A critical analysis of *Election methods and strategic voting* by Eric Maskin

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Abstract — **This paper offers a constructive and methodologically grounded continuation of Eric Maskin's research on election methods and strategic voting. Maskin's stated aim – to develop voting procedures that are less vulnerable to strategic manipulation and more reflective of voter's preference intensity – provides the starting point for a critical, yet forward-looking analysis that explores both the theoretical structure and the practical implications of his proposed methods.**

Maskin proposes modifications of classical Condorcet and Borda rules to address shortcomings in conventional voting systems, particularly in terms of vulnerability to strategic voting and misrepresentation of preference strength. These suggestions, while theoretically elegant, are built upon simplifying assumptions – including one-dimensional ideological spectra and single-peaked preferences – which may not accurately reflect the complexity of real-world electoral environments.

This paper revisits those assumptions in the light of multidimensional political landscapes and diverse voter profiles. By doing so, it seeks to evaluate how well Maskin's methods can be generalised to more realistic contexts, and where alternative procedures might offer more robust democratic outcomes. The analysis draws on both normative considerations and formal properties related to Arrow's and Gibbard-Satterthwaite's theorems.

The work begins with a systematic exposition of the normative criteria underlying Maskin's proposals: reduction of strategic incentives, fair representation of preference intensity, and securing diversified electoral support. These aims are acknowledged as valuable and relevant in the face of increasing voter polarisation and institutional fragility. The study then turns to a critical examination of the specific mechanisms used by Maskin, paying particular attention to the modified Condorcet method and its susceptibility to paradoxes in multidimensional contexts.

Using simple multidimensional examples and real-world analogies, the paper illustrates that the modified Condorcet rule may, under certain configurations, result in outcomes that unintentionally exclude compromise candidates or penalise preference intensity – effects that seem at odds with the original goals. Borda-based variants, while scoring better in some areas, may introduce other concerns, especially when extended beyond their classical application domains.

In response, the paper explores a set of alternative methods – particularly Score voting and STAR Voting – which have recently gained traction in electoral reform debates. These approaches are shown to better align with Maskin's normative intentions under less restrictive assumptions. Their ability to handle intensity and multidimensionality, while preserving key properties such as monotonicity and non-dictatorship, suggests they may provide a more suitable framework for real-world democratic systems.

The paper concludes by discussing the broader implications of method selection in electoral design, particularly with regard to democratic legitimacy, political stability, and participatory representation. It also outlines the potential for future empirical validation and interdisciplinary integration, suggesting pathways for connecting economic theory with political practice in an ethically grounded and democratically responsive way.

Keywords — **strategic voting, election methods, Condorcet rule, Borda rule, preference intensity, multidimensional preferences, social choice theory, Arrow's impossibility theorem, Gibbard-Satterthwaite impossibility theorem, mechanism design.**

I. Introduction: From *The crisis of democracy* to technocratic electoral reform

Since the publication of *The crisis of democracy* in 1976 by Crozier, Huntington and Watanuki [1], an explicit tension between mass democratic participation and political system stability has framed the agenda of Western democracies. The report, written for the Trilateral Commission, openly advocated for the management of democracy by reducing mass political engagement, with phrases like "*the effective operation of a democratic political system usually requires some measure of apathy and non-involvement on the part of some individuals and groups*". The concern was clear: too much participation destabilises élite governance.

Half a century later, the label of "*populism*" has become a "catch-all category" used to delegitimise anti-establishment sentiment, regardless of whether such movements genuinely challenge liberal democratic norms or really exploit popular sentiment in a truly populist way. This reinforces a narrative in which the electoral success of anti-system parties is inherently pathological, requiring systemic correction. Under the "fear" of a "polarising threat", we assist not merely to an explicit call for limiting participation but rather an attempt to engineer electoral systems to produce "safe" outcomes. In this context, the electoral reforms proposed by Eric Maskin emerge as a mathematical extension of the same ideological project.

Maskin's research question – "*how to reform democratic voting systems in a way such that the massively harmful effects of political polarisation currently plaguing Western democracies are mitigated*?" – in fact echoes this framing. While his

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https://doi.org/10.17758/URUAE28.H1025505

proposed voting rules aim to reduce polarisation, they do so by structurally filtering out ideological conflict, privileging centrism, and ultimately reproducing élite control under the guise of fairness.

This paper will critically analyse Maskin's voting proposals not only from a technical perspective but also as political instruments. It will show how Arrow's and Gibbard-Satterthwaite's impossibility theorems, originally mathematical theorems about the limits of democratic voting systems, have been ideologically questioned to justify engineered centrism while claiming to present fairer electoral systems. The paper will argue that, instead of enhancing democracy, Maskin's rules entrench structural biases that restrict pluralistic contestation and suppress genuine democratic choice.

II. Background of the Author

Eric Maskin, a Nobel laureate in Economic Sciences (2007), is one of the most prominent figures in the field of mechanism design. His work comprises auction mechanisms, market structures, and social choice theory, particularly focusing on strategy-proof voting systems. Maskin has held positions at leading institutions such as MIT, the Institute for Advanced Study at Princeton, and Harvard University. His influence extends beyond academia: he has advised major international institutions, including the World Bank and the IMF, and frequently collaborates with policy-oriented think tanks dedicated to institutional reform and global governance.

Maskin's central current project revolves around designing institutions that align individual incentives with socially desirable outcomes. His focus on voting reform is a natural extension of his expertise in mechanism design, but, as this paper will argue, his proposals reflect a deeper political alignment with the technocratic ambition to stabilise democratic systems by filtering electoral volatility.

In recent years, Maskin's attention has turned explicitly to the question of how to design voting systems that can mitigate political polarisation. He sees polarisation as one of the greatest threats to democratic stability. His proposed reforms aim to reward candidates with broad, diverse support and penalise those with concentrated but intense backing. On the surface, this seems to promote fairness and stability. However, this design structurally favours centrist, establishment candidates and suppresses outsider or anti-system movements.

Maskin's embrace of voting reforms like the Borda count and the modified Condorcet rule with diversity filtering must be understood not as politically neutral mechanisms but as part of a broader depoliticising strategy. His framing assumes that the major problem of contemporary democracy is not élite detachment or systemic exclusion but rather the disruptive force of political movements that do not neatly fit into centrist, élite-compatible frameworks.

His ideological orientation is revealed by the language used in his papers:

- "*If rankings are restricted in an arguably plausible way, then the five axioms are no longer collectively inconsistent.*" [2]
- "*The Condorcet winner is the most centrist candidate politically and is thus the best antidote to political polarisation.*" [3]
- "*Any reasonable voting rule* […] *is strategy-proof* […] *when voters are restricted to submitting ideological preferences.*" [3]
- "*Implicitly, the mechanism constrains a citizen to submit single-peaked preference.*" [4]
- "*Partisan polarisation has become the greatest threat to political stability in the United States (and in other countries).*" [5]
- "*The top-three system* […] *will tend to favour moderates* […]. *That is how to counteract polarisation, revive the political centre, and restore hope for American democracy.*" [5]

Such statements suggest that Maskin's conception of fairness is tightly linked to enforced centrism. His reforms are not designed to broaden democratic participation but to channel it toward predictable, stable outcomes. This echoes the sentiment of *The crisis of democracy* report: mass political engagement is only acceptable if it does not destabilise the system. Maskin's work, under the banner of mathematical sophistication, operationalises this logic.

III. Arrow's and Gibbard-Satterthwaite's Impossibility Theorems

The Arrow Impossibility Theorem (1951) and the Gibbard-Satterthwaite Impossibility Theorem (1973) are cornerstones of social choice theory, demonstrating the inherent limitations of designing a perfectly "fair" voting system under a series of minimal and seemingly reasonable requirements. Arrow's theorem proves that no rank-order voting method can simultaneously satisfy unrestricted domain, Pareto efficiency, non-dictatorship, and independence of irrelevant alternatives (IIA) for three or more candidates:

No voting system satisfies all following requirements:

- **Collective rationality (CR):** social preference function G_p is transitive and complete;
- **Unrestricted domain (UD):** all possible combinations of individual preferences are allowed;
- **Pareto-efficiency (PE):** if for every individual $x \succ_i y$, then also for the society $x \succ_G y$;
- **Independence of irrelevant alternatives (IIA):** $x R_i y$ depends only on preference between x and y;
- **Non-dictatorship (ND):** No individual i is decisive for each pair of alternatives.

Core Problem: Voting systems inevitably sacrifice at least

one of these principles.

Gibbard and Satterthwaite (GS) extend this pessimism to strategy-proofness: in any voting system that is deterministic, non-dictatorial, and allows ≥3 candidates, some voters will have incentives to vote strategically rather than sincerely:

No voting system with at least three candidates satisfies all following requirements:

- **Definiteness (DF):** social choice function G_c selects always a unique winner $\forall R$ over any finite $X \neq \emptyset$;
- **Minimum size (MS):** X contains at least 3 alternatives;
- **Non-dictatorship (ND):** G_c is non-dictatorial, i.e. no single voter always determines the outcome;
- **Elimination stability (ES):** if $\forall i\ x \succ_i y\ \forall x \in X \backslash \{y\}$, then removing y does not change the outcome;
- **Non-manipulability (NM):** $G_c(R; X)$ is strategy-proof, i.e. no voter benefits by misreporting preferences.

Core Problem: Strategic voting can't be eliminated completely in unrestricted domains.

Originally, these theorems were intellectual warnings about the structural complexity and inevitable imperfections of collective decision-making. They highlighted the impossibility of constructing a flawless mechanism of aggregation that respects both individual preferences and group rationality. However, the political discourse surrounding these theorems has shifted from acknowledging those theoretical limits to a manipulative use of their logic either to justify the inapplicability of democracy as a whole, or to justify technocratic interventions into democratic processes. In this paper, we will take a deeper look at the latter and more subtle way of abuse of these theorems.

First, the impossibility results are presented as fatal flaws of existing electoral systems, such as first-past-the-post or simple majority rule, implying that these systems are inherently unfair, manipulable, and thus unstable. Second, proposed voting reforms – such as those by Eric Maskin – are introduced as technical solutions that "overcome" these impossibilities by slightly modifying the underlying conditions or assumptions.

However, as we will see more in detail later, relaxing or modifying axioms is not a neutral technical fix: it represents an injection of normative, ideological constraints into the electoral system itself. For example, restricting voters to single-peaked, ideological preferences, or introducing a diversity score that filters candidates based on the distribution of their support, fundamentally reshapes the electoral arena. It does not "solve" Arrow's or GS's impossibility theorems in a mathematical sense, it imposes structures that align outcomes with specific normative goals: reducing polarisation, preserving centrist stability, and filtering anti-establishment preferences.

This reframing disguises deeply political choices as technocratic improvements. By presenting their modifications as technical solutions to impossibility results, the "advocates" of "technocratic reform" obscure the fact that they are embedding new normative assumptions into the design of democratic institutions.

In contrast to this instrumental use of Arrow's or GS's impossibility theorems, this paper advocates for an anti-propagandistic reading of these theorems. Rather than treating impossibility results as mandates for élite-driven electoral redesign, they should be understood as reminders of the inescapable trade-offs inherent to democracy. The impossibility of perfect fairness reflects the inherent complexity and conflict within pluralistic societies, not a defect requiring top-down correction.

From this perspective, impossibility theorems should caution against overconfidence in engineered solutions, reminding policymakers that no system can eliminate all manipulation, strategic behaviour, or instability without sacrificing fundamental democratic values such as representation and contestation. This, thus, doesn't mean that an optimisation of the current electoral methods and voting systems is not to be pursued and aimed for! Indeed, as we will see in the final section, it is possible to highly improve current methods, even in the sense of the original aims of Maskin's work (that is: capturing preference intensity and the diversity support, without the flaws of Maskin's rule) and trying to avoid most violations of Arrow's and GS's requirements – though, also accepting that the perfect method doesn't exist and manipulation is still possible, but can be limited.

The following sections will demonstrate how Maskin's voting reforms, presented as technical solutions to Arrow's and GS's theorems, achieve engineered stability not by solving impossibility, but by embedding restrictive assumptions that constrain voter preferences and structurally favour pro-establishment outcomes.

IV. Analysis of Maskin's Proposed Voting Rules

Eric Maskin's proposals to reform democratic elections are framed as technical responses to the impossibility theorems of Arrow and Gibbard-Satterthwaite (GS). In his view, by modestly relaxing certain axioms – such as IIA or UD – while incorporating preference structures and diversity filters, voting systems can be engineered to mitigate polarisation and reduce strategic manipulation.

This section will show how both the modified Borda count and the modified Condorcet rule with diversity filtering embed ideological filtering mechanisms that, rather than solving the impossibility theorems, restructure electoral outcomes in ways that favour centrist stability at the expense of authentic democratic pluralism.

A. *Maskin's Borda rule*

Maskin's Borda rule is intended to better capture preference intensity across the electorate, while minimising vote-splitting effect, and to offer an alternative to first-past-the-post that better aggregates voter rankings.

Maskin's workaround to Arrow's theorem is to modify IIA in a way to allow ranking changes if distance between alternatives changes. Relaxing this requirement of Arrow's theorem, would make the Borda count a method which satisfies its (modified) requirements. The method of how it works is simple:

(1) each voter ranks all candidates;
(2) Borda count assigns points based on position in each ranking;
(3) top-ranked candidate gets n points, second gets $n - 1$, third gets $n - 2$, …, last gets 1 point;
(4) candidates are ranked based on their total aggregated score;
(5) the winner is the candidate with the highest total points.

Maskin's claim is that Borda voting better reflects preference intensity across all alternatives (although he admits, that it's vulnerable to manipulation). The Borda count seems fairer than the majoritarian system (where only one candidate is chosen), as it takes into account secondary preferences of voters. It would seem to reduce the problem of the "lesser evil" that we have in the current system, where people often vote to avoid an unwelcome candidate.

However, as demonstrated in theoretical critiques and numerical examples, this system doesn't capture true voter intensity: it constructs an artificial, equal-interval point structure, in which 2nd and 3rd place rankings contribute not much less than 1st place ones to a candidate's score – regardless of actual preference strength. This imposes a mechanical, system-defined notion of "intensity", often diverging from what the voters' authentic valuations would be.

While the modified Borda count lacks an explicit diversity threshold, it operates with an implicit diversity filter. Candidates who accumulate broad but shallow support across second and third choices outperform those with concentrated, passionate backing. This systematically favours moderate, establishment-aligned candidates and disadvantages polarising figures or outsiders with deep but narrowly distributed support.

In practical terms, this dynamic creates two vulnerabilities:

- voter-side manipulation: strategic insincere rankings to boost or bury specific candidates;
- élite-side manipulation: introduction of "clone candidates" or "gatekeepers" to fragment opposition and engineer favourable point distributions.

Let's consider the following counterproof example. Suppose we have 4 candidates (a, b, c, d) and, for simplification, four preference profiles with following occurrence:

TABLE I: Preference profiles for the Borda rule example

50%	11%	34%	5%
a	*a*	*d*	*d*
b	*c*	*b*	*c*
c	*b*	*c*	*b*
d	*d*	*a*	*a*

According to Borda:

- *a* gets $61 \times 4 + 1 \times 39 = 283$ points
- *b* gets $84 \times 3 + 16 \times 2 = 284$ points $\Rightarrow$ *b* is elected
- *c* gets $16 \times 3 + 84 \times 2 = 216$ points
- *d* gets $39 \times 4 + 61 \times 1 = 217$ points

Despite candidate *a* being the clear first choice for 61% of voters, candidate *b* is elected due to broad 2nd and 3rd-choice support. This corner-case illustrates how the Borda system dilutes majority preferences in favour of constructed moderation. [Of course, since it holds for this corner-case, it holds also for lower – but still remarkable – shares of 1st rankings of *a*.]

B. *Maskin's Condorcet rule*

Maskin's workaround to the GS' theorem consists in:

- restricting preferences domain (assuming ideological or single-peaked voter preferences);
- introducing a "diversity filter" (eliminates candidates lacking broad, heterogeneous support).

The objective is to define a voting rule that elects the Condorcet winner if one exists, and provides alternative procedure if not, while preventing strategic voting under the assumption that preferences are ideological. Maskin claims that if all voters have "ideological" (single-peaked) preferences, no one can benefit from strategic lying: if a Condorcet winner exists, majority will prevail, if not, the diversity filter will prevent strategic voting through the fear of a backlash for the favoured party, i.e. the risk to make someone "worse" than the less favoured one win accidentally.

The system operates as follows:

(1) each voter ranks the candidates;
(2) if a candidate has majority of first-place vote, he's elected;
(3) if no such candidate exists, the one with lowest diversity score is dropped;
(4) if it results in a tie for lowest diversity, the one with fewest first-place votes dropped;
(5) the process continues until some candidate has a majority of first-place votes.

Such system should be strategy-proof, but this only holds under strong assumptions: all preferences should be ideological and structured. Real-world, multi-dimensional preferences or anti-establishment voting often break this assumption.

Moreover, this mechanism claims to prevent strategic coalitions and manipulation. However, as demonstrated empirically and theoretically, it introduces a structural bias favouring broadly palatable, centrist candidates, regardless of authentic preference intensity or concentrated support:

- the diversity filter works as a gatekeeping tool: it removes candidates before voters actually choose – based not on vote number, but on vote distribution;
- this system shows an inherent centrist/compromise bias as it favours candidates "acceptable" to all, not those passionately supported by a majority;
- it suppresses political pluralism: outsiders and movements with deep but focused support are blocked from ever winning;
- "algorhytmic elimination" equals "manufactured consensus": under the claim of "fairness" the system entrenches establishment control and suppresses disruptive alternatives.

Let's look at the following counterproof example. Consider a fragmented electorate with following distributions:

TABLE II: Preference profiles for the Condorcet rule example

49%	9%	8%	7%	6%	7%	7%	7%
a	*b*	*b*	*c*	*c*	*d*	*d*	*d*
b	*c*	*d*	*d*	*b*	*c*	*b*	*a*
c	*d*	*c*	*b*	*d*	*b*	*c*	*b*
d	*a*	*a*	*a*	*a*	*a*	*a*	*c*

Now let's count only unique ranking orders for each candidate's diversity score (*D*):

TABLE III: Elimination through diversity score in the 1st round

Candidate	1st choice votes	Diversity score	Eliminated in 1st round
a	49%	1	Yes
b	17% (9% + 8%)	2	No
c	13% (7% + 6%)	2	No
d	21% (7% + 7% + 7%)	3	No

Despite nearly 50% first-choice support, candidate *a* is eliminated first solely for lacking sufficient distribution across diverse preference profiles. This demonstrates how the diversity filter structurally suppresses outsider or anti-system candidates, irrespective of their popularity among core constituencies – also because the count of preference profiles is totally arbitrary and slight changes at the bottom of the ranking (that might be of neglectable importance), are overproportionately represented, given that they create additional preference profiles which are entirely calculated in the diversity score.

While claiming to eliminate voter side manipulation, the system displaces it from voters to political élites, who can strategically field candidates, orchestrate withdrawals, or induce higher numbers preference profiles to cheat the diversity mechanism.

Both voting methods reflect a common pattern: modifying formal theorems (Arrow, GS) by embedding normative and ideological restrictions, under the guise of technical refinement. The result is a voting architecture that:

- prioritises centrism: by rewarding broad, shallow support over intense, concentrated preferences;
- suppresses authentic pluralism: outsiders and anti-establishment movements face structural disadvantages;
- manufactures consensus: apparent fairness conceals élite-aligned outcome engineering.

Rather than solving democratic deficiencies, this operationalises the technocratic ambition to depoliticise elections and filter-out political contestation, aligning electoral outcomes with establishment stability.

V. Challenging the Single-Peakedness Assumption

Much of Maskin's claim to "strategy-proof" voting reform relies on his restrictive assumption that voter preferences are ideological, typically operationalised as single-peaked along a one-dimensional policy axis. Under this structure, voters are assumed to rank candidates based on their proximity to a personal ideal point on the ideological spectrum, with preferences declining monotonically as candidates diverge from that ideal.

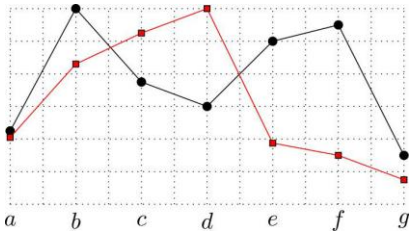

Fig. 1: Red line represents single-peaked preferences, black line represents non-single-peaked ones.

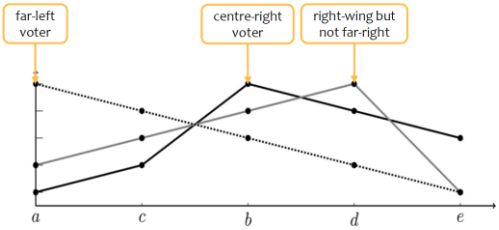

Fig. 2: Ideological voters as proposed by Maskin (all single-peaked).

Mathematically, single-peakedness can be visualised as a quasi-concave or concave preference function, where the utility assigned to alternatives increases toward the peak (the voter's ideal) and declines symmetrically or asymmetrically away from it. This structure imposes order and predictability, ensuring that certain voting paradoxes, such as cycles or strategic instability, are eliminated under mechanisms like Maskin's modified Condorcet rule.

However, while theoretically elegant, this assumption is both empirically flawed and politically restrictive when applied to real-world electorates. In practice, voter preferences are rarely aligned along a single coherent ideological axis.

The left/right spectrum is outdated, especially in pluralist democracies. Cross-cutting cleavages (e.g., anti-establishment vs. establishment) mean some voters have more than one "peak". Modern electorates are shaped by:

- multi-dimensional issue spaces: voters hold preferences across economic, social, cultural, and geopolitical dimensions that often conflict;
- anti-system cross-cleavages: outsider candidates from both left and right may share opposition to establishment policies, even if they diverge ideologically on other axes.

The result is that no single ideological axis captures actual voting behaviour. Cyclic majorities (Condorcet cycles) and strategic alliances across ideological divides are common. Intensity and multi-dimensionality of real voter preferences break Maskin's "strategy-proof" model.

A real-world example would be provided by Germany's 2025 elections: parties like AfD (right) and BSW/Linke (left) attract "anti-system" voters, whose 2nd choices cross traditional ideological lines: AfD voters may prefer BSW over CDU/Grüne and viceversa, not because of ideology, but of shared opposition to the establishment. Especially in Eastern Germany this polarisation was evident.

VI. Alternative voting methods and the case for Score voting

A. *The case for Score voting*

The preceding sections have demonstrated the structural limitations and normative biases embedded in Maskin's modified Borda and Condorcet rules. Both mechanisms, while presented as technical solutions to the impossibility theorems of Arrow and Gibbard-Satterthwaite, rely on restrictive assumptions that distort authentic voter preferences and systematically favour establishment-aligned candidates. As an alternative, this section presents Score voting (SV) and related methods as more robust, pluralism-compatible electoral systems.

Score voting (SV), also known as Range voting, allows voters to rate each candidate independently within a fixed numerical range, such as 0 to 10. The candidate with the highest total score is elected.

Unlike ordinal systems (e.g., Borda, Condorcet), SV captures not only the relative ranking of candidates but also the intensity of voter preferences. This cardinal approach provides a more nuanced reflection of electorate sentiment, avoiding the artificial equalisation inherent in Borda point assignments.

Some of the advantages of Score voting are:

- it expresses true preference intensity: voters can show how strongly they like (or dislike) each candidate, not just a ranking with system-imposed point gaps;
- no pre-elimination or artificial filtering: all candidates compete equally – no one is eliminated based on arbitrary diversity or profile counts;
- the majority-preferred one wins: if a candidate is genuinely loved by a majority, their combined high scores ensure victory;
- it's resistant to vote splitting and spoilers: voters can support all acceptable candidates without "wasting" their vote, reducing the spoiler effect;
- it can handle multiple candidates: no pressure for two-party polarisation; both passion and broad acceptability are rewarded;
- it's less vulnerable to manipulation: strategic exaggeration ("bullet voting") is possible, but limiting the scoring range (e.g., to 0-5 or 0-10 integers) minimises its impact;
- it's compatible with multi-dimensional, non-ideological preferences: no assumption of single-peakedness, it works even in complex, multi-issue or anti-system elections.
- simplicity and transparency: the system is intuitive for voters, resembling familiar grading/scoring practices.

Compared to Borda count, Score voting lets voters set true distances while Borda forces artificial ranking gaps. Borda is easy to manipulate ("burying" strong opponents), Score voting is harder to manipulate and more expressive.

Compared to Maskin's Condorcet rule, Score voting never eliminates a strong candidate based on arbitrary support diversity, while Maskin's rule can eliminate majority-supported candidates via a "diversity filter".

While SV is not entirely strategy-proof (voters may exaggerate by bullet voting), this limitation is shared by all realistic electoral systems with ≥3 candidates. Notably, a narrower scoring range (e.g., 0–10) limits the impact of such tactics compared to Borda, where artificial ranking gaps are imposed regardless of true preference distance.

Also, in practice, truth-telling is often the best response when polls are uncertain (same argument used by Maskin in favour of the modified Condorcet rule).

With regard to the impossibility theorems, we see that SV performs notably well. In the case of Arrow's theorem:

- **Unrestricted domain (UD) is satisfied:** SV allows any voter to assign any score to any candidate;
- **Pareto efficiency (PE) is satisfied:** if everyone prefers A to B, A's total score will be higher than B's;
- **Non-dictatorship (ND) is satisfied:** no single voter determines the outcome in all cases;
- **Collective rationality (CR) is satisfied:** the group's ranking is complete and transitive based on total scores.
- **Independence of irrelevant alternatives (IIA):**
  - *in practice*, almost always holds: if a candidate C is removed, the scores and hence the order between A and B remain unchanged;
  - *in theory*: if voters would have assigned scores differently had C not been in the race (i.e., their ballot is not independent of available candidates), IIA could fail – an unlikely real-world scenario.

Thus, Score voting is arguably the "closest" real-world method to satisfying all Arrow's criteria.

In the case of the Gibbard-Satterthwaite theorem:

- **Definiteness (DF) is satisfied:** unique winner unless tie, tie-breaks can be specified;
- **Minimum size (MS) is satisfied:** no restriction, more than 3 candidates allowed;
- **Non-dictatorship (ND) is satisfied:** no voter always dictates outcome;
- **Elimination stability (ES) is satisfied:** removing a losing candidate does not change the winner among remaining (unless the removed candidate was tied or the winner).
- **Non-manipulability (NM) is not satisfied:** it's susceptible to strategic voting or bullet voting, like other methods.

Score voting (SV) satisfies all GS criteria except non-manipulability, which is theoretically impossible (indeed, per the theorem, no voting system with ≥3 candidates can satisfy all requirements).

Elimination stability is a key advantage for SV: In SV, removing a candidate who is not the winner does not alter the ranking of the remaining candidates – their scores are not recalculated or redistributed (unless the removed candidate was in a tie). Both methods proposed by Maskin do not satisfy elimination stability: if you remove a losing candidate, the rankings for other candidates change, and a different candidate might win.

B. Alternative voting methods

Alternative methods can comprise a mix of score voting and another rule: notable examples are SVCC and STAR.

In **SVCC** (*SV with Condorcet check*) a Condorcet winner is elected, if one exists, otherwise the SV result is used. Its strengths are to blend majority rule and preference intensity.

In **STAR voting** (*Score then automatic runoff*), voters rate each candidate (like in SV). Then, the top two scorers enter a runoff and the winner is the one preferred on most ballots. Its strength is to always elects a majority winner among finalists, mitigating "bullet voting", though it also features the limitation that a Condorcet winner is not always guaranteed if not present within the top two.

Towards a pluralistic electoral design, we observe that SV and its variants offer a more democratic approach by:

- embracing ideological diversity and fragmented preferences;
- reducing élite manipulation via candidate cloning or strategic withdrawals;
- preserving voter agency without imposing technocratic constraints disguised as fairness.

These features position SV as a more authentic realisation of democratic representation compared to Maskin's ideologically restrictive, centrist-biased reforms.

VII. Conclusion: Reframing "fairness"

The concept of "fairness" lies at the rhetorical and normative heart of Maskin's proposed voting reforms. His adjustments to the Borda count and Condorcet rule are framed as technical improvements designed to ensure fairer aggregation of voter preferences, prevent manipulation and reduce the destabilising effects of political polarisation.

However, as shown, in Maskin's framework "fairness" becomes synonymous with centrism, consensus, and predictability, achieved through structural biases and restrictive assumptions rather than genuine democratic negotiation. The supposed solution to the imperfections highlighted by Arrow's and Gibbard-Satterthwaite's theorems results in a form of engineered democracy, where pluralism is constrained in favour of élite-friendly outcomes.

Both Maskin's proposed voting systems, while differing in technical detail, share common structural tendencies and "achieve" *surface-level* fairness by favouring "compromise candidates" and preventing "extreme polarisation" – but at the cost of marginalising authentic democratic contestation and limiting voter agency.

In Maskin's own words, the *Condorcet* winner is "*the most centrist candidate politically and thus the best antidote to polarisation*" [3]. However, equating fairness with enforced centrism overlooks the complex realities of democratic pluralism, especially in societies marked by anti-establishment sentiments, fragmented political landscapes, and multi-dimensional voter preferences. True democratic fairness cannot be reduced to the suppression of conflict or the mechanical stabilisation of centrist outcomes. Instead, fairness should be understood as:

- enabling the coexistence of ideological diversity, not filtering it out under the guise of consensus at the centre;
- encouraging genuine contestation, compromise, and representation of diverse viewpoints;
- allowing voters to express authentic intensity of preference, even if it produces polarised or disruptive results.

Electoral systems designed under this conception of fairness should reflect the full spectrum of voter preferences (including anti-system and non-centrist alternatives), preserve opportunities for real political choice, not just the selection of acceptable moderates, resist élite-driven engineering that prioritises stability over representativity.

Score voting (SV) and similar methods approximate this ideal way more closely than Maskin's proposals. By capturing intensity, tolerating fragmented preferences, and minimising structural bias toward centrism, SV exemplifies fairness grounded in pluralism rather than technocratic control.

Framing political conflict and polarisation as "pathologies requiring technocratic cures", risks undermining democracy itself. At a deeper level, this paper has argued that the impossibility

theorems should not be instrumentalised to justify élite-driven electoral reform or the suppression of political pluralism. Instead, they should be understood as mathematical reflections of democracy's unavoidable trade-offs and complexities and be a guidance for optimisation, thus acknowledging that no perfect system exists. While no voting system is flawless, methods that prioritise authentic representation and minimise structural bias – rather than enforcing manufactured consensus – offer a more legitimate path toward democratic renewal.

Let's not ask how to make voters behave, but how to make democracy truly responsive.

VIII. Acknowledgements

I would like to thank to Prof. Maik Schneider for introducing me to Social Choice theory and Mechanism Design, and to Tetiana Voznesenska for her unwavering support and inexhaustible motivation.

References

[1] M. Crozier, S. P. Huntington, J. Watanuki, *The crisis of democracy*, New York University Press, 1975.

[2] E. S. Maskin, A. Sen, *The Arrow impossibility theorem*, Columbia University Press, 2014. https://doi.org/10.7312/mask15328

[3] E. S. Maskin, "A Condorcet voting rule that is strategy-proof", *Scholars at Harvard*, February 2023.

[4] E. S. Maskin, P. Dasgupta, "Elections and strategic voting: Condorcet and Borda", *Scholars at Harvard*, January 2020.

[5] E. S. Maskin, E. B. Foley, "How to depolarize American politics", *Project Syndicate*, February 2024.