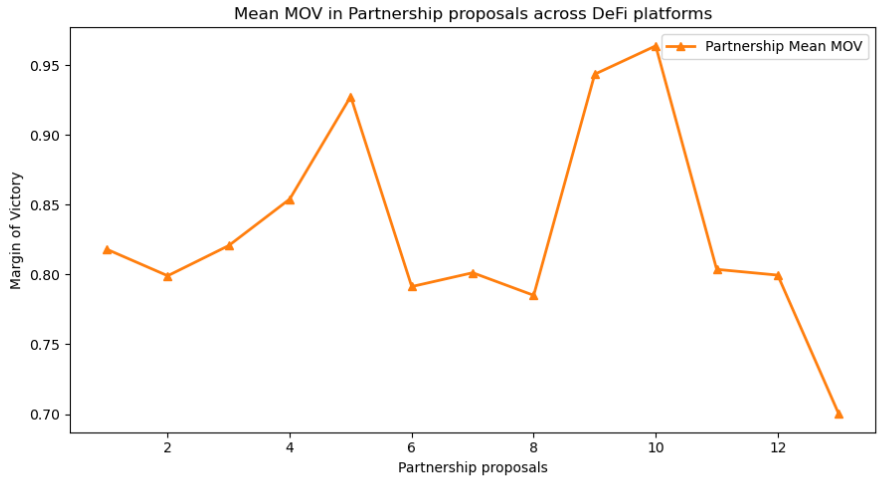
B Figures

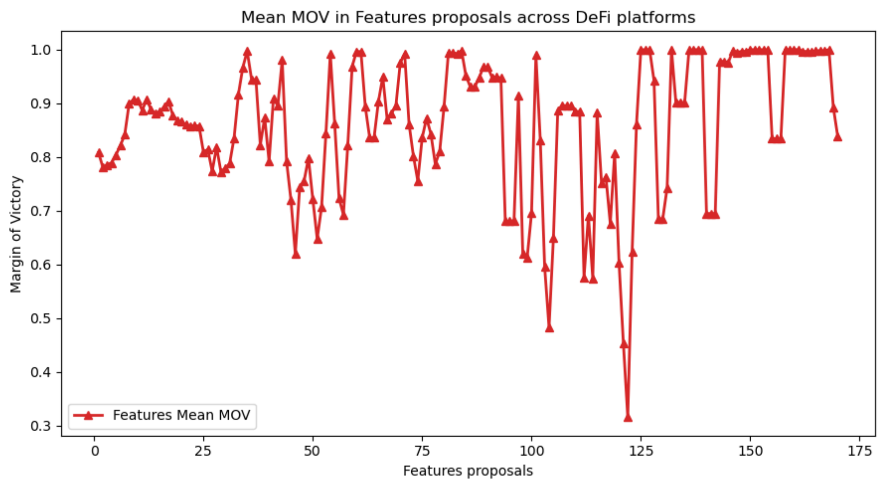
Figure 1 – Mean Margin of Victory Dynamics Across Proposal Subjects





Each panel plots margin of victory for proposals within a given subject category across DeFi platforms. For each DeFi platform, proposals are grouped by subject and ordered within subject; margins of victory are then averaged across DeFi platforms for the given i-th proposal of a given subject. Points denote mean values.


Mean MOV in Partnership proposals across DeFi platforms
Partnership Mean MOV
Margin of Victory
0.70
0.75
0.80
0.85
0.90
0.95
2
4
6
8
10
12
Partnership proposals


Mean MOV in Features proposals across DeFi platforms
Features Mean MOV
Margin of Victory
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
0
25
50
75
100
125
150
175
Features proposals

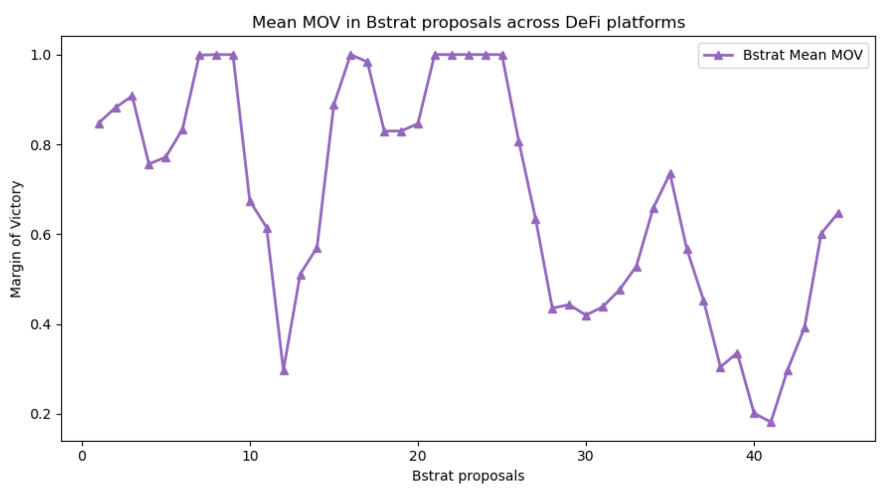
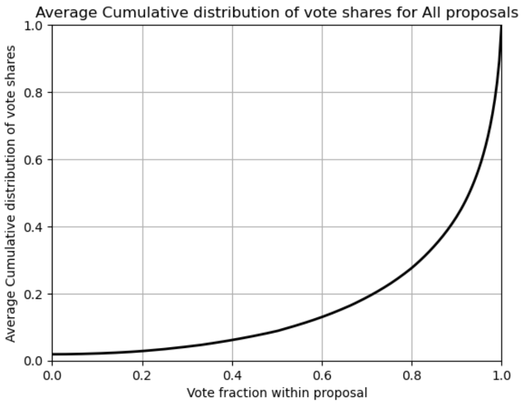
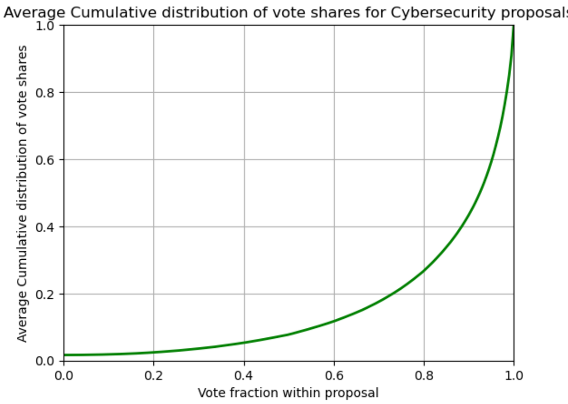

Mean MOV in Bstrat proposals across DeFi platforms
Bstrat Mean MOV
Margin of Victory
0.2
0.4
0.6
0.8
1.0
0
10
20
30
40
Bstrat proposals

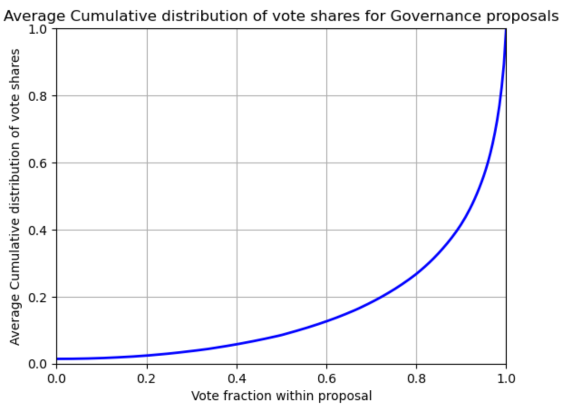
Figure 2 – Average cumulative sums of vote share



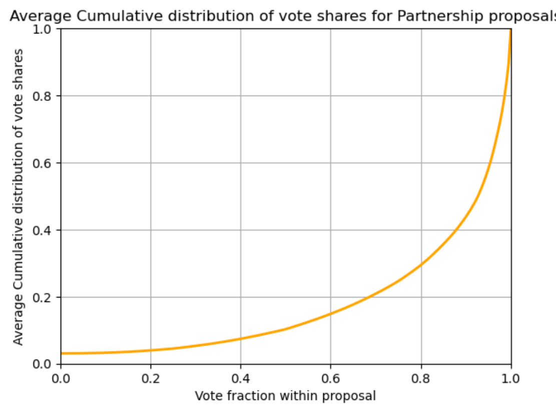
(a) All proposals



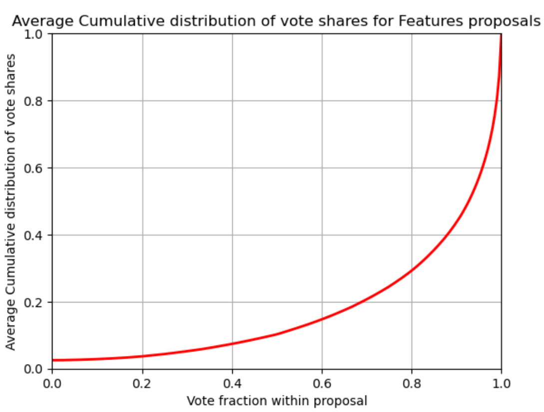
(b) Cybersecurity proposals



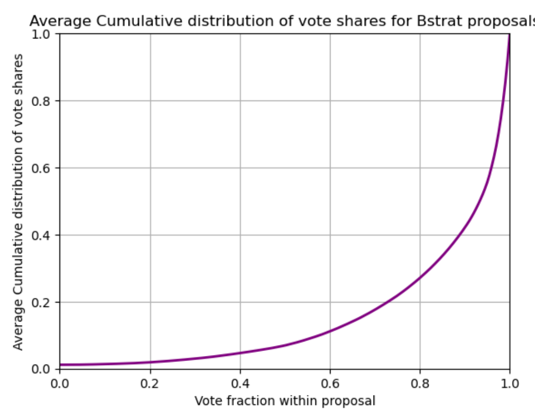
(c) Governance proposals



(d) Partnership proposals



(e) Features proposals



(f) Business strategy proposals

Figure 3 – Average coefficients and confidence intervals of the results of Table 2

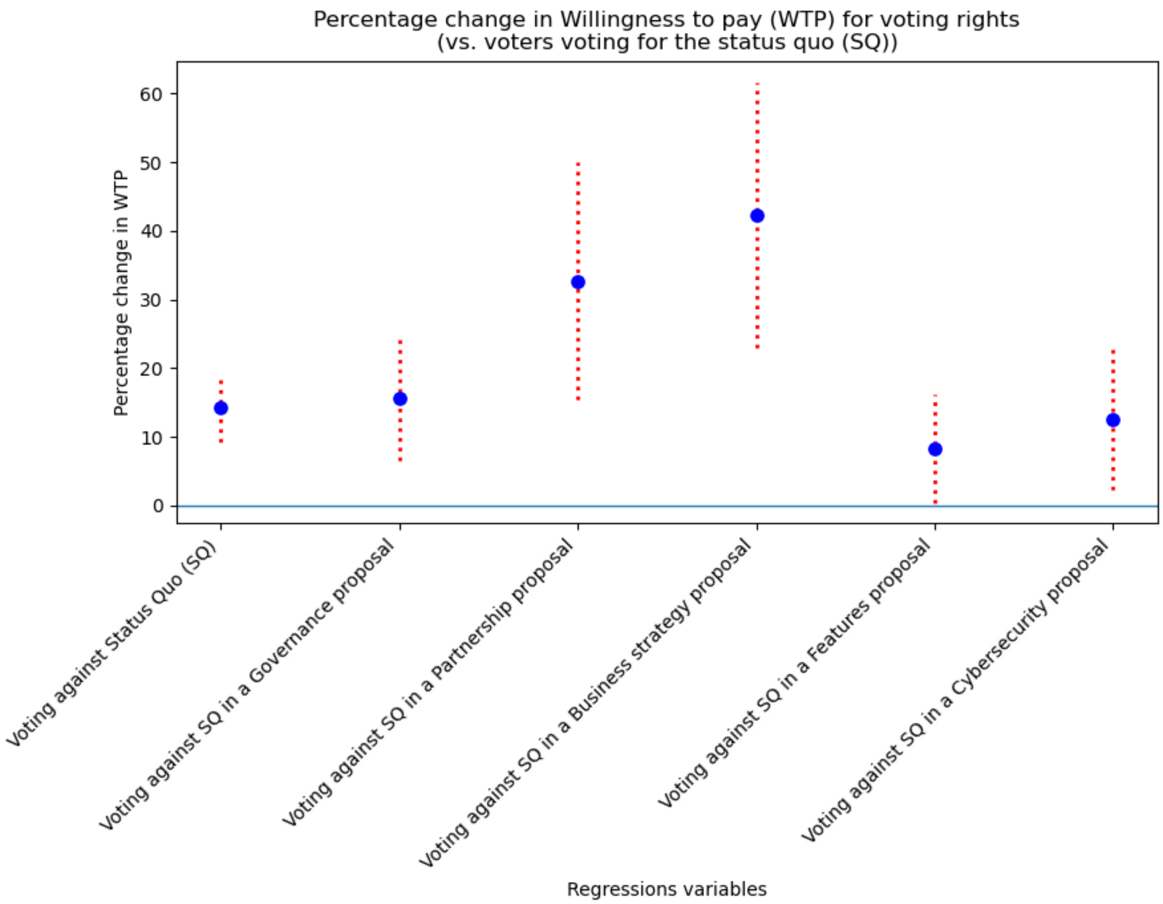


Figure 4 – Average coefficients and confidence intervals of the results of Table 3

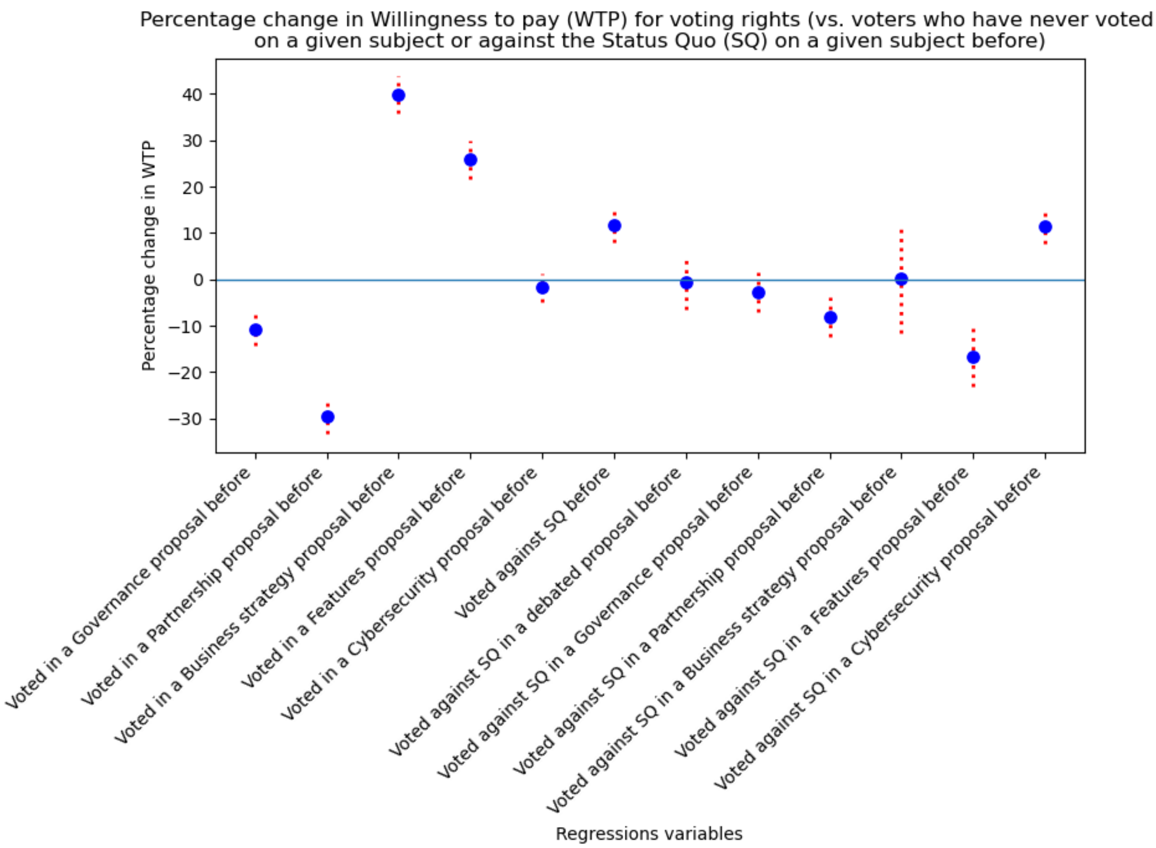


Figure 5 – Average coefficients and confidence intervals of the results of Table 4

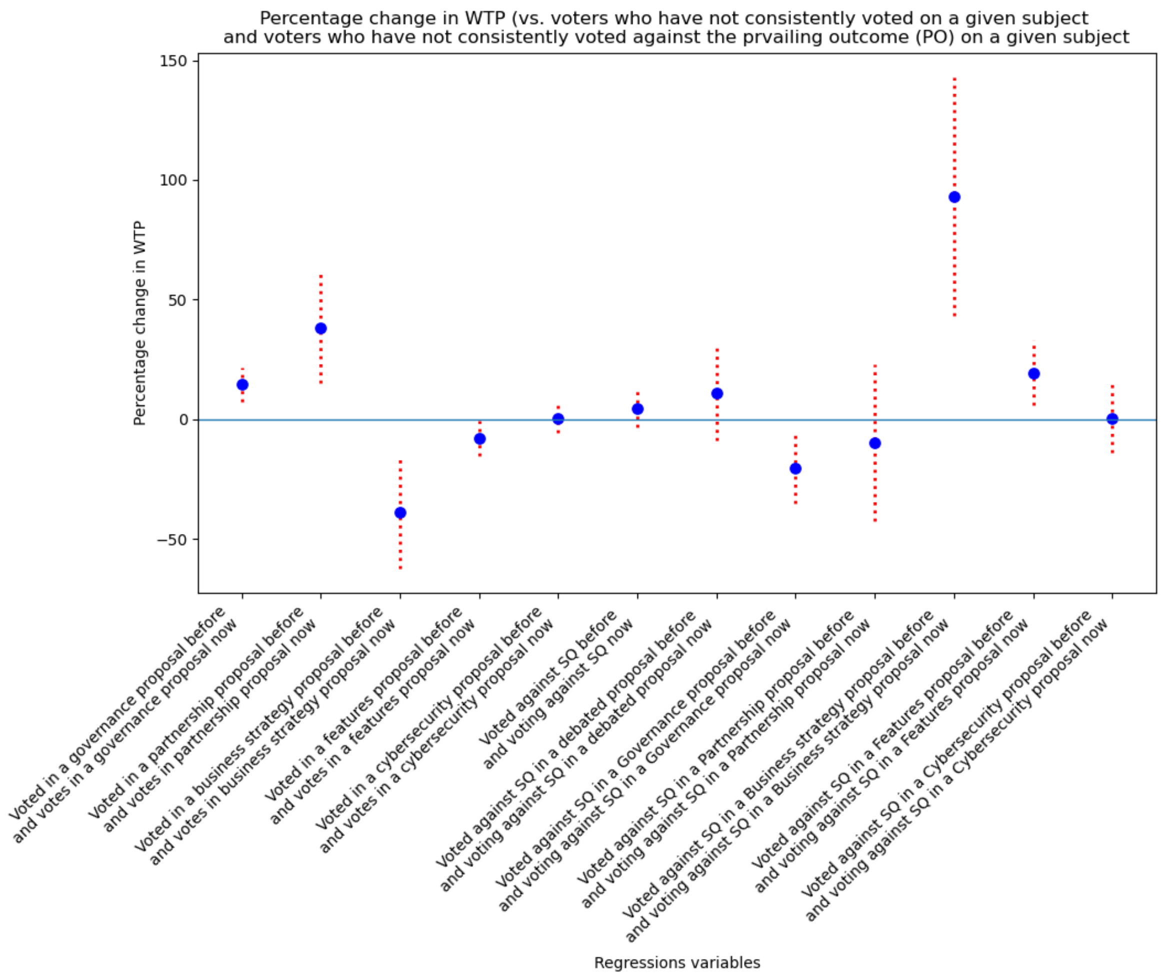
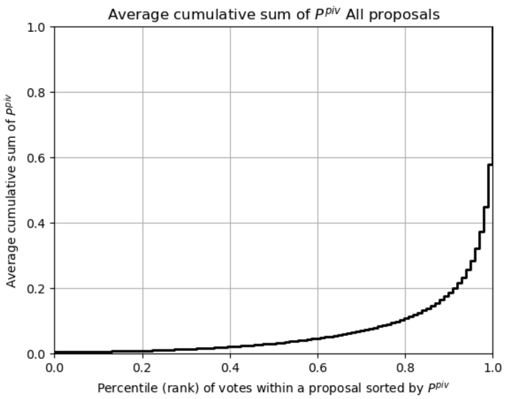
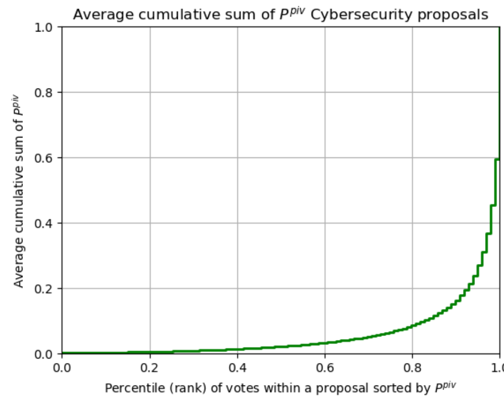


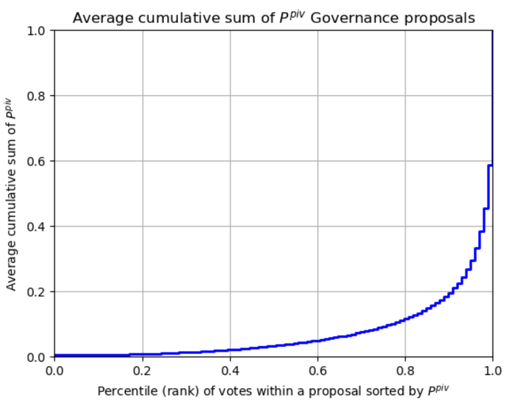
Figure 6 – Average cumulative sums of probability of being pivotal



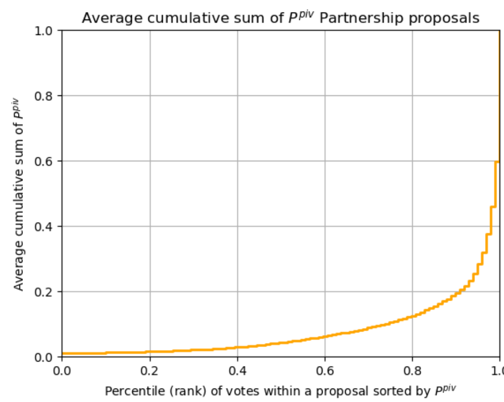
(a) All proposals



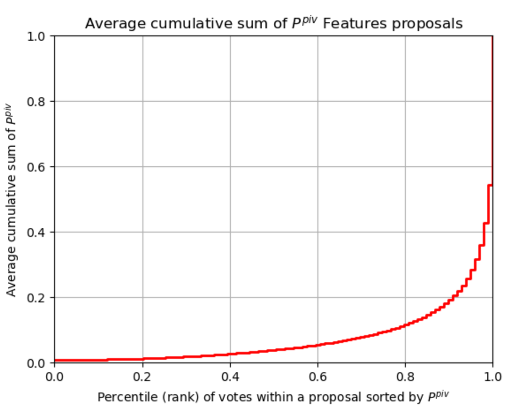
(b) Cybersecurity proposals



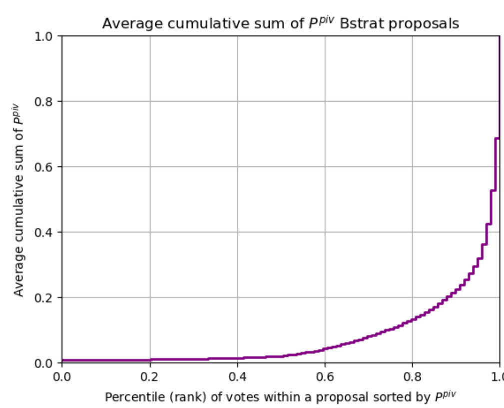
(c) Governance proposals



(d) Partnership proposals



(e) Features proposals



(f) Business strategy proposals

C Variables and Descriptive statistics

Table 15 – Control Variables: Definitions

Variable	**Definition and Economic Interpretation**
Vote level controls	
Willingness to pay for voting rights (WTP)	Market-implied value of holding voting rights for a given voting block, measured as the record-date price wedge between token prices before and after the eligibility cutoff. In the regressions, WTP is expressed as $\log_{10}$(WTP). In addition, the purchase of the tokens is evenly smoothed across 10 blocks to ensure that the amount of token purchased is lower than the amount of tokens in the Uniswap v2 pool for large token purchases.
Vote share (s_{ik})	Share of voting power held by voter i in proposal k. Proxy for voter-level pivotality under linear approximations.
Pivotal probability (P_{ik}^{piv})	Estimated probability that voter i is decisive for proposal k, based on the distribution of other voters' weighted votes. Captures non-linear pivotality under strategic voting.
Turnout	Total number of voters participating in proposal k. Proxy for proposal importance.
Margin of Victory (MOV)	Absolute difference between vote shares of the winning and losing outcomes, normalized to $[0, 1]$. Lower values indicate higher disagreement among voters.
Vote share $\times$ Turnout	Interaction capturing how the value of pivotality varies with proposal importance.
Vote share $\times$ MOV	Interaction capturing how pivotality varies with the degree of disagreement among voters.
Vote share $\times$ Turnout $\times$ MOV	Triple interaction allowing pivotality to vary jointly with proposal importance and disagreement.
Number of participations	Cumulative number of governance votes previously cast by voter i. Proxy for experience and engagement in governance.
Voting against the status quo	Indicator equal to one if voter i votes against the majority outcome in proposal k.
Voting against the status quo by proposal type (Governance, Partnership, Business strategy, Features and Cybersecurity)	Indicators for voting against the status quo in Governance, Partnership, Business Strategy, Features, or Cybersecurity proposals. Capture subject-specific disagreement.
Voted in proposal type before (Governance, Partnership, Business strategy, Features and Cybersecurity)	Indicators equal to one if voter i has previously voted in a given proposal category.
Voted against the status quo before	Indicator equal to one if voter i previously voted against the status quo outcome. Proxy for persistent contrarian preferences.

Variable	Definition and Economic Interpretation
Voted in debated proposal before	Indicator for prior participation in proposals with low margin of victory (low margin of victory being the quartile of proposals with the lowest margin of victory) . Captures exposure to contested governance decisions.
Voted same proposal type before and now (Governance, Partnership, Business strategy, Features and Cybersecurity)	Indicators capturing whether voter i participates repeatedly in the same proposal category.
Indicator $\times$ Vote share	Interaction between a voter characteristic indicator and the vote share. Measures how the impact of the characteristic on willingness to pay for voting rights is amplified or attenuated as the voter becomes more pivotal under a linear pivotality approximation.
Indicator $\times$ P^{piv}	Interaction between a voter characteristic indicator and the vote share. Measures how the impact of the characteristic on willingness to pay for voting rights is amplified or attenuated as the voter becomes more pivotal under a non-linear pivotality approximation.
Proposal level controls	
Market capitalization	Log of the two week rolling average of the market capitalization of token d around the start date of proposal k.
Trade volume	Log of the two week rolling average of the total trade volume of token d around the start date of proposal k.
ETH Volume Uniswap v2 pool before	Log of the 10 block average of the ETh volume in the Uniswap v2 pool trading the pair ETH/token d before the start date of proposal k.
ETH Volume Uniswap v2 pool after	Log of the 10 block average of the ETh volume in the Uniswap v2 pool trading the pair ETH/token d after the start date of proposal k.
Average turnout	Log of the Rolling average turnout for a given DeFi platform up to proposal k .
Average MOV	Rolling average MOV for a given DeFi platform up to proposal k .
Proposal type (Governance, Partnership, Business strategy, Features and Cybersecurity)	Indicators equal to one if proposal k is in a given proposal category.
Crisis month indicator	Indicator equal to one for months coinciding with major crypto–financial stress events, including the FTX collapse and the Silicon Valley Bank failure.
Weekly ETH and BTC correlations	Two weeks rolling ETH (and BTC respectively) price correlations with the DeFi platform native token prices.

Variable	Definition and Economic Interpretation
Proposal type before this proposal (Governance, Partnership, Business strategy, Features and Cybersecurity)	Indicators equal to one if proposal $k-1$ is in a given proposal category.
Debated proposal type before this proposal (Governance, Partnership, Business strategy, Features and Cybersecurity)	Indicators equal to one if proposal $k-1$ has a low margin of victory in a given proposal category (low margin of victory being the quartile of proposals with the lowest margin of victory).
Proposal type before this proposal and now (Governance, Partnership, Business strategy, Features and Cybersecurity)	Indicators equal to one if proposal $k-1$ and proposal k are in a given proposal category.
Debated proposal type before this proposal and now (Governance, Partnership, Business strategy, Features and Cybersecurity)	Indicators equal to one if proposal $k-1$ and k have a low margin of victory in a given proposal category.

Table 16 – Summary Statistics

Variable	n	Mean	Std. Dev.	P50	P75	P90
DeFi platform level statistics						
Number of DeFi platform	39					
Proposal per platform		74	100.7	30	91	168
Governance proposals per platform		22.3	24.7	14	24	58.2
Partnership proposals per platform		2.6	3.7	2	4.5	6.4
Business strategy proposals per platform		3	7.2	1	3	5.2
Features proposals per platform		22.4	34.2	14	30	36.6
Cybersecurity proposals per platform		23.5	59.5	5	15	36.8
Debated proposals per platform		3.9	5.5	2	5	11.2
Proposal level statistics						
Number of proposals	2881					
Margin of victory		0.85	0.26	0.995	0.999	1.0
Governance Margin of victory		0.84	0.27	0.995	1.0	1.0
Partnership Margin of victory		0.83	0.26	0.966	0.999	1.0
Business strategy Margin of victory		0.76	0.31	0.97	1.0	1.0
Features Margin of victory		0.84	0.27	0.99	0.999	1.0
Cybersecurity Margin of victory		0.89	0.22	0.998	0.999	1.0
Turnout		1143	3224.9	110	314	2092
Governance Turnout		977	3023	90	293	1557
Partnership Turnout		428	1328	79	214	785
Business strategy Turnout		239	1180	53.5	138	336.3
Features Turnout		1764	4063	115.5	573.5	7404
Cybersecurity Turnout		905	2704	137	307	1766
Nakamoto Number		4.03	6.9	2	4	7
Governance Nakamoto Number		4.04	5.7	2	4	8
Partnership Nakamoto Number		4.3	6.2	2	4	9
Business strategy Nakamoto Number		4.8	7.9	2	4	10.1
Features Nakamoto Number		4.4	7.7	2	4	9
Cybersecurity Nakamoto Number		3.5	7.6	2	3	5
Gini index		0.67	0.25	0.79	0.88	0.95
Governance Gini index		0.69	0.24	0.76	0.89	0.96

Table 16 (continued)

	n	Mean	Std. Dev.	P50	P75	P90
Partnership Gini index		0.65	0.27	0.75	0.86	0.94
Business strategy Gini index		0.7	0.22	0.76	0.85	0.94
Features Gini index		0.66	0.28	0.74	0.9	0.96
Cybersecurity Gini index		0.68	0.23	0.75	0.86	0.94
Turnover (percentage)		0.26	0.23	0.196	0.41	0.61
Avg WTP (in $)		33.88	38.02	21.88	467.74	5495.41
90th percentile WTP (in $)		239.88	79.43	524.81	10471.29	50118.72
Vote level statistics						
Number of votes	238638					
Vote share s_{ik}		0.007	0.04	0.00002	0.0008	0.007
Willingness to pay (in $)		942788	371917900	2.1	79.5	1467
Number of participations in proposals		8.3	20.4	2	77	21

D Robustness check - Filtering out non-binding proposals and delegated voting

Table 17 – Pivotality, Number of Participation, and Voting Against the status quo - Robustness Check 1

	log_{10}(Willingness to pay for voting rights)		
	(1)	(2)	(3)
P^{piv}	4.972***	5.112***	5.133***
	(0.3342)	(0.3663)	(0.3754)
P^{piv} x MOV	-1.712***	-1.826***	-1.852***
	(0.3851)	(0.4055)	(0.4149)
P^{piv} x Turnout	0.0003***	0.0003***	0.0003***
	(8.81×10^{-5})	(8.64×10^{-5})	(8.66×10^{-5})
P^{piv} x Turnout x MOV	-0.0001	-0.0001	-0.0001
	(9.15×10^{-5})	(8.96×10^{-5})	(8.99×10^{-5})
Number of participation		0.0020***	0.0020***
		(0.0002)	(0.0002)
Voting against Status Quo (SQ)		0.0732***	
		(0.0117)	
Voting against SQ x P^{piv}		-0.2581	
		(0.1965)	
Voting against SQ in a Governance proposal			0.0717***
			(0.0204)
Voting against SQ in a Governance proposal x P^{piv}			-0.5465
			(0.3402)
Voting against SQ in a Partnership proposal			0.1428***
			(0.0421)
Voting against SQ in a Partnership proposal x P^{piv}			-1.130*
			(0.6535)
Voting against SQ in a Business strategy proposal			0.2096***
			(0.0446)
Voting against SQ in a Business strategy proposal x P^{piv}			-0.4621
			(0.3958)
Voting against SQ in a Features proposal			0.0411**
			(0.0186)
Voting against SQ in a Features proposal x P^{piv}			0.2649
			(0.3047)
Voting against SQ in a Cybersecurity proposal			0.0796***
			(0.0268)
Voting against SQ in a Cybersecurity proposal x P^{piv}			-0.2770
			(0.4007)
Proposal FE	Yes	Yes	Yes
Observations	200781	200781	200781
R^2	0.664	0.666	0.666

Notes: This table reports estimates from the regression specified in Equation 4, which relate the willingness to pay for voting rights to a set of control variables defined in Appendix C. Standard-errors in parentheses are clustered at the proposal level. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Table 18 – Pivotality and Past Voting Experiences - Robustness check 1

	log_{10}(Willingness to pay for voting rights) (1)	(2)
Voted in a debated proposal before	-0.0576***	-0.0494***
	(0.0146)	(0.0139)
Voted in a debated proposal before x P^{piv}	-1.044***	-0.8980***
	(0.1701)	(0.2066)
Voted in a Governance proposal before		-0.0462***
		(0.0143)
Voted in a Governance proposal before x P^{piv}		-0.3734
		(0.2424)
Voted in a Partnership proposal before		-0.1441***
		(0.0165)
Voted in a Partnership proposal before x P^{piv}		-0.3038*
		(0.1821)
Voted in a Business strategy proposal before		0.1197***
		(0.0185)
Voted in a Business strategy proposal before x P^{piv}		-0.2449
		(0.1938)
Voted in a Features proposal before		0.1169***
		(0.0175)
Voted in a Features proposal before x P^{piv}		0.2420
		(0.2469)
Voted in a Cybersecurity proposal before		-0.0031
		(0.0136)
Voted in a Cybersecurity proposal before x P^{piv}		0.1682
		(0.2290)
Controls	Yes	Yes
Proposal FE	Yes	Yes
Observations	200781	200781
R^2	0.667	0.67

Notes: This table reports estimates from the regression specified in Equation 4, which relate the willingness to pay for voting rights to a set of control variables defined in Appendix C. Controls are the controls variable in Table 17. Standard-errors in parentheses are clustered at the proposal level. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Table 19 – Pivotality and Past Voting Against the status quo - Robustness check 1

	log_{10}(Willingness to pay for voting rights)	
	(1)	(2)
Voted against SQ before	0.0368***	
	(0.0092)	
Voted against SQ before x P^{piv}	0.1353	
	(0.2367)	
Voted against SQ in a debated proposal before		0.0418***
		(0.0153)
Voted against SQ in a debated proposal before x P^{piv}		-0.8367***
		(0.2208)
Voted against SQ in a Governance proposal before		-0.0143
		(0.0105)
Voted against SQ in a Governance proposal before x P^{piv}		-0.4566**
		(0.1881)
Voted against SQ in a Partnership proposal before		-0.0019
		(0.0099)
Voted against SQ in a Partnership proposal before x P^{piv}		0.1183
		(0.3498)
Voted against SQ in a Business strat proposal before		-0.0448
		(0.0272)
Voted against SQ in a Business strat proposal before x P^{piv}		1.131***
		(0.3814)
Voted against SQ in a Features proposal before		-0.0716***
		(0.0155)
Voted against SQ in a Features proposal before x P^{piv}		-0.2164
		(0.1957)
Voted against SQ in a Cybersecurity proposal before		0.0294***
		(0.0093)
Voted against SQ in a Cybersecurity proposal before x P^{piv}		0.7556***
		(0.1908)
Controls	Yes	Yes
Proposal FE	Yes	Yes
Observations	200781	200781
R^2	0.667	0.67

Notes: This table reports estimates from the regression specified in Equation 4, which relate the willingness to pay for voting rights to a set of control variables defined in Appendix C. Controls are the controls variable in Table 17 - Table 18. Standard-errors in parentheses are clustered at the proposal level. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Table 20 – Pivotality and Persistency of Proposal-Type voting - Robustness check 1

	log_{10}(Willingness to pay for voting rights) (1)	(2)
Voted in a debated proposal before and votes in a debated proposal now	0.0615 (0.0559)	0.0634 (0.0552)
Voted in a debated proposal before and votes in a debated proposal now x P^{piv}	0.6634 (0.5441)	0.5671 (0.5450)
Voted in a governance proposal before and votes in a governance proposal now		0.0555^{*} (0.0303)
Voted in a governance proposal before and votes in a governance proposal now x P^{piv}		0.2768 (0.3476)
Voted in a partnership proposal before and votes in partnership proposal now		0.1533^{*} (0.0928)
Voted in a partnership proposal before and votes in partnership proposal now x P^{piv}		1.699^{**} (0.8338)
Voted in a business strategy proposal before and votes in business strategy proposal now		-0.2086^{**} (0.0948)
Voted in a business strategy proposal before and votes in business strategy proposal now x P^{piv}		0.4218 (0.5469)
Voted in a features proposal before and votes in a features proposal now		-0.0381 (0.0312)
Voted in a features proposal before and votes in a features proposal now x P^{piv}		0.8034^{**} (0.3444)
Voted in a cybersecurity proposal before and votes in a cybersecurity proposal now		0.0048 (0.0251)
Voted in a cybersecurity proposal before and votes in a cybersecurity proposal now x P^{piv}		0.5887^{*} (0.3510)
Controls	Yes	Yes
Proposal FE	Yes	Yes
Observations	200781	200781
R^2	0.67026	0.67062

Notes: This table reports estimates from the regression specified in Equation 4, which relate the willingness to pay for voting rights to a set of control variables defined in Appendix C. Controls are the controls variable in Table 17 - Table 19. Standard-errors in parentheses are clustered at the proposal level. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Table 21 – Pivotality and Persistency of Dissent and Proposal-Type voting - Robustness check 1

	log_{10}(Willingness to pay for voting rights) (1)	(2)
Voted against SQ before and votes against SQ now	0.0269 (0.0179)	
Voted against SQ before and votes against SQ now x P^{piv}	-0.3727 (0.3232)	
Voted against SQ in a debated proposal before and votes against SQ in a debated proposal now		0.0980** (0.0459)
Voted against SQ in a debated proposal before and votes against SQ in a debated proposal now x P^{piv}		-0.5244 (0.6513)
Voted against SQ in a governance proposal before and votes against SQ in a governance proposal now		-0.0865*** (0.0312)
Voted against SQ in a governance proposal before and votes against SQ in a governance proposal now x P^{piv}		-1.224** (0.5117)
Voted against SQ in a partnership proposal before and votes against SQ in a partnership proposal now		-0.1159 (0.0791)
Voted against SQ in a partnership proposal before and votes against SQ in a partnership proposal now x P^{piv}		1.910** (0.9077)
Voted against SQ in a business strategy proposal before and votes against SQ in a business strategy proposal now		0.5869*** (0.0910)
Voted against SQ in a business strategy proposal before and votes against SQ in a business strategy proposal now x P^{piv}		-4.363*** (1.184)
Voted against SQ in a features proposal before and votes against SQ in a features proposal now		0.0748** (0.0306)
Voted against SQ in a features proposal before and votes against SQ in a features proposal now x P^{piv}		-0.1043 (0.6017)
Voted against SQ in a cybersecurity proposal before and votes against SQ in a cybersecurity proposal now		0.0509 (0.0354)
Voted against SQ in a cybersecurity proposal before and votes against SQ in a cybersecurity proposal now x P^{piv}		-1.195** (0.6041)
Controls	Yes	Yes
Proposal FE	Yes	Yes
Observations	200781	200781
R^2	0.671	0.671

Notes: This table reports estimates from the regression specified in Equation 4, which relate the willingness to pay for voting rights to a set of control variables defined in Appendix C. Controls are the controls variable in Table 17 - Table 20. Standard-errors in parentheses are clustered at the proposal level. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

E Robustness check - Refinements to the Pivotal Probability Estimation with Large voting weights

Refinements to the Pivotal Probability Estimation

The **Edgeworth expansion**, refines the normal approximation by incorporating higher-order cumulants (e.g., skewness and kurtosis). This allows it to correct for deviations from normality, such as asymmetry or heavy tails, providing a more precise approximation.

Edgeworth Expansion

The pivotal probability using the Edgeworth expansion is:

$$\begin{aligned}\hat{P}_{ik}^{piv} \approx & \left[\Phi\left(z_1\right) - \phi(z_1)\left(\frac{\gamma_1}{6}H_3(z_1) + \frac{\gamma_2}{24}H_4(z_1) + \frac{\gamma_1^2}{72}H_6(z_1)\right)\right] \\ & - \left[\Phi\left(z_2\right) - \phi(z_2)\left(\frac{\gamma_1}{6}H_3(z_2) + \frac{\gamma_2}{24}H_4(z_2) + \frac{\gamma_1^2}{72}H_6(z_2)\right)\right]\end{aligned}$$

where: - $z_1 = \frac{A_k - \hat{\mu}_{-i,k}}{\hat{\sigma}_{-i,k}}$ and $z_2 = \frac{A_k - q_{ik} - \hat{\mu}_{-i,k}}{\hat{\sigma}_{-i,k}}$ are the standardized values, - $\Phi(\cdot)$ and $\phi(\cdot)$ are the CDF and PDF of the standard normal distribution, - $\gamma_1 = \frac{\kappa_3}{\kappa_2^{3/2}}$ and $\gamma_2 = \frac{\kappa_4}{\kappa_2^2}$ are the standardized skewness and kurtosis, - $H_3(z) = z^3 - 3z$, $H_4(z) = z^4 - 6z^2 + 3$, and $H_6(z) = z^6 - 15z^4 + 45z^2 - 15$ are Hermite polynomials, - κ_3 and κ_4 are the third and fourth cumulants of the weighted sum of votes excluding voter i.

Derivation of Willingness to Pay (WTP)

We then incorporate those new P_{ik}^{piv} estimates in the same regression design:

$$\Delta P_k(q_{ik}) = \alpha + \beta_1^\top X_{ik} + \beta_2^\top (X_{ik} \times P_{ik}^{\text{piv}}) + P_{ik}^{\text{piv}} + \eta_1 P_{ik}^{\text{piv}} T_k + \eta_2 P_{ik}^{\text{piv}} C_k + \eta_3 P_{ik}^{\text{piv}} T_k C_k + \mu_k + \varepsilon'_{ik}. \quad (6)$$

Results for the Edgeworth Expansion

Table 22 – Pivotality, Number of Participation, and Voting Against status quo - Robustness check 2

	log_{10}(Willingness to pay for voting rights)		
	(1)	(2)	(3)
P^{piv}	4.935***	5.102***	5.130***
	(0.3149)	(0.3399)	(0.3467)
P^{piv} x MOV	-1.537***	-1.675***	-1.709***
	(0.3730)	(0.3863)	(0.3935)
P^{piv} x Turnout	0.0002***	0.0002**	0.0002**
	(6.89×10^{-5})	(6.77×10^{-5})	(6.83×10^{-5})
P^{piv} x Turnout x MOV	-1.23×10^{-5}	-3.22×10^{-6}	7.43×10^{-6}
	(7.32×10^{-5})	(7.19×10^{-5})	(7.27×10^{-5})
Number of participation		0.0017***	0.0017***
		(0.0001)	(0.0001)
Voting against Status Quo (SQ)		0.0747***	
		(0.0112)	
Voting against SQ x P^{piv}		-0.3001	
		(0.1831)	
Voting against SQ in a Governance proposal			0.0777***
			(0.0204)
Voting against SQ in a Governance proposal x P^{piv}			-0.7052**
			(0.3211)
Voting against SQ in a Partnership proposal			0.1297***
			(0.0372)
Voting against SQ in a Partnership proposal x P^{piv}			-1.143**
			(0.5516)
Voting against SQ in a Business strategy proposal			0.2142***
			(0.0451)
Voting against SQ in a Business strategy proposal x P^{piv}			-0.6927*
			(0.3841)
Voting against SQ in a Features proposal			0.0408**
			(0.0174)
Voting against SQ in a Features proposal x P^{piv}			0.2601
			(0.2752)
Voting against SQ in a Cybersecurity proposal			0.0803***
			(0.0253)
Voting against SQ in a Cybersecurity proposal x P^{piv}			-0.1144
			(0.3823)
Proposal FE	Yes	Yes	Yes
Observations	210960	210960	210960
R^2	0.667	0.669	0.669

Notes: This table reports estimates from the regression specified in Equation (6), which relate the willingness to pay for voting rights to a set of control variables defined in Appendix C. Standard-errors in parentheses are clustered at the proposal level. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Table 23 – Pivotality and Past Voting Experiences - Robustness check 2

	log_{10}(Willingness to pay for voting rights) (1)	(2)
Voted in a debated proposal before	-0.0576***	-0.0499***
	(0.0140)	(0.0133)
Voted in a debated proposal before x P^{piv}	-1.068***	-0.8782***
	(0.1707)	(0.2012)
Voted in a Governance proposal before		-0.0429***
		(0.0139)
Voted in a Governance proposal before x P^{piv}		-0.5233**
		(0.2343)
Voted in a Partnership proposal before		-0.1424***
		(0.0156)
Voted in a Partnership proposal before x P^{piv}		-0.2552
		(0.1720)
Voted in a Business strategy proposal before		0.1226***
		(0.0180)
Voted in a Business strategy proposal before x P^{piv}		-0.4702**
		(0.1871)
Voted in a Features proposal before		0.1155***
		(0.0173)
Voted in a Features proposal before x P^{piv}		0.2937
		(0.2418)
Voted in a Cybersecurity proposal before		-0.0046
		(0.0132)
Voted in a Cybersecurity proposal before x P^{piv}		0.2325
		(0.2209)
Controls	Yes	Yes
Proposal FE	Yes	Yes
Observations	210960	210960
R^2	0.667	0.672

Notes: This table reports estimates from the regression specified in Equation (6), which relate the willingness to pay for voting rights to a set of control variables defined in Appendix C. Controls are the controls variable in Table 22. Standard-errors in parentheses are clustered at the proposal level. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Table 24 – Pivotality and Past Voting Against the status quo - Robustness check 2

	log_{10}(Willingness to pay for voting rights)	
	(1)	(2)
Voted against SQ before	0.0375***	
	(0.0089)	
Voted against SQ before x P^{piv}	0.1274	
	(0.2265)	
Voted against SQ in a debated proposal before		0.0336**
		(0.0142)
Voted against SQ in a debated proposal before x P^{piv}		-0.8183***
		(0.2158)
Voted against SQ in a Governance proposal before		-0.0106
		(0.0100)
Voted against SQ in a Governance proposal before x P^{piv}		-0.4244**
		(0.1754)
Voted against SQ in a Partnership proposal before		0.0020
		(0.0089)
Voted against SQ in a Partnership proposal before x P^{piv}		0.3728
		(0.3144)
Voted against SQ in a Business strat proposal before		-0.0545**
		(0.0265)
Voted against SQ in a Business strat proposal before x P^{piv}		1.427***
		(0.3429)
Voted against SQ in a Features proposal before		-0.0655***
		(0.0147)
Voted against SQ in a Features proposal before x P^{piv}		-0.3243*
		(0.1952)
Voted against SQ in a Cybersecurity proposal before		0.0303***
		(0.0086)
Voted against SQ in a Cybersecurity proposal before x P^{piv}		0.8757***
		(0.1839)
Controls	Yes	Yes
Proposal FE	Yes	Yes
Observations	210960	210960
R^2	0.673	0.673

Notes: This table reports estimates from the regression specified in Equation (6), which relate the willingness to pay for voting rights to a set of control variables defined in Appendix C. Controls are the controls variable in Table 22 - Table 23. Standard-errors in parentheses are clustered at the proposal level. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Table 25 – Pivotality and Persistency of Proposal-Type voting - Robustness check 2

	log_{10}(Willingness to pay for voting rights)	
	(1)	(2)
Voted in a debated proposal before and votes in a debated proposal now	0.0534 (0.0532)	0.0558 (0.0524)
Voted in a debated proposal before and votes in a debated proposal now x P^{piv}	0.8136 (0.5079)	0.7299 (0.5110)
Voted in a governance proposal before and votes in a governance proposal now		0.0518^{*} (0.0297)
Voted in a governance proposal before and votes in a governance proposal now x P^{piv}		0.3958 (0.3456)
Voted in a partnership proposal before and votes in partnership proposal now		0.1411 (0.0861)
Voted in a partnership proposal before and votes in partnership proposal now x P^{piv}		1.863^{***} (0.6707)
Voted in a business strategy proposal before and votes in business strategy proposal now		-0.2093^{**} (0.0947)
Voted in a business strategy proposal before and votes in business strategy proposal now x P^{piv}		0.5957 (0.4978)
Voted in a features proposal before and votes in a features proposal now		-0.0389 (0.0306)
Voted in a features proposal before and votes in a features proposal now x P^{piv}		0.8958^{***} (0.3340)
Voted in a cybersecurity proposal before and votes in a cybersecurity proposal now		0.0032 (0.0240)
Voted in a cybersecurity proposal before and votes in a cybersecurity proposal now x P^{piv}		0.8022^{**} (0.3409)
Controls	Yes	Yes
Proposal FE	Yes	Yes
Observations	210960	210960
R^2	0.673	0.674

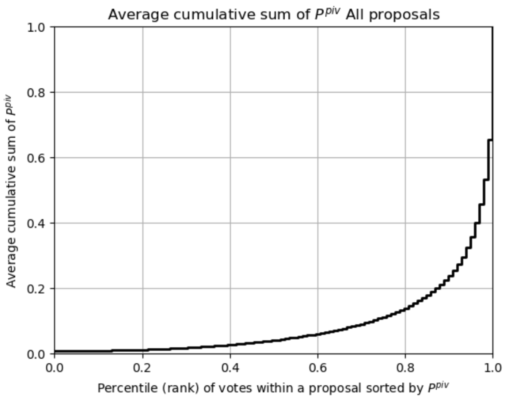
Notes: This table reports estimates from the regression specified in Equation (6), which relate the willingness to pay for voting rights to a set of control variables defined in Appendix C. Controls are the controls variable in Table 22 - Table 24. Standard-errors in parentheses are clustered at the proposal level. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

Table 26 – Pivotality and Persistency of Dissent and Proposal-Type voting - Robustness check 2

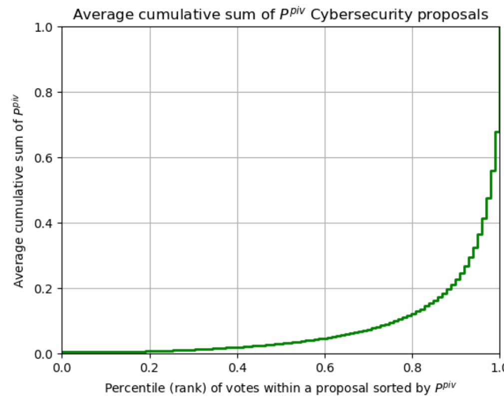
	log_{10}(Willingness to pay for voting rights)	
	(1)	(2)
Voted against SQ before and votes against SQ now	0.0257 (0.0174)	
Voted against SQ before and votes against SQ now x P^{piv}	-0.2921 (0.3054)	
Voted against SQ in a debated proposal before and votes against SQ in a debated proposal now		0.0874** (0.0437)
Voted against SQ in a debated proposal before and votes against SQ in a debated proposal now x P^{piv}		-0.1114 (0.6268)
Voted against SQ in a governance proposal before and votes against SQ in a governance proposal now		-0.0864*** (0.0309)
Voted against SQ in a governance proposal before and votes against SQ in a governance proposal now x P^{piv}		-1.037** (0.5006)
Voted against SQ in a partnership proposal before and votes against SQ in a partnership proposal now		-0.1016 (0.0655)
Voted against SQ in a partnership proposal before and votes against SQ in a partnership proposal now x P^{piv}		1.962** (0.9940)
Voted against SQ in a business strategy proposal before and votes against SQ in a business strategy proposal now		0.6057*** (0.0926)
Voted against SQ in a business strategy proposal before and votes against SQ in a business strategy proposal now x P^{piv}		-4.314*** (1.130)
Voted against SQ in a features proposal before and votes against SQ in a features proposal now		0.0666** (0.0289)
Voted against SQ in a features proposal before and votes against SQ in a features proposal now x P^{piv}		0.0074 (0.5205)
Voted against SQ in a cybersecurity proposal before and votes against SQ in a cybersecurity proposal now		0.0460 (0.0334)
Voted against SQ in a cybersecurity proposal before and votes against SQ in a cybersecurity proposal now x P^{piv}		-1.132* (0.6062)
Controls	Yes	Yes
Proposal FE	Yes	Yes
Observations	210960	210960
R^2	0.674	0.674

Notes: This table reports estimates from the regression specified in Equation (6), which relate the willingness to pay for voting rights to a set of control variables defined in Appendix C. Controls are the controls variable in Table 22 - Table 25. Standard-errors in parentheses are clustered at the proposal level. Signif. Codes: ***: 0.01, **: 0.05, *: 0.1

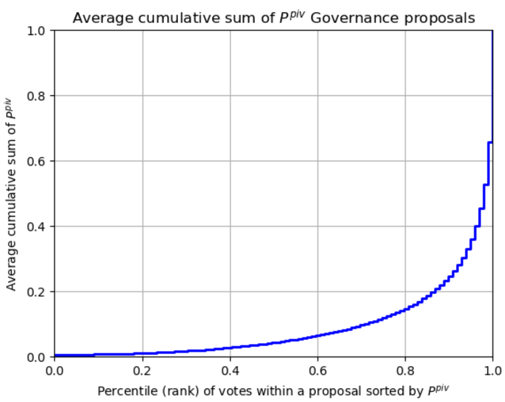
Figure 7 – Average cumulative sums of probability of being pivotal with Edgeworth expansion



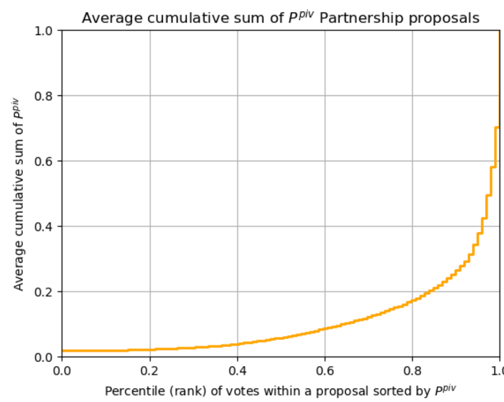
(a) All proposals



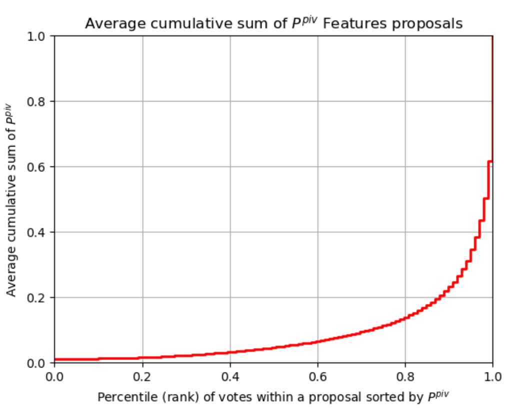
(b) Cybersecurity proposals



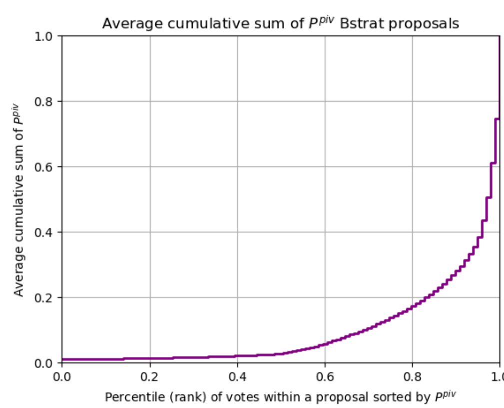
(c) Governance proposals



(d) Partnership proposals



(e) Features proposals



(f) Business strategy proposals

F Proposal classification and examples

F.1 Proposal classification

Proposals are classified into subject categories designed to capture their economic and governance content. The objective of this classification is to group proposals according to the underlying subjects consistent across DeFi platforms.

- Governance proposals are defined as proposals that modify the internal decision-making framework. These include changes to voting procedures, quorum or threshold requirements, delegation mechanisms, treasury governance rules, protocol parameters that affect control rights, and other organizational features.

- Partnership proposals capture decisions involving external coordination or collaboration with other DeFi protocols. This category includes proposals related to strategic partnerships (buying the governance token of another DeFi platform with its own governance token), acquisitions, grants to third-party projects, ecosystem alliances, and cross-protocol initiatives.

- Business strategy proposals correspond to decisions affecting the DeFi platform long-term economic orientation and value creation. These include proposals related to revenue models, tokenomics, incentive programs, emissions schedules, treasury allocation strategies or expansion initiatives.

- Features proposals refer to technical or functional modifications to the protocol. This category includes the introduction of new features, improvements to existing functionality, user interface changes, performance optimizations, and implementation-level upgrades.

- Cybersecurity proposals encompass actions aimed at maintaining or improving the security and resilience of the protocol. These include security audits, bug bounty programs, vulnerability disclosures, emergency responses to exploits, and defensive upgrades.

F.2 Proposal examples

Table 27 – Example proposals

Proposal	Content
BanklessDAO Governance Turnout: 269 MOV: 0.54	**BanklessDAO Governance Department Instantiation** Forum Post: [Link](https://forum.bankless.community/t/v2-establish-and-fund-a-governance-department/5178) SUMMARY This Snapshot is a vote to formally instantiate and recognize the Governance Department at BanklessDAO. This Department is focused on facilitating and stewarding the development of governance processes and procedures at BanklessDAO. Based on the Forum proposal [here](https://forum.bankless.community/t/v2-establish-and-fund-a-governance-department/5178) and Grants Committee discussions [here](https://www.notion.so/bankless/Grants-Committee-Weekly-Mar-20-2023-dc03c3f60a934a1281121c412090c5bd?pvs=4). Upon approval by this vote, the Governance Department will be a formally recognized department of BanklessDAO.

Lido Governance Turnout: 1470 MOV: 0.64	**Improving the incentive structure for the Lido on Polygon team** We propose to increase by 500,000 LDO the number of incentives for the [Shard Labs](https://shardlabs.io) team who makes Lido on Polygon to**1,500,000 LDO total** to reflect that Polygon importance had risen relatively since the [first proposal](https://research.lido.fi/t/lido-for-polygon-proposal-by-shard-labs/816) and that the deal was different from our baseline for other networks as well. Hence, we advocate for the increase with the following changes: 1. Move the first threshold to 12. Update steps of market share 3. Increase the number of incentives in the first steps 4. Change vesting conditions The proposed new incentive structure in detail: - 150,000 LDO tokens issued with no vesting when Lido for Polygon manages to capture 1% of the staked MATIC supply - 150,000 LDO tokens issued with no vesting when Lido for Polygon manages to capture 2% of the staked MATIC supply - 150,000 LDO tokens issued with no vesting when Lido for Polygon manages to capture 3% of the staked MATIC supply - 150,000 LDO tokens issued with no vesting when Lido for Polygon manages to capture 4% of the staked MATIC supply - 100,000 LDO tokens issued with no vesting when Lido for Polygon manages to capture 5% of the staked MATIC supply - 100,000 LDO tokens issued with vesting with 2-year vesting when Lido for Polygon manages to capture 6% of the staked MATIC supply - 100,000 LDO tokens issued with vesting with 2-year vesting when Lido for Polygon manages to capture 8% of the staked MATIC supply - 100,000 LDO tokens issued with vesting with 2-year vesting when Lido for Polygon manages to capture 10% of the staked MATIC supply - 100,000 LDO tokens issued with vesting with 2-year vesting when Lido for Polygon manages to capture 12% of the staked MATIC supply - 100,000 LDO tokens issued with vesting with 2-year vesting when Lido for Polygon manages to capture 14% of the staked MATIC supply - 100,000 LDO tokens issued with vesting with 2-year vesting when Lido for Polygon manages to capture 16% of the staked MATIC supply - 100,000 LDO tokens issued with vesting with 2-year vesting when Lido for Polygon manages to capture 18% of the staked MATIC supply - 100,000 LDO tokens issued with vesting with 2-year vesting when Lido for Polygon manages to capture 20% of the staked MATIC supply Payouts will be made via on-chain voting after the milestone is captured and retained for 30 days. The first 5 milestones are not vested, while others (from 6% onward) have linear vesting of 2 years with no cliff (cliff date equals start date). The threshold of 1% was reached on July 18, 2022 and is still retained. You can see it in the “Lido MATIC staked - digest” block in [official Lido’s analytics digest]. So if this proposal with the new incentive structure is supported, then an on-chain vote to pay out 150,000 LDO for reaching the 1% threshold will be started.
PieDAO Partnership Turnout: 137 MOV: 0.15	**Should PieDAO partner with Olympus DAO?** Like many other DAOs have done recently, should PieDAO become a protocol partner on the Olympus PRO Bond Marketplace? When users purchase Bonds through Olympus Pro, it allows Protocols to accumulate liquidity to secure longevity and price stability for everyone involved. This makes bonds a mutually beneficial exchange.

BadgerDAO
Partnership
Turnout: 2676
MOV: 0.97

Add 0confirmation to BadgerDAO Annexe
TLDR; 0confirmation joins the Badger Annexe. BadgerDAO will make an investment of ~$1m into 0confirmation, help with full production launch of 0cf Swap, assist with DAO transition, and bootstrap execution of long-term roadmap. BadgerDAO and its community will gain a significant stake in 0cf DAO upon its launch.
High-level deal terms - $450,000 USDC + $50,000 wBTC (use 7 day twap price) to 0confirmation - 100% immediately available - $450,000 in bBADGER + $50,000 in bDIGG (use 7 day twap price) to 0confirmation - 100% locked for 12 months
Details in Forum. Link to discussions: https://forum.badger.finance/t/bip-50-add-0confirmation-to-badgerdao-annexe/4129/65?u=defifrog

Balancer
Business strat
Turnout: 357
MOV: 0.12

[BIP-161] Close Year 2 Funding Gap
Motivation
Please observe the discussion in the [RFC thread](https://forum.balancer.fi/t/rfc-closing-year-2-funding-gap/4243).
Specification
The vote will be single choice, winner take all with four options:
Proposal A Proposal B Proposal C More discussion is needed
For example, if A gets 20% B gets 20% C gets 20% and ""More Discussion"" gets 40% ""More Discussion"" wins.
Proposal A
If Proposal A wins, the protocol revenue split will immediately be changed from 75/25 veBAL/DAO to 50/50 veBAL/DAO.
Proposal B
If Proposal B wins, the protocol revenue split will immediately be changed to 35/65 veBAL/DAO and a follow on proposal will be presented to sell 250k BAL for USDC via OTC (""market sell"") within 30 days. Any DAO or other interested party is welcome to present a proposal to take some or all of this allocation.
Proposal C
If Proposal C wins, the protocol revenue split will immediately be changed to 35/65 veBAL/DAO and a follow on proposal will be presented to raise 1.5M USDC via Arbor bonds using BAL from the treasury as collateral. Some more details (subject to slight changes in the final proposal)
* 6-12 month maturity * 10-15% max yield to maturity (interest rate) * 250% collateralization ratio (3.75M worth of BAL) - better rate if we increase the amount of collateral
* Include a convertibility ratio of 3-5x (If BAL 5x's, lenders and convert into BAL)
* Bond issuance could be live within the next 4 weeks.
More Discussion Needed
If ""More Discussion"" wins, we will observe the latest comments in the RFC thread to see if any consensus has been reached around doing another vote on this topic. Please continue to direct all discussion towards that thread so it's easier to keep track of.
*Regardless of which proposal wins, a follow up discussion/proposal will be presented to the community by the end of July to re-assess the current state of affairs and determine if additional changes are necessary. All SP's should have approved Year 2 funding packages by then.

Airswap
Business strat
Turnout: 291
MOV: 0.61

AIP 83: 2023 Events Attendance

Do you agree that "AIP 83: 2023 Events Attendance" should be implemented?
* Requesting 200K AST to send community reps to events in 2023. * Events include Blockchain Week Paris, NFT NYC, Consensus 2023, Montreal Web3 Conference, ETHCC, Permissionless 2023, TOKEN2049 Singapore, and Messari Mainnet 2023. * Each rep defines and executes an event strategy and reports back. * Xtra is the point of contact to select and coordinate community reps.

Aave
Features
Turnout: 6684
MOV: 0.99

Risk Parameter Updates for Aave v2 Ethereum

LTs and LTVs for Long Tail Assets," Simple Summary A proposal to adjust eight (8) total risk parameters, including Liquidation Threshold (LT) and Loan-To-Value (LTV), for four (4) assets on Aave V2 Ethereum.

Abstract Following recent market events, the AAVE community has decided to reduce the risk profile across many higher volatile assets by disabling borrow or freezing across v2 markets ([AIP-121](https://app.aave.com/governance/proposal/121/), [AIP-124](https://app.aave.com/governance/proposal/124/), and [AIP-125](https://app.aave.com/governance/proposal/125/))

After mitigating the immediate risk to the protocol with the above AIPs, Chaos Labs is exploring the impact and trade-offs of decreasing the Liquidation Thresholds and LTVs of long-tail assets on Ethereum v2 (ENS, MKR, SNX, and CRV).

This proposal is the second in a [series of proposals](https://governance.aave.com/t/arc-risk-parameter-updates-for-aave-v2-ethereum-lt-and-ltv-2022-12-01/10897) intended to reduce the viability of different attack vectors on v2 assets.

Motivation Capital efficiency reductions on v2 assets will further mitigate attack vectors, in part by increasing the capital required to wage a price manipulation attack on Aave. In addition, these changes will act as an effective motivation to shift usage to v3, where users can enjoy the benefits of E-mode with enhanced risk techniques and mitigation methodologies.

As Liquidation Threshold reductions may lead to user accounts being eligible for liquidations upon their approval, we want to clarify the full implications to the community at each step. To best minimize this impact, we suggest reaching the desired settings by a series of incremental decreases, following the [Risk-Off Framework] previously approved by the community, with a reduction of up to 3% in any given AIP. In an attempt to avoid liquidations, Chaos Labs will communicate the planned amendments 7 days before their on-chain execution via all available avenues (Twitter, forums, Nansen Connect, and Blockscan Chat).

In the graphs below, we share data to quantify and visualize the effect of the recommended reductions on protocol users for community discussion.

Tribe
Features
Turnout: 136
MOV: 0.95

FIP 105 : FEI Savings Rate for VOLT

Summary

This proposal would approve a FEI Savings Rate (FSR) on FEI held by Volt Protocol. The FSR would take effect immediately upon passing of this Snapshot vote.

Forum discussion : https://tribe.fei.money/t/fip-105-fei-savings-rate-for-volt/4220

Detail

Authorize the Tribal Council or Treasury Pod as relevant to distribute a 3% FSR to Volt Protocol on a monthly basis as described in the forum post, within five days of the end of the calendar month, based on Volt's average FEI holdings over the month.

Once a VOLT-FEI Balancer pool is ready, direct 20% of veBAL voting weight to this pool. This may be adjusted upward to at most 50% by the Tribal Council or relevant pod. While the forum proposal suggests a 50-50 pool weighting, this and other pool details may be altered subject to the approval of the Tribal Council or relevant pod.

Once Volt DAO begins receiving BAL rewards, swap these for TRIBE on a monthly basis, with Tribe DAO receiving a 20% discount on the BAL.

Volt DAO commits not to deploy any PCV FEI into venues that create peg pressure, such as Aave or other lending markets, while contractionary monetary policy is in effect. The VOLT-FEI Balancer pool is expected to act as a FEI supply sink.

Yearn
Cybersecurity
Turnout: 1757
MOV: 0.99

YIP-59: Temporarily extend Multisig empowerment

Author @lehnberg

Summary Extend Multi-sig powers by another three months until end of May 2021 whilst an in-progress replacement proposal matures further.

Abstract

If adopted, this proposal seeks to extend the existing Multisig empowerment as was established by YIP-41[[1]](References) for another **three months** until **May 24 2021**. This is done in order for a currently in-progress governance architecture proposal to mature further, and ultimately have longer time to be discussed in the community, prior to it being proposed.

Rationale

The existing mandate expires on February 24 2021. As is stated in YIP-41, the Multisig was empowered for rapid decision making until the protocol transitioned to a ""multi-DAO structure"". A plan to decentralize power away from the Multisig, led by @tracheopteryx, is in-progress of being finalized. It has been delayed due to recent Governance activities.

The three month extension would be used to introduce the proposal to the wider community, iterate on it further to incorporate feedback, without being rushed by the somewhat arbitrary deadline that the mandate expiration sets.

Alternatives considered

Rush the new governance proposal

One alternative would have been to instead publish the current draft of the proposal as is, and hurry to have it adopted by YFI voters before the existing empowerment expires on February 24. The outcome of this process is uncertain. It is likely to result in a less mature YIP being adopted, if one is adopted at all.

Let mandate expire, replace with some alternative

Another alternative would be to let the Multisig mandate expire, and be replaced by some other Governance alternative. It is unlikely that a feasible alternative solution could be devised, proposed, and finalized in the little time that remains before expiry.

Specification

* Extend the current Multisig authority and remit as was granted by YIP-41 for an additional three months, expiring on **May 24 2021**. * **Do not** change or modify the existing mandate in any way. * Any changes made by YIPs adopted after YIP-41 still apply. * Further changes to the mandate can be made through Yearn's Governance process.

Sushi
Cybersecurity
Turnout: 273
MOV: 0.968

Liquidity Migration Proposal 2.0
Vote yes if you support this plan. Actual details to come in another proposal. Vote no if you support scrapping this plan and going back to the drawing board
Text of the tweet thread:
1) Now that the Sushi key has been transferred, it's time to transfer control to a multisig of myself and Larry Ce... Just kidding. Here's the actual plan (https://discord.com/channels/748031363935895552/748033004323995680/752077277390700605)
2) a) the old migration was tied to Nomi's key, so cancelling that. b) replacing with an identical one tied to mine. c) putting up a vote; if majority vote $_{a}gainst_{t}hismigrationinthenext12hwe'llcancelit$
3) going to transfer control to a multisig. If you would like to be a member of this, please comment on this post with ""I would like to be a multisig key holder for sushi"". We'll take the top 20 by likes, and have a proper vote on them.
4) will then transfer keys to that multisig group. After that – Sushi shall be back in the community's hands. We'll put up a vote on this whole plan, if majority vote against then we'll scrap it and go back to the drawing board

G LLM prompts used

Prompt 1: Single-category classification (one label)

```
Your task is to categorize proposals from Decentralised Autonomous
    Organisations (DAOs) on Snapshot.org.
These DAOs are all from the DeFi (Decentralized Finance) space.

It is crucial to be precise.

Reading the title, body, and choices of the proposal, you must assign
    one and only one category to it. In case
multiple categories apply, you must choose the most relevant one.

These are the categories you can choose from, followed by keywords that
    can help you identify the category:

- "Cybersecurity". Keywords: audits of smart contracts, or multisig
    decisions.
```

```
- "Features". Keywords: launch of new liquidity pools, rewards from
    liquidity pools, fees, utilization ratio, and risk parameters for
    decentralized lending pools.

- "Governance". Keywords: voting incentives, quorums, voting thresholds,
    voting with new tokens, councils, committee, delegates, founder,
    majority, guardian, administrator.

- "Partnership". Keywords: buying tokens from another DAO to put in
    treasury, or establishing a partnership with another DAO, a member of
    another DAO, or with a protocol.

- "Business strategy". Keywords: budgets, events, advertising, airdrops,
    investment strategies or Tokemak or Fuse reactors.

Please make _only_ one valid JSON object available for download
    containing the following properties:

*   id: The id of the proposal.
*   reasoning: Briefly explain why you assigned the category to the
    proposal.
*   category: The category you assigned to the proposal, must be one of
    the following: "Cybersecurity", "Features", "Governance",
    "Partnership", "Business strategy".
*   confidence: A number between 0 and 1, where 0 means you are not
    confident at all about the category you assigned, and 1 means you are
    very confident about the category you assigned.

Do not add any other text to your answer.
```

```
You will find the id, title, body, and choices of the proposal in the
    attached file.
```

Prompt 2: Probabilistic classification (category shares)

```
Your task is to categorize proposals from Decentralised Autonomous
    Organisations (DAOs) on Snapshot.org.
These DAOs are all from the DeFi (Decentralized Finance) space.

It is crucial to be precise.

Reading the title, body, and choices of the proposal, you must assign
    the probability that the proposal belongs to each category.
In case multiple categories apply, you must assign a probability to each
    of them, so that the sum of the probabilities is equal to 1.

These are the categories you can choose from, followed by keywords that
    can help you identify the category:

- "Cybersecurity". Keywords: audits of smart contracts, or multisig
    decisions.

- "Features". Keywords: launch of new liquidity pools, rewards from
    liquidity pools, fees, utilization ratio, and risk parameters for
    decentralized lending pools.

- "Governance". Keywords: voting incentives, quorums, voting thresholds,
    voting with new tokens, councils, committee, delegates, founder,
```

```
   majority, guardian, administrator.

- "Partnership". Keywords: buying tokens from another DAO to put in
   treasury, or establishing a partnership with another DAO, a member of
   another DAO, or with a protocol.

- "Business strategy". Keywords: budgets, events, advertising, airdrops,
   investment strategies or Tokemak or Fuse reactors.

Please make _only_ one valid JSON object available for download
   containing the following properties:

*   "id": The id of the proposal.
*   "reasoning": Briefly explain why you assigned the probability to
   each category.
*   "Cybersecurity": A number between 0 and 1
*   "Features": A number between 0 and 1
*   "Governance": A number between 0 and 1
*   "Partnership": A number between 0 and 1
*   "Business strategy": A number between 0 and 1
*   "confidence": A number between 0 and 1, where 0 means you are not
   confident at all about the category you assigned, and 1 means you are
   very confident about the category you assigned.

Do not add any other text to your answer.

You will find the id, title, body, and choices of the proposal in the
   attached file.
```

H List of DeFi Platforms

- **Decentralized lending**: Aave, Bankless DAO, PoolTogether, TrueFi, unFederal Reserve, Cream finance, Inverse finance
- **Decentralized exchanges (DEXs)**: Airswap, Balancer, Bancor, Bao Finance, QuickSwap, Tokenlon, Linear Finance, DODO, Perpetual protocol, Sushiswap, YFDAI Finance, Tacoswap,
- **BoostedFi and staking**: AladdinDAO, Lido, Ribbon, PieDAO, Vesper Finance, Merit Circle, Stake DAO, Yam finance, BadgerDAO, Stargate DAO, Pickle finance, Rari capital, Alchemist, Yearn Finance
- **Currency/Unit of account/Stablecoin**: TribeDAO, Frax, Ampleforth,
- **DeFi ecosystems (all of the above)**: Curve Finance, OpenDAO, Mantra DAO

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