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Lord Soumadeep Ghosh

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The alternative definition of the inflation risk premium

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Abstract

In this paper, I describe the alternative definition of the inflation risk premium.
The paper ends with "The End"

Introduction

In a previous paper, I've described the inflation risk premium.
In this paper, I describe the alternative definition of the inflation risk premium.

The alternative definition of the inflation risk premium

The alternative definition of the inflation risk premium is given by

$$i(t)(1 + r_f(t) + p_i(t)) = i(t + 1)$$

where
$i(t)$ is inflation as a function of time
$r_f(t)$ is the risk-free rate as a function of time
$p_i(t)$ is the inflation risk premium as a function of time

The End

Ghosh's macro-finance model

Soumadeep Ghosh

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Abstract

In this paper, I describe my macro-finance model. The paper ends with "The End"

Introduction

A **macro-finance model** is a model that parsimoniously captures asset prices and key monetary variables using control(s) and hidden variable(s).
In this paper, I describe my macro-finance model.

Ghosh's macro-finance model

Hyper-parameter:
T : Symmetric half-life of the model about t = 0

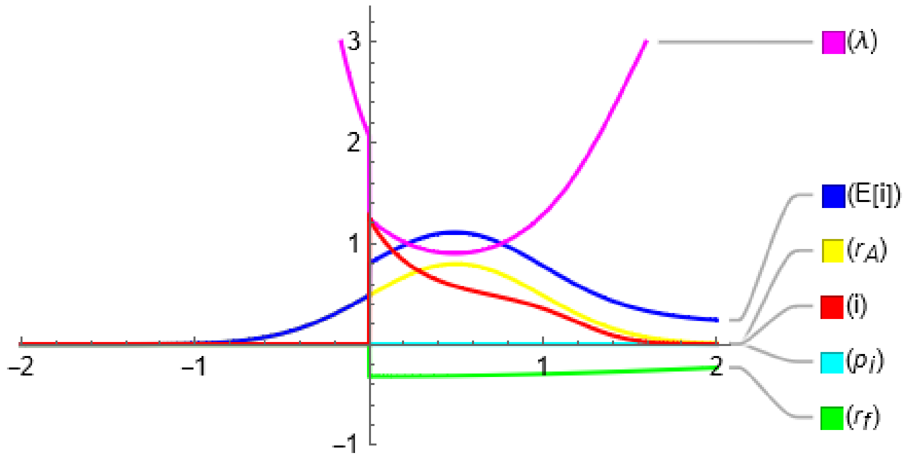
Inputs:
μ : Mean of normally distributed assets
σ : Standard deviation of normally distributed assets
θ : Risk factor for the risk-free rate

Control:
F : Control for inflation expectations

Hidden variable:
$\lambda(t)$: Hidden variable for inflation as a function of time

Outputs:
$r_A(\mu, \sigma, t)$: Return on assets as a function of time
$r_f(\theta, t)$: Risk-free return as a function of time
$E[i](\mu, \sigma, \theta, F, t)$: Expected inflation as a function of time
$p_i(\mu, \sigma, \theta, F, t)$: Inflation risk premium as a function of time
$i(\mu, \sigma, \theta, t)$: Inflation as a function of time

The model in action



Model output for

$$T = 2, \mu = \frac{1}{2}, \sigma = \frac{1}{2}, \theta = -\frac{1}{2}, F = \frac{1}{2}$$

Code for the model

Mathematica code for the model is available upon request.

The End

The mathematical theory of gunpowder

Soumadeep Ghosh

Kolkata, India

Abstract

In this paper, I describe the mathematical theory of gunpowder.
The paper ends with "The End"

Introduction

Mixtures of the elements potassium, nitrogen, oxygen, sulphur and carbon have been used in battle since ancient times to the present. The general name for those mixtures is **gunpowder**.
In this paper, I describe the mathematical theory of gunpowder.

The theoretical formula of gunpowder

The theoretical formula of gunpowder is

$$KNO_3 + S_8 + C_4$$

where
K is potassium, N is nitrogen, O is oxygen, S is sulphur and C is carbon.

The mathematics of production of gunpowder

We look for positive integers $\alpha, \beta, \chi, \delta, \epsilon$ such that

$$\alpha K + \beta N + \chi O + \delta S + \epsilon C = K + N + 3O + 8S + 4C$$

and

$$\alpha \tilde{K} + \beta \tilde{N} + \chi \tilde{O} + \delta \tilde{S} + \epsilon \tilde{C} = \tilde{K} + \tilde{N} + 3\tilde{O} + 8\tilde{S} + 4\tilde{C}$$

where

$$K = 19, N = 7, O = 8, S = 16, C = 6$$

are the atomic numbers of elemental Potassium, Nitrogen, Oxygen, Sulphur and Carbon.
and

$$\tilde{K} = 39, \tilde{N} = 14, \tilde{O} = 16, \tilde{S} = 32, \tilde{C} = 12$$

are the atomic masses of the most common allotropes of Potassium, Nitrogen, Oxygen, Sulphur and Carbon.

14 solutions to the mathematics of production of gunpowder

14 solutions to the mathematics of production of gunpowder are

1. $$\alpha = 1, \beta = 9, \chi = 2, \delta = 5, \epsilon = 4$$
2. $$\alpha = 1, \beta = 9, \chi = 3, \delta = 3, \epsilon = 8$$
3. $$\alpha = 1, \beta = 1, \chi = 3, \delta = 5, \epsilon = 12$$
4. $$\alpha = 1, \beta = 1, \chi = 1, \delta = 3, \epsilon = 20$$
5. $$\alpha = 1, \beta = 15, \chi = 1, \delta = 1, \epsilon = 9$$
6. $$\alpha = 1, \beta = 5, \chi = 7, \delta = 5, \epsilon = 2$$
7. $$\alpha = 1, \beta = 7, \chi = 4, \delta = 6, \epsilon = 1$$
8. $$\alpha = 1, \beta = 3, \chi = 8, \delta = 2, \epsilon = 11$$
9. $$\alpha = 1, \beta = 15, \chi = 2, \delta = 2, \epsilon = 5$$
10. $$\alpha = 1, \beta = 1, \chi = 10, \delta = 3, \epsilon = 8$$
11. $$\alpha = 1, \beta = 1, \chi = 8, \delta = 1, \epsilon = 16$$
12. $$\alpha = 1, \beta = 1, \chi = 6, \delta = 2, \epsilon = 16$$
13. $$\alpha = 1, \beta = 9, \chi = 1, \delta = 1, \epsilon = 16$$
14. $$\alpha = 1, \beta = 1, \chi = 5, \delta = 1, \epsilon = 20$$

The End

The largest number in existence

Soumadeep Ghosh

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Abstract

In this paper, I describe the largest number in existence. The paper ends with "The End"

Introduction

In a previous paper, I've described the concept of economic gearing and the theory of the fourteen different types of sub-economies.
In a previous paper, I've described the reality of race as perceived by me, the representative agent of economics and the 36 races in existence.
In this paper, I describe the largest number in existence.

Economic numbers

As each of the 14 sub-economies of the universal economy can theoretically choose to have representative agents from each of the 36 races, the number of possibilities is 36^{14}.

As each of the representative agents of the 36 races can theoretically choose to be in each of the 14 sub-economies of the universal economy, the number of possibilities is 14^{36}.

The largest number in existence

As 14^{36} is greater than 36^{14}, the largest number is existence is 14^{36}.

The End

The NIFTY50 is overpriced

Soumadeep Ghosh

Kolkata, India

Abstract

In this paper, I describe how the NIFTY50 index is overpriced.
The paper ends with "The End"

Introduction

Numerical analysis of the NIFTY50 index shows that the NIFTY50 index is overpriced.

In this paper, I describe how the NIFTY50 index is overpriced.

Pricing the NIFTY50 index

I fitted a numerical model of the form

$$y = \beta_0 + \beta_1 \Delta x + \beta_2 \Delta y + \beta_3 \Delta x^2 + \beta_4 \Delta^2 y + \beta_5 \frac{\Delta y}{\Delta x} + \beta_6 \frac{\Delta^2 y}{\Delta x^2}$$

where
x is date
y is the closing price of NIFTY50 index
which gives

$$\beta_0 = 17,608.73$$

with a standard error of 847.89
and a t-statistic of 53.29
at a 95% confidence level
and an $R^2 = 2.97\%$
As of this writing, NIFTY50 closed at 19751.05.
Thus, the NIFTY50 index is overpriced.

Reference

The numerical model is available as a LibreOffice spreadsheet at `https://cutt.ly/ywmOMWwz`

The End

Two models of nuclear war involving N nuclear powers

Soumadeep Ghosh

Kolkata, India

Abstract

In this paper, I describe two models of nuclear war involving N nuclear powers.
The paper ends with "The End"

Introduction

In a previous paper, I've described capital impairment and nuclear deterrence. In a previous paper, I've described the estimation of the nuclear risk in a nation-state, namely Ukraine. As of this writing, there are several nuclear powers in the world, either overt or covert, with nuclear weapons. Therefore, in this paper, I describe two models of nuclear war involving N nuclear powers.

The total impairment (TI) model of nuclear war involving N nuclear powers

The total impairment (TI) model of nuclear war involving N nuclear powers is given by

$$\sum_{i=1}^{N} \mathbf{D_i} = D_{NT}$$

$$\tau_i + \delta_i = \frac{b_i}{r_i} + \frac{\mathbf{E}[\mathbf{D_i}]}{K_i} = 1 - \epsilon_i$$

$$\frac{G_i}{1 + r_{f_i} + p_{n_i}} = \mathbf{E}[\mathbf{D_i}]$$

where
N is the number of nuclear powers involved in nuclear war
$1 \leq i \leq N$
D_{NT} is total impairment in the nuclear war
$0 \leq \tau_i$ is the level of tolerance of the i^{th} nuclear power
$0 \leq \delta_i$ is the threshold term of the i^{th} nuclear power
$0 \leq \epsilon_i \leq 1$ is the error term of the i^{th} nuclear power
G_i is the GDP of the i^{th} nuclear power
r_{f_i} is the risk-free rate of the i^{th} nuclear power
p_{n_i} is the nuclear risk premium of the i^{th} nuclear power

The total nuclear risk premia (TNRP) model of nuclear war involving N nuclear powers

The total nuclear risk premia (TNRP) model of nuclear war involving N nuclear powers is given by

$$\sum_{i=1}^{N} p_{n_i} = p_{n_{NT}}$$

$$\tau_i + \delta_i = \frac{b_i}{r_i} + \frac{\mathbf{E}[\mathbf{D_i}]}{K_i} = 1 - \epsilon_i$$

$$\frac{G_i}{1 + r_{f_i} + p_{n_i}} = \mathbf{E}[\mathbf{D_i}]$$

where
N is the number of nuclear powers involved in nuclear war
$1 \leq i \leq N$
$p_{n_{NT}}$ is total nuclear risk premia in the nuclear war
$0 \leq \tau_i$ is the level of tolerance of the i^{th} nuclear power
$0 \leq \delta_i$ is the threshold term of the i^{th} nuclear power
$0 \leq \epsilon_i \leq 1$ is the error term of the i^{th} nuclear power
G_i is the GDP of the i^{th} nuclear power
r_{f_i} is the risk-free rate of the i^{th} nuclear power
p_{n_i} is the nuclear risk premium of the i^{th} nuclear power

The End

14 solutions to the total impairment model of nuclear war involving 2 nuclear powers

Soumadeep Ghosh

Kolkata, India

Abstract

In this paper, I describe 14 solutions to the total impairment model of nuclear war involving 2 nuclear powers.
The paper ends with "The End"

Introduction

In a previous paper, I've described the total impairment model of nuclear war involving N nuclear powers.

In this paper, I describe 14 solutions to the total impairment model of nuclear war involving 2 nuclear powers.

14 solutions to the total impairment model of nuclear war involving 2 nuclear powers

1.
$$D_{2T} = 67, D_1 = \frac{91}{2}, D_2 = \frac{43}{2}, K_1 = 67, K_2 = 42, \tau_1 = \frac{11}{15}, \delta_1 = \frac{4}{15}, b_1 = 83, r_1 = \frac{11122}{43}, \epsilon_1 = 0,$$
$$G_1 = \frac{272}{5}, r_{f_1} = \frac{2}{47}, p_{n1} = \frac{3273}{21385}, \tau_2 = 0, \delta_2 = \frac{10}{99}, b_2 = -71, r_2 = \frac{196812}{1139}, \epsilon_2 = \frac{89}{99}, G_2 = \frac{172}{5}, r_{f_2} = \frac{1}{169}, p_{n2} = \frac{502}{845}$$

2.
$$D_{2T} = 144, D_1 = 98, D_2 = 46, K_1 = 123, K_2 = 126, \tau_1 = 0, \delta_1 = 1, b_1 = 55, r_1 = \frac{1353}{5}, \epsilon_1 = 0,$$
$$G_1 = \frac{511}{5}, r_{f_1} = \frac{60}{2357}, p_{n1} = \frac{2871}{164990}, \tau_2 = \frac{83}{160}, \delta_2 = \frac{1}{10}, b_2 = 68, r_2 = \frac{685440}{2557}, \epsilon_2 = \frac{61}{160}, G_2 = 84, r_{f_2} = \frac{33}{41}, p_{n2} = \frac{20}{943}$$

3.

$$D_{2T} = 174, D_1 = 3, D_2 = 171, K_1 = 45, K_2 = 218, \tau_1 = \frac{29}{1516}, \delta_1 = 0, b_1 = -19, r_1 = \frac{432060}{1081}, \epsilon_1 = \frac{1487}{1516},$$

$$G_1 = 27, r_{f_1} = \frac{94}{13}, p_{n1} = \frac{10}{13}, \tau_2 = 0, \delta_2 = 0, b_2 = -97, r_2 = \frac{21146}{171}, \epsilon_2 = 1, G_2 = 204, r_{f_2} = \frac{13}{262}, p_{n2} = \frac{2141}{14934}$$

4.

$$D_{2T} = 298, D_1 = 34, D_2 = 264, K_1 = 117, K_2 = 282, \tau_1 = \frac{2}{87}, \delta_1 = 0, b_1 = -54, r_1 = \frac{91611}{454}, \epsilon_1 = \frac{85}{87},$$

$$G_1 = \frac{161}{2}, r_{f_1} = \frac{83}{74}, p_{n1} = \frac{619}{2516}, \tau_2 = \frac{1575}{1583}, \delta_2 = 0, b_2 = 41, r_2 = \frac{3050441}{4373}, \epsilon_2 = \frac{8}{1583}, G_2 = \frac{805}{3}, r_{f_2} = \frac{29}{3077}, p_{n2} = \frac{17033}{2436984}$$

5.

$$D_{2T} = 339, D_1 = 43, D_2 = 296, K_1 = 111, K_2 = 326, \tau_1 = \frac{10}{29}, \delta_1 = 0, b_1 = -86, r_1 = \frac{276834}{137}, \epsilon_1 = \frac{19}{29},$$

$$G_1 = \frac{169}{2}, r_{f_1} = \frac{10}{21}, p_{n1} = \frac{883}{1806}, \tau_2 = \frac{45}{112}, \delta_2 = \frac{67}{112}, b_2 = 64, r_2 = \frac{10432}{15}, \epsilon_2 = 0, G_2 = \frac{1257}{4}, r_{f_2} = \frac{61}{1639}, p_{n2} = \frac{47423}{1940576}$$

6.

$$D_{2T} = 468, D_1 = 15, D_2 = 453, K_1 = 31, K_2 = 542, \tau_1 = \frac{15}{31}, \delta_1 = 0, b_1 = 0, r_1 = 36, \epsilon_1 = \frac{16}{31},$$

$$G_1 = \frac{160}{7}, r_{f_1} = \frac{96}{193}, p_{n1} = \frac{107}{4053}, \tau_2 = \frac{74}{77}, \delta_2 = 0, b_2 = 95, r_2 = \frac{3964730}{5227}, \epsilon_2 = \frac{3}{77}, G_2 = 489, r_{f_2} = \frac{34}{1271}, p_{n2} = \frac{10118}{191921}$$

7.

$$D_{2T} = 486, D_1 = 13, D_2 = 473, K_1 = 85, K_2 = 572, \tau_1 = \frac{3}{5}, \delta_1 = 0, b_1 = 83, r_1 = \frac{7055}{38}, \epsilon_1 = \frac{2}{5},$$

$$G_1 = \frac{45}{2}, r_{f_1} = \frac{7}{139}, p_{n1} = \frac{2459}{3614}, \tau_2 = 0, \delta_2 = \frac{100}{123}, b_2 = -85, r_2 = \frac{543660}{89}, \epsilon_2 = \frac{23}{123}, G_2 = 484, r_{f_2} = \frac{17}{1086}, p_{n2} = \frac{355}{46698}$$

8.

$$D_{2T} = 700, D_1 = 13, D_2 = 687, K_1 = 22, K_2 = 714, \tau_1 = \frac{86}{171}, \delta_1 = 0, b_1 = -60, r_1 = \frac{225720}{331}, \epsilon_1 = \frac{85}{171},$$

$$G_1 = \frac{79}{4}, r_{f_1} = \frac{11}{39}, p_{n1} = \frac{37}{156}, \tau_2 = \frac{2645}{2671}, \delta_2 = \frac{26}{2671}, b_2 = 11, r_2 = \frac{2618}{9}, \epsilon_2 = 0, G_2 = \frac{2773}{4}, r_{f_2} = \frac{41}{5551}, p_{n2} = \frac{26107}{15254148}$$

9.

$$D_{2T} = 737, D_1 = 24, D_2 = 713, K_1 = 33, K_2 = 741, \tau_1 = \frac{8}{11}, \delta_1 = \frac{6}{371}, b_1 = 23, r_1 = \frac{8533}{6}, \epsilon_1 = \frac{1047}{4081},$$

$$G_1 = \frac{80}{3}, r_{f_1} = \frac{6}{455}, p_{n1} = \frac{401}{4095}, \tau_2 = \frac{13}{15}, \delta_2 = \frac{2}{15}, b_2 = 58, r_2 = \frac{21489}{14}, \epsilon_2 = 0, G_2 = \frac{2913}{4}, r_{f_2} = \frac{8}{4723}, p_{n2} = \frac{265287}{13469996}$$

10.

$$D_{2T} = 760, D_1 = 44, D_2 = 716, K_1 = 73, K_2 = 750, \tau_1 = 1, \delta_1 = 0, b_1 = 6, r_1 = \frac{438}{29}, \epsilon_1 = 0,$$

$$G_1 = \frac{221}{4}, r_{f_1} = \frac{85}{396}, p_{n1} = \frac{65}{1584}, \tau_2 = \frac{47}{53}, \delta_2 = \frac{211}{2228}, b_2 = 18, r_2 = \frac{797067000}{1188053}, \epsilon_2 = \frac{2185}{118084}, G_2 = \frac{2245}{3}, r_{f_2} = \frac{87}{2237}, p_{n2} = \frac{30113}{4805076}$$

11.

$$D_{2T} = 847, D_1 = 91, D_2 = 756, K_1 = 141, K_2 = 766, \tau_1 = \frac{1}{157}, \delta_1 = \frac{156}{157}, b_1 = 9, r_1 = \frac{1269}{50}, \epsilon_1 = 0,$$

$$G_1 = \frac{308}{3}, r_{f_1} = \frac{37}{394}, p_{n1} = \frac{527}{15366}, \tau_2 = 0, \delta_2 = \frac{2566}{2579}, b_2 = 86, r_2 = \frac{42473551}{3958}, \epsilon_2 = \frac{13}{2579}, G_2 = \frac{8408}{11}, r_{f_2} = \frac{67}{9130}, p_{n2} = \frac{6427}{1725570}$$

12.

$$D_{2T} = 923, D_1 = 98, D_2 = 825, K_1 = 124, K_2 = 908, \tau_1 = \frac{211}{241}, \delta_1 = \frac{47}{812}, b_1 = 96, r_1 = \frac{194126464}{289325}, \epsilon_1 = \frac{13033}{195692},$$

$$G_1 = \frac{237}{2}, r_{f_1} = \frac{5}{161}, p_{n1} = \frac{803}{4508}, \tau_2 = 0, \delta_2 = 1, b_2 = 36, r_2 = \frac{32688}{83}, \epsilon_2 = 0, G_2 = \frac{1707}{2}, r_{f_2} = \frac{14}{731}, p_{n2} = \frac{6189}{402050}$$

13.

$$D_{2T} = 925, D_1 = 13, D_2 = 912, K_1 = 40, K_2 = 915, \tau_1 = \frac{13}{40}, \delta_1 = \frac{4}{15}, b_1 = 94, r_1 = \frac{705}{2}, \epsilon_1 = \frac{49}{120},$$

$$G_1 = 18, r_{f_1} = \frac{62}{263}, p_{n1} = \frac{509}{3419}, \tau_2 = 0, \delta_2 = \frac{15369}{15403}, b_2 = 67, r_2 = \frac{314760305}{5033}, \epsilon_2 = \frac{34}{15403}, G_2 = \frac{15533}{17}, r_{f_2} = \frac{71}{53997}, p_{n2} = \frac{51681}{93018832}$$

14.

$$D_{2T} = 1039, D_1 = 15, D_2 = 1024, K_1 = 53, K_2 = 1047, \tau_1 = 0, \delta_1 = \frac{6}{119}, b_1 = -69, r_1 = \frac{145061}{489}, \epsilon_1 = \frac{113}{119},$$

$$G_1 = \frac{49}{3}, r_{f_1} = \frac{79}{1137}, p_{n1} = \frac{331}{17055}, \tau_2 = 0, \delta_2 = 0, b_2 = -29, r_2 = \frac{30363}{1024}, \epsilon_2 = 1, G_2 = \frac{5141}{5}, r_{f_2} = \frac{68}{24625}, p_{n2} = \frac{33793}{25216000}$$

The End

14 solutions to the total nuclear risk premium model of nuclear war involving 2 nuclear powers

Soumadeep Ghosh

Kolkata, India

Abstract

In this paper, I describe 14 solutions to the total nuclear risk premium model of nuclear war involving 2 nuclear powers. The paper ends with "The End"

Introduction

In a previous paper, I've described the total nuclear risk premium model of nuclear war involving N nuclear powers.

In this paper, I describe 14 solutions to the total nuclear risk premium model of nuclear war involving 2 nuclear powers.

14 solutions to the total nuclear risk premium model of nuclear war involving 2 nuclear powers

1.
$$p_{n2T} = 38, D_1 = 91, D_2 = 99, K_1 = 3628, K_2 = 103, \tau_1 = \frac{64}{4027}, \delta_1 = \frac{6}{13}, b_1 = 47, r_1 = \frac{8926683116}{85914291}, \epsilon_1 = \frac{27357}{52351}$$
$$G_1 = \frac{99303}{28}, r_{f_1} = \frac{65}{7581}, p_{n1} = \frac{104762005}{2759484}, \tau_2 = \frac{99}{103}, \delta_2 = \frac{4}{103}, b_2 = 21, r_2 = \frac{2163}{4}, \epsilon_2 = 0, G_2 = \frac{22088}{215}, r_{f_2} = \frac{3687829}{1779867180}, p_{n2} = \frac{98387}{2759484}$$

2.
$$p_{n2T} = 177, D_1 = 6, D_2 = 25, K_1 = 84, K_2 = 4450, \tau_1 = \frac{18}{109}, \delta_1 = 0, b_1 = 53, r_1 = \frac{80878}{143}, \epsilon_1 = \frac{91}{109}$$
$$G_1 = 55, r_{f_1} = \frac{38}{13}, p_{n1} = \frac{409}{78}, \tau_2 = 0, \delta_2 = \frac{5}{102}, b_2 = 28, r_2 = \frac{127092}{197}, \epsilon_2 = \frac{97}{102}, G_2 = 4346, r_{f_2} = \frac{2113}{1950}, p_{n2} = \frac{13397}{78}$$

3.

$$p_{n2T} = 187, D_1 = 72, D_2 = 93, K_1 = 13536, K_2 = 101, \tau_1 = 0, \delta_1 = \frac{16}{51}, b_1 = 1, r_1 = \frac{9588}{2957}, \epsilon_1 = \frac{35}{51}$$

$$G_1 = \frac{230008}{17}, r_{f_1} = \frac{60}{95809}, p_{n1} = \frac{2739936602}{14658777}, \tau_2 = 0, \delta_2 = 1, b_2 = 65, r_2 = \frac{6565}{8}, \epsilon_2 = 0, G_2 = \frac{128132}{1269}, r_{f_2} = \frac{21994834}{192220542801}, p_{n2} = \frac{1254697}{14658777}$$

4.

$$p_{n2T} = 209, D_1 = 25, D_2 = 16, K_1 = 5318, K_2 = 19, \tau_1 = 0, \delta_1 = \frac{13}{17}, b_1 = 97, r_1 = \frac{8769382}{68709}, \epsilon_1 = \frac{4}{17}$$

$$G_1 = 5250, r_{f_1} = \frac{1}{77}, p_{n1} = \frac{16092}{77}, \tau_2 = \frac{16}{19}, \delta_2 = 0, b_2 = 0, r_2 = 67, \epsilon_2 = \frac{3}{19}, G_2 = \frac{625}{37}, r_{f_2} = \frac{1949}{45584}, p_{n2} = \frac{1}{77}$$

5.

$$p_{n2T} = 283, D_1 = 94, D_2 = 9, K_1 = 26726, K_2 = 2556, \tau_1 = 1, \delta_1 = 0, b_1 = 60, r_1 = \frac{200445}{3329}, \epsilon_1 = 0$$

$$G_1 = 148, r_{f_1} = \frac{19}{176}, p_{n1} = \frac{3859}{8272}, \tau_2 = \frac{74}{28685}, \delta_2 = \frac{81}{107290}, b_2 = -58, r_2 = \frac{5069445204280}{16293727}, \epsilon_2 = \frac{613470141}{615522730}, G_2 = \frac{12779}{5}, r_{f_2} = \frac{165383}{372240}, p_{n2} = \frac{2337117}{8272}$$

6.

$$p_{n2T} = 305, D_1 = 49, D_2 = 55, K_1 = 14994, K_2 = 16830, \tau_1 = 0, \delta_1 = \frac{1}{306}, b_1 = 0, r_1 = 12, \epsilon_1 = \frac{305}{306}$$

$$G_1 = 74, r_{f_1} = \frac{41}{198}, p_{n1} = \frac{2941}{9702}, \tau_2 = \frac{1}{306}, \delta_2 = 0, b_2 = 0, r_2 = 5, \epsilon_2 = \frac{305}{306}, G_2 = 16823, r_{f_2} = \frac{8531}{48510}, p_{n2} = \frac{2956169}{9702}$$

7.

$$p_{n2T} = 325, D_1 = 98, D_2 = 81, K_1 = 31986, K_2 = 26406, \tau_1 = \frac{15}{32966}, \delta_1 = \frac{1}{2581}, b_1 = -44, r_1 = \frac{59873806928232}{3022782821}, \epsilon_1 = \frac{85013565}{85085246}$$

$$G_1 = \frac{95896}{3}, r_{f_1} = 19, p_{n1} = \frac{45008}{147}, \tau_2 = 0, \delta_2 = 0, b_2 = -98, r_2 = 31948, \epsilon_2 = 1, G_2 = 1627, r_{f_2} = \frac{1045}{3969}, p_{n2} = \frac{2767}{147}$$

8.

$$p_{n2T} = 354, D_1 = 28, D_2 = 20, K_1 = 10006, K_2 = 7100, \tau_1 = \frac{23}{102}, \delta_1 = \frac{56}{131}, b_1 = 54, r_1 = \frac{3609904644}{43464107}, \epsilon_1 = \frac{4637}{13362}$$

$$G_1 = \frac{19981}{2}, r_{f_1} = 14, p_{n1} = \frac{19141}{56}, \tau_2 = \frac{44}{51}, \delta_2 = \frac{9}{368}, b_2 = 63, r_2 = \frac{419746320}{5892337}, \epsilon_2 = \frac{2117}{18768}, G_2 = 280, r_{f_2} = \frac{45}{56}, p_{n2} = \frac{683}{56}$$

9.

$$p_{n2T} = 372, D_1 = 5, D_2 = 32, K_1 = 1888, K_2 = 104, \tau_1 = \frac{25}{102}, \delta_1 = 0, b_1 = 67, r_1 = \frac{6451296}{23345}, \epsilon_1 = \frac{77}{102}$$

$$G_1 = 1865, r_{f_1} = \frac{11}{5}, p_{n1} = \frac{1849}{5}, \tau_2 = 0, \delta_2 = \frac{12}{47}, b_2 = -70, r_2 = \frac{21385}{16}, \epsilon_2 = \frac{35}{47}, G_2 = \frac{6623}{64}, r_{f_2} = \frac{347}{10240}, p_{n2} = \frac{11}{5}$$

10.

$$p_{n2T} = 397, D_1 = 31, D_2 = 19, K_1 = 55, K_2 = 7562, \tau_1 = \frac{47}{180}, \delta_1 = \frac{599}{1980}, b_1 = 0, r_1 = 32, \epsilon_1 = \frac{24}{55}$$

$$G_1 = \frac{179}{5}, r_{f_1} = \frac{88}{653}, p_{n1} = \frac{2032}{101215}, \tau_2 = \frac{81}{40199}, \delta_2 = \frac{7961}{15999202}, b_2 = 0, r_2 = 15, \epsilon_2 = \frac{397}{398}, G_2 = \frac{2003838}{265}, r_{f_2} = \frac{183868}{101923505}, p_{n2} = \frac{40180323}{101215}$$

11.

$$p_{n2T} = 561, D_1 = 46, D_2 = 59, K_1 = 102, K_2 = 33158, \tau_1 = 0, \delta_1 = 0, b_1 = -78, r_1 = \frac{3978}{23}, \epsilon_1 = 1$$

$$G_1 = 84, r_{f_1} = \frac{16}{123}, p_{n1} = \frac{1969}{2829}, \tau_2 = 0, \delta_2 = \frac{1}{562}, b_2 = 0, r_2 = 54, \epsilon_2 = \frac{561}{562}, G_2 = \frac{99419}{3}, r_{f_2} = \frac{64306}{166911}, p_{n2} = \frac{1585100}{2829}$$

12.

$$p_{n2T} = 895, D_1 = 9, D_2 = 23, K_1 = 8108, K_2 = 20647, \tau_1 = 0, \delta_1 = \frac{5}{9099}, b_1 = -25, r_1 = \frac{1844367300}{41351}, \epsilon_1 = \frac{9094}{9099}$$

$$G_1 = \frac{24278}{3}, r_{f_1} = 97, p_{n1} = \frac{21632}{27}, \tau_2 = \frac{23}{20647}, \delta_2 = \frac{27}{34}, b_2 = 69, r_2 = \frac{782}{9}, \epsilon_2 = \frac{143747}{701998}, G_2 = 2212, r_{f_2} = \frac{844}{621}, p_{n2} = \frac{2533}{27}$$

13.

$$p_{n2T} = 907, D_1 = 22, D_2 = 53, K_1 = 20013, K_2 = 48194, \tau_1 = 0, \delta_1 = 1, b_1 = 60, r_1 = \frac{1200780}{19991}, \epsilon_1 = 0$$

$$G_1 = \frac{59959}{3}, r_{f_1} = 94, p_{n1} = \frac{53689}{66}, \tau_2 = 0, \delta_2 = \frac{38}{45921}, b_2 = -19, r_2 = \frac{42049216806}{602441}, \epsilon_2 = \frac{45883}{45921}, G_2 = 5028, r_{f_2} = \frac{1181}{3498}, p_{n2} = \frac{6173}{66}$$

14.

$$p_{n2T} = 1167, D_1 = 43, D_2 = 11, K_1 = 50227, K_2 = 43, \tau_1 = 0, \delta_1 = 0, b_1 = -65, r_1 = \frac{3264755}{43}, \epsilon_1 = 1$$

$$G_1 = 50148, r_{f_1} = \frac{69}{89}, p_{n1} = \frac{4456378}{3827}, \tau_2 = \frac{14}{79}, \delta_2 = \frac{18}{643}, b_2 = -42, r_2 = \frac{30579794}{36845}, \epsilon_2 = \frac{40373}{50797}, G_2 = \frac{535}{13}, r_{f_2} = \frac{108651}{547261}, p_{n2} = \frac{9731}{3827}$$

The End

14 solutions to the total impairment model of nuclear war involving 3 nuclear powers

Soumadeep Ghosh

Kolkata, India

Abstract

In this paper, I describe 14 solutions to the total impairment model of nuclear war involving 3 nuclear powers.
The paper ends with "The End"

Introduction

In a previous paper, I've described the total impairment model of nuclear war involving N nuclear powers.

In this paper, I describe 14 solutions to the total impairment model of nuclear war involving 3 nuclear powers.

14 solutions to the total impairment model of nuclear war involving 3 nuclear powers

1.
$$D_{3T} = 3, D_1 = \frac{30}{17}, D_2 = \frac{49}{41}, D_3 = \frac{28}{697}, K_1 = 97, K_2 = 77, K_3 = 71, \tau_1 = 1, \delta_1 = 0, b_1 = 48, r_1 = \frac{79152}{1619}, \epsilon_1 = 0$$

$$G_1 = \frac{43}{2}, r_{f_1} = \frac{42}{5}, p_{n1} = \frac{167}{60}, \tau_2 = \frac{22}{103}, \delta_2 = \frac{7}{129}, b_2 = 16, r_2 = \frac{23969748}{378025}, \epsilon_2 = \frac{9728}{13287}, G_2 = \frac{19}{2}, r_{f_2} = \frac{67}{15}, p_{n2} = \frac{3649}{1470}, \tau_3 = 0, \delta_3 = \frac{5}{178507}, b_3 = -42, r_3 = \frac{123672862726}{1583587}, \epsilon_3 = \frac{178502}{178507}, G_3 = \frac{99}{2}, r_{f_3} = 45, p_{n3} = \frac{66427}{56}$$

2.
$$D_{3T} = 58, D_1 = \frac{49}{2}, D_2 = \frac{69}{4}, D_3 = \frac{65}{4}, K_1 = 81, K_2 = 72, K_3 = 20, \tau_1 = \frac{49}{334}, \delta_1 = \frac{102}{145}, b_1 = 59, r_1 = \frac{115723485}{1074239}, \epsilon_1 = \frac{7257}{48430}$$

$$G_1 = \frac{87}{2}, r_{f_1} = \frac{48}{131}, p_{n1} = \frac{2626}{6419}, \tau_2 = 0, \delta_2 = \frac{113}{133}, b_2 = 76, r_2 = \frac{970368}{7789}, \epsilon_2 = \frac{20}{133}, G_2 = 44, r_{f_2} = \frac{46}{33}, p_{n2} = \frac{119}{759}, \tau_3 = \frac{11}{125}, \delta_3 = \frac{17}{35}, b_3 = -53, r_3 = \frac{742000}{3343}, \epsilon_3 = \frac{373}{875}, G_3 = \frac{490}{27}, r_{f_3} = \frac{4}{173}, p_{n3} = \frac{5689}{60723}$$

3.
$$D_{3T} = 259, D_1 = 8, D_2 = 28, D_3 = 223, K_1 = 107, K_2 = 29, K_3 = 226, \tau_1 = \frac{87}{1351}, \delta_1 = \frac{1264}{1351}, b_1 = 28, r_1 = \frac{2996}{99}, \epsilon_1 = 0$$

$$G_1 = \frac{17}{2}, r_{f_1} = \frac{23}{539}, p_{n1} = \frac{171}{8624}, \tau_2 = \frac{19}{105}, \delta_2 = \frac{1152}{1465}, b_2 = 65, r_2 = \frac{57992025}{1591}, \epsilon_2 = \frac{1006}{30765}, G_2 = \frac{2887}{102}, r_{f_2} = \frac{41}{4653}, p_{n2} = \frac{9049}{4429656}, \tau_3 = \frac{35}{103}, \delta_3 = 0, b_3 = -84, r_3 = \frac{1955352}{15059}, \epsilon_3 = \frac{68}{103}, G_3 = \frac{7587}{34}, r_{f_3} = \frac{99}{153157}, p_{n3} = \frac{15167}{1161236374}$$

4.
$$D_{3T} = 688, D_1 = 60, D_2 = 39, D_3 = 589, K_1 = 155, K_2 = 65, K_3 = 645, \tau_1 = 0, \delta_1 = \frac{14}{87}, b_1 = -79, r_1 = \frac{213063}{610}, \epsilon_1 = \frac{73}{87}$$

$$G_1 = \frac{199}{2}, r_{f_1} = \frac{79}{154}, p_{n1} = \frac{1343}{9240}, \tau_2 = 0, \delta_2 = 0, b_2 = -90, r_2 = 150, \epsilon_2 = 1, G_2 = \frac{241}{4}, r_{f_2} = \frac{21}{62}, p_{n2} = \frac{997}{4836}, \tau_3 = \frac{589}{645}, \delta_3 = \frac{56}{645}, b_3 = 93, r_3 = \frac{59985}{56}, \epsilon_3 = 0, G_3 = 619, r_{f_3} = \frac{59}{1983}, p_{n3} = \frac{24739}{1167987}$$

5.
$$D_{3T} = 920, D_1 = 14, D_2 = 45, D_3 = 861, K_1 = 57, K_2 = 123, K_3 = 945, \tau_1 = 0, \delta_1 = \frac{14}{57}, b_1 = 0, r_1 = 83, \epsilon_1 = \frac{43}{57}$$

$$G_1 = \frac{53}{3}, r_{f_1} = \frac{47}{193}, p_{n1} = \frac{149}{8106}, \tau_2 = \frac{80}{277}, \delta_2 = \frac{875}{11357}, b_2 = 0, r_2 = 90, \epsilon_2 = \frac{26}{41}, G_2 = \frac{167}{2}, r_{f_2} = \frac{8}{17}, p_{n2} = \frac{589}{1530}, \tau_3 = \frac{58}{111}, \delta_3 = \frac{12}{65}, b_3 = -101, r_3 = \frac{437229}{883}, \epsilon_3 = \frac{2113}{7215}, G_3 = 903, r_{f_3} = \frac{77}{2071}, p_{n3} = \frac{985}{84911}$$

6.
$$D_{3T} = 983, D_1 = 84, D_2 = 32, D_3 = 867, K_1 = 138, K_2 = 39, K_3 = 897, \tau_1 = \frac{14}{23}, \delta_1 = 0, b_1 = 0, r_1 = 40, \epsilon_1 = \frac{9}{23}$$

$$G_1 = 98, r_{f_1} = \frac{18}{607}, p_{n1} = \frac{499}{3642}, \tau_2 = \frac{7}{124}, \delta_2 = \frac{3695}{4836}, b_2 = 0, r_2 = 81, \epsilon_2 = \frac{7}{39}, G_2 = \frac{497}{15}, r_{f_2} = \frac{9}{713}, p_{n2} = \frac{7801}{342240}, \tau_3 = \frac{1479}{1510}, \delta_3 = \frac{13}{984}, b_3 = 71, r_3 = \frac{15771448680}{5803537}, \epsilon_3 = \frac{5437}{742920}, G_3 = \frac{3473}{4}, r_{f_3} = \frac{17}{35027}, p_{n3} = \frac{116179}{121473636}$$

7.

$$D_{3T} = 997, D_1 = 4, D_2 = 62, D_3 = 931, K_1 = 95, K_2 = 63, K_3 = 1025, \tau_1 = \frac{4}{95}, \delta_1 = \frac{19}{53}, b_1 = 95, r_1 = 265, \epsilon_1 = \frac{3018}{5035}$$

$$G_1 = \frac{55}{2}, r_{f_1} = 2, p_{n1} = \frac{31}{8}, \tau_2 = \frac{62}{63}, \delta_2 = \frac{79}{6364}, b_2 = 24, r_2 = \frac{152736}{79}, \epsilon_2 = \frac{1387}{400932}, G_2 = \frac{1057}{17}, r_{f_2} = \frac{87}{35485}, p_{n2} = \frac{14757}{37401190}, \tau_3 = \frac{524}{551}, \delta_3 = \frac{87}{2062}, b_3 = 52, r_3 = \frac{60557434600}{98868803}, \epsilon_3 = \frac{7737}{1136162}, G_3 = \frac{1905}{2}, r_{f_3} = \frac{41}{2187}, p_{n3} = \frac{17699}{4072194}$$

8.

$$D_{3T} = 1023, D_1 = 64, D_2 = 60, D_3 = 899, K_1 = 84, K_2 = 113, K_3 = 949, \tau_1 = \frac{96}{133}, \delta_1 = \frac{16}{399}, b_1 = 0, r_1 = 51, \epsilon_1 = \frac{5}{21}$$

$$G_1 = \frac{202}{3}, r_{f_1} = \frac{19}{970}, p_{n1} = \frac{1513}{46560}, \tau_2 = \frac{60}{113}, \delta_2 = \frac{13}{108}, b_2 = 2, r_2 = \frac{216}{13}, \epsilon_2 = \frac{4255}{12204}, G_2 = \frac{217}{2}, r_{f_2} = \frac{11}{25}, p_{n2} = \frac{221}{600}, \tau_3 = \frac{1888}{1917}, \delta_3 = \frac{41}{6677}, b_3 = 40, r_3 = \frac{242940374820}{265410643}, \epsilon_3 = \frac{115036}{12799809}, G_3 = \frac{2707}{3}, r_{f_3} = \frac{1}{3405}, p_{n3} = \frac{10451}{3061095}$$

9.

$$D_{3T} = 1025, D_1 = 20, D_2 = 5, D_3 = 1000, K_1 = 60, K_2 = 20, K_3 = 1082, \tau_1 = 0, \delta_1 = 1, b_1 = 56, r_1 = 84, \epsilon_1 = 0$$

$$G_1 = \frac{121}{3}, r_{f_1} = \frac{19}{25}, p_{n1} = \frac{77}{300}, \tau_2 = \frac{56}{405}, \delta_2 = 0, b_2 = -82, r_2 = \frac{132840}{181}, \epsilon_2 = \frac{349}{405}, G_2 = \frac{132}{7}, r_{f_2} = \frac{2}{37}, p_{n2} = \frac{3519}{1295}, \tau_3 = \frac{71}{110}, \delta_3 = \frac{39}{110}, b_3 = 19, r_3 = \frac{10279}{41}, \epsilon_3 = 0, G_3 = 1008, r_{f_3} = \frac{1}{214}, p_{n3} = \frac{89}{26750}$$

10.

$$D_{3T} = 1048, D_1 = 56, D_2 = 75, D_3 = 917, K_1 = 115, K_2 = 161, K_3 = 1012, \tau_1 = 0, \delta_1 = \frac{56}{115}, b_1 = 0, r_1 = 9, \epsilon_1 = \frac{59}{115}$$

$$G_1 = \frac{163}{2}, r_{f_1} = \frac{13}{222}, p_{n1} = \frac{4933}{12432}, \tau_2 = \frac{75}{161}, \delta_2 = \frac{86}{161}, b_2 = 46, r_2 = \frac{3703}{43}, \epsilon_2 = 0, G_2 = \frac{159}{2}, r_{f_2} = \frac{77}{1684}, p_{n2} = \frac{601}{42100}, \tau_3 = 0, \delta_3 = 0, b_3 = -41, r_3 = \frac{41492}{917}, \epsilon_3 = 1, G_3 = \frac{1843}{2}, r_{f_3} = \frac{1}{251}, p_{n3} = \frac{425}{460334}$$

11.

$$D_{3T} = 1081, D_1 = 71, D_2 = 64, D_3 = 946, K_1 = 121, K_2 = 112, K_3 = 991, \tau_1 = 1, \delta_1 = 0, b_1 = 25, r_1 = \frac{121}{2}, \epsilon_1 = 0$$

$$G_1 = 99, r_{f_1} = \frac{13}{257}, p_{n1} = \frac{6273}{18247}, \tau_2 = \frac{16}{59}, \delta_2 = \frac{124}{413}, b_2 = 0, r_2 = 15, \epsilon_2 = \frac{3}{7}, G_2 = \frac{233}{3}, r_{f_2} = \frac{35}{473}, p_{n2} = \frac{12673}{90816}, \tau_3 = \frac{434}{445}, \delta_3 = \frac{11}{445}, b_3 = 49, r_3 = \frac{48559}{45}, \epsilon_3 = 0, G_3 = \frac{2872}{3}, r_{f_3} = \frac{81}{8431}, p_{n3} = \frac{28388}{11963589}$$

12.

$$D_{3T} = 1253, D_1 = 9, D_2 = 13, D_3 = 1231, K_1 = 82, K_2 = 109, K_3 = 1306, \tau_1 = 0, \delta_1 = \frac{14}{921}, b_1 = -14, r_1 = \frac{1057308}{7141}, \epsilon_1 = \frac{907}{921}$$

$$G_1 = \frac{95}{2}, r_{f_1} = \frac{53}{24}, p_{n1} = \frac{149}{72}, \tau_2 = \frac{15}{847}, \delta_2 = \frac{9376}{92323}, b_2 = 0, r_2 = 86, \epsilon_2 = \frac{96}{109}, G_2 = 52, r_{f_2} = \frac{47}{34}, p_{n2} = \frac{55}{34}, \tau_3 = \frac{91}{108}, \delta_3 = \frac{7}{1011}, b_3 = -46, r_3 = \frac{1093263048}{2211631}, \epsilon_3 = \frac{5477}{36396}, G_3 = 1267, r_{f_3} = \frac{63}{3454}, p_{n3} = \frac{46791}{4251874}$$

13.

$$D_{3T} = 1278, D_1 = 89, D_2 = 43, D_3 = 1146, K_1 = 127, K_2 = 66, K_3 = 1213, \tau_1 = \frac{267}{338}, \delta_1 = \frac{40}{481}, b_1 = 78, r_1 = \frac{123884436}{273679}, \epsilon_1 = \frac{1587}{12506}$$

$$G_1 = \frac{319}{3}, r_{f_1} = \frac{30}{173}, p_{n1} = \frac{986}{46191}, \tau_2 = \frac{43}{66}, \delta_2 = \frac{23}{66}, b_2 = 86, r_2 = \frac{5676}{23}, \epsilon_2 = 0, G_2 = 52, r_{f_2} = \frac{55}{483}, p_{n2} = \frac{1982}{20769}, \tau_3 = 1, \delta_3 = 0, b_3 = 65, r_3 = \frac{78845}{67}, \epsilon_3 = 0, G_3 = \frac{2293}{2}, r_{f_3} = \frac{16}{231493}, p_{n3} = \frac{194821}{530581956}$$

14.

$$D_{3T} = 1386, D_1 = 89, D_2 = 101, D_3 = 1196, K_1 = 157, K_2 = 194, K_3 = 1233, \tau_1 = \frac{179}{234}, \delta_1 = 0, b_1 = 87, r_1 = \frac{3196206}{7277}, \epsilon_1 = \frac{55}{234}$$

$$G_1 = \frac{279}{2}, r_{f_1} = \frac{91}{179}, p_{n1} = \frac{1881}{31862}, \tau_2 = \frac{18}{65}, \delta_2 = 0, b_2 = -63, r_2 = \frac{113490}{439}, \epsilon_2 = \frac{47}{65}, G_2 = 117, r_{f_2} = \frac{49}{319}, p_{n2} = \frac{155}{32219}, \tau_3 = \frac{1196}{1233}, \delta_3 = \frac{83}{3366}, b_3 = 12, r_3 = \frac{40392}{83}, \epsilon_3 = \frac{2467}{461142}, G_3 = 1210, r_{f_3} = \frac{89}{8629}, p_{n3} = \frac{7181}{5160142}$$

The End

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Abstract

In this paper, I describe 14 solutions to the total nuclear risk premium model of nuclear war involving 3 nuclear powers.
The paper ends with "The End"

Introduction

In a previous paper, I've described the total nuclear risk premium model of nuclear war involving N nuclear powers.

In this paper, I describe 14 solutions to the total nuclear risk premium model of nuclear war involving 3 nuclear powers.

14 solutions to the total nuclear risk premium model of nuclear war involving 3 nuclear powers

1.
$$p = 3, D_1 = 90, D_2 = 63, D_3 = 8, K_1 = 150, K_2 = 124, K_3 = 8, \tau_1 = \frac{153}{253}, \delta_1 = \frac{5}{128}, b_1 = 88, r_1 = \frac{14248960}{7093}, \epsilon_1 = \frac{11535}{32384}, G_1 = 67, r_{f_1} = -\frac{37}{10}, p_1 = \frac{31}{9}, \tau_2 = \frac{63}{124}, \delta_2 = \frac{61}{124}, b_2 = 99, r_2 = \frac{12276}{61}, \epsilon_2 = 0, G_2 = 43,$$
$$r_{f_2} = \frac{49}{10}, p_2 = -\frac{3287}{630}, \tau_3 = 0, \delta_3 = 1, b_3 = 0, r_3 = 44, \epsilon_3 = 0, G_3 = \frac{100}{13}, r_{f_3} = -\frac{19703}{4095}, p_3 = \frac{3007}{630}$$

2.
$$p = 121, D_1 = 13, D_2 = 99, D_3 = 73, K_1 = 16, K_2 = 130, K_3 = 157, \tau_1 = \frac{99}{125}, \delta_1 = \frac{26}{125}, b_1 = 66, r_1 = 352, \epsilon_1 = 0, G_1 = 9, r_{f_1} = -\frac{23}{10}, p_1 = \frac{259}{130}, \tau_2 = \frac{409}{424}, \delta_2 = \frac{14}{2855}, b_2 = 31, r_2 = \frac{97567912}{654611}, \epsilon_2 = \frac{36889}{1210520}, G_2 = 51,$$
$$r_{f_2} = \frac{3}{10}, p_2 = -\frac{259}{330}, \tau_3 = \frac{16}{27}, \delta_3 = \frac{7}{248}, b_3 = 40, r_3 = \frac{42050880}{163841}, \epsilon_3 = \frac{2539}{6696}, G_3 = 98, r_{f_3} = -\frac{3740818}{31317}, p_3 = \frac{51391}{429}$$

3.
$$p = 153, D_1 = 69, D_2 = 5, D_3 = 99, K_1 = 69, K_2 = \frac{10}{7}, K_3 = \frac{95}{2}, \tau_1 = 1, \delta_1 = 0, b_1 = 0, r_1 = 19, \epsilon_1 = 0, G_1 = 30, r_{f_1} = -\frac{22}{5}, p_1 = \frac{441}{115}, \tau_2 = 0, \delta_2 = 0, b_2 = -13, r_2 = \frac{26}{7}, \epsilon_2 = 1, G_2 = \frac{55}{71},$$
$$r_{f_2} = -\frac{14}{5}, p_2 = \frac{694}{355}, \tau_3 = \frac{31}{34}, \delta_3 = \frac{99}{1145}, b_3 = -37, r_3 = \frac{27367790}{803269}, \epsilon_3 = \frac{69}{38930}, G_3 = \frac{1}{3}, r_{f_3} = -\frac{359402524}{2425005}, p_3 = \frac{1201972}{8165}$$

4.
$$p = 172, D_1 = 21, D_2 = 69, D_3 = 39, K_1 = 25, K_2 = 26, K_3 = 78, \tau_1 = \frac{36}{121}, \delta_1 = \frac{24}{187}, b_1 = -39, r_1 = \frac{668525}{7099}, \epsilon_1 = \frac{1181}{2057}, G_1 = \frac{54}{5}, r_{f_1} = \frac{39}{10}, p_1 = -\frac{307}{70}, \tau_2 = \frac{25}{34}, \delta_2 = 0, b_2 = -20, r_2 = \frac{1105}{106}, \epsilon_2 = \frac{9}{34}, G_2 = \frac{75}{4},$$
$$r_{f_2} = -\frac{21}{10}, p_2 = \frac{631}{460}, \tau_3 = 0, \delta_3 = \frac{160}{203}, b_3 = 23, r_3 = \frac{9338}{117}, \epsilon_3 = \frac{43}{203}, G_3 = 20, r_{f_3} = -\frac{4407887}{25116}, p_3 = \frac{112709}{644}$$

5.
$$p = 434, D_1 = 11, D_2 = 34, D_3 = 95, K_1 = 58, K_2 = 34, K_3 = 153, \tau_1 = \frac{101}{533}, \delta_1 = \frac{5}{30914}, b_1 = 0, r_1 = 78, \epsilon_1 = \frac{47}{58}, G_1 = 45, r_{f_1} = \frac{6}{5}, p_1 = \frac{104}{55}, \tau_2 = 0, \delta_2 = 0, b_2 = -50, r_2 = 50, \epsilon_2 = 1, G_2 = \frac{28}{3},$$
$$r_{f_2} = \frac{18}{5}, p_2 = -\frac{1103}{255}, \tau_3 = 0, \delta_3 = \frac{91}{163}, b_3 = -75, r_3 = \frac{1870425}{1562}, \epsilon_3 = \frac{72}{163}, G_3 = 34, r_{f_3} = -\frac{23294002}{53295}, p_3 = \frac{1224199}{2805}$$

6.
$$p = 831, D_1 = 95, D_2 = 12, D_3 = 70, K_1 = \frac{59}{2}, K_2 = 33, K_3 = \frac{67}{2}, \tau_1 = \frac{37}{51}, \delta_1 = \frac{17}{92}, b_1 = -72, r_1 = \frac{19931616}{639491}, \epsilon_1 = \frac{421}{4692}, G_1 = \frac{85}{4}, r_{f_1} = \frac{7}{10}, p_1 = -\frac{561}{380}, \tau_2 = \frac{37}{278}, \delta_2 = \frac{705}{3058}, b_2 = 0, r_2 = 100, \epsilon_2 = \frac{7}{11}, G_2 = \frac{75}{4},$$
$$r_{f_2} = -\frac{12}{5}, p_2 = \frac{237}{80}, \tau_3 = 1, \delta_3 = 0, b_3 = -95, r_3 = \frac{6365}{73}, \epsilon_3 = 0, G_3 = \frac{101}{4}, r_{f_3} = -\frac{8832829}{10640}, p_3 = \frac{1260861}{1520}$$

7.

$$p=873, D_1=95, D_2=39, D_3=35, K_1=\frac{33}{2}, K_2=137, K_3=69, \tau_1=\frac{11}{17}, \delta_1=0, b_1=-36, r_1=\frac{20196}{2867}, \epsilon_1=\frac{6}{17}, G_1=\frac{93}{7}, r_{f_1}=-\frac{17}{10}, p_1=\frac{1117}{1330}, \tau_2=\frac{43}{142}, \delta_2=\frac{63}{145}, b_2=50, r_2=\frac{141041500}{1276787}, \epsilon_2=\frac{5409}{20590}, G_2=57,$$

$$r_{f_2}=\frac{49}{10}, p_2=-\frac{577}{130}, \tau_3=\frac{69}{200}, \delta_3=\frac{13}{89}, b_3=-91, r_3=\frac{111766200}{19871}, \epsilon_3=\frac{9059}{17800}, G_3=\frac{37}{2}, r_{f_3}=-\frac{2166363}{2470}, p_3=\frac{1515639}{1729}$$

8.

$$p=942, D_1=5, D_2=85, D_3=61, K_1=5, K_2=\frac{61}{2}, K_3=153, \tau_1=0, \delta_1=1, b_1=0, r_1=31, \epsilon_1=0, G_1=\frac{5}{3}, r_{f_1}=3, p_1=-\frac{11}{3}, \tau_2=0, \delta_2=\frac{11}{102}, b_2=-6, r_2=\frac{37332}{16669}, \epsilon_2=\frac{91}{102}, G_2=2,$$

$$r_{f_2}=\frac{7}{10}, p_2=-\frac{57}{34}, \tau_3=0, \delta_3=\frac{61}{153}, b_3=0, r_3=80, \epsilon_3=\frac{92}{153}, G_3=90, r_{f_3}=-\frac{5891411}{6222}, p_3=\frac{96629}{102}$$

9.

$$p=961, D_1=53, D_2=14, D_3=39, K_1=35, K_2=\frac{87}{8}, K_3=74, \tau_1=0, \delta_1=0, b_1=-90, r_1=\frac{3150}{53}, \epsilon_1=1, G_1=\frac{38}{3}, r_{f_1}=-\frac{43}{10}, p_1=\frac{5627}{1590}, \tau_2=\frac{3}{34}, \delta_2=\frac{77}{111}, b_2=-32, r_2=\frac{1167424}{18439}, \epsilon_2=\frac{823}{3774}, G_2=\frac{73}{10},$$

$$r_{f_2}=\frac{9}{10}, p_2=-\frac{193}{140}, \tau_3=1, \delta_3=0, b_3=90, r_3=\frac{1332}{7}, \epsilon_3=0, G_3=13, r_{f_3}=-\frac{21358609}{22260}, p_3=\frac{21343769}{22260}$$

10.

$$p=1116, D_1=84, D_2=76, D_3=16, K_1=147, K_2=76, K_3=77, \tau_1=0, \delta_1=\frac{17}{177}, b_1=-64, r_1=\frac{79296}{589}, \epsilon_1=\frac{160}{177}, G_1=86, r_{f_1}=-\frac{21}{5}, p_1=\frac{887}{210}, \tau_2=\frac{8}{51}, \delta_2=\frac{43}{51}, b_2=0, r_2=10, \epsilon_2=0, G_2=3,$$

$$r_{f_2}=\frac{13}{5}, p_2=-\frac{1353}{380}, \tau_3=\frac{3}{4}, \delta_3=\frac{1}{4}, b_3=63, r_3=\frac{4851}{61}, \epsilon_3=0, G_3=23, r_{f_3}=-\frac{35587583}{31920}, p_3=\frac{8900387}{7980}$$

11.

$$p=1181, D_1=54, D_2=16, D_3=64, K_1=120, K_2=\frac{36}{7}, K_3=160, \tau_1=0, \delta_1=1, b_1=68, r_1=\frac{1360}{11}, \epsilon_1=0, G_1=95, r_{f_1}=\frac{3}{5}, p_1=\frac{43}{270}, \tau_2=\frac{16}{17}, \delta_2=\frac{1}{17}, b_2=-69, r_2=\frac{621}{19}, \epsilon_2=0, G_2=\frac{71}{20},$$

$$r_{f_2}=-1, p_2=\frac{71}{320}, \tau_3=\frac{151}{169}, \delta_3=0, b_3=55, r_3=\frac{46475}{417}, \epsilon_3=\frac{18}{169}, G_3=19, r_{f_3}=-\frac{5103311}{4320}, p_3=\frac{10200547}{8640}$$

12.

$$p=1188, D_1=54, D_2=37, D_3=59, K_1=54, K_2=83, K_3=59, \tau_1=\frac{8}{51}, \delta_1=\frac{43}{51}, b_1=0, r_1=4, \epsilon_1=0, G_1=\frac{89}{2}, r_{f_1}=4, p_1=-\frac{451}{108}, \tau_2=0, \delta_2=\frac{50}{227}, b_2=-57, r_2=\frac{1073937}{4249}, \epsilon_2=\frac{177}{227}, G_2=46,$$

$$r_{f_2}=-\frac{5}{2}, p_2=\frac{203}{74}, \tau_3=\frac{1}{6}, \delta_3=\frac{5}{6}, b_3=0, r_3=73, \epsilon_3=0, G_3=\frac{17}{2}, r_{f_3}=-\frac{280627205}{235764}, p_3=\frac{4752973}{3996}$$

13.

$$p=1225, D_1=24, D_2=26, D_3=49, K_1=\frac{76}{5}, K_2=92, K_3=49, \tau_1=0, \delta_1=1, b_1=-54, r_1=\frac{1026}{11}, \epsilon_1=0, G_1=11, r_{f_1}=-2, p_1=\frac{35}{24}, \tau_2=\frac{43}{47}, \delta_2=0, b_2=88, r_2=\frac{190256}{1367}, \epsilon_2=\frac{4}{47}, G_2=24,$$

$$r_{f_2}=-\frac{7}{5}, p_2=\frac{86}{65}, \tau_3=0, \delta_3=\frac{1}{3}, b_3=-46, r_3=69, \epsilon_3=\frac{2}{3}, G_3=\frac{37}{3}, r_{f_3}=-\frac{93483589}{76440}, p_3=\frac{1906661}{1560}$$

14.

$$p=1327, D_1=73, D_2=26, D_3=25, K_1=\frac{97}{2}, K_2=26, K_3=121, \tau_1=\frac{11}{102}, \delta_1=\frac{1}{6}, b_1=-7, r_1=\frac{34629}{6088}, \epsilon_1=\frac{37}{51}, G_1=\frac{5}{3}, r_{f_1}=-\frac{1}{2}, p_1=-\frac{209}{438}, \tau_2=\frac{91}{102}, \delta_2=\frac{11}{102}, b_2=0, r_2=87, \epsilon_2=0, G_2=\frac{59}{4},$$

$$r_{f_2}=\frac{49}{10}, p_2=-\frac{2773}{520}, \tau_3=\frac{25}{121}, \delta_3=0, b_3=0, r_3=79, \epsilon_3=\frac{96}{121}, G_3=8, r_{f_3}=-\frac{759289127}{569400}, p_3=\frac{151780387}{113880}$$

The End

Who is the actual Prime Minister of India?

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Abstract

In this paper, I describe the need to clarify who is the actual Prime Minister of India. The paper ends with "The End"

Introduction

Many Indians wonder about who is the actual Prime Minster of India at this time.

In this paper, I describe the need to clarify who is the actual Prime Minister of India.

Narendra Damodardas Modi v/s Rahul Gandhi

As of this writing, there are only two serious contenders for the position of the actual Prime Minister of India - Narendra Damodardas Modi and Rahul Gandhi.

The former is characterized by the image of **The Strongman** while the latter is characterized by the image of **Young Blood**.

Both of the contenders have separate interest groups behind them. Modi has the support of **The Old Guard of India** while Gandhi has the support of **The Indian Youth**.

The basic problem at the crux of being Prime Minster

The basic problem that both contenders face at the crux of being Prime Minster is not just obtaining the favor of the Court but also obtaining the trust of the interest group of the other candidate.

While many at Court and in the Old Guard of India trust Rahul Gandhi to be an able Prime Ministerial candidate, following the COVID-19 crisis, the Indian Youth does not trust Narendra Damodardas Modi to be an able Prime Minister, which is why they have brought Rahul Gandhi to the fore.

What has Narendra Damodardas Modi accomplished?

What Modi has accomplished during his reign remains a closely guarded secret. But the fact that COVID-19 affected the world, including India and China, is not. It's an incontrovertible truth that COVID-19 happened during the capacity of Narendra Damodardas Modi as Prime Minister around the time he visted China without any official agenda. Therefore, The Indian public calls a spade a spade.

The concern of the age of Narendra Damodardas Modi

There is also a concern about the age of Narendra Damodardas Modi. Modi came to power in 26 May 2014 and still holds the Office of the Prime Minister as of this writing on 26 October 2023. He is now 73 years old and is older than even the President of India. The much younger 52-year-old Rahul Gandhi can provide the much needed trust that the Indian Youth requires to not feel alienated or worse.

Is it not time for Narendra Damodardas Modi to pass on the mantle?

As of this writing, Narendra Dmodardas Modi has served as the Prime Minister of India for more than 8 years. Will he try or be forced to try, perhaps with his closest ally Amit Shah, the tandemocracy that happened in Russia with Vladimir Putin and Dmitry Medvedev? Either way, has the time not come for him to pass the mantle on?

Conclusion

Therefore, for all the reasons mentioned above, I conclude that the time has come for the actual Prime Minister of India to step to the fore and claim what is rightfully his responsibility.

The End