Collected papers of

Lord Soumadeep GHosh

Volume 10

The Inflation-Indexed Bond

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Abstract

In this paper, I describe the Inflation-Indexed Bond which is the easiest way to control inflation in an economy. The paper ends with "The End"

Introduction

A prolonged period of inflation discourages producers in the economy from producing goods and services and is harmful for an economy. The natural remedy to avoid a prolonged period of inflation is the Inflation-Indexed Bond.

In this paper, I describe the Inflation-Indexed Bond, which is the easiest way to control inflation in an economy.

Inflation-Indexed Bond

Let $G = \{g_i\}_{1 \leq i \leq n}$ be the basket of the n goods/services produced by the economy

Let $C = \{c_{g_i}\}_{1 \leq i \leq n}$ be the consumption vector of the n goods/services produced by the economy.

Let $P = \{p_{g_i}\}_{1 \leq i \leq n}$ be the price vector of the n goods/services produced by the economy.

Define the **Consumer Price Index** $CPI = C \cdot P = \sum_{i=1}^{n} c_{g_i} \cdot p_{g_i}$

The Inflation-Indexed Bond at time T maturing at time $(T + M)$ is

$$IIB(T, T+M) = \sum_{t=T}^{T+M} \frac{\frac{CPI(T+M)}{CPI(t)} - 1}{(1 + i(t))^{\frac{T+M-t}{M}}}$$

where $i(t)$ is the inflation at time t

Pricing of the Inflation-Indexed Bond

Inflation-Indexed Bonds are high-grade securities and their float is generally observed to be between 5% to 10% of the total government bond float in most nations. As such price-discovery of IIBs is determined by very few players in the market and pricing of the Inflation-Indexed Bond is best left to the market to determine.

The End

The Inflation-Linked Bond

Soumadeep Ghosh

Kolkata, India

Abstract

In this paper, I describe the Inflation-Linked Bond which is the second easiest way to control inflation in an economy. The paper ends with "The End"

Introduction

A prolonged period of inflation discourages producers in the economy from producing goods and services and is harmful for an economy. The natural remedy to avoid a prolonged period of inflation is the Inflation-Linked Bond.

In this paper, I describe the Inflation-Linked Bond, which is the second easiest way to control inflation in an economy.

Inflation-Linked Bond

Let $G = \{g_i\}_{1 \leq i \leq n}$ be the basket of the n goods/services produced by the economy

Let $C = \{c_{g_i}\}_{1 \leq i \leq n}$ be the consumption vector of the n goods/services produced by the economy.

Let $P = \{p_{g_i}\}_{1 \leq i \leq n}$ be the price vector of the n goods/services produced by the economy.

Define the **Consumer Price Index** $CPI = C \cdot P = \sum_{i=1}^{n} c_{g_i} \cdot p_{g_i}$

The Inflation-Linked Bond at time T maturing at time $(T + M)$ is

$$ILB(T, T+M) = \sum_{t=T}^{T+M} \frac{(1 + i(t))^{\frac{T+M-t}{M}}}{1 + \frac{CPI(T+M)}{CPI(t)}}$$

where $i(t)$ is the inflation at time t

Pricing of the Inflation-Linked Bond

Inflation-Linked Bonds are high-grade securities and their float is generally observed to be between 10% to 30% of the total government bond float in most nations. As such price-discovery of ILBs is determined by very few players in the market and pricing of the Inflation-Linked Bond is best left to the market to determine.

The End

The Inflation-Protected Bond

Soumadeep Ghosh

Kolkata, India

Abstract

In this paper, I describe the Inflation-Protected Bond which is the third easiest way to control inflation in an economy. The paper ends with "The End"

Introduction

A prolonged period of inflation discourages producers in the economy from producing goods and services and is harmful for an economy. The natural remedy to avoid a prolonged period of inflation is the Inflation-Protected Bond.

In this paper, I describe the Inflation-Protected Bond, which is the third easiest way to control inflation in an economy.

Inflation-Protected Bond

Let $G = \{g_i\}_{1 \leq i \leq n}$ be the basket of the n goods/services produced by the economy

Let $C = \{c_{g_i}\}_{1 \leq i \leq n}$ be the consumption vector of the n goods/services produced by the economy.

Let $P = \{p_{g_i}\}_{1 \leq i \leq n}$ be the price vector of the n goods/services produced by the economy.

Define the **Consumer Price Index** $CPI = C \cdot P = \sum_{i=1}^{n} c_{g_i} \cdot p_{g_i}$

The Inflation-Protected Bond at time T maturing at time $(T + M)$ is

$$IPB(T, T+M) = \sum_{t=T}^{T+M} \frac{1 + i(t)}{(1 + \frac{CPI(T+M)}{CPI(t)})^{\frac{T+M-t}{M}}}$$

where $i(t)$ is the inflation at time t

Pricing of the Inflation-Protected Bond

Inflation-Protected Bonds are high-grade securities and their float is generally observed to be between 5% to 20% of the total government bond float in most nations. As such price-discovery of IPBs is determined by very few players in the market and pricing of the Inflation-Protected Bond is best left to the market to determine.

The End

The Modern Population Model

Soumadeep Ghosh

Kolkata, India

Abstract

In this paper, I describe **The Modern Population Model** which is the simplest model of class structure in the population of the modern economy.

Introduction

Following new discoveries in the fields of mathematics, statistics, economics, finance and politics, there has been change in the class structure of the population of the modern economy. In this paper, I describe **The Modern Population Model** which is the simplest model of the class structure of the population of the modern economy.

The Modern Population Model

The Modern Population Model states

$$P = S + (E - S) + E(\bar{C} + N(t)\Sigma(t)) + \mathbf{N}(p(t), \sigma(t))$$

where
P is population in the economy
S is the number of Supremos, usually 1 or 2 or 3.
E is the number of Elites, usually less than 20.
The Bourgoise are characterized by

1. $\bar{C}$ is the average number of connected individuals.
2. $N(t)$ is the time-varying co-efficient of connection.
3. $\Sigma(t)$ is the time-varying standard deviation of connected individuals.

The Proletariat characterized by $\mathbf{N}(p(t), \sigma(t))$ where

1. $\mathbf{N}$ is the normal distribution.
2. $p(t)$ is the time-varying mean of proletariats.
3. $\sigma(t)$ is the time-varying standard deviation of proletariats.

The End

The secret of the Masonic economy

Soumadeep Ghosh

Kolkata

Abstract

In this paper, I describe the secret of the Masonic economy. The paper ends with "The End"

Introduction

The Masonic economy seems unfathomable to individuals but the secret of the Masonic economy is simple.

The secret of the Masonic economy

Karna was the son of Kunti and the Sun God, elder to even Yudhishtira, and thus the true heir of their kingdom.

The End

Documenting World War 3

Soumadeep Ghosh

Kolkata, India

Abstract

In this paper, I document World War 3. The paper ends with "The End"

Introduction

There is a demand to document World War 3 for reference. In this paper, I document World War 3.

Documenting World War 3

On 21 May 2022, more than 1500 nuclear warheads landed between USA and Russia, thereby killing 99.99% of the planetary population. Most of the population was boiled alive by the fiery explosions of the nuclear warheads and the remaining were killed through nuclear after-effects like residual radiation, chemical rains, starvation and nuclear winters. No known human survivors were found. Only some radiation-resistant cockroaches and some radiation-resistant-cockroach-consuming lizards survived.

The End

I.C.U.

Soumadeep Ghosh

Kolkata, India

Abstract

In this paper, I describe the I.C.U. The paper ends with "The End"

Introduction

The **I.C.U.** is a mathematical fact of International Relations. In this paper, I describe the I.C.U.

I.C.U.

When

$$I = \frac{205}{64}$$

$$\wedge$$

$$C = \frac{71}{64}$$

$$\wedge$$

$$U = \frac{1}{64}(138 - \sqrt{4965})$$

we have

$$\sqrt{\frac{(I - \frac{I+C+U}{3})^2 + (C - \frac{I+C+U}{3})^2 + (U - \frac{I+C+U}{3})^2}{3}} = 1$$

$$\wedge$$

$$1 \leq I \wedge 1 \leq C \wedge 1 \leq U \leq \max(I, C)$$

The End

I.C.

Soumadeep Ghosh

Kolkata, India

Abstract

In this paper, I describe the I.C. The paper ends with "The End"

Introduction

The **I.C.** is a mathematical fact of International Relations. In this paper, I describe the I.C.

I.C.

When

$$I = \frac{8 + 3\sqrt{2}}{4\sqrt{2}}$$

$$\wedge$$

$$C = \frac{3}{4}$$

we have

$$\frac{|C - I|}{\sqrt{2}} = 1$$

$$\wedge$$

$$0 \leq C < 1 < I < 3$$

The End

Alternative I.C.U.

Soumadeep Ghosh

Kolkata, India

Abstract

In this paper, I describe the Alternative I.C.U. The paper ends with "The End"

Introduction

The **Alternative I.C.U.** is a mathematical fact of International Relations. In this paper, I describe the Alternative I.C.U.

Alternative I.C.U.

When

$$I = \frac{7}{4}$$

$$\wedge$$

$$C = \frac{1}{2}$$

$$\wedge$$

$$U = \frac{9 - 3\sqrt{13}}{8}$$

we have

$$\frac{\sqrt{C^2 - C(I+U) + I^2 - IU + U^2}}{\sqrt{3}} = 1$$

$$\wedge$$

$$U < 0 < C < 1 \leq I < 3$$

The End

14 statistical solutions to population

Soumadeep Ghosh

Kolkata, India

Abstract

In this paper, I describe 14 statistical solutions to population. The paper ends with "The End"

Introduction

Contrary to popular belief, 14 statistical solutions to population exist. In this paper, I describe 14 statistical solutions to population.

14 statistical solutions to population

1.
$$p_1 = 656, p_2 = 656, p_3 = 656, p_4 = 656, p_5 = 656, p_6 = 656, p_7 = 656,$$
$$p_8 = 656, p_9 = 656, p_{10} = 656, p_{11} = 85, p_{12} = 16, p_{13} = 53, p_{14} = 29,$$
$$\mu = \frac{6743}{14}, \sigma = 15\sqrt{\frac{66377}{182}}$$

2.
$$p_1 = 652, p_2 = 652, p_3 = 693, p_4 = 90, p_5 = 30, p_6 = 26, p_7 = 11,$$
$$p_8 = 99, p_9 = 24, p_{10} = 26, p_{11} = 77, p_{12} = 63, p_{13} = 55, p_{14} = 38,$$
$$\mu = \frac{1268}{7}, \sigma = \sqrt{\frac{6344070}{91}}$$

3.
$$p_1 = 1260, p_2 = 1260, p_3 = 1260, p_4 = 1260, p_5 = 1277, p_6 = 61, p_7 = 22,$$
$$p_8 = 42, p_9 = 63, p_{10} = 6, p_{11} = 93, p_{12} = 73, p_{13} = 24, p_{14} = 39,$$
$$\mu = \frac{3370}{7}, \sigma = \sqrt{\frac{2564342}{7}}$$

4.
$$p_1 = 539, p_2 = 539, p_3 = 539, p_4 = 539, p_5 = 539, p_6 = 539, p_7 = 539,$$
$$p_8 = 539, p_9 = 29, p_{10} = 63, p_{11} = 84, p_{12} = 74, p_{13} = 19, p_{14} = 7,$$
$$\mu = \frac{2294}{7}, \sigma = 2\sqrt{\frac{1467142}{91}}$$

5.
$$p_1 = 456, p_2 = 49, p_3 = 79, p_4 = 25, p_5 = 60, p_6 = 100, p_7 = 41,$$
$$p_8 = 97, p_9 = 98, p_{10} = 53, p_{11} = 5, p_{12} = 84, p_{13} = 63, p_{14} = 84,$$
$$\mu = \frac{647}{7}, \sigma = \sqrt{\frac{82282}{7}}$$

6.
$$p_1 = 1286, p_2 = 1286, p_3 = 1381, p_4 = 26, p_5 = 22, p_6 = 18, p_7 = 13,$$
$$p_8 = 20, p_9 = 63, p_{10} = 11, p_{11} = 78, p_{12} = 68, p_{13} = 3, p_{14} = 23,$$
$$\mu = 307, \sigma = 44\sqrt{\frac{2021}{13}}$$

7.
$$p_1 = 747, p_2 = 747, p_3 = 39, p_4 = 75, p_5 = 58, p_6 = 90, p_7 = 9,$$
$$p_8 = 47, p_9 = 19, p_{10} = 80, p_{11} = 78, p_{12} = 38, p_{13} = 97, p_{14} = 67,$$
$$\mu = \frac{313}{2}, \sigma = \sqrt{\frac{1644427}{26}}$$

8.

$$p_1 = 310, p_2 = 310, p_3 = 411, p_4 = 4, p_5 = 73, p_6 = 22, p_7 = 57,$$
$$p_8 = 66, p_9 = 43, p_{10} = 48, p_{11} = 45, p_{12} = 20, p_{13} = 69, p_{14} = 98,$$
$$\mu = \frac{788}{7}, \sigma = 3\sqrt{\frac{169622}{91}}$$

9.

$$p_1 = 444, p_2 = 444, p_3 = 59, p_4 = 5, p_5 = 7, p_6 = 10, p_7 = 55,$$
$$p_8 = 27, p_9 = 61, p_{10} = 81, p_{11} = 88, p_{12} = 30, p_{13} = 7, p_{14} = 25,$$
$$\mu = \frac{1343}{14}, \sigma = \sqrt{\frac{314945}{14}}$$

10.

$$p_1 = 13, p_2 = 13, p_3 = 13, p_4 = 13, p_5 = 13, p_6 = 13, p_7 = 13,$$
$$p_8 = 13, p_9 = 8, p_{10} = 16, p_{11} = 72, p_{12} = 50, p_{13} = 43, p_{14} = 62,$$
$$\mu = \frac{355}{14}, \sigma = \sqrt{\frac{84661}{182}}$$

11.

$$p_1 = 740, p_2 = 740, p_3 = 100, p_4 = 14, p_5 = 5, p_6 = 46, p_7 = 24,$$
$$p_8 = 91, p_9 = 16, p_{10} = 55, p_{11} = 14, p_{12} = 30, p_{13} = 28, p_{14} = 39,$$
$$\mu = \frac{971}{7}, \sigma = 5\sqrt{\frac{239034}{91}}$$

12.

$$p_1 = 568, p_2 = 585, p_3 = 18, p_4 = 101, p_5 = 1, p_6 = 81, p_7 = 30,$$
$$p_8 = 40, p_9 = 12, p_{10} = 64, p_{11} = 25, p_{12} = 46, p_{13} = 34, p_{14} = 28,$$
$$\mu = \frac{1633}{14}, \sigma = \sqrt{\frac{7040309}{182}}$$

13.

$$p_1 = 692, p_2 = 692, p_3 = 692, p_4 = 692, p_5 = 67, p_6 = 32, p_7 = 47,$$
$$p_8 = 56, p_9 = 30, p_{10} = 22, p_{11} = 11, p_{12} = 2, p_{13} = 17, p_{14} = 4,$$
$$\mu = \frac{1528}{7}, \sigma = 8\sqrt{\frac{137927}{91}}$$

14.

$$p_1 = 1238, p_2 = 1238, p_3 = 1238, p_4 = 1238, p_5 = 1238, p_6 = 1238, p_7 = 1238,$$
$$p_8 = 1334, p_9 = 30, p_{10} = 11, p_{11} = 33, p_{12} = 68, p_{13} = 67, p_{14} = 20,$$
$$\mu = \frac{10229}{14}, \sigma = \sqrt{\frac{70643177}{182}}$$

The End