Voter Strategy in Instant-Runoff Voting and Approval Voting

By the Voting Methods Team │ Published on 5/9/2021

Issues around voting strategy have arisen in two recent criticisms of approval voting:

- Multiple form letters to the Broomfield City Council for their April 20th study session comparing approval voting and instant-runoff voting (IRV, one form of RCV)

    "I don't have to be strategic in my vote when I use a ranked ballot. I know that all the candidates are given a fair opportunity."

- Rep Chris Kennedy, March 11, House Finance Committee hearing on his IRV bill

    "[R]ank choice voting is more straightforward [than approval voting] … You get into voter strategy questions in that case where voters are trying to decide, "Is it in my benefit to fill in the bubble for all these candidates or should I just focus all my energy on the one that I really want?" What I like about rank choice voting is that it's simple and there's not really a strategic advantage to stopping after your first vote. There's no reason not to fill in a second-, third- or fourth-choice vote. And that's what I really appreciate about it. "

We'd like to disentangle the assumptions behind this accusation. First, with any voting method, a voter always has the option of voting honestly; many naïve or passionate voters do so in every election. Second, strategy is mathematically proven to be a consideration with *every* voting method and is not inherently bad. Rather, strategic voting is a way for voters to react to the constraints of a voting method. Voting strategically can give a voter's voice more weight in an election.

The LWV "supports voting methods … that encourage honest voting rather than tactical [or strategic] voting." Vote-for-one plurality voting is infamous for encouraging dishonest strategic voting for the "lesser of two evils." Because many alternative voting methods allow for more voter expressiveness and can reduce or eliminate vote splitting, these better voting methods encourage more honest voting.

Plurality Voting

- Vote for one dessert candidate.

- The candidate with the most votes wins.

  ☐ chocolate cake

  ☐ brownie

  ☐ lemon cake

  ☐ truffle

Approval Voting

- Vote for **one or more** dessert candidates.

- The candidate with the most votes wins.

  ☐ chocolate cake

  ☐ brownie

  ☐ lemon cake

  ☐ truffle

Instant-Runoff Voting (IRV)

- To vote, **rank candidates**.
    - Fill in the #1 box next to your 1st choice.
    - If you have a 2nd choice, fill its #2 box.
    - If you have a 3rd choice, fill its #3 box and so on.

- If a candidate receives a majority of 1st-choice votes, that candidate wins. Otherwise, the candidate with the fewest 1st-choice votes is eliminated. If your 1st choice gets eliminated, your vote will be transferred to your next-higher choice that has not yet been eliminated. If there are no lower choices, then the ballot is exhausted and the vote is not registered in the final tally. The elimination process continues until one candidate wins by having more votes than the combined votes for the other non-eliminated candidates.

	1st choice	2nd choice	3rd choice	4th choice
chocolate cake	1	2	3	4
brownie	1	2	3	4
lemon cake	1	2	3	4
truffle	1	2	3	4

However, both instant-runoff voting (IRV) and approval voting can lead to strategic voting. Each method uses a different tabulation algorithm – see the sample ballots – and has the following limits to voter expressiveness or to visibility of the voter's expressiveness:

- In IRV a voter must order candidates by preference or rank only one candidate.
  - The only ranking that is guaranteed to be counted is the highest ranking (first choice). A lower ranking is only tallied when all the rankings above it are eliminated.
  - A voter is not able to show equal preference for two acceptable candidates. (However, a voter can show equal disapproval for two unacceptable candidates by not ranking them at all.)
  - A voter cannot differentiate between a close second choice and a distant second choice.
  - If the number of rankings permitted on the ballot is smaller than the number of candidates, the voter cannot express an opinion on every candidate.
  - IRV's non-monotonicity means that a candidate can actually lose when more voters rank the candidate higher or can win when more voters rank the candidate lower. (This situation appears to be rare – Burlington, VT's 2009 election is a known example – but, since many IRV elections don't provide complete cast vote records, we don't know how rare it actually is.)
- In approval voting a voter gives a thumbs up or a thumbs down on every candidate.
  - The voter cannot express gradations of support for candidates beyond support and no support.
  - A "no opinion" is considered a thumbs down.

Note that, because of the constraints of the voting method, a voter may simultaneously vote honestly and strategically. For instance, if a voter likes two candidates equally, in IRV the voter must choose one to rank above the other. In a three-candidate approval-voting contest a voter should always vote for their honest favorite and never for their least favorite; whether or not to vote for their second choice is a matter of strategy, but their vote is honest either way.

Whether a candidate is a frontrunner, merely viable, or a longshot often factors into voter strategy. Sources of information typically include financial reports, media coverage, polling data, proliferation of campaign signs and word of mouth.

What strategies are used in IRV?
There is only one honest way for a voter to rank candidates, unless two candidates are preferred equally, and that ranking is strategically optimal in most cases. However, you may want to vote dishonestly to show support for a longshot candidate, when the number of rankings is limited, or when multiple viable candidates are running.

Some strategies include:
- The #1 ranking provides by far the most visibility. To avoid wasting this visibility, you may strategically rank a longshot candidate #1, even ahead of your preferred frontrunner. (This may explain why in Maine's 2020 US Senate race, Sara Gideon did not get as many votes in the final tally as expected. Polls indicated that many people who put a longshot candidate first put Gideon ahead of Susan Collins, but the longshot candidates were never eliminated because Collins won in the first round.)
- Suppose you are limited to 3 rankings and prefer 3 longshot candidates in the race. You may strategically rank a frontrunner in the #3 spot in order to have your vote counted in the final round.
- You may strategically rank a less preferred candidate higher than a favorite candidate to prevent a worse candidate from winning. (Imagine, in Alaska's 2022 US Senate race, Republican Lisa Murkowski running against a Democrat and two candidates closely aligned with Trump. A Democratic voter may strategically rank Murkowski higher than the Democrat to prevent either of the Trump candidates from edging out Murkowski and ultimately winning. Alaska recently adopted an open primary with the top four vote-getters competing in an IRV general election.)

Excerpt below from *The New York Times*, April 22, 2021 (online) –"How Does Ranked-Choice Voting Work in New York?"

What's the best strategy if there are candidates I really don't want to see win?

Easy: Don't vote for them! Vote for the person you most want to see in office.
But if you really want to be petty, you should rank the candidates you believe are most likely to take down your least-favorite candidate up high, which will pull power away from your nemesis. The enemy of my enemy…

What strategies are used in approval voting?
In approval voting you should always vote for your favorite (or favorites if you have equal preference), and never vote for your least favorite. In between the extremes, the voter has multiple ways to honestly express their options, which depend on the strength of their support for each candidate and their sense of how popular the candidates are. In effect, the voter determines a dividing line between "thumbs-up" and "thumbs-down" candidates. The strategy lies in deciding where to draw that dividing line.

Where do you draw the line? Imagine waking up the day after the election and finding out that a certain candidate won. If you'd be happy to learn of their victory (or it would at least be a relief), you should vote for that candidate. (Technical version: vote for every candidate whose victory has a utility greater than the expected utility of the election).

Some examples include:

- If the voter's primary goal is to help one of their favorite candidates win, then the voter may also freely and strategically vote for all acceptable candidates who are more of a longshot than the favorite(s).
  - If there are only two viable candidates and you like both of them, you should vote for only one unless you're indifferent between them.
- If the voter's primary goal is to prevent an unacceptable candidate from winning, a voter may strategically vote for all acceptable candidates and even an unacceptable-but-more-acceptable viable candidate than the clearly unacceptable candidate.

As you can see, both IRV and approval voting can involve strategic voting – of course, in different ways because the voting methods operate differently.

As we've said many times before, no voting method is perfect. The League wants to minimize "dishonest" voting; both IRV and approval voting are better than plurality at allowing voters to vote honestly. Situations in which it's advantageous to vote dishonestly are rare under IRV and nonexistent under approval.

We want to encourage the adoption of better voting methods and support "gaining on-the-ground experience with alternative voting methods" [LWVCO Voting Methods Position Statement]. IRV may be more "strategy-resistant" than approval voting, but IRV does not eliminate strategic voting. Additionally, the use of strategy in approval voting allows for increased expressiveness in approval voting's simple thumbs-up-or-thumbs-down structure. Under approval voting, a person can vote simply and honestly with good results, or the voter can consider being more expressive, but still honest, with a straightforward strategy.