Two models of nuclear war involving N nuclear powers

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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

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

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

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

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_{ni} 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

$$\sum_{i=1}^{N} p_{ni} = p_{nNT}$$

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

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

where
N is the number of nuclear powers involved in nuclear war
$1 \leq i \leq N$
p_{nNT} 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_{fi} is the risk-free rate of the i^{th} nuclear power
p_{ni} 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

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Abstract

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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.

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

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

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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

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

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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