A money function for a planet with 3 world wars

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Abstract

In this paper, I describe a money function for a planet with 3 world wars.
The paper ends with "The End"

Introduction

In a previous paper, I've described an effective money function.
In this paper, I describe a money function for a planet with 3 world wars.

A model of a planet with 3 world wars

The war economy exists from $t = 0$ to $t = T$.
Let $0 \leq U < V < W < T$ be the points in time when each of the 3 wars begin.

Differential equations for a money function for a planet with 3 world wars

Differential equations for a money function for a planet with 3 world wars are:

$$\frac{\partial r(t)}{\partial t} = a(U - t)(V - t)(W - t) + b$$

$$\frac{\partial M(t)}{\partial t} = -r(t)(T - t)M(t)$$

where

t is time
a and b are constants
$r(t)$ is the money rate
$M(t)$ is the money function

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A solution to the differential equations above is:

$$r(t) = \frac{1}{12}\left(-3at^4 + 4at^3U + 4at^3V + 4at^3W - 6at^2UV - 6at^2UW - 6at^2VW + 12atUVW + 12bt + 12c\right)$$

$$M(t) = M_0 e^{-\frac{at^6}{24} + \frac{1}{60}at^5(3T+4(U+V+W)) - \frac{1}{24}at^4(2T(U+V+W)+3(UV+UW+VW)) + \frac{1}{6}t^3(aT(UV+VW+WU)+2aUVW+2b) - \frac{1}{2}t^2(aTUVW+bT-c)-ctT}$$

where

c is a constant of integration
M_0 is the initial amount of money

The End