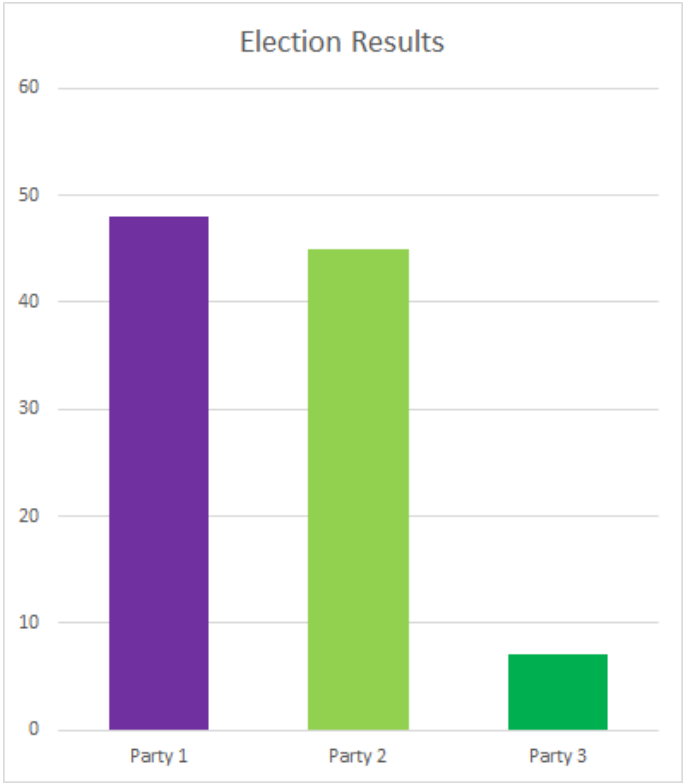
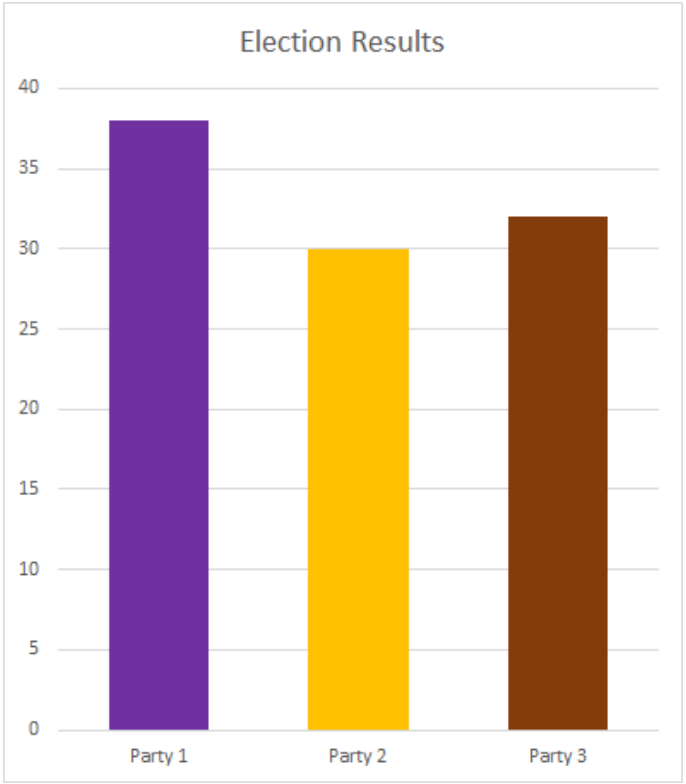
# RCV: good intentions, flawed results

Why Ranked Choice Voting doesn’t do what it tries to do and messes things up in the process

# RCV works well for this...



...but not for this.



# Imagine Three Candidates

Fiona Favorite (outsider candidate, your first choice)

Carl Compromise (mainstream candidate, will do an OK job)

Aaron Awful (other mainstream candidate; a disaster)

# Ideal RCV

RCV says that Favorite voters can still vote Favorite but not risk spoiling the election, because their second choice (Compromise) will be counted.

| Number of voters | Rankings |
|---|---|
| 10 | Awful, Compromise, Favorite |
| 6 | Compromise, Favorite, Awful |
| 3 | Compromise, Awful, Favorite |
| 4 | Favorite, Compromise, Awful |
| | |
| Round 1 | Total votes |
| Awful | 10 |
| Compromise | 9 |
| Favorite | 4 |
| Favorite is removed... | |

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| 3 | Compromise, Awful, Favorite |
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| | |
| Round 2 | Total votes |
| Awful | 10 |
| Compromise | 13 |
| Compromise wins! | |

# Problem!

Let's say Favorite gains support.

Notice that 13 people still favor Compromise over Awful.

| Number of voters | Rankings |
|---|---|
| 10 | Awful, Compromise, Favorite |
| 3 | Compromise, Favorite, Awful |
| 3 | Compromise, Awful, Favorite |
| 7 | Favorite, Compromise, Awful |
| | |
| Round 1 | Total votes |
| Awful | 10 |
| Compromise | 6 |
| Favorite | 7 |
| Compromise is removed... | |

# Problem!

1) Favorite voters supported their true favorite and got a worse result.

2) The majority that preferred Compromise over Awful lost.

| Number of voters | Rankings |
|---|---|
| 10 | Awful, Compromise, Favorite |
| 3 | Compromise, Favorite, Awful |
| 3 | Compromise, Awful, Favorite |
| 7 | Favorite, Compromise, Awful |
| | |
| Round 2 | Total votes |
| Awful | 13 |
| Favorite | 10 |
| Awful wins! | |

# What happened?

RCV did not allow safe support of an honest first choice. Fiona Favorite voters had an incentive to support their less-favored candidate to avoid spoiling the election.

RCV results did not reflect the majority desire to have Carl Compromise over Aaron Awful.

# How could that happen?

RCV favors the second choices of the voters who support the *least popular* candidate. When Favorite gained support and Compromise was eliminated, *his* voters got asked about their second choices, but not *hers*.

RCV only considers voter preferences one candidate at a time, going in reverse order of candidate popularity. This creates some weird results (there are more). We need a system that counts everyone’s preferences at once.

# Can the spoiler effect be eliminated?

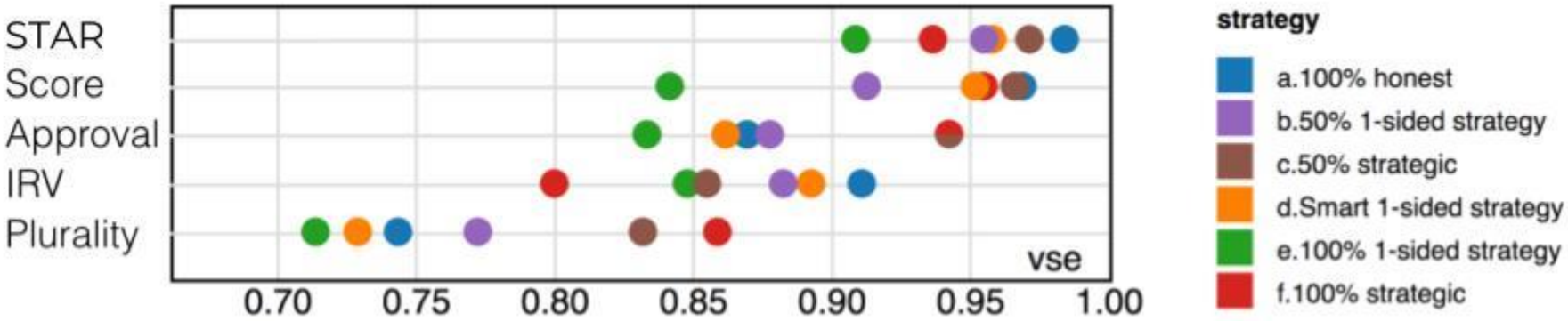
It can be greatly reduced or even eliminated in systems that give candidates a point value instead of an ordered ranking. Ranked systems never really allow you to safely favor an outsider candidate.

Systems with point values instead of rankings include

- Score voting
- Approval voting
- 3-2-1 voting
- STAR voting

How do you actually measure which method gets the best results?

# Voter Satisfaction Efficiency




100% VSE would mean that a method elected the “perfect” candidate according to voter satisfaction each time.

(“IRV”, or Instant Runoff Voting, is another name for “RCV”.)