The Size and Number of Nations

March 11, 2013

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    - Very recently Sudan $\rightarrow$ Sudan and South Sudan

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- More to come - de facto new states
  - Azwad in Mali
  - Palestine in Isreal
  - Nagarno-Karabkh in Azerbaijan
  - South Ossetia in Georgia
  - Republic of Somaliland in Somailia
  - Western Sahara Free Zone in Morroco
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- There are currently separatist movements operating in 28 African countries.

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  - Whether or not a country is optimal depends on the political process that determines its borders
  - Countries break up because of the threat of internal conflict

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    - Benefits - fixed cost such as the provision of public goods like defense are shared between more individuals
    - Costs - the country will be more heterogeneous so the provision of a public good may be further on average from each individuals ideal

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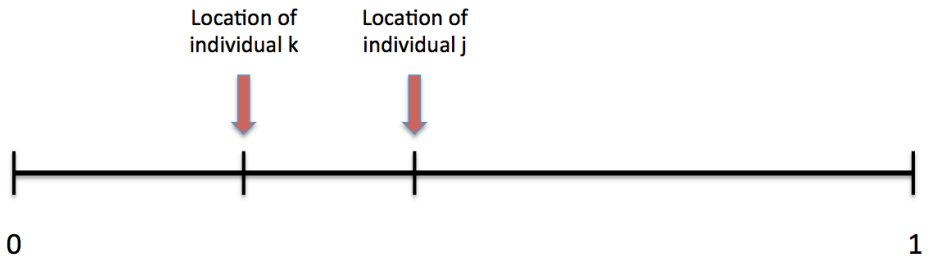
    - The distance between two individuals may represent geographical distance or the difference in their preferences over a public good



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  - Citizens are identical except for location

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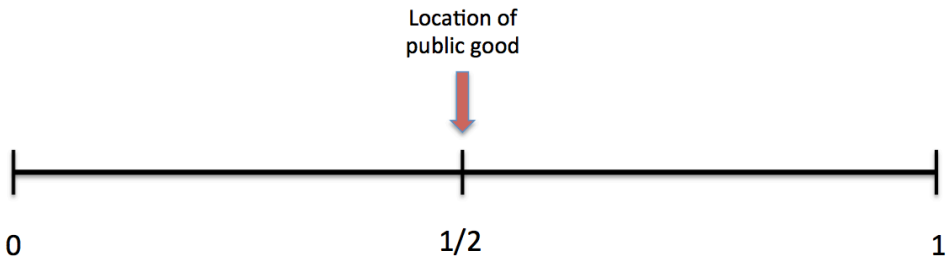
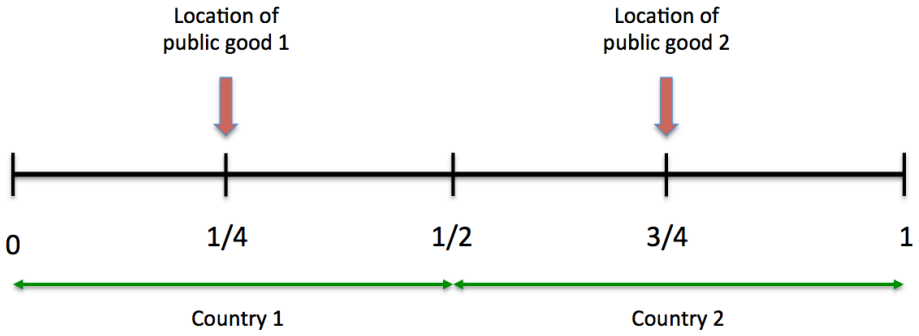
    - Supply a single unit of the public good at the midpoint of the interval that defines them



Single Country N=1



Two Countries N=2

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    - Each nation supplies a public good at a cost of Nk per citizen
    - Each nation runs a balanced budget such that $t = Nk$

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  - Optimal number of countries

$$N^* = (a/4k)^{1/2}$$

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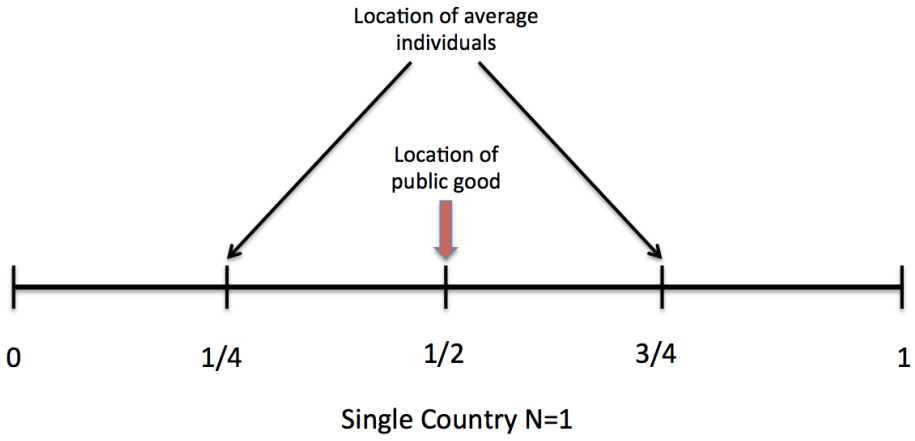
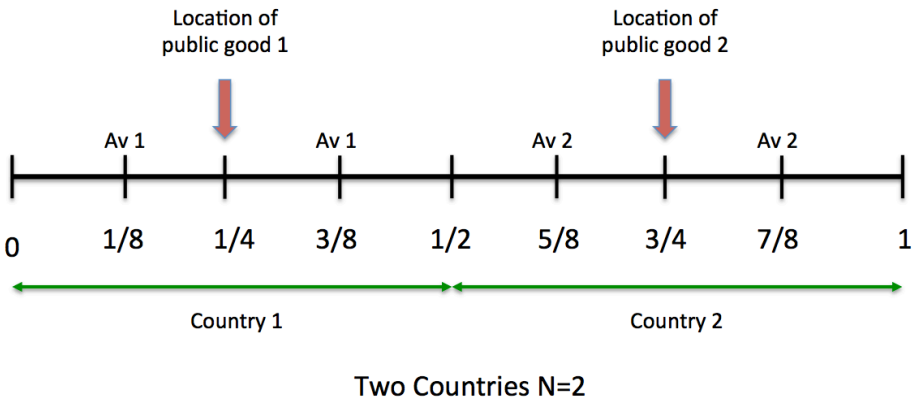
  - Examples $N^* = 1$ and $N^* = 2$





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    - If $N = 2$ the utility of the average citizen is

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$$\implies k > \frac{a}{8}$$

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- But would a majority vote to keep the country unified or to split it in two?

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  - So if $k < \frac{a}{4}$ these individuals prefer to split the country into two

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- Problem is the winners have no means to compensate the losers!

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  - This conclusion follows because individuals on the periphery far from the location of public good provision pay the same taxes as those who are close, hence they vote to divide the country.
  - It would be better to remain unified, share in the economies of scale, and redistribute the gains

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- We now ask how large countries might be if their governments were Leviathans, and how this compares to the optimum and to democracy

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  - Think of the interrelated European royal families of 150-200 years ago

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- by substitution and using
  - $s = 1/N$
  - $g - \frac{a\delta s}{2} + y - t = u^0$
- we get

$$Max\ g - \frac{a\delta}{2N} + y - Nk - u^0$$

The Size and Number of Nations

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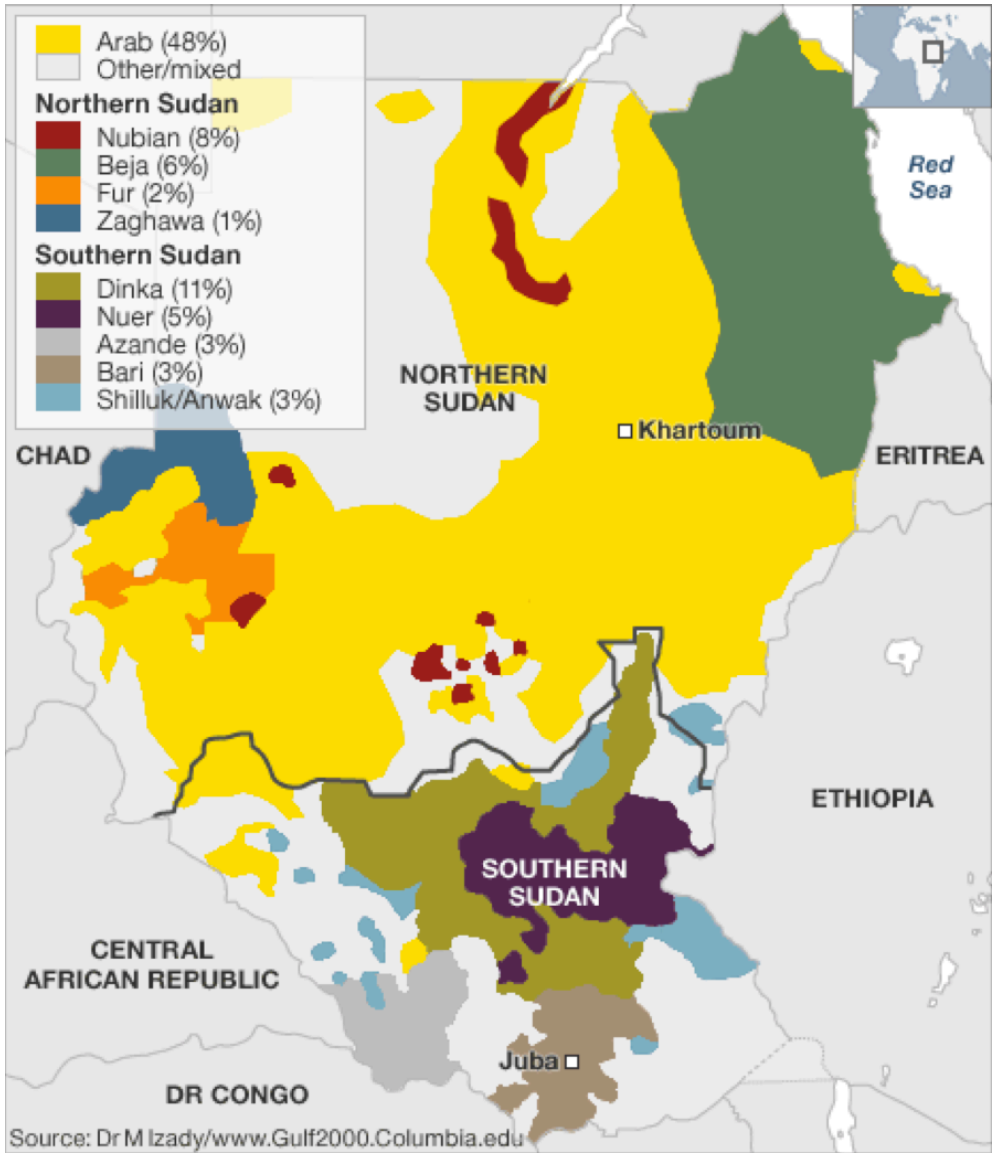
  - $\delta < 1/2 \implies$ Leviathans can rule without majority consent, and are in this sense autocratic, then there are fewer nations than optimal, and fewer than there would be under democracy

The Dissolution of States

- Well defined ethnolinguistic and cultural differences exist in many of the examples of the dissolution of states - tribes
- Differences in preferences between members of the two tribes may be more important than any heterogeneity of preferences within a tribe.
- Redistributional conflict between tribes may explain dissolution of states

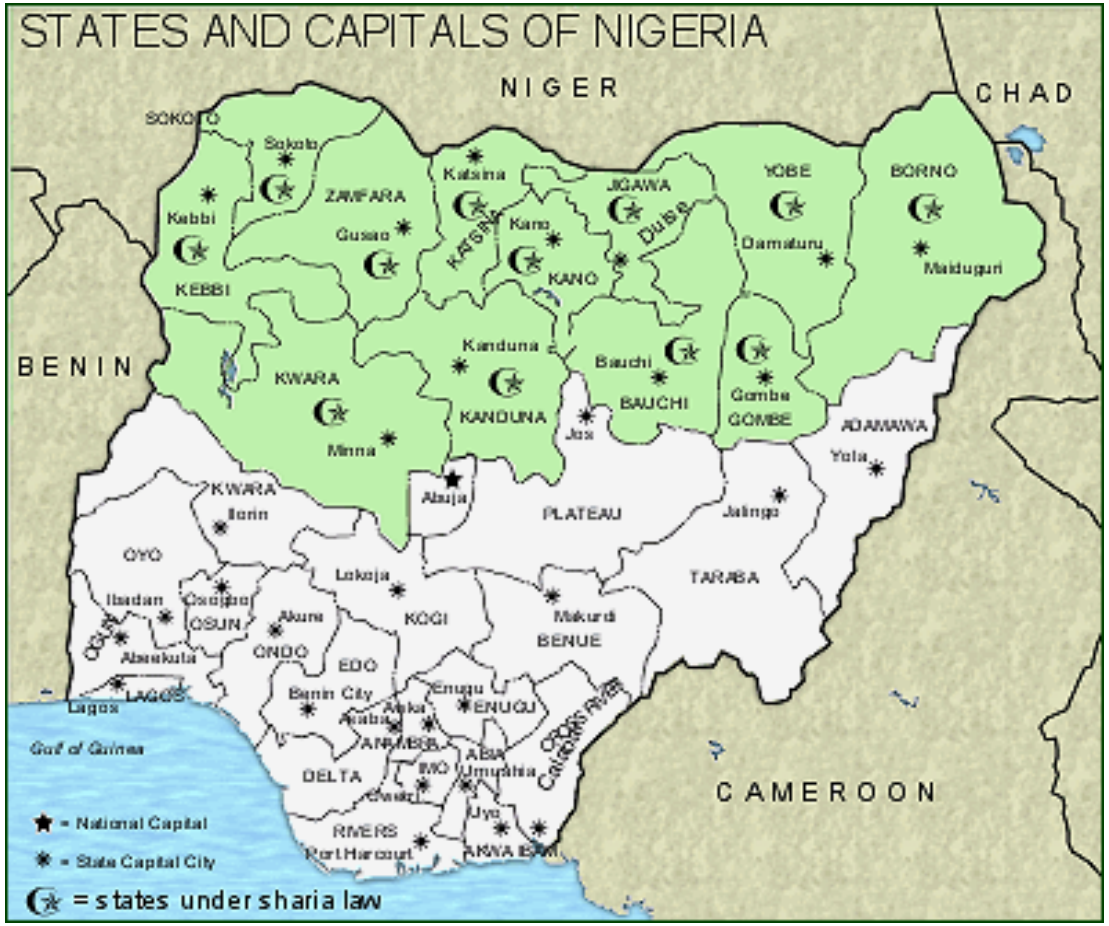
The Dissolution of States

Sudan



The Dissolution of States

Nigeria next?



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    - $\varepsilon \in [-1, 1]$ - distance between tribes preferences

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  - Define $B_i \equiv (\beta_i)^{\beta_i} (1-\beta_i)^{1-\beta_i}$

The Dissolution of States

- Question: In equilibrium will country will be unified or divided?
- Infinitely repeated noncooperative game
- Assume
  - Initially, the tribes are in a single country and WOLOG tribe 1 controls the government.

The Dissolution of States

- Tribe 1 plays first and chooses between
  - Keeping the country united, setting the tax rate and public good provision levels
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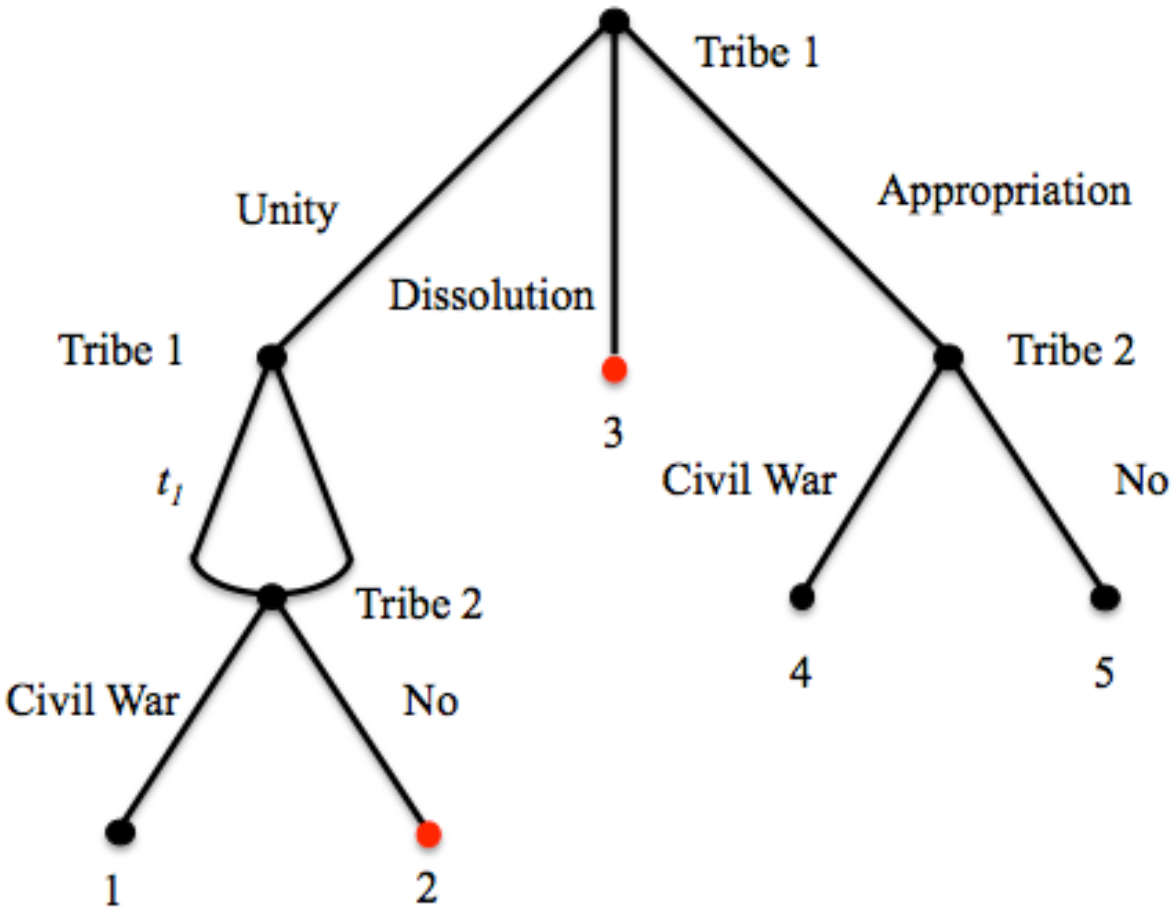
- Tribe 2 plays second and except in the case where the game has ended chooses between
  - Accepting the payoffs associated with tribe 1's choice - in which case the game repeats
  - Engaging in a secessionist civil war - this incurs a cost that involves the destruction of $1 - \gamma$ of all endowment and forces dissolution of the country - the game ends

The Dissolution of States



The Dissolution of States

- Players payoffs at each node.
  - Node 1 and Node 4 - Civil War

$$v_i(\beta_i, \gamma, N_i) = \gamma B_i (N_i)^{\beta_i} \quad i = 1, 2$$

  - Node 2 - Unity

$$v_i(t_1, 1, N) = (1 - t_1)^{1-\beta_i} (t_1 N)^{\beta_i} \quad i = 1, 2$$

  - Node 3 - Dissolution

$$v_i(\beta_i, 1, N_i) = B_i (N_i)^{\beta_i} \quad i = 1, 2$$

  - Node 5 - Appropriation

$$v_1(\beta_1, N/N_1, N) = \frac{B_1 N}{N_1^{1-\beta_i}}$$

$$v_2(\beta_2, 0, N) = 0$$

The Dissolution of States

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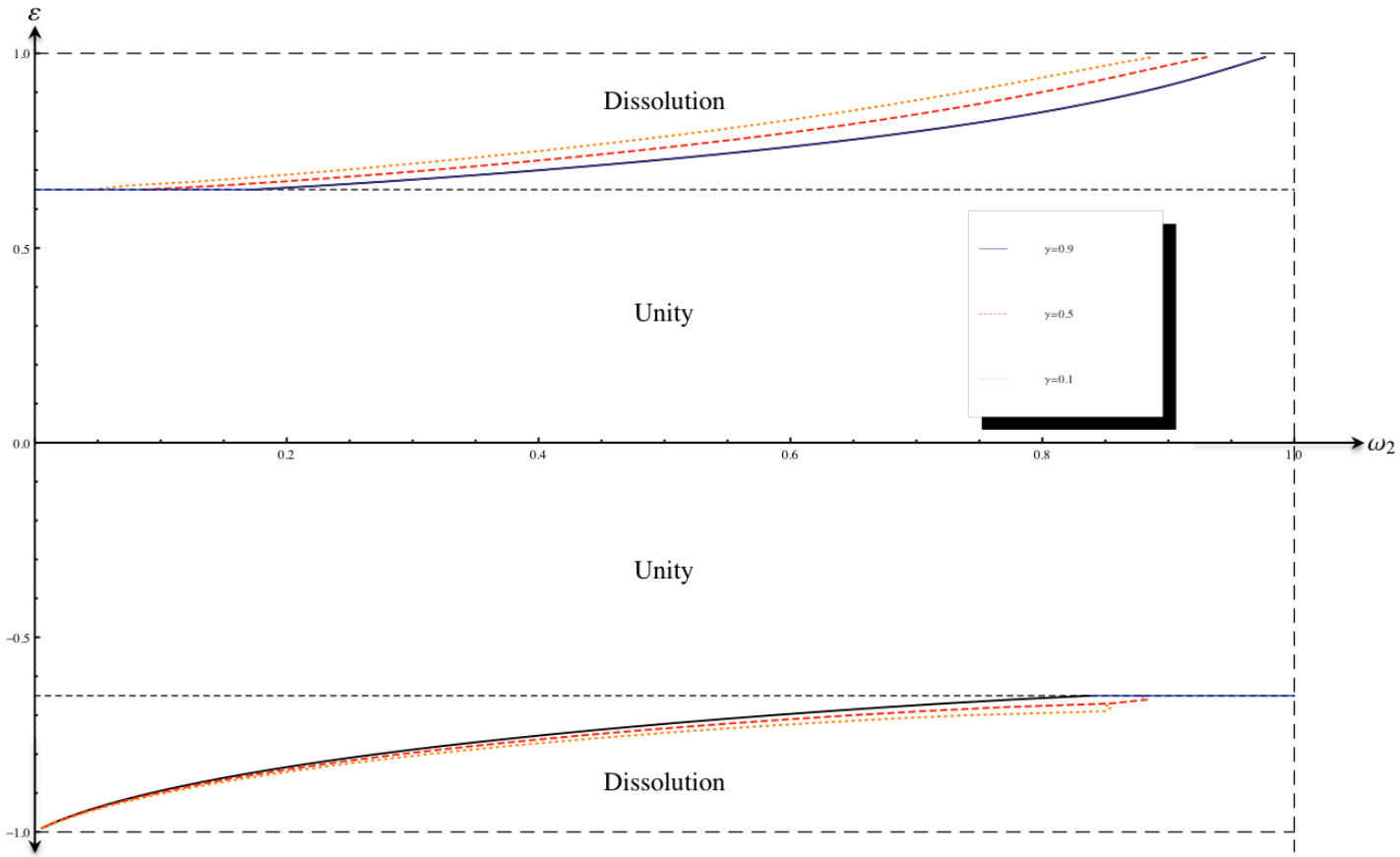
  - No Civil War Condition (NCW)

$$\frac{(1-t_1)^{1-\beta_2}(t_1)^{\beta_2}}{1-\delta} \geq \left[\frac{\gamma(1-\delta)+\delta}{1-\delta}\right] B_2\omega_2^{\beta_2}$$

where $\omega_2 = \frac{N_2}{N}$ is the share of tribe 2 in total endowment.

The Dissolution of States

Simulation Results



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  - Alternatively - greater threat of conflict

The Dissolution of States

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  - Also that the greater is ω_2, the greater is the tendency towards conflict

The Dissolution of States

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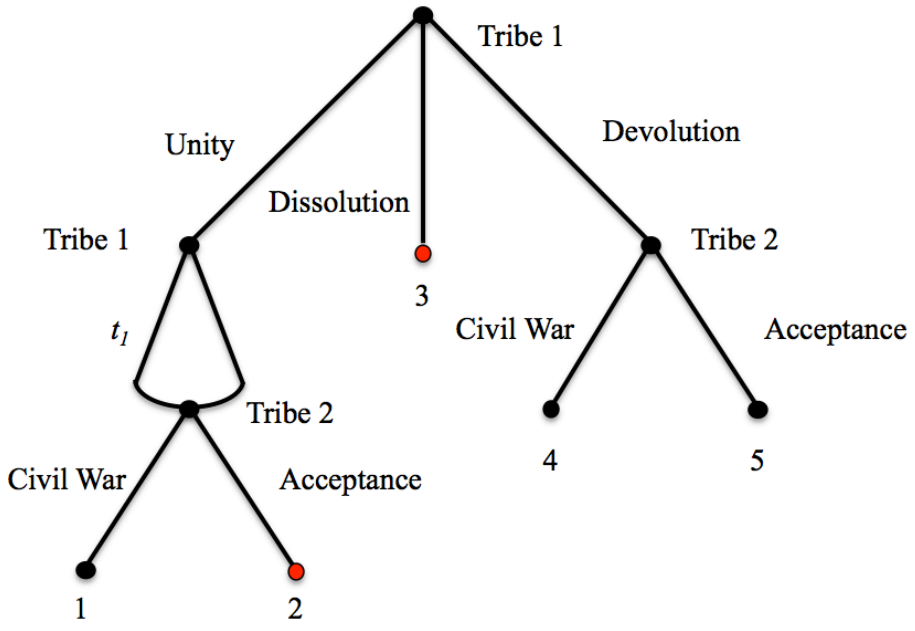
    - Perhaps the location of Israeli settlers in Palestinian areas is then explained

The Dissolution of States

Devolution of the powers to tax and spend to the tribes



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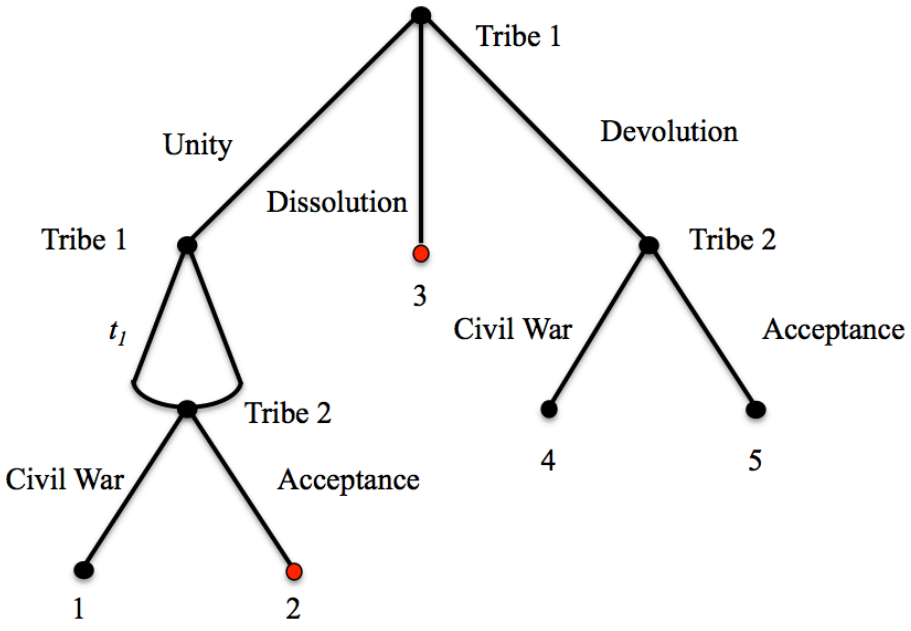

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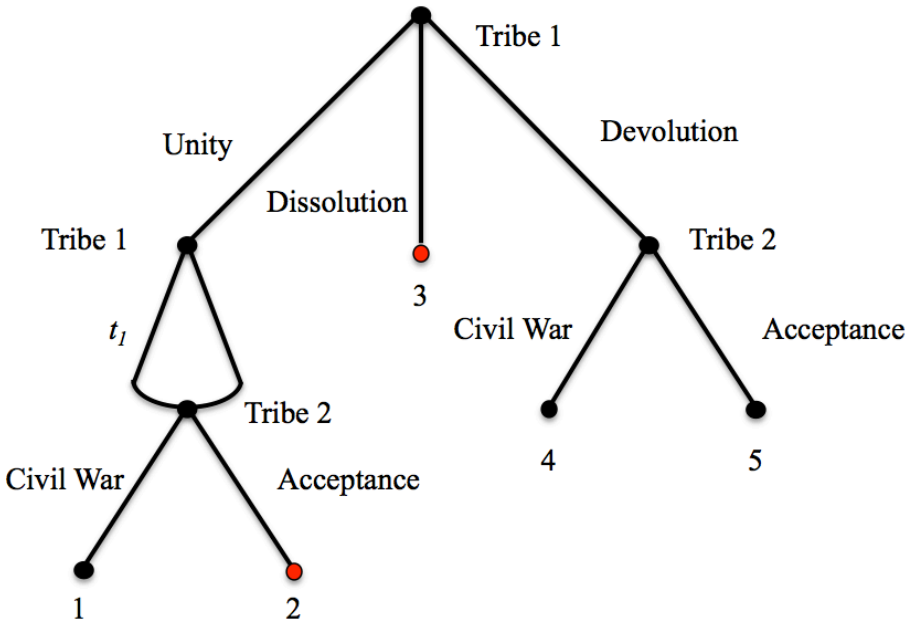

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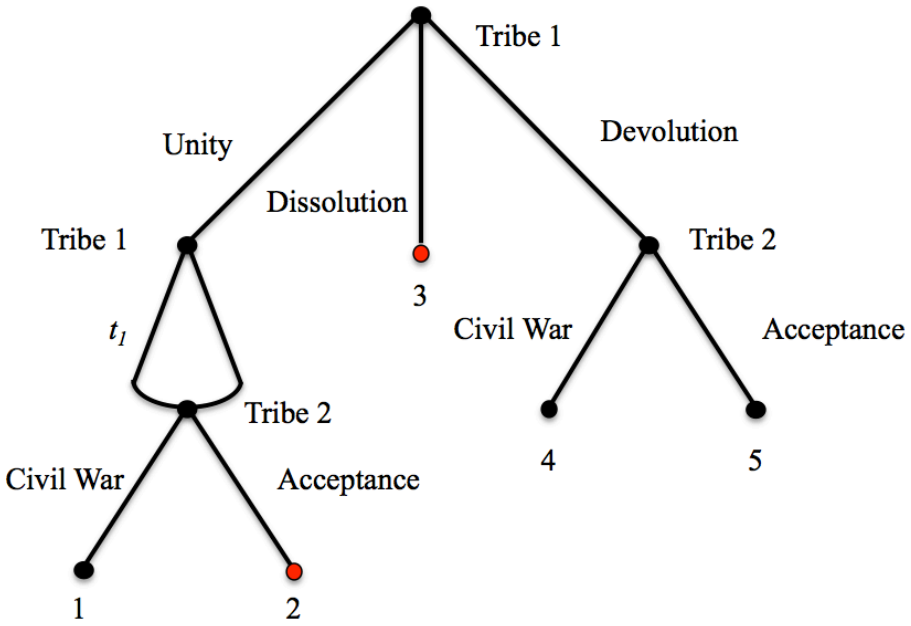

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  - Devolution not an equilibrium - because of free rider problem