

Hill's Method

- Choose the size of the House to be apportioned.
- Give to each state a number of seats so that no transfer of any one seat between two states can reduce the percentage difference in representation between those two states.

Systematically Evaluating Apportionment Methods

- Set criteria
Determine which methods meet criteria.
- Ideal method should
 - Stay within the quota
 - Avoid the population paradox
 - Avoid the Alabama paradox
 - Avoid the new states paradox
 - Avoid systematic bias toward large or small states

Avoiding Population Paradox

- **Claim:** Divisor methods avoid the population paradox
- **Fact:** The divisor methods are the *only* methods that avoid the population paradox.

Very tricky to prove

Recap

Paradoxes

- The divisor methods are the *only* methods that avoid the Population Paradox.
- All divisor methods avoid the Alabama paradox.
- All divisor methods avoid the New States paradox.

Staying within the quota

- There is no method that avoids the population paradox and stays within the quota.

Claim

- Webster's Method is the only unbiased divisor method