

The generalized rate equation of the T3 world and a solution

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Abstract

In this paper, I describe the generalized rate equation of the T3 world and a solution.
The paper ends with "The End"

Introduction

In a previous paper, I have described the T3 graph and its implication that
there can exist a true world with exactly 3 nations.
In this paper, I describe the generalized rate equation of the T3 world and a solution.

Preliminaries

Define the exponential integral function

$$Ei(z) = - \int_{-z}^{\infty} \frac{e^{-t}}{t} dt$$

where the principal value of the integral is taken.

The generalized rate equation of the T3 world

Since there are exactly 3 nations in the T3 world and for each nation,
the remaining world is an extrema, the generalized rate equation of the T3 world must satisfy

$$\frac{\partial^2 r(t)}{\partial t^2} = \frac{e^{\frac{\alpha-t}{\beta}} - e^{-\frac{\alpha-t}{\beta}}}{\beta}$$

where

α is the location parameter

and

β is the scale parameter
of the extreme value distribution.

A solution to the generalized rate equation of the T3 world

A solution to the generalized rate equation of the T3 world is

$$r(t) = c_0 + c_1 t + -\beta Ei\left(-e^{\frac{\alpha-t}{\beta}}\right)$$

where

c_0 and c_1 are coefficients of integration

The End