Apportionment Paradoxes

Lecture 18
Section 4.6

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Outline

The Quota Rule

Definition (The Quota Rule)

The quota rule says that the number of representatives apportioned to each state should be at least that state's lower quota, but not more than that state's upper quota.

- As we have already seen, Hamilton's method is the only method that is *guaranteed* to satisfy the quota rule.
- Is the quota rule fair?

Outline

History

- Jefferson's method was used in every apportionment from 1790 through 1830.
- In 1840, Congress adopted Webster's method.
- From 1850 through 1900, Hamilton's and Webster's methods were used because they produced the same result.
- In 1929, the size of the House was fixed at 435 seats.
- From 1910 through 1930, Webster's method was used.
- From 1940 to today, the Huntington-Hill method has been used.

Outline

Outline

The Alabama Paradox

- After the 1880 census, Congress had to decide how many House seats there would be, and then apportion them.
- If they created 299 House seats, then Alabama would get 8 seats.
- But if they created 300 House seats, then Alabama would get only 7 seats.

The Alabama Paradox

Definition (The Alabama Paradox)

The Alabama paradox occurs when a state is apportioned *fewer* seats when one new seat is *added*, even though none of the populations changed.

Example (Stolen from Wikipedia)

- Let states A, B, and C have populations 6, 6, and 2, in millions.
- Compute the apportionment, under Hamilton's method, if there are 10 seats total.
- Recompute the apportionment, under Hamilton's method, if there are 11 seats total.

Outline

The Population Paradox

- From 1890 to 1900, Virginia's population grew much faster than Maine's population.
- However, when the seats were reapportioned, Virginia lost a seat and Maine gained a seat.

The Population Paradox

Definition (The Population Paradox)

The population paradox occurs when one state loses a seat and another state gains a seat, even though the first state's population increased more than the second state's population.

Example (The Population Paradox)

- Let states *A*, *B*, and *C* have populations 13, 12, and 112 million, respectively, with 25 seats to be apportioned.
- Calculate the number of seats apportioned, using Hamilton's method.
- Add 1 million to *A*'s population and 2 million to *C*'s population and recalculate the apportionment.

Outline

The New-States Paradox

- In 1907, Oklahoma was admitted to the union.
- There were 386 seats in the House.
- Based on Oklahoma's population, it deserved to get 5 seats, so the total was raised to 391 seats.
- When the seats were reapportioned, Maine gained a seat and New York lost a seat.

The New-States Paradox

Definition (The New-States Paradox)

The new-states paradox occurs when a new state is added and the number of seats is increased by the new state's fair share, yet the number of seats apportioned to the other states changes.

Example (The New-States Paradox)

- Let states *A* and *B* have populations 52 and 134 million, respectively, with 16 seats to be apportioned.
- Calculate the number of seats apportioned, using Hamilton's method.
- Add a new state *C* with a population of 39 million and recalculate the apportionment.

Outline

The Current Congress

The Current Congress

- Calculate the apportionment of the 114th Congress using the Huntington-Hill method.
- Recalculate it, using the other four methods: Hamilton's, Jefferson's, Adams's, and Webster's.
- What are the differences?

Outline

Assignment

Assignment

- Ch. 4: Exercises 51, 55, 56, 58, 61, 62.