The mathematics and dynamics of exodus

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Abstract

In this paper, I describe the mathematics and dynamics of exodus.
The paper ends with "The End"

Introduction

Exodus is a phenomenon that has occurred many times in economic history.
In this paper, I describe the mathematics and dynamics of exodus.

The definition of exodus

Exodus is defined as a **population** dividing itself between two **areas**.

The mathematics of exodus

The mathematics of exodus is

$$T = P + Q$$

$$A = M + N$$

$$\delta = \frac{P}{M}$$

$$\epsilon = \frac{Q}{N}$$

$$\epsilon = \frac{\delta}{1 + r_f + p_e}$$

whence

$$p_e = \frac{NP}{MQ} - r_f - 1$$

where

A is the area **before** exodus
T is the population in area A **before** exodus
P is the population in area M **after** exodus
Q is the population in area N **after** exodus
M is the area of population A **after** exodus
N is the area of population B **after** exodus
δ is the **population density** in area M
ϵ is the **population density** in area N
r_f is the risk-free rate
p_e is the **exodus premium**

The dynamics of exodus

1. When $p_e = 0$, exodus **does not occur**.

2. When $p_e \neq 0$, exodus **begins**.

3. When $p_e = 0$, exodus **ends**.

The End