Chapter 13

Government Spending and Taxes to Guarantee Growth: Samuelson's Balanced Budget (1942) to Answer Krugman's (July, 2012)

Signpost to Chapter 13 and towards summit

Fiscal policy spreads over economic policies as a whole by country. Solid foundation is attributed to two facts that (1) if the balance of payments is within a certain range of minus, this situation stimulates net investment, (2) if real-assets deficit is zero, this situation makes a country steadily stimulate economic growth, as Samuelson discovered in 1942 and, (3) as a result, under a certain minus balance of payments and zero deficit, the country is most efficient and effective in growth and returns. Furthermore, Chapter 15 proves the less the rate of change in population the more steadily the rate of technological progress is guaranteed, with full-employment and a low inflation, where stop-macro inequality is also in reality. This is because the level of the relative share of capital or labor by country is indifferent of the level of technological progress. We are waiting for dawn just before sunshine at a universal summit in reality.

Before sunshine, the author here incites Rose and Milton Friedman's (309-310, 1980, 1979) following universal paragraph:

> Fortunately, we are waking up. We are again recognizing the dangers of an over governed society, coming to understand that good objectives can be perverted by bad means, that reliance on the freedom of people to control their own lives in accordance with their own values is the surest way to achieve the full potential of a great society.

The author proves the neutrality of the financial/market assets to the real assets at national accounts in Chapters 2 to 5. As long as we stay at a moderate range of the endogenous-equilibrium by country, we are free from too much supply of money, M2 and/or others. Keynesians, Neo-classicists, and other schools climb up towards the universe summit. Chapter 16 at the end of Monograph will clarify and confirm this crossing and summarize Harcourt's lifework, cooperating endogenous database with its the transitional path by year.

Chapter 13

13.1 Introduction of Samuelson's Scientific Discovery

This chapter definitely answers an alternative universe defined by Krugman's Opinion Page in *New York Times* dated on 1st of July, 2012: Krugman here indicates that European opinion lives in the universe where austerity would still work if only everyone had faith and everyone can cut spending at the same time without producing a depression. The alternative universe was clarified by Samuelson (*QJE* 54: 575-605, 1942), when there were no data at the real assets of national accounts. Samuelson (*History of Political Economy* 7: 43-55, 1975) recollected its summary, comparing with Slant, W. S. (3-18, 19-27, 1975). The author here uses 36 country KEWT data-sets/database, 1990-2010 by sector, and endogenously proves the contents of Samuelson (ibid.--1942). Samuelson and Salant, incidentally in 1942, were exceptionally against financial/market-oriented policies. Samuelson (ibid., 45) supposes that deficit is government spending less taxes, similarly to the balance of payments, exports less imports, where taxes correspond with imports. This framework is the same as the endogenous system and its KEWT database. The differences are delicate as follows:

<u>Delicate differences lying between Samuelson's and KENT's</u>

1-1. Samuelson defines disposable income after taxes *y* as *GNP* less taxes. The relationship between *GNP* and disposable income remains actual or statistical.

1-2. The KEWT measures national disposable income *Y*, after redistributing taxes.

2-1. Samuelson uses the multiplier whose numerator is disposable income. The multiplier is calculated using differential.

2-2. The KEWT uses endogenous ratios whose denominator is disposable income so that there is no difference between the multiplier and the endogenous ratio.

3-1. Samuelson and Salant could not test the results since there were no appropriate data at that time.

3-2. The KEWT measures all the data simultaneously and proves Samuelson's scientific discovery numerically correct by country.

4-1. Salant and Samuelson each use the propensity to consume or save, average and marginal, where the multiplier is each estimated using the propensity.

4-2. The KEWT endogenously measures the multiplier using the propensity to consume or save. In the transitional path by year of the KEWT, the author proves that the average propensity equals the marginal propensity, using recursive programming (for recursive programming, wholly as a system, see Chapter 16). Further, the author first proves that the marginal multiplier includes the growth rate of disposable income in its equation (for the multiplier in detail, see Chapter 12).[1]

[1] The average investment multiplier is defined as $m_S = 1/(1-c)$ and, the marginal investment multiplier as $m_{\Delta S} = 1/(1-\Delta c)$, where $c = C/Y$ and $\Delta c = \Delta C/\Delta Y$. The denominator of marginal disposable income, Δ*Y*, is expressed using the growth rate of disposable income, defined by $g_{Y(BACK)} =$

Now let the author explain the contents of Samuelson (45-46, 1975), first using Samuelson's real assets equations and, second using Salant's (1964; 1-31, 1975) secondary effects equations from government to individuals.

Samuelson's (1942, 1975) discovery, with Slant (1975)

The KEWT sets government spending, E_G, a base for the relationship between taxes, T_{AX}, and deficit, ΔD. Notate C_G government consumption and I_G government net investment, and Y government disposable income=government output, $Y_G = C_G + S_G$. Deficit is defined as $\Delta D = S_G - I_G$ using the real assets instead of cash flow deficit.

$$E_G = C_G + I_G = Y_G - \Delta D \quad (1)$$

Eq.1 means a fact that if deficit is surplus, $E_G > Y_G$ and if deficit is surplus is minus (which is so called deficit originally), $E_G < Y_G$. Samuelson stresses that $E_G = Y_G$ is most growth-oriented by showing this is consistent with Salent's multiplier. The author stresses that deficit is a result and should be increased if people really wants moderate growth fore ever.

Salant's (21-22, 1975) distinguishes total effects of the multiplier with secondary effects for income expanding, using each multiplier as follows:

For total effect, $\frac{1}{1-c}$, and the sum of the infinite series is $1 + c + c^2 + c^3$ ... (2)

For secondary effects, $\frac{1}{1-c} - 1 = \frac{c}{1-c}$, and the sum of the infinite series is $1 + c + c^2 + c^3$ .... Thus, $1/(1-c) - c/(1-c) = 1$ (3)

Samuelson proves that Eqs. 1 and 3 are consistent with each other or that Eq.1 holds only if Eq.3 holds.

The author empirically proves the same discovery as Samuelson's, using endogenous simulation (for numerically, see a series of BOX in the next sections below).

Author's discovery with endogenous simulation

1. On the first line, we set a base of government spending, $E_G = C_G + I_G$. For convenience, E_G is divided by disposable income or output, where three equality of expenditures, income, and output is guaranteed; E_G/Y. E_G/Y has twelve levels by cell in the Excel and ranges from 0.05 to 0.6. All the lines below the E_G/Y line are controlled by the change in E_G/Y.

$(Y_t - Y_{t-1})/Y_t$, instead of using $g_Y = (Y_t - Y_{t-1})/Y_{t-1}$: $\Delta c = \frac{c_t - c_{t-1}(1-g_{Y(BACK)})}{g_{Y(BACK)}}$. For deficit= zero, see soon below, as shown by Salant (1964, 1975).

2. The second line shows $T_{AX}/Y = Y_G/Y$ (for endogenous taxes=government output, see Chapter 12). T_{AX}/Y is calculated, dividing E_G/Y by the tax coefficient, which is defined as $a_{TAX} = T_{AX}/E_G$.
3. The third line shows two treatments at the same time. The first treatment preliminarily shows net investment divided by output, $i_{G/Y} = I_G/Y$. $i_{G/Y} = I_G/Y$ is calculated, multiplying T_{AX}/Y by the net investment coefficient, $b_{IG/YG} = I_G/Y_G$: $\frac{I_G}{Y} = \frac{T_{AX}}{Y}\frac{I_G}{Y_G}$, where $T_{AX} = Y_G$. The second treatment aims at discover proof and shows net investment divided by government output, $i_G = I_G/Y_G$.
4. The fourth line and hereunder principally follow the first treatment. A key ratio is the qualitative net investment coefficient, $\beta^* = \frac{\Omega^*(n(1-\alpha)+i(1+n))}{i(1-\alpha)+\Omega^* \cdot i(1+n)}$. Then, the rate of technological progress, $g_A^* = i(1-\beta^*)$, the growth rate of per capita output, $g_y^* = g_A^*/(1-\alpha)$, and the inverse of the speed years, $\lambda^* = (1-\alpha)n + (1-\delta_0)g_A^*$, are calculated using three endogenous parameters, the capital-output ratio, $\Omega = K/Y$ or $\Omega = \Omega_0 = \Omega^* = \frac{\beta^* \cdot i(1-\alpha)}{i(1-\beta^*)(1+n)+n(1-\alpha)}$, the rate of change in population, $n_E = n$, and the relative share of capital, $\alpha = \Pi/Y$.
5. Samuelson's scientific discovery level is empirically tested only at the row that shows the endogenous $\frac{E_G}{Y}$. Particularly, policy-makers need to watch the difference between $i_{\frac{G}{Y}} = I_G/Y$ and $i_G = I_G/Y_G$, at the fourth line, where $i_G = I_G/Y_G$ is only shown at the above endogenous $\frac{E_G}{Y}$. The greater the difference the more risky the situation is. Note that if the fourth line is all converted to $i_G = I_G/Y_G$ by row, the difference between the total economy and the government sector is not revealed. Also, three parameters, $\Omega = K/Y$, $n_E = n$, and $\alpha = \Pi/Y$ at the total economy and those at the government sector, $\Omega_G = K_G/Y_G$, $n_{E(G)} = n_G$, and $\alpha_G = \Pi_G/Y_G$ are consistent in simulation since both coexist at the same time, although the results at the total economy appear implicitly.

This chapter concentrates on the government sector and does not step into the difference between saving and net investment by sector: $(S-I) = (S_G - I_G) + (S_{PRI} - I_{PRI})$, where $S-I$ is the balance of payments and, $S_G - I_G$ is deficit (see related chapters). Also, this chapter does not step into the structure of $i = i_G + i_{PRI}$, where $i = I/Y$, $i_G = I_G/Y$, and $i_{PRI} = I_{PRI}/Y$. Further, there exists individual utility behind consumption and the multiplier, but this chapter does not step into macro-based utility of the author's.[2] The author indicates: Samuelson's (355-385, 1950) the first topological illustration to the integrability in utility theory had to wait until the introduction of hyperbolas. For the relationship between consumption/saving and wages/returns at the macro level, see *JES* and *PRSCE*, Sep 2012.

Besides, this chapter does not step into the relationship between real and financial/market assets. Behind this relationship there exists the neutrality of the financial/market assets to the real assets. The author indicates that Du Grauwe's (147, 225, 2005) $G - T + rB = dB/dt + dM/dt$ (Eq. B19.1) holds under the price-equilibrium yet, with the above neutrality.

13.2 Empirical Proofs on Government Spending and Taxes in KEWT Database 6.12 by Country

This section clarifies a new relationship between Samuelson's discovery and the growth rate of per capita output in the endogenous-equilibrium, $g_y^* = g_A^*/(1-\alpha)$, where the rate of technological progress, $g_A^* = i(1-\beta^*)$. This relationship is consistent with the thought of the multiplier, whose numerator is output of the total economy. This relationship does not treat proper variables designed for the government sector; e.g., $g_{y(G)}^* = g_{A(G)}^*/(1-\alpha_G)$ and $g_{A(G)}^* = i_G(1-\beta_G^*)$. This is because the government sector's proper variables measured by the endogenous system are not familiar to researchers and policy-makers. Two determinants, $a_{TAX} = T_{AX}/E_G$ and $b_{IG/YG} = I_G/Y_G$, do not disturb the work of the multiplier but cooperative with the multiplier.

[2] The author summarizes the stream of utility equations lying between literature's utility and macro-based utility as follows: Let the author introduce the concept of instantaneous utility by Cass David (1964, 4-5). Formulating each utility function of consumption and wages/compensation, $U(C) = \frac{C}{rho} = \sum_{t=0}^{\infty} \frac{C}{(1+rho)}$ and $U(W) = \frac{W}{r} = \sum_{t=0}^{\infty} \frac{W}{(1+r)}$ are derived, where $U(C) = U(W)$ holds. The author's $1-\alpha = c/(rho/r)$ was derived as shown above, where related definitions are $(1-\alpha) = W/Y$ and $c = C/Y$. The present value of $U(C)$ or $U(W)$ may be called social welfare as a stock. Cass David's use of $U(C) = U(W)$ is a great gift to the endogenous model and system. As a result, the author's use of (rho/r) is justified.

Chapter 13

BOX 13-1 Proof of Samuelson's scientific discovery, 1942: BOX A versus BOX B

$T_{AX}=a_{TAX}\cdot E_G$			E_G: G size		BOX A:	$b_{IG/YG}=0.25$			$E_G=C_G+I_G=T_{AX}+\Delta D$		$T_{AX}=Y_G=C_G+S_G$		$g_{y\ G}^{*}=g_{A\ G}^{*}/(1\text{-alpha}_G)$	
$I_G=b_{IG/YG}\cdot Y_G$	a_{TAX} & $b_{IG/YG}$		0.0500	0.1000	0.1500	0.2000	0.2500	0.3000	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
Case 1	**1.00**	Speed yrs G	#NUM!	#NUM!	113.11	96.00	81.87	70.73	61.93	54.91	49.22	44.54	40.64	37.34
	0.25	$g_{y\ G}^{*}$	(0.0038)	0.0000	0.0038	0.0076	0.0114	0.0152	0.0189	0.0227	0.0265	0.0303	0.0341	0.0379
Case 2	**0.85**	Speed yrs G	#NUM!	#NUM!	121.14	105.98	92.16	80.63	71.22	63.53	57.20	51.92	47.48	43.71
	0.25	$g_{y\ G}^{*}$	(0.0044)	(0.0011)	0.0021	0.0053	0.0085	0.0117	0.0150	0.0182	0.0214	0.0246	0.0278	0.0311
Case 3	**0.60**	Speed yrs G	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	124.56	116.07	107.47	99.41	92.08	85.50	79.63
	0.25	$g_{y\ G}^{*}$	(0.0067)	(0.0052)	(0.0036)	(0.0021)	(0.0005)	0.0010	0.0026	0.0042	0.0057	0.0073	0.0088	0.0104
Case 4	**0.525**	Speed yrs G	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	127.29	121.19	114.57	108.04	101.84
	0.25	$g_{y\ G}^{*}$	(0.0075)	(0.0063)	(0.0052)	(0.0041)	(0.0030)	(0.0018)	(0.0007)	0.0004	0.0016	0.0027	0.0038	0.0049
Case 4-Ω	**0.525**	Speed yrs G	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	127.84	123.10
	0.25	$g_{y\ G}^{*}$	(0.0081)	(0.0072)	(0.0064)	(0.0056)	(0.0047)	(0.0039)	(0.0031)	(0.0022)	(0.0014)	(0.0006)	0.0003	0.0011
Case 4-n_E	**0.675**	Speed yrs G	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	51.50
	0.25	$g_{y\ G}^{*}$	(0.0188)	(0.0171)	(0.0153)	(0.0136)	(0.0119)	(0.0101)	(0.0084)	(0.0067)	(0.0049)	(0.0032)	(0.0015)	0.0003
Case 4-α	**0.525**	Speed yrs G	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	147.39	138.68	129.93	121.64	113.98	106.98
	0.25	$g_{y\ G}^{*}$	(0.0071)	(0.0057)	(0.0043)	(0.0029)	(0.0015)	(0.0001)	0.0013	0.0027	0.0041	0.0055	0.0069	0.0083

$T_{AX}=a_{TAX}\cdot E_G$			E_G: G size		BOX B:	$b_{IG/YG}=0.50$			$E_G=C_G+I_G=T_{AX}+\Delta D$		$T_{AX}=Y_G=C_G+S_G$		$g_{y\ G}^{*}=g_{A\ G}^{*}/(1\text{-alpha}_G)$	
$I_G=b_{IG/YG}\cdot Y_G$	a_{TAX} & $b_{IG/YG}$		0.0500	0.1000	0.1500	0.2000	0.2500	0.3000	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
Case 1	**1.00**	Speed yrs G	#NUM!	96.00	70.73	54.91	44.54	37.34	32.08	28.09	24.97	22.46	20.41	18.69
	0.50	$g_{y\ G}^{*}$	0.0000	0.0076	0.0152	0.0227	0.0303	0.0379	0.0455	0.0530	0.0606	0.0682	0.0758	0.0833
Case 2	**0.85**	Speed yrs G	#NUM!	105.98	80.63	63.53	51.92	43.71	37.65	33.01	29.37	26.44	24.03	22.02
	0.50	$g_{y\ G}^{*}$	(0.0011)	0.0053	0.0117	0.0182	0.0246	0.0311	0.0375	0.0439	0.0504	0.0568	0.0633	0.0697
Case 3	**0.60**	Speed yrs G	#NUM!	#NUM!	124.56	107.47	92.08	79.63	69.74	61.82	55.40	50.12	45.71	41.99
	0.50	$g_{y\ G}^{*}$	(0.0052)	(0.0021)	0.0010	0.0042	0.0073	0.0104	0.0135	0.0166	0.0197	0.0228	0.0260	0.0291
Case 4	**0.525**	Speed yrs G	#NUM!	#NUM!	#NUM!	127.29	114.57	101.84	90.73	81.34	73.45	66.81	61.18	56.36
	0.50	$g_{y\ G}^{*}$	(0.0063)	(0.0041)	(0.0018)	0.0004	0.0027	0.0049	0.0072	0.0094	0.0117	0.0139	0.0162	0.0185
Case 4-Ω	**0.525**	Speed yrs G	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	123.10	112.63	102.66	93.75	85.94	79.14	73.21
	0.50	$g_{y\ G}^{*}$	(0.0072)	(0.0056)	(0.0039)	(0.0022)	(0.0006)	0.0011	0.0028	0.0045	0.0061	0.0078	0.0095	0.0112
Case 4-n_E	**0.675**	Speed yrs G	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	51.50	48.88	45.82	42.78	39.92	37.29	34.91
	0.50	$g_{y\ G}^{*}$	(0.0171)	(0.0136)	(0.0101)	(0.0067)	(0.0032)	0.0003	0.0037	0.0072	0.0106	0.0141	0.0176	0.0210
Case 4-α	**0.525**	Speed yrs G	#NUM!	#NUM!	#NUM!	138.68	121.64	106.98	94.87	84.90	76.66	69.77	63.96	58.99
	0.50	$g_{y\ G}^{*}$	(0.0057)	(0.0029)	(0.0001)	0.0027	0.0055	0.0083	0.0111	0.0139	0.0167	0.0195	0.0223	0.0251

Look at BOXES A and B each and then, compare A with B. The purpose of this comparison is to prove the real assets-side of Samuelson's discovery. Repeating: Replace Samuelson's *GNP* and disposable income by endogenous disposable income or *Y*. At the same time, precisely measure government consumption, net investment, and deficit. Then, Samuelson's unitary balanced-budget- multiplier theorem is derived and proved empirically.

The growth rate of per capita output, g_y^*, in BOX A is much lower than g_y^* in BOX B. This is because the coefficient, $b_{IG/YG}$, in BOX A is 0.25, while $b_{IG/YG}$ in BOX B is 0.50. The higher the $b_{IG/YG}$ the higher the g_y^*. Then, compare BOX A with BOX B by Case. The value of g_y^* in Case 1 is highest among Cases, both at both BOXES A and B. It implies that g_y^* is most high when deficit is zero. Samuelson's final discovery station, similarly to that of Salant's, shows a fact that if and only if deficit is zero the sum of the government spending multiplier and the tax multiplier equals 1.0, while all other cases always minus. This fact will be proved separately at the next section.

BOXES A and B by Case are based on real-assets discovery and, wholly cooperating with the multiplier.

This section, by Case, compares the speed years to show the level of equilibrium and

g_y^*. Case 4 shows a limit to falling into disequilibrium roughly at a_{TAX}=0.5. In Case 4, government spends twice of taxes endogenously. Along with the increase in deficit from Case 2 to Case 4, the speed years become definitely abnormal. Watch the range of government spending, E_G/Y, at the first line marked by bold. Normal ranges of equilibrium distinguished by government spending level become narrower: In other words, abnormal ranges of disequilibrium by government spending level spread widely and are shown by #NUM!. At the same time, each corresponding g_y^* decreases. Case 4 shows g_y^* close to zero under disequilibrium.

The above facts imply: Increase in deficit weakens technology and productivity. Or, increase in taxes strengthens technology and productivity. This fact expresses real-assets side of Samuelson's scientific discovery in the endogenous system. This fact is indifferent of any money supply policy under the author's neutrality of the financial/market assets to the real assets.

Under the current financial crisis, as pointed out by Krugman (2012), decrease in deficit never satisfies people without a guarantee to recover growth in reality. The first urgent priority is to rise up the endogenous rate of technological progress, regardless of the level of the quantitative/qualitative net investment coefficient, $\beta^*, \beta_G^*,$ or β_{PRI}^*. After having financial institutions rescued, the second urgent priority is to decrease deficit within as less periods as possible. As a result, the rate of inflation or deflation will be settled endogenously and corresponding indicators such as *CPI* and others will be normalized.

13.3 Empirical Proofs Using Two Multipliers in KEWT and Its Recursive Programming

This section first clarifies the relationship between real assets and the multiplier to finalize Samuelson's scientific discovery, using a series of BOX and also related recursive programming. Second, this section tests and interprets the level of the multiplier by country, using 24 countries, 2010. KEWT data-sets in 2010 show the worst results in some countries while indifferent of the current financial crisis in other countries. As a whole in 2010, world economies are not so much pessimistic but stable. This fact implies that many countries are already cooperative in the global world. When Samuelson's discovery was not urgently realized, however, the world economies must fall into the worst in reality.

First, let the author present finalized BOX C. BOX C connects real-assets discovery with the multiplier. The multiplier is generally shown by the propensity to saving, $m_S = 1/(1-c)$, except for deficit=zero. Under deficit=zero, $m_S = c/(1-c)$ is correctly shown (see Eqs. 2 and 3 above). Then, when $m_S = 1/(1-c)$ is applied to Cases A, B, C, D, and E, the sum of two multipliers of government spending and taxes, becomes 0.0, only at Case A, whose deficit is zero. The sum increases minus rapidly along with from Case B to Case E. Further, when deficit is plus (i.e., surplus), the same turns plus. These facts and proofs a final reply to Samuelson's scientific discovery. And, we together cry Eureka!, to these proofs in BOX C.

BOX 13-2 Samuelson's (46, 1975) Eureka!---BOX C, adding a case of surplus

Case Surplus (i.e., minus deficit)		using each inverse of two multipliers					**Case Surplus-inverse: Eureka!**				using two multipliers	
a_{TAX}	E_G/Y	0.0100	0.2500	0.5000	0.7500	1.0000		Y/E_G	100.00	4.00	2.00	1.33	1.00
1.2	T_{AX}/Y	0.012	0.3	0.6	0.9	1.2		Y/T_{AX}	(83.33)	(3.33)	(1.67)	(1.11)	(0.83)
$b_{IG/YG}$	$\Delta D=S_G-I_G$	(0.0020)	(0.0500)	(0.1000)	(0.1500)	(0.2000)	$b_{IG/YG}$		sum of two multipliers				
0.25	$I_G=b_{IG/YG}\cdot Y_G$	0.0030	0.0750	0.1500	0.2250	0.3000		0.25	**16.67**	**0.67**	**0.33**	**0.22**	**0.17**
Case A							**Case A-inverse: Samuelson's (46, 1975) Eureka!**					
a_{TAX}	E_G/Y	0.0100	0.2500	0.5000	0.7500	1.0000		Y/E_G	100.00	4.00	2.00	1.33	1.00
1.0	T_{AX}/Y	0.01	0.25	0.5	0.75	1		Y/T_{AX}	(100.00)	(4.00)	(2.00)	(1.33)	(1.00)
$b_{IG/YG}$	$\Delta D=S_G-I_G$	0.0000	0.0000	0.0000	0.0000	0.0000	$b_{IG/YG}$		sum of two multipliers				
0.25	$I_G=b_{IG/YG}\cdot Y_G$	0.0025	0.0625	0.1250	0.1875	0.2500		0.25	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Case B							Case B-inverse					
a_{TAX}	E_G/Y	0.0100	0.2500	0.5000	0.7500	1.0000		Y/E_G	100.00	4.00	2.00	1.33	1.00
0.75	T_{AX}/Y	0.0075	0.1875	0.375	0.5625	0.75		Y/T_{AX}	(133.33)	(5.33)	(2.67)	(1.78)	(1.33)
$b_{IG/YG}$	$\Delta D=S_G-I_G$	0.0025	0.0625	0.1250	0.1875	0.2500	$b_{IG/YG}$		sum of two multipliers				
0.25	$I_G=b_{IG/YG}\cdot Y_G$	0.0019	0.0469	0.0938	0.1406	0.1875		0.25	(33.33)	(1.33)	(0.67)	(0.44)	(0.33)
Case C							Case C-inverse					
a_{TAX}	E_G/Y	0.0100	0.2500	0.5000	0.7500	1.0000		Y/E_G	100.00	4.00	2.00	1.33	1.00
0.5	T_{AX}/Y	0.005	0.125	0.25	0.375	0.5		Y/T_{AX}	(200.00)	(8.00)	(4.00)	(2.67)	(2.00)
$b_{IG/YG}$	$\Delta D=S_G-I_G$	0.0050	0.1250	0.2500	0.3750	0.5000	$b_{IG/YG}$		sum of two multipliers				
0.25	$I_G=b_{IG/YG}\cdot Y_G$	0.0013	0.0313	0.0625	0.0938	0.1250		0.25	**(100.00)**	**(4.00)**	**(2.00)**	**(1.33)**	**(1.00)**
Case D							Case D-inverse					
a_{TAX}	E_G/Y	0.0100	0.2500	0.5000	0.7500	1.0000		Y/E_G	100.00	4.00	2.00	1.33	1.00
0.25	T_{AX}/Y	0.0025	0.0625	0.125	0.1875	0.25		Y/T_{AX}	(400.00)	(16.00)	(8.00)	(5.33)	(4.00)
$b_{IG/YG}$	$\Delta D=S_G-I_G$	0.0075	0.1875	0.3750	0.5625	0.7500	$b_{IG/YG}$		sum of two multipliers				
0.50	$I_G=b_{IG/YG}\cdot Y_G$	0.0013	0.0313	0.0625	0.0938	0.1250		**0.50**	(300.00)	(12.00)	(6.00)	(4.00)	(3.00)
Case E							Case E-inverse					
a_{TAX}	E_G/Y	0.0100	0.2500	0.5000	0.7500	1.0000		Y/E_G	100.00	4.00	2.00	1.33	1.00
0.01	T_{AX}/Y	0.0001	0.0025	0.005	0.0075	0.01		Y/T_{AX}	(10000)	(400)	(200)	(133.33)	(100.00)
$b_{IG/YG}$	$\Delta D=S_G-I_G$	0.0099	0.2475	0.4950	0.7425	0.9900	$b_{IG/YG}$		sum of two multipliers				
0.75	$I_G=b_{IG/YG}\cdot Y_G$	0.0001	0.0019	0.0038	0.0056	0.0075		**0.75**	(9900)	(396)	(198)	(132.00)	(99.00)

Note: For each Case, $a_{TAX} = T_{AX}/E_G$ and $b_{IG/YG} = I_G/Y_G$, determine the sum of two multipliers.

There hold national taste and culture using relative discounting rate, *rho/r*, and equations related to $\alpha(rho/r)$ and $(r/w)(\alpha)$.[3] These are discussed in a few other chapters.

The propensity to save is directly related to growth. This is proved using recursive programming by year and of course based on the KEWT. In recursive programming, the average propensity to save equals the marginal propensity to save: $1/(1-c) = 1/(1-\Delta c)$, where $\Delta c = \frac{C_t - C_{t-1}}{Y_t - Y_{t-1}} = \frac{\Delta C}{\Delta Y}$. At the KEWT, $\Delta c = \frac{c_t - c_{t-1}(1-g_{Y(BACK)})}{g_{Y(BACK)}} = \frac{\Delta \mathrm{C}}{\Delta \mathrm{Y}}$ holds, where $g_{Y(BACK)} \equiv \frac{Y_t - Y_{t-1}}{Y_t}$. These values are available at the KEWT series by year and, over years. It is an endogenous fact that the marginal propensity to save is another expression of the growth rate of output in equilibrium.

[3] $(rho/r) = 13.301c^2 - 22.608c + 10.566$ for 81 countries, exceptionally $(rho/r) = 1.8638c^2 - 2.4547c + 1.758$ for several saving-oriented countries. In many countries, each R^2 shows 0.95 to 1.0. $(rho/r)(c)$ is endogenously related to $\alpha = 1-(c/(rho/r))$; $(r/w) = (\alpha/(1-\alpha))/(K/L)$; $r = \alpha/(K/Y)$.

The cases of Samuelson (1942, 1975) and Salant (1942, 1975) each use the same propensity to saving/investment, average and marginal. In the endogenous system, the third coefficient, $c_{-BOP/Y}$, is required in an open economy. The more negatively the balance of payments (*BOP*), the more net investment at the total economy has. When *BOP*=0, saving equals net investment, $1/1-c$ and $1/1-\Delta c$, also if and only if $\Delta D = 0$, $c/1-c$ and $c/1-\Delta c$ hold. When *BOP*≠0, $1-c$ is replaced by $1-c+c_{-BOP/Y}\cdot i$, to have net investment adjusted under *BOP*≠0. Twin deficits to *BOP* and Δ*D* are not always the worst when deficit level does not increase and accepts a certain range of government net investment. At Samuelson's discovery, $a_{TAX} = T_{AX}/E_G$ and $b_{IG/YG} = I_G/Y_G$ must be measured and, $c_{-BOP/Y}$ be added acculately.

As a result, BOX 13-3 shows a way to a good circulation and, BOX 13-4 shows its final sufficient and necessary conditions.

BOX 13-3 From resulting in bubbles to no bubble ever adjusting the valuation ratio in equilibrium

Current no solution	Bad circulation	Good circulation
Bubbles	Under a certain range of Δ*D*	Bubbles do not occur
Rescue of financial institutions	Private banks survive	Private banks invest in tech.
Growth approaches zero, under ever increasing Δ*D*	Growth decreases over years Δ*D* does not decrease	Growth robustly target is Δ*D*=0
No method for growth	Have to waif the next bubbles	Much innovation
Vertically, stuck and fight	Behavior to the lower spirit	Behavior, happier

BOX 13-4 An empirical framework of ever growth based on Samuelson's discovery (1975)

Sufficient conditions	Necessary condition	Ideal target
$a_{TAX} = T_{AX}/E_G$ aiming at 1.0	$b_{IG/YG} = I_G/Y_G$ aiming at lower	$a_{TAX} = 1.0$
$c_{-BOP/Y}$ towards zero/minus	$b_{IG/YG} = 0.075$	$c_{-BOP/Y} = 0$
T_{AX} up = ΔD down = growth up C_G down = I_G up, $E_G = C_G + I_G$ flat or down	shortly, I_G be higher e.g., $\Delta T_{AX} = \Delta I_G$, E_G never increase	$T_{AX} = E_G$, set $\Delta D =$ zero plan robust growth

Social science pursues mankind equality and happiness boldly but without numerical backbone of scientific discovery. Policy-makers must prefer the backbone of real-assets policies to social scientific strategies widely spread. Otherwise, social science, ideas, and philosophy do not realize final happy target and, without glancing at unborn-generations. Leaders need to publish facts to people and convey the contents understandably. People, particularly young wives, feel intuitively and correctly what are going on right now. Conveyers are political.

Figure 1 below shows the relationship between the propensity to save and the growth rate of output using recursive programming, after adjusted by $c_{-BOP/Y}$. Figure 1 also expresses a whole picture of real-assets discovery in the transitional path. Each country has its own personality or national taste, culture, and history, which are not denied but expressed only through real-assets policies by country. Figure 1 shows an illustration to wholly evaluate real-assets policies. For example, the US is more robust than expected. This is related to a high $b_{IG/YG} = I_G/Y_G$. This does not implies that the US will be robust in the near future since the decrease in public net investment is required in order to decrease deficit significantly and it might be difficult to accept bold tax increase. The current circumstances by country are summed up right now below.

Second, the author shows the results of scientific discovery using 24 countries, 2010. The counties chosen in this chapter correspond with the area of i) and the area of ii), excluding the area of iii), among 36 countries commonly used for several aspects in Monograph. For i): the US, Japan, Australia, France, Germany, the UK; China, India, Mexico, Russia, South Africa. For ii): Denmark, Finland, Netherlands, Norway, Sweden, Canada; Greece, Iceland, Ireland, Italy, Portugal, Spain. Results by country exactly present endogenous conditions required for recovering growth. Endogenous conditions by country answer Krugman's inquiry dated on July 1, 2012. When a leader by country concentrates on realizing real-assets policy closer to endogenous conditions, each country recovers growth power and enjoys full employment at the real assets.

Watch **Table 3-1** and then **Tables 3-2**, **3-3**, **3-4**, and **3-5** for 24 countries, 2010. Table 3-1 each is multiplier-oriented throughout simulation by country, except for one row, which shows the current government spending. This row is distinguished from other rows by level of government spending. All other rows each are based on output Y. The speed years and the growth rate of per capita output or labor productivity are consistently comparable by country, free from each country's fiscal position. How low labor productivity is at the limit of equilibrium! This fact is related to the rate of return endogenously. It implies that a low productivity is another expression of close-to-disequilibrium. The multiplier, the speed years, growth, and returns are all related implicitly and reflect results of fiscal policy. Even if we do not distinguish one row of the current government spending, the whole picture is vividly alive.

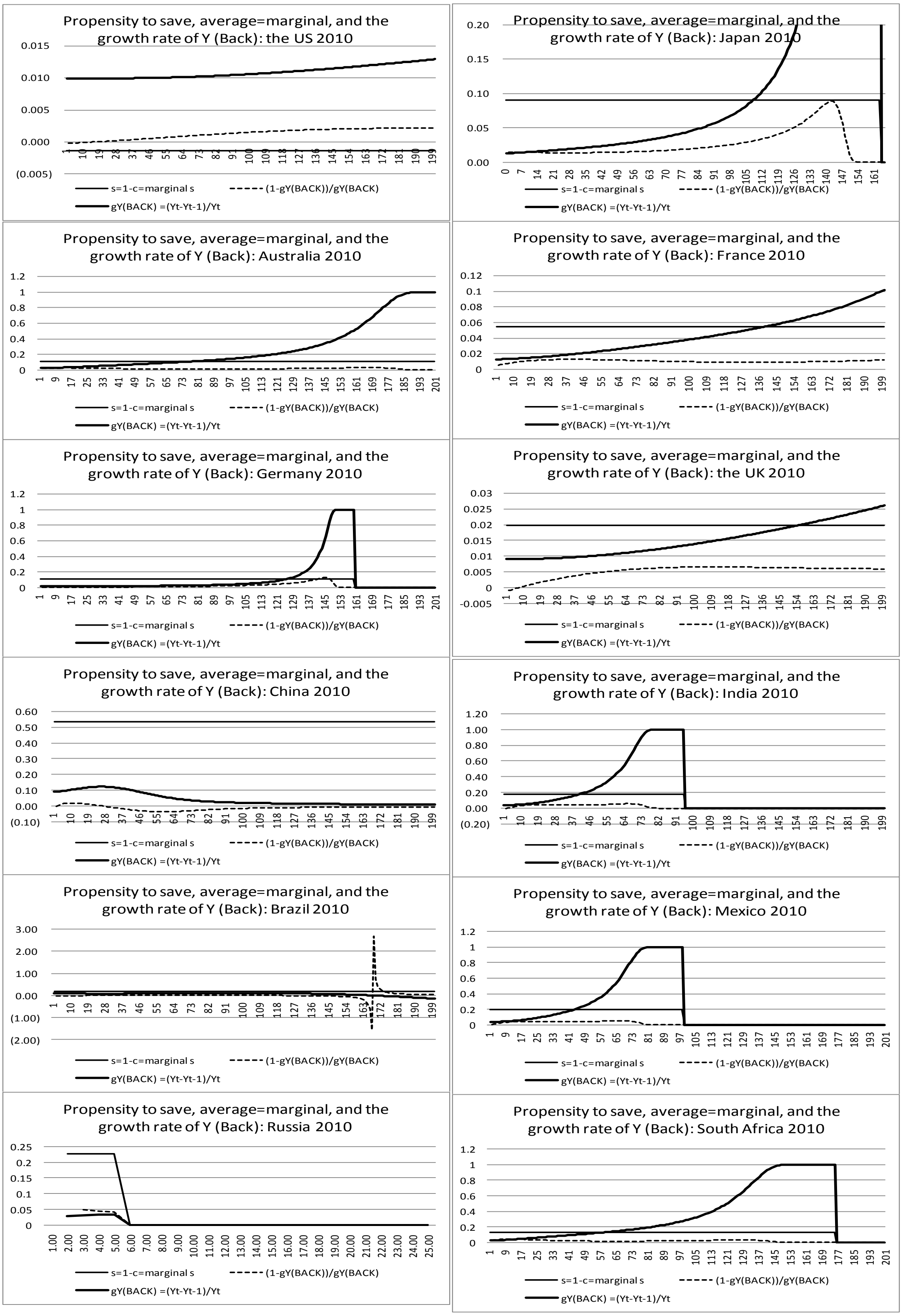

Figure 1 Propensity to save tightly connected with the growth rate in the transitional path

Left problem is how quickly policy-makers could erase real-assets causes from the screen. In general, real-assets causes have been accelerated by the rescue of financial institutions. Think of no problem for financial institutions. Then, real-assets causes are much less than today at the current financial crisis. The cause of financial institutions' aggregation comes from bubbles. Bubbles are results of high inflation or land and housing boom, as indicated by Paul Krugman.

The endogenous system avoids bubbles completely by using the endogenous valuation ratio, $v^* = V/K$. This was already discussed when the cost of capital was summarized in Chapter 5. This chapter does not repeat how to avoid bubbles. This is originally the work of the financial and market policies and also the central bank by country. Leaders and policy-makers have been defeated by surrounding circumstances partly due to a fact that some enterprises could earn much money at bubbles. Instead of bubbles, we could enjoy winning and winning together. This is the best way we operate earth economics and happiness of all people.

13.4 Conclusions

This chapter proposes, from a purely endogenous viewpoint of real assets, that the EU could moderately recover its growth by member country at the current financial crisis and be vividly sustainable as a challenging system in Europe. In short, the decrease in government consumption by member country must be much less than the increase in government net investment which is definitely required for steady growth by member country. This proposal is based on Samuelson's scientific discovery (1942, 1975) and proves it using 24 country data-sets of KEWT 1990-2010 by sector. Samuelson uses the multiplier and at the same time similarly, Salant (1942, 1975). Simulation specified for scientific discovery principally applies the multiplier to the endogenous data-sets since in general there is no way but actual and statistics data up to date.

The results were expressed using 24 countries including EU financial crisis countries, Greece, Iceland, Ireland, Italy, Portugal, and Spain and comparing each country with each other. Each country under financial crisis even requires a certain level of public/government net investment. Each level is based on each country's national taste, preferences, culture, and history, and consistently with the global economies. Krugman's (June 11, and July 1, 2012, New York Times) righteousness could results in good fortune definitely if and only if the EU member countries each boldly increase government net investment and severely cut government consumption, with bold tax increase for the next generation. The author loudly cries 'the increase in government net investment within the range of tax increase.' Tax reduction competition is completely meaningless for growth.

Leaders and policy-makers of the EU system, right now and by year, are able to execute Samuelson's scientific discovery. For this execution, an absolute condition of the increase in government net investment must be cooperatively systematized by country as the whole EU system. In short, financial crisis countries need much more growth than the current level.

This chapter, for the first time in economic history, revealed the relationship between taxes, deficit, and growth to empirically satisfy Samuelson's discovery. Tables 3-1 to 3-4 each show the growth rate of per capita output by country and reveals that the current level of growth is terribly low compared with moderate level by country. Money supply is required for funding financial institutions but remains countermeasure. Real cause of extremely low growth at the current financial crisis comes from extremely low level of net investment. Please do not confuse the above indication with another important fact that maximum returns and profits are attained at minimum net investment, as proved by related hyperbola by country. Also, dynamic balances are important between government and private sectors. These facts are common to any country among 81 countries endogenously measured by the endogenous system.

We have entered into new decade for social and economic cooperation among countries and, we are promised to be relaxed by country and people peacefully. We recovered scientific discovery, with its avoiding-bubbles indicator of $v^* = V/K$ as a god gift. We have now stepped into a real assets-path, starting with Keynes (1944) and through Samuelson's (1975) Eureka!

Chapter 13

Table 1-1 Growth guaranteed by the increase in taxes and G net investment with the decrease in G consumption

a_{TAX}	**1.00**												
	Case 1	EG: G size											
Case of Samuelson, 1998		0.0500	0.1000	0.1500	0.2000	0.2500	0.3000	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.05	0.1	0.15	0.2	0.25	0.3	0.35	0.4	0.45	0.5	0.55	0.6
0.25	$\Delta D=S_G-I_G$	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0125	0.0250	0.0375	0.0500	0.0625	0.0750	0.0875	0.1000	0.1125	0.1250	0.1375	0.1500
2.5	beta$^*_G$	1.2348	1.0000	0.9217	0.8826	0.8591	0.8434	0.8323	0.8239	0.8173	0.8121	0.8079	0.8043
$n_{EG}=n_G$	B^*_G	(0.1902)	0.0000	0.0849	0.1330	0.1640	0.1856	0.2016	0.2138	0.2235	0.2313	0.2379	0.2433
0.01	LN(B^*_G)	#NUM!	#NUM!	(2.4659)	(2.0171)	(1.8078)	(1.6840)	(1.6017)	(1.5427)	(1.4984)	(1.4639)	(1.4361)	(1.4133)
alpha $_G$	LN(Ω_G)/LN(E	#NUM!	#NUM!	(0.3716)	(0.4543)	(0.5069)	(0.5441)	(0.5721)	(0.5939)	(0.6115)	(0.6259)	(0.6380)	(0.6483)
0.225	delta$_{0\ G}$	#NUM!	#NUM!	0.628	0.546	0.493	0.456	0.428	0.406	0.388	0.374	0.362	0.352
	$g_A{}^*_G$	(0.0029)	0.0000	0.0029	0.0059	0.0088	0.0117	0.0147	0.0176	0.0205	0.0235	0.0264	0.0294
	1−delta$_{0\ G}$	#NUM!	#NUM!	0.3716	0.4543	0.5069	0.5441	0.5721	0.5939	0.6115	0.6259	0.6380	0.6483
	(1−delta$_{0\ G}$)g_A	#NUM!	#NUM!	0.0011	0.0027	0.0045	0.0064	0.0084	0.0105	0.0126	0.0147	0.0169	0.0190
	(1-α_G)n_G	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078
	lambda$^*_G$	#NUM!	#NUM!	0.0088	0.0104	0.0122	0.0141	0.0161	0.0182	0.0203	0.0225	0.0246	0.0268
	Speed years	#NUM!	#NUM!	113.11	96.00	81.87	70.73	61.93	54.91	49.22	44.54	40.64	37.34
	$g_y{}^*_G=g_A{}^*_G/(1\text{-alpha}_G)$	(0.0038)	0.0000	0.0038	0.0076	0.0114	0.0152	0.0189	0.0227	0.0265	0.0303	0.0341	0.0379
a_{TAX}		**0.85**											
	Case 2	EG: G size											
Case of weakened PRI		0.0500	0.1000	0.1500	0.2000	0.2500	0.3000	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.0425	0.085	0.1275	0.17	0.2125	0.255	0.2975	0.34	0.3825	0.425	0.4675	0.51
0.25	$\Delta D=S_G-I_G$	0.0075	0.0150	0.0225	0.0300	0.0375	0.0450	0.0525	0.0600	0.0675	0.0750	0.0825	0.0900
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0106	0.0213	0.0319	0.0425	0.0531	0.0638	0.0744	0.0850	0.0956	0.1063	0.1169	0.1275
2.5	beta$^*_G$	1.3177	1.0414	0.9493	0.9033	0.8757	0.8572	0.8441	0.8342	0.8265	0.8204	0.8154	0.8112
$n_{EG}=n_G$	B^*_G	(0.2411)	(0.0398)	0.0534	0.1071	0.1420	0.1665	0.1847	0.1987	0.2098	0.2189	0.2264	0.2327
0.01	LN(B^*_G)	#NUM!	#NUM!	(2.9308)	(2.2344)	(1.9520)	(1.7926)	(1.6890)	(1.6159)	(1.5614)	(1.5191)	(1.4854)	(1.4578)
alpha $_G$	LN(Ω_G)/LN(E	#NUM!	#NUM!	(0.3126)	(0.4101)	(0.4694)	(0.5111)	(0.5425)	(0.5671)	(0.5869)	(0.6032)	(0.6169)	(0.6285)
0.225	delta$_{0\ G}$	#NUM!	#NUM!	0.687	0.590	0.531	0.489	0.457	0.433	0.413	0.397	0.383	0.371
	$g_A{}^*_G$	(0.0034)	(0.0009)	0.0016	0.0041	0.0066	0.0091	0.0116	0.0141	0.0166	0.0191	0.0216	0.0241
	1−delta$_{0\ G}$	#NUM!	#NUM!	0.3126	0.4101	0.4694	0.5111	0.5425	0.5671	0.5869	0.6032	0.6169	0.6285
	(1−delta$_{0\ G}$)g_A	#NUM!	#NUM!	0.0005	0.0017	0.0031	0.0047	0.0063	0.0080	0.0097	0.0115	0.0133	0.0151
	(1-α_G)n_G	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078
	lambda$^*_G$	#NUM!	#NUM!	0.0083	0.0094	0.0109	0.0124	0.0140	0.0157	0.0175	0.0193	0.0211	0.0229
	Speed years	#NUM!	#NUM!	121.14	105.98	92.16	80.63	71.22	63.53	57.20	51.92	47.48	43.71
	$g_y{}^*_G=g_A{}^*_G/(1\text{-alpha}_G)$	(0.0044)	(0.0011)	0.0021	0.0053	0.0085	0.0117	0.0150	0.0182	0.0214	0.0246	0.0278	0.0311
a_{TAX}			**0.6**										
	Case 3	EG: G size											
Case of no growth		0.0500	0.1000	0.1500	0.2000	0.2500	0.3000	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.03	0.06	0.09	0.12	0.15	0.18	0.21	0.24	0.27	0.3	0.33	0.36
0.25	$\Delta D=S_G-I_G$	0.0200	0.0400	0.0600	0.0800	0.1000	0.1200	0.1400	0.1600	0.1800	0.2000	0.2200	0.2400
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0075	0.0150	0.0225	0.0300	0.0375	0.0450	0.0525	0.0600	0.0675	0.0750	0.0825	0.0900
4.00	beta$^*_G$	1.6975	1.2683	1.1252	1.0537	1.0107	0.9821	0.9617	0.9463	0.9344	0.9249	0.9171	0.9106
$n_{EG}=n_G$	B^*_G	(0.4109)	(0.2115)	(0.1113)	(0.0509)	(0.0106)	0.0182	0.0398	0.0567	0.0702	0.0812	0.0904	0.0982
0.01	LN(B^*_G)	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	(4.0058)	(3.2226)	(2.8701)	(2.6567)	(2.5107)	(2.4034)	(2.3207)
alpha $_G$	LN(Ω_G)/LN(E	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	(0.3461)	(0.4302)	(0.4830)	(0.5218)	(0.5522)	(0.5768)	(0.5973)
0.225	delta$_{0\ G}$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.654	0.570	0.517	0.478	0.448	0.423	0.403
	$g_A{}^*_G$	(0.0052)	(0.0040)	(0.0028)	(0.0016)	(0.0004)	0.0008	0.0020	0.0032	0.0044	0.0056	0.0068	0.0080
	1−delta$_{0\ G}$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.3461	0.4302	0.4830	0.5218	0.5522	0.5768	0.5973
	(1−delta$_{0\ G}$)g_A	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.0003	0.0009	0.0016	0.0023	0.0031	0.0039	0.0048
	(1-α_G)n_G	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078
	lambda$^*_G$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.0080	0.0086	0.0093	0.0101	0.0109	0.0117	0.0126
	Speed years	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	124.56	116.07	107.47	99.41	92.08	85.50	79.63
	$g_y{}^*_G=g_A{}^*_G/(1\text{-alpha}_G)$	(0.0067)	(0.0052)	(0.0036)	(0.0021)	(0.0005)	0.0010	0.0026	0.0042	0.0057	0.0073	0.0088	0.0104
a_{TAX}				**0.525**									
	Case 4	EG: G size											
Case of bankrupcy		0.0500	0.1000	0.1500	0.2000	0.2500	0.3000	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.02625	0.0525	0.07875	0.105	0.13125	0.1575	0.18375	0.21	0.23625	0.2625	0.28875	0.315
0.25	$\Delta D=S_G-I_G$	0.0238	0.0475	0.0713	0.0950	0.1188	0.1425	0.1663	0.1900	0.2138	0.2375	0.2613	0.2850
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0066	0.0131	0.0197	0.0263	0.0328	0.0394	0.0459	0.0525	0.0591	0.0656	0.0722	0.0788
5.00	beta$^*_G$	1.8806	1.3738	1.2049	1.1204	1.0697	1.0359	1.0118	0.9937	0.9796	0.9683	0.9591	0.9514
$n_{EG}=n_G$	B^*_G	(0.4683)	(0.2721)	(0.1700)	(0.1074)	(0.0652)	(0.0347)	(0.0116)	0.0064	0.0208	0.0327	0.0426	0.0511
0.01	LN(B^*_G)	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	(5.0552)	(3.8709)	(3.4199)	(3.1550)	(2.9749)
alpha $_G$	LN(Ω_G)/LN(E	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	(0.3184)	(0.4158)	(0.4706)	(0.5101)	(0.5410)
0.225	delta$_{0\ G}$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.682	0.584	0.529	0.490	0.459
	$g_A{}^*_G$	(0.0058)	(0.0049)	(0.0040)	(0.0032)	(0.0023)	(0.0014)	(0.0005)	0.0003	0.0012	0.0021	0.0030	0.0038
	1−delta$_{0\ G}$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.3184	0.4158	0.4706	0.5101	0.5410
	(1−delta$_{0\ G}$)g_A	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.0001	0.0005	0.0010	0.0015	0.0021
	(1-α_G)n_G	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078
	lambda$^*_G$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.0079	0.0083	0.0087	0.0093	0.0098
	Speed years	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	127.29	121.19	114.57	108.04	101.84
	$g_y{}^*_G=g_A{}^*_G/(1\text{-alpha}_G)$	(0.0075)	(0.0063)	(0.0052)	(0.0041)	(0.0030)	(0.0018)	(0.0007)	0.0004	0.0016	0.0027	0.0038	0.0049

Table 1-2 Growth guaranteed by the increase in taxes and G net investment with the decrease in G consumption

a_{TAX}				**0.525**									
Case 4-Omega		EG: G size											
Sacrificing technology		0.0500	0.1000	0.1500	0.2000	0.2500	0.3000	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.02625	0.0525	0.07875	0.105	0.13125	0.1575	0.18375	0.21	0.23625	0.2625	0.28875	0.315
0.25	$\Delta D=S_G-I_G$	0.0238	0.0475	0.0713	0.0950	0.1188	0.1425	0.1663	0.1900	0.2138	0.2375	0.2613	0.2850
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0066	0.0131	0.0197	0.0263	0.0328	0.0394	0.0459	0.0525	0.0591	0.0656	0.0722	0.0788
7.00	beta $^*_G$	1.9550	1.4281	1.2525	1.1646	1.1120	1.0768	1.0517	1.0329	1.0183	1.0066	0.9970	0.9890
$n_{EG}=n_G$	B^*_G	(0.4885)	(0.2998)	(0.2016)	(0.1414)	(0.1007)	(0.0714)	(0.0492)	(0.0319)	(0.0180)	(0.0065)	0.0030	0.0111
0.01	$LN(B^*_G)$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	(5.8083)	(4.5010)
alpha $_G$	$LN(\Omega_G)/LN(E$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	(0.3350)	(0.4323)
0.225	delta $_{0\ G}$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.665	0.568
	$g_A{}^*{}_G$	(0.0063)	(0.0056)	(0.0050)	(0.0043)	(0.0037)	(0.0030)	(0.0024)	(0.0017)	(0.0011)	(0.0004)	0.0002	0.0009
	1−delta $_{0\ G}$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.3350	0.4323
	(1−delta $_{0\ G}$)g_A	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.0001	0.0004
	$(1-\alpha_G)n_G$	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078
	lambda $^*_G$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.0078	0.0081
	Speed years	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	127.84	123.10
$g_v{}^*{}_G=g_A{}^*{}_G/(1$-alpha$_G)$		(0.0081)	(0.0072)	(0.0064)	(0.0056)	(0.0047)	(0.0039)	(0.0031)	(0.0022)	(0.0014)	(0.0006)	0.0003	0.0011

a_{TAX}				**0.675**									
Case 4-n_E		EG: G size											
Sacrificing technology		0.0500	0.1000	0.1500	0.2000	0.2500	0.3000	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.03375	0.0675	0.10125	0.135	0.16875	0.2025	0.23625	0.27	0.30375	0.3375	0.37125	0.405
0.25	$\Delta D=S_G-I_G$	0.0163	0.0325	0.0488	0.0650	0.0813	0.0975	0.1138	0.1300	0.1463	0.1625	0.1788	0.1950
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0084	0.0169	0.0253	0.0338	0.0422	0.0506	0.0591	0.0675	0.0759	0.0844	0.0928	0.1013
4.00	beta $^*_G$	2.7252	1.7831	1.4691	1.3121	1.2179	1.1550	1.1102	1.0765	1.0504	1.0294	1.0123	0.9980
$n_{EG}=n_G$	B^*_G	(0.6330)	(0.4392)	(0.3193)	(0.2378)	(0.1789)	(0.1342)	(0.0993)	(0.0711)	(0.0480)	(0.0286)	(0.0122)	0.0020
0.025	$LN(B^*_G)$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	(6.2315)
alpha $_G$	$LN(\Omega_G)/LN(E$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	(0.2225)
0.225	delta $_{0\ G}$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.778
	$g_A{}^*{}_G$	(0.0146)	(0.0132)	(0.0119)	(0.0105)	(0.0092)	(0.0078)	(0.0065)	(0.0052)	(0.0038)	(0.0025)	(0.0011)	0.0002
	1−delta $_{0\ G}$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.2225
	(1−delta $_{0\ G}$)g_A	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.0000
	$(1-\alpha_G)n_G$	0.0194	0.0194	0.0194	0.0194	0.0194	0.0194	0.0194	0.0194	0.0194	0.0194	0.0194	0.0194
	lambda $^*_G$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.0194
	Speed years	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	51.50
$g_v{}^*{}_G=g_A{}^*{}_G/(1$-alpha$_G)$		(0.0188)	(0.0171)	(0.0153)	(0.0136)	(0.0119)	(0.0101)	(0.0084)	(0.0067)	(0.0049)	(0.0032)	(0.0015)	0.0003

a_{TAX}				**0.525**									
Case 4-alpha		**EG: G size**											
Stoping macro-inequali		0.0500	0.1000	0.1500	0.2000	0.2500	0.3000	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.02625	0.0525	0.07875	0.105	0.13125	0.1575	0.18375	0.21	0.23625	0.2625	0.28875	0.315
0.25	$\Delta D=S_G-I_G$	0.0238	0.0475	0.0713	0.0950	0.1188	0.1425	0.1663	0.1900	0.2138	0.2375	0.2613	0.2850
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0066	0.0131	0.0197	0.0263	0.0328	0.0394	0.0459	0.0525	0.0591	0.0656	0.0722	0.0788
4.00	beta $^*_G$	1.7062	1.2838	1.1430	1.0726	1.0304	1.0022	0.9821	0.9670	0.9553	0.9459	0.9382	0.9318
$n_{EG}=n_G$	B^*_G	(0.4139)	(0.2211)	(0.1251)	(0.0677)	(0.0295)	(0.0022)	0.0182	0.0341	0.0468	0.0572	0.0659	0.0732
0.01	$LN(B^*_G)$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	(4.0041)	(3.3777)	(3.0613)	(2.8610)	(2.7201)	(2.6147)
alpha $_G$	$LN(\Omega_G)/LN(E$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	(0.3462)	(0.4104)	(0.4528)	(0.4846)	(0.5096)	(0.5302)
0.35	delta $_{0\ G}$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.654	0.590	0.547	0.515	0.490	0.470
	$g_A{}^*{}_G$	(0.0046)	(0.0037)	(0.0028)	(0.0019)	(0.0010)	(0.0001)	0.0008	0.0017	0.0026	0.0036	0.0045	0.0054
	1−delta $_{0\ G}$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.3462	0.4104	0.4528	0.4846	0.5096	0.5302
	(1−delta $_{0\ G}$)g_A	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.0003	0.0007	0.0012	0.0017	0.0023	0.0028
	$(1-\alpha_G)n_G$	0.0065	0.0065	0.0065	0.0065	0.0065	0.0065	0.0065	0.0065	0.0065	0.0065	0.0065	0.0065
	lambda $^*_G$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.0068	0.0072	0.0077	0.0082	0.0088	0.0093
	Speed years	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	147.39	138.68	129.93	121.64	113.98	106.98
$g_v{}^*{}_G=g_A{}^*{}_G/(1$-alpha$_G)$		(0.0071)	(0.0057)	(0.0043)	(0.0029)	(0.0015)	(0.0001)	0.0013	0.0027	0.0041	0.0055	0.0069	0.0083

Chapter 13

Table 2-1 Growth guaranteed by the increase in taxes and G net investment with the decrease in G consumption

a_{TAX}	**1.00**												
	Case 1	EG: G size											
Case of Samuelson, 1998		0.0500	0.1000	0.1500	0.2000	0.2500	0.3000	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.05	0.1	0.15	0.2	0.25	0.3	0.35	0.4	0.45	0.5	0.55	0.6
0.50	$\Delta D=S_G-I_G$	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0250	0.0500	0.0750	0.1000	0.1250	0.1500	0.1750	0.2000	0.2250	0.2500	0.2750	0.3000
2.5	beta $^*_G$	1.0000	0.8826	0.8434	0.8239	0.8121	0.8043	0.7987	0.7945	0.7912	0.7886	0.7865	0.7847
$n_{EG}=n_G$	B^*_G	0.0000	0.1330	0.1856	0.2138	0.2313	0.2433	0.2520	0.2586	0.2638	0.2680	0.2715	0.2743
0.01	$LN(B^*_G)$	#NUM!	(2.0171)	(1.6840)	(1.5427)	(1.4639)	(1.4133)	(1.3782)	(1.3523)	(1.3325)	(1.3167)	(1.3040)	(1.2934)
alpha $_G$	$LN(\Omega_G)/LN(E$	#NUM!	(0.4543)	(0.5441)	(0.5939)	(0.6259)	(0.6483)	(0.6648)	(0.6776)	(0.6877)	(0.6959)	(0.7027)	(0.7084)
0.225	delta $_{0\,G}$	#NUM!	0.546	0.456	0.406	0.374	0.352	0.335	0.322	0.312	0.304	0.297	0.292
	$g_A{}^*_G$	0.0000	0.0059	0.0117	0.0176	0.0235	0.0294	0.0352	0.0411	0.0470	0.0528	0.0587	0.0646
	1−delta $_{0\,G}$	#NUM!	0.4543	0.5441	0.5939	0.6259	0.6483	0.6648	0.6776	0.6877	0.6959	0.7027	0.7084
	(1−delta $_{0\,G}$) g_A	#NUM!	0.0027	0.0064	0.0105	0.0147	0.0190	0.0234	0.0278	0.0323	0.0368	0.0413	0.0458
	$(1-\alpha_G)n_G$	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078
	lambda $^*_G$	#NUM!	0.0104	0.0141	0.0182	0.0225	0.0268	0.0312	0.0356	0.0400	0.0445	0.0490	0.0535
	Speed years	#NUM!	96.00	70.73	54.91	44.54	37.34	32.08	28.09	24.97	22.46	20.41	18.69
$g_y{}^*_G=g_A{}^*_G/(1-alpha_G)$		0.0000	0.0076	0.0152	0.0227	0.0303	0.0379	0.0455	0.0530	0.0606	0.0682	0.0758	0.0833

a_{TAX}		0.85											
	Case 2	EG: G size											
Case of weakened PRI		0.0500	0.1000	0.1500	0.2000	0.2500	0.3000	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.0425	0.085	0.1275	0.17	0.2125	0.255	0.2975	0.34	0.3825	0.425	0.4675	0.51
0.50	$\Delta D=S_G-I_G$	0.0075	0.0150	0.0225	0.0300	0.0375	0.0450	0.0525	0.0600	0.0675	0.0750	0.0825	0.0900
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0213	0.0425	0.0638	0.0850	0.1063	0.1275	0.1488	0.1700	0.1913	0.2125	0.2338	0.2550
2.5	beta $^*_G$	1.0414	0.9033	0.8572	0.8342	0.8204	0.8112	0.8046	0.7997	0.7959	0.7928	0.7903	0.7882
$n_{EG}=n_G$	B^*_G	(0.0398)	0.1071	0.1665	0.1987	0.2189	0.2327	0.2428	0.2505	0.2565	0.2614	0.2654	0.2688
0.01	$LN(B^*_G)$	#NUM!	(2.2344)	(1.7926)	(1.6159)	(1.5191)	(1.4578)	(1.4154)	(1.3843)	(1.3606)	(1.3418)	(1.3265)	(1.3140)
alpha $_G$	$LN(\Omega_G)/LN(E$	#NUM!	(0.4101)	(0.5111)	(0.5671)	(0.6032)	(0.6285)	(0.6474)	(0.6619)	(0.6735)	(0.6829)	(0.6907)	(0.6973)
0.225	delta $_{0\,G}$	#NUM!	0.590	0.489	0.433	0.397	0.371	0.353	0.338	0.327	0.317	0.309	0.303
	$g_A{}^*_G$	(0.0009)	0.0041	0.0091	0.0141	0.0191	0.0241	0.0291	0.0341	0.0390	0.0440	0.0490	0.0540
	1−delta $_{0\,G}$	#NUM!	0.4101	0.5111	0.5671	0.6032	0.6285	0.6474	0.6619	0.6735	0.6829	0.6907	0.6973
	(1−delta $_{0\,G}$) g_A	#NUM!	0.0017	0.0047	0.0080	0.0115	0.0151	0.0188	0.0225	0.0263	0.0301	0.0339	0.0377
	$(1-\alpha_G)n_G$	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078
	lambda $^*_G$	#NUM!	0.0094	0.0124	0.0157	0.0193	0.0229	0.0266	0.0303	0.0340	0.0378	0.0416	0.0454
	Speed years	#NUM!	105.98	80.63	63.53	51.92	43.71	37.65	33.01	29.37	26.44	24.03	22.02
$g_y{}^*_G=g_A{}^*_G/(1-alpha_G)$		(0.0011)	0.0053	0.0117	0.0182	0.0246	0.0311	0.0375	0.0439	0.0504	0.0568	0.0633	0.0697

a_{TAX}			**0.6**										
	Case 3	EG: G size											
Case of no growth		0.0500	0.1000	0.1500	0.2000	0.2500	0.3000	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.03	0.06	0.09	0.12	0.15	0.18	0.21	0.24	0.27	0.3	0.33	0.36
0.50	$\Delta D=S_G-I_G$	0.0200	0.0400	0.0600	0.0800	0.1000	0.1200	0.1400	0.1600	0.1800	0.2000	0.2200	0.2400
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0150	0.0300	0.0450	0.0600	0.0750	0.0900	0.1050	0.1200	0.1350	0.1500	0.1650	0.1800
4.00	beta $^*_G$	1.2683	1.0537	0.9821	0.9463	0.9249	0.9106	0.9004	0.8927	0.8867	0.8820	0.8781	0.8748
$n_{EG}=n_G$	B^*_G	(0.2115)	(0.0509)	0.0182	0.0567	0.0812	0.0982	0.1107	0.1202	0.1277	0.1338	0.1389	0.1431
0.01	$LN(B^*_G)$	#NUM!	#NUM!	(4.0058)	(2.8701)	(2.5107)	(2.3207)	(2.2012)	(2.1186)	(2.0578)	(2.0112)	(1.9742)	(1.9442)
alpha $_G$	$LN(\Omega_G)/LN(E$	#NUM!	#NUM!	(0.3461)	(0.4830)	(0.5522)	(0.5973)	(0.6298)	(0.6543)	(0.6737)	(0.6893)	(0.7022)	(0.7130)
0.225	delta $_{0\,G}$	#NUM!	#NUM!	0.654	0.517	0.448	0.403	0.370	0.346	0.326	0.311	0.298	0.287
	$g_A{}^*_G$	(0.0040)	(0.0016)	0.0008	0.0032	0.0056	0.0080	0.0105	0.0129	0.0153	0.0177	0.0201	0.0225
	1−delta $_{0\,G}$	#NUM!	#NUM!	0.3461	0.4830	0.5522	0.5973	0.6298	0.6543	0.6737	0.6893	0.7022	0.7130
	(1−delta $_{0\,G}$) g_A	#NUM!	#NUM!	0.0003	0.0016	0.0031	0.0048	0.0066	0.0084	0.0103	0.0122	0.0141	0.0161
	$(1-\alpha_G)n_G$	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078
	lambda $^*_G$	#NUM!	#NUM!	0.0080	0.0093	0.0109	0.0126	0.0143	0.0162	0.0181	0.0200	0.0219	0.0238
	Speed years	#NUM!	#NUM!	124.56	107.47	92.08	79.63	69.74	61.82	55.40	50.12	45.71	41.99
$g_y{}^*_G=g_A{}^*_G/(1-alpha_G)$		(0.0052)	(0.0021)	0.0010	0.0042	0.0073	0.0104	0.0135	0.0166	0.0197	0.0228	0.0260	0.0291

a_{TAX}				**0.525**									
	Case 4	EG: G size											
Case of bankrupcy		0.0500	0.1000	0.1500	0.2000	0.2500	0.3000	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.02625	0.0525	0.07875	0.105	0.13125	0.1575	0.18375	0.21	0.23625	0.2625	0.28875	0.315
0.50	$\Delta D=S_G-I_G$	0.0238	0.0475	0.0713	0.0950	0.1188	0.1425	0.1663	0.1900	0.2138	0.2375	0.2613	0.2850
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0131	0.0263	0.0394	0.0525	0.0656	0.0788	0.0919	0.1050	0.1181	0.1313	0.1444	0.1575
5.00	beta $^*_G$	1.3738	1.1204	1.0359	0.9937	0.9683	0.9514	0.9394	0.9303	0.9233	0.9176	0.9130	0.9092
$n_{EG}=n_G$	B^*_G	(0.2721)	(0.1074)	(0.0347)	0.0064	0.0327	0.0511	0.0646	0.0749	0.0831	0.0898	0.0953	0.0999
0.01	$LN(B^*_G)$	#NUM!	#NUM!	#NUM!	(5.0552)	(3.4199)	(2.9749)	(2.7402)	(2.5914)	(2.4876)	(2.4107)	(2.3512)	(2.3038)
alpha $_G$	$LN(\Omega_G)/LN(E$	#NUM!	#NUM!	#NUM!	(0.3184)	(0.4706)	(0.5410)	(0.5873)	(0.6211)	(0.6470)	(0.6676)	(0.6845)	(0.6986)
0.225	delta $_{0\,G}$	#NUM!	#NUM!	#NUM!	0.682	0.529	0.459	0.413	0.379	0.353	0.332	0.315	0.301
	$g_A{}^*_G$	(0.0049)	(0.0032)	(0.0014)	0.0003	0.0021	0.0038	0.0056	0.0073	0.0091	0.0108	0.0126	0.0143
	1−delta $_{0\,G}$	#NUM!	#NUM!	#NUM!	0.3184	0.4706	0.5410	0.5873	0.6211	0.6470	0.6676	0.6845	0.6986
	(1−delta $_{0\,G}$) g_A	#NUM!	#NUM!	#NUM!	0.0001	0.0010	0.0021	0.0033	0.0045	0.0059	0.0072	0.0086	0.0100
	$(1-\alpha_G)n_G$	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078
	lambda $^*_G$	#NUM!	#NUM!	#NUM!	0.0079	0.0087	0.0098	0.0110	0.0123	0.0136	0.0150	0.0163	0.0177
	Speed years	#NUM!	#NUM!	#NUM!	127.29	114.57	101.84	90.73	81.34	73.45	66.81	61.18	56.36
$g_y{}^*_G=g_A{}^*_G/(1-alpha_G)$		(0.0063)	(0.0041)	(0.0018)	0.0004	0.0027	0.0049	0.0072	0.0094	0.0117	0.0139	0.0162	0.0185

Table 2-2 Growth guaranteed by the increase in taxes and G net investment with the decrease in G consumption

a_{TAX}				**0.525**									
Case 4-Omega		EG: G size											
Sacrificing technology		0.0500	0.1000	0.1500	0.2000	0.2500	0.3000	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.02625	0.0525	0.07875	0.105	0.13125	0.1575	0.18375	0.21	0.23625	0.2625	0.28875	0.315
0.50	$\Delta D=S_G-I_G$	0.0238	0.0475	0.0713	0.0950	0.1188	0.1425	0.1663	0.1900	0.2138	0.2375	0.2613	0.2850
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0131	0.0263	0.0394	0.0525	0.0656	0.0788	0.0919	0.1050	0.1181	0.1313	0.1444	0.1575
7.00	beta $^*_G$	1.4281	1.1646	1.0768	1.0329	1.0066	0.9890	0.9765	0.9671	0.9598	0.9539	0.9491	0.9451
$n_{EG}=n_G$	B^*_G	(0.2998)	(0.1414)	(0.0714)	(0.0319)	(0.0065)	0.0111	0.0241	0.0341	0.0419	0.0483	0.0536	0.0581
0.01	$LN(B^*_G)$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	(4.5010)	(3.7261)	(3.3799)	(3.1716)	(3.0297)	(2.9258)	(2.8461)
alpha $_G$	$LN(\Omega_G)/LN(E$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	(0.4323)	(0.5222)	(0.5757)	(0.6135)	(0.6423)	(0.6651)	(0.6837)
0.225	delta $_{0\ G}$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.568	0.478	0.424	0.386	0.358	0.335	0.316
	$g_A{}^*_G$	(0.0056)	(0.0043)	(0.0030)	(0.0017)	(0.0004)	0.0009	0.0022	0.0035	0.0048	0.0061	0.0073	0.0086
	1−delta $_{0\ G}$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.4323	0.5222	0.5757	0.6135	0.6423	0.6651	0.6837
	(1−delta $_{0\ G}$)g_A	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.0004	0.0011	0.0020	0.0029	0.0039	0.0049	0.0059
	$(1-\alpha_G)n_G$	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078
	lambda $^*_G$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.0081	0.0089	0.0097	0.0107	0.0116	0.0126	0.0137
	Speed years	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	123.10	112.63	102.66	93.75	85.94	79.14	73.21
$g_v{}^*_G=g_A{}^*_G/(1$-alpha$_G)$		(0.0072)	(0.0056)	(0.0039)	(0.0022)	(0.0006)	0.0011	0.0028	0.0045	0.0061	0.0078	0.0095	0.0112

a_{TAX}				**0.675**									
Case 4-n_E		EG: G size											
Sacrificing technology		0.0500	0.1000	0.1500	0.2000	0.2500	0.3000	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.03375	0.0675	0.10125	0.135	0.16875	0.2025	0.23625	0.27	0.30375	0.3375	0.37125	0.405
0.50	$\Delta D=S_G-I_G$	0.0163	0.0325	0.0488	0.0650	0.0813	0.0975	0.1138	0.1300	0.1463	0.1625	0.1788	0.1950
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0169	0.0338	0.0506	0.0675	0.0844	0.1013	0.1181	0.1350	0.1519	0.1688	0.1856	0.2025
4.00	beta $^*_G$	1.7831	1.3121	1.1550	1.0765	1.0294	0.9980	0.9756	0.9588	0.9457	0.9352	0.9267	0.9195
$n_{EG}=n_G$	B^*_G	(0.4392)	(0.2378)	(0.1342)	(0.0711)	(0.0286)	0.0020	0.0250	0.0430	0.0574	0.0693	0.0791	0.0875
0.025	$LN(B^*_G)$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	(6.2315)	(3.6888)	(3.1469)	(2.8574)	(2.6700)	(2.5366)	(2.4360)
alpha $_G$	$LN(\Omega_G)/LN(E$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	(0.2225)	(0.3758)	(0.4405)	(0.4852)	(0.5192)	(0.5465)	(0.5691)
0.225	delta $_{0\ G}$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.778	0.624	0.559	0.515	0.481	0.453	0.431
	$g_A{}^*_G$	(0.0132)	(0.0105)	(0.0078)	(0.0052)	(0.0025)	0.0002	0.0029	0.0056	0.0082	0.0109	0.0136	0.0163
	1−delta $_{0\ G}$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.2225	0.3758	0.4405	0.4852	0.5192	0.5465	0.5691
	(1−delta $_{0\ G}$)g_A	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.0000	0.0011	0.0025	0.0040	0.0057	0.0074	0.0093
	$(1-\alpha_G)n_G$	0.0194	0.0194	0.0194	0.0194	0.0194	0.0194	0.0194	0.0194	0.0194	0.0194	0.0194	0.0194
	lambda $^*_G$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.0194	0.0205	0.0218	0.0234	0.0250	0.0268	0.0286
	Speed years	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	51.50	48.88	45.82	42.78	39.92	37.29	34.91
$g_v{}^*_G=g_A{}^*_G/(1$-alpha$_G)$		(0.0171)	(0.0136)	(0.0101)	(0.0067)	(0.0032)	0.0003	0.0037	0.0072	0.0106	0.0141	0.0176	0.0210

a_{TAX}				**0.525**									
Case 4-alpha		EG: G size		using each inverse of EG and tax multipliers									
Stoping macro-inequali		0.0500	0.1000	0.1500	0.2000	0.2500	0.3000	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.02625	0.0525	0.07875	0.105	0.13125	0.1575	0.18375	0.21	0.23625	0.2625	0.28875	0.315
0.50	$\Delta D=S_G-I_G$	0.0238	0.0475	0.0713	0.0950	0.1188	0.1425	0.1663	0.1900	0.2138	0.2375	0.2613	0.2850
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0131	0.0263	0.0394	0.0525	0.0656	0.0788	0.0919	0.1050	0.1181	0.1313	0.1444	0.1575
4.00	beta $^*_G$	1.2838	1.0726	1.0022	0.9670	0.9459	0.9318	0.9217	0.9142	0.9083	0.9036	0.8998	0.8966
$n_{EG}=n_G$	B^*_G	(0.2211)	(0.0677)	(0.0022)	0.0341	0.0572	0.0732	0.0849	0.0938	0.1009	0.1066	0.1114	0.1153
0.01	$LN(B^*_G)$	#NUM!	#NUM!	#NUM!	(3.3777)	(2.8610)	(2.6147)	(2.4663)	(2.3661)	(2.2935)	(2.2384)	(2.1951)	(2.1601)
alpha $_G$	$LN(\Omega_G)/LN(E$	#NUM!	#NUM!	#NUM!	(0.4104)	(0.4846)	(0.5302)	(0.5621)	(0.5859)	(0.6044)	(0.6193)	(0.6316)	(0.6418)
0.35	delta $_{0\ G}$	#NUM!	#NUM!	#NUM!	0.590	0.515	0.470	0.438	0.414	0.396	0.381	0.368	0.358
	$g_A{}^*_G$	(0.0037)	(0.0019)	(0.0001)	0.0017	0.0036	0.0054	0.0072	0.0090	0.0108	0.0126	0.0145	0.0163
	1−delta $_{0\ G}$	#NUM!	#NUM!	#NUM!	0.4104	0.4846	0.5302	0.5621	0.5859	0.6044	0.6193	0.6316	0.6418
	(1−delta $_{0\ G}$)g_A	#NUM!	#NUM!	#NUM!	0.0007	0.0017	0.0028	0.0040	0.0053	0.0065	0.0078	0.0091	0.0105
	$(1-\alpha_G)n_G$	0.0065	0.0065	0.0065	0.0065	0.0065	0.0065	0.0065	0.0065	0.0065	0.0065	0.0065	0.0065
	lambda $^*_G$	#NUM!	#NUM!	#NUM!	0.0072	0.0082	0.0093	0.0105	0.0118	0.0130	0.0143	0.0156	0.0170
	Speed years	#NUM!	#NUM!	#NUM!	138.68	121.64	106.98	94.87	84.90	76.66	69.77	63.96	58.99
$g_v{}^*_G=g_A{}^*_G/(1$-alpha$_G)$		(0.0057)	(0.0029)	(0.0001)	0.0027	0.0055	0.0083	0.0111	0.0139	0.0167	0.0195	0.0223	0.0251

Table 3-1 Differences of the growth rate of per capita output between the total economy and the government sector by country in equilibrium: 24 countries, 2010

BOX C	$_{AX}=\mathbf{a}_{TAX}\cdot E_G$		**EG: G size**		all items are each divided by $Y_G=C_G+S_G$									
$I_G=\mathbf{b}_{IG/YG}\cdot Y_G$	$\mathbf{a}_{TAX}$ & $b_{IG/YG}$		0.0500	0.1000	0.1500	0.2000	0.2500	0.3000	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
the US	**1.00**	Speed yrs G	#NUM!	106.14	80.25	62.85	51.14	42.89	8.88	32.25	28.64	25.74	23.37	21.39
	0.50	$g^{*}_{y\,G}$	(0.0014)	0.0045	0.0103	0.0162	0.0220	0.0279	0.1592	0.0396	0.0454	0.0513	0.0571	0.0630
2. Japan	**0.85**	Speed yrs G	217.42	193.23	151.07	121.74	101.39	17.90	75.62	67.03	60.17	54.57	49.92	46.00
	0.50	$g^{*}_{y\,G}$	0.0023	0.0034	0.0046	0.0058	0.0070	0.0388	0.0094	0.0105	0.0117	0.0129	0.0141	0.0153
3. Australi	**0.60**	Speed yrs G	#NUM!	99.39	100.81	103.15	(104.21)	111.13	117.25	125.34	136.10	150.69	171.08	201.04
	0.50	$g^{*}_{y\,G}$	(0.0014)	0.0023	0.0060	0.0097	0.0795	0.0171	0.0208	0.0245	0.0282	0.0319	0.0356	0.0393
4. France	**0.525**	Speed yrs G	183.37	167.52	142.74	117.68	96.13	9.49	65.27	54.73	46.46	39.93	34.70	30.46
	0.50	$g^{*}_{y\,G}$	0.0001	0.0028	0.0054	0.0080	0.0106	0.0649	0.0158	0.0184	0.0210	0.0237	0.0263	0.0289
5. Germany	**0.525**	Speed yrs G	(528.99)	(339.83)	(214.00)	(140.02)	(2.23)	(68.63)	(50.80)	(38.67)	(30.13)	(23.92)	(19.29)	(15.75)
	0.50	$g^{*}_{y\,G}$	0.0023	0.0039	0.0055	0.0071	0.0394	0.0103	0.0119	0.0135	0.0151	0.0167	0.0183	0.0199
6. the UK	**0.675**	Speed yrs G	#NUM!	#NUM!	#NUM!	#NUM!	48.41	#NUM!	#NUM!	#NUM!	120.45	117.81	114.44	110.64
	0.50	$g^{*}_{y\,G}$	(0.0028)	(0.0025)	(0.0021)	(0.0017)	0.0086	(0.0010)	(0.0006)	(0.0002)	0.0001	0.0005	0.0009	0.0012
7. China	**0.525**	Speed yrs G	200.06	142.80	104.78	15.10	66.02	55.37	47.59	41.69	37.06	33.35	30.30	27.76
	0.50	$g^{*}_{y\,G}$	0.0016	0.0075	0.0134	0.1248	0.0251	0.0310	0.0369	0.0428	0.0487	0.0546	0.0605	0.0663
8. Inidia	**1.00**	Speed yrs G	#NUM!	#NUM!	86.05	13.71	63.22	54.68	47.90	42.47	38.07	34.44	31.41	28.86
	0.50	$g^{*}_{y\,G}$	(0.0064)	(0.0019)	0.0026	0.1027	0.0116	0.0161	0.0206	0.0251	0.0296	0.0341	0.0386	0.0431
9. Brazil	**0.85**	Speed yrs G	#NUM!	136.65	123.01	106.86	25.39	80.73	71.10	63.26	56.81	51.46	46.97	43.15
	0.50	$g^{*}_{y\,G}$	(0.0030)	0.0000	0.0031	0.0062	0.0563	0.0123	0.0154	0.0184	0.0215	0.0246	0.0276	0.0307
10. Mexic	**0.60**	Speed yrs G	#NUM!	141.12	112.08	17.06	74.59	63.29	54.81	48.27	43.08	38.88	35.40	32.49
	0.50	$g^{*}_{y\,G}$	(0.0029)	0.0019	0.0068	0.1033	0.0165	0.0213	0.0262	0.0310	0.0359	0.0407	0.0456	0.0504
11. Russia	**0.525**	Speed yrs G	(349.94)	(610.69)	1312.28	201.45	82.49	(8.73)	20.61	9.62	3.04	(1.11)	(3.83)	(5.65)
	0.50	$g^{*}_{y\,G}$	0.0083	0.0147	0.0211	0.0275	0.0340	0.1572	0.0468	0.0532	0.0596	0.0661	0.0725	0.0789
12. S. Afric	**0.525**	Speed yrs G	#NUM!	#NUM!	113.28	111.48	32.43	105.13	100.96	96.35	91.47	86.44	81.40	76.43
	0.50	$g^{*}_{y\,G}$	(0.0024)	(0.0010)	0.0004	0.0018	0.0305	0.0046	0.0059	0.0073	0.0087	0.0101	0.0115	0.0128

BOX D	$_{AX}=\mathbf{a}_{TAX}\cdot E_G$		**EG: G size**		all items are each divided by $Y_G=C_G+S_G$									
IG=bIG/YG·Y	**aTAX & bIG/YG**		0.0500	0.1000	0.1500	0.2000	0.2500	0.3000	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
1. Denmark	**1.00**	Speed yrs G	354.30	188.49	125.50	93.53	74.38	61.68	52.67	16.82	40.72	36.57	33.18	30.37
	0.50	$g^{*}_{y\,G}$	0.0039	0.0091	0.0142	0.0193	0.0244	0.0295	0.0346	0.1088	0.0449	0.0500	0.0551	0.0602
2. Finland	**0.85**	Speed yrs G	#NUM!	215.09	160.41	123.69	99.25	82.30	18.80	60.80	53.65	47.96	43.33	39.50
	0.50	$g^{*}_{y\,G}$	(0.0005)	0.0018	0.0040	0.0062	0.0084	0.0106	0.0511	0.0151	0.0173	0.0195	0.0217	0.0239
3. Netherla	**0.60**	Speed yrs G	272.95	221.61	170.45	133.08	106.94	88.36	20.01	64.49	56.54	50.23	45.12	40.91
	0.50	$g^{*}_{y\,G}$	0.0003	0.0028	0.0053	0.0078	0.0102	0.0127	0.0543	0.0177	0.0201	0.0226	0.0251	0.0276
4. Norway	**0.525**	Speed yrs G	#NUM!	#NUM!	#NUM!	#NUM!	179.92	102.91	103.85	105.21	107.01	109.26	112.05	115.44
	0.50	$g^{*}_{y\,G}$	(0.0040)	(0.0031)	(0.0022)	(0.0013)	0.0127	0.0005	0.0015	0.0024	0.0033	0.0042	0.0051	0.0060
5. Sweden	**0.525**	Speed yrs G	211.16	224.80	246.14	277.77	(139.15)	398.67	526.07	792.14	1671.34	(11472)	(1264.63)	(662.37)
	0.50	$g^{*}_{y\,G}$	(0.0057)	(0.0094)	(0.0131)	(0.0167)	(0.0737)	(0.0241)	(0.0278)	(0.0315)	(0.0352)	(0.0388)	(0.0425)	(0.0462)
6. Canada	**0.675**	Speed yrs G	#NUM!	#NUM!	102.48	97.77	91.67	27.29	78.53	72.32	66.57	61.35	56.65	52.44
	0.50	$g^{*}_{y\,G}$	(0.0034)	(0.0013)	0.0008	0.0029	0.0050	0.0421	0.0092	0.0114	0.0135	0.0156	0.0177	0.0198
7. Greece	**0.525**	Speed yrs G	356.32	206.23	130.79	92.35	8.71	56.22	46.65	39.76	34.58	30.56	27.35	24.74
	0.50	$g^{*}_{y\,G}$	0.0007	0.0024	0.0041	0.0059	0.0526	0.0093	0.0111	0.0128	0.0146	0.0163	0.0180	0.0198
8. Iceland	**1.00**	Speed yrs G	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	18.90	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
	0.50	$g^{*}_{y\,G}$	(0.0282)	(0.0267)	(0.0251)	(0.0236)	(0.0220)	(0.0205)	0.0071	(0.0173)	(0.0158)	(0.0142)	(0.0127)	(0.0111)
9. Ireland	**0.85**	Speed yrs G	#NUM!	60.45	49.37	39.60	32.42	27.20	23.31	20.33	17.99	16.12	2.88	13.31
	0.50	$g^{*}_{y\,G}$	(0.0056)	0.0007	0.0070	0.0132	0.0195	0.0258	0.0321	0.0383	0.0446	0.0509	0.3161	0.0634
10. Italy	**0.60**	Speed yrs G	238.47	202.93	160.84	126.48	101.02	14.49	68.74	58.42	50.47	44.22	39.21	35.13
	0.50	$g^{*}_{y\,G}$	0.0003	0.0028	0.0052	0.0076	0.0101	0.0576	0.0149	0.0174	0.0198	0.0222	0.0247	0.0271
11. Portuga	**0.525**	Speed yrs G	(167.61)	28.59	79.27	87.49	27.39	78.21	71.90	66.06	60.87	56.31	52.31	48.79
	0.50	$g^{*}_{y\,G}$	0.0025	0.0038	0.0051	0.0063	0.0306	0.0088	0.0101	0.0114	0.0126	0.0139	0.0151	0.0164
12. Spain	**0.525**	Speed yrs G	#NUM!	83.71	106.23	500.16	(35.15)	13.47	13.94	17.88	19.57	20.24	20.39	20.26
	0.50	$g^{*}_{y\,G}$	(0.0009)	0.0014	0.0037	0.0060	0.0083	0.0639	0.0128	0.0151	0.0174	0.0197	0.0220	0.0243

Table 3-2 Answers to Krugman's (July 1st, 2012) righteousness at the current EU financial crisis: by country

a_{TAX}			**0.7026**										
	1. the US	EG: G size											
Case of Samuelson, 1998		0.0500	0.1000	0.1500	0.2000	0.2500	0.3000	**0.3345**	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.0351	0.0703	0.1054	0.1405	0.1757	0.2108	**0.2350**	0.2811	0.3162	0.3513	0.3865	0.4216
0.5966	$\Delta D=S_G-I_G$	0.0149	0.0297	0.0446	0.0595	0.0743	0.0892	0.0995	0.1189	0.1338	0.1487	0.1635	0.1784
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0210	0.0419	0.0629	0.0838	0.1048	0.1258	**0.5966**	0.1677	0.1886	0.2096	0.2306	0.2515
2.7319	beta$^*_G$	1.0541	0.9117	0.8643	0.8406	0.8263	0.8168	**0.7794**	0.8050	0.8010	0.7979	0.7953	0.7931
$n_{EG}=n_G$	B^*_G	(0.0513)	0.0968	0.1570	0.1897	0.2102	0.2242	0.2831	0.2423	0.2484	0.2534	0.2574	0.2609
0.0095	LN(B^*_G)	#NUM!	(2.3349)	(1.8513)	(1.6624)	(1.5598)	(1.4951)	(1.2621)	(1.4177)	(1.3927)	(1.3730)	(1.3570)	(1.3438)
alpha $_G$	LN(Ω_G)/LN(B	#NUM!	(0.4304)	(0.5429)	(0.6046)	(0.6443)	(0.6722)	(0.7963)	(0.7089)	(0.7216)	(0.7320)	(0.7406)	(0.7479)
0.1734	delta$_{0\,G}$	#NUM!	0.570	0.457	0.395	0.356	0.328	0.2037	0.291	0.278	0.268	0.259	0.252
	$g_A{}^*{}_G$	(0.0011)	0.0037	0.0085	0.0134	0.0182	0.0230	0.1316	0.0327	0.0375	0.0424	0.0472	0.0520
	1−delta$_{0\,G}$	#NUM!	0.4304	0.5429	0.6046	0.6443	0.6722	0.7963	0.7089	0.7216	0.7320	0.7406	0.7479
	(1−delta$_{0\,G}$)g_A	#NUM!	0.0016	0.0046	0.0081	0.0117	0.0155	0.1048	0.0232	0.0271	0.0310	0.0350	0.0389
	$(1-\alpha_G)n_G$	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078
	lambda$^*_G$	#NUM!	0.0094	0.0125	0.0159	0.0196	0.0233	0.1126	0.0310	0.0349	0.0388	0.0428	0.0467
	Speed years	#NUM!	106.14	80.25	62.85	51.14	42.89	8.88	32.25	28.64	25.74	23.37	21.39
$g_y{}^*{}_G=g_A{}^*{}_G/(1-\text{alpha}_G)$		(0.0014)	0.0045	0.0103	0.0162	0.0220	0.0279	0.1592	0.0396	0.0454	0.0513	0.0571	0.0630
a_{TAX}				**0.6273**									
	2. Japan	EG: G size											
Case of weakened PRI		0.0500	0.1000	0.1500	0.2000	0.2500	**0.2901**	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.0314	0.0627	0.0941	0.1255	0.1568	**0.1820**	0.2196	0.2509	0.2823	0.3137	0.3450	0.3764
0.3202	$\Delta D=S_G-I_G$	0.0186	0.0373	0.0559	0.0745	0.0932	0.1081	0.1304	0.1491	0.1677	0.1863	0.2050	0.2236
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0100	0.0201	0.0301	0.0402	0.0502	**0.3202**	0.0703	0.0804	0.0904	0.1004	0.1105	0.1205
7.2225	beta$^*_G$	0.7141	0.7820	0.8046	0.8160	0.8227	**0.8456**	0.8305	0.8329	0.8348	0.8363	0.8376	0.8386
$n_{EG}=n_G$	B^*_G	0.4004	0.2788	0.2428	0.2256	0.2154	0.1825	0.2041	0.2006	0.1979	0.1957	0.1939	0.1925
(0.0013)	LN(B^*_G)	(0.9154)	(1.2774)	(1.4156)	(1.4892)	(1.5351)	(1.7009)	(1.5892)	(1.6066)	(1.6202)	(1.6312)	(1.6402)	(1.6478)
alpha $_G$	LN(Ω_G)/LN(B	(2.1599)	(1.5478)	(1.3968)	(1.3277)	(1.2880)	(1.1625)	(1.2441)	(1.2307)	(1.2204)	(1.2122)	(1.2055)	(1.1999)
(0.2739)	delta$_{0\,G}$	(1.160)	(0.548)	(0.397)	(0.328)	(0.288)	(0.162)	(0.244)	(0.231)	(0.220)	(0.212)	(0.205)	(0.200)
	$g_A{}^*{}_G$	0.0029	0.0044	0.0059	0.0074	0.0089	0.0494	0.0119	0.0134	0.0149	0.0164	0.0179	0.0195
	1−delta$_{0\,G}$	2.1599	1.5478	1.3968	1.3277	1.2880	1.1625	1.2441	1.2307	1.2204	1.2122	1.2055	1.1999
	(1−delta$_{0\,G}$)g_A	0.0062	0.0068	0.0082	0.0098	0.0115	0.0575	0.0148	0.0165	0.0182	0.0199	0.0216	0.0233
	$(1-\alpha_G)n_G$	(0.0016)	(0.0016)	(0.0016)	(0.0016)	(0.0016)	(0.0016)	(0.0016)	(0.0016)	(0.0016)	(0.0016)	(0.0016)	(0.0016)
	lambda$^*_G$	0.0046	0.0052	0.0066	0.0082	0.0099	0.0559	0.0132	0.0149	0.0166	0.0183	0.0200	0.0217
	Speed years	217.42	193.23	151.07	121.74	101.39	17.90	75.62	67.03	60.17	54.57	49.92	46.00
$g_y{}^*{}_G=g_A{}^*{}_G/(1-\text{alpha}_G)$		0.0023	0.0034	0.0046	0.0058	0.0070	0.0388	0.0094	0.0105	0.0117	0.0129	0.0141	0.0153
a_{TAX}	**0.8747**												
	3. Australi	EG: G size											
Case of no growth		0.0500	0.1000	0.1500	0.2000	**0.2629**	0.3000	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.0437	0.0875	0.1312	0.1749	**0.2300**	0.2624	0.3062	0.3499	0.3936	0.4374	0.4811	0.5248
0.1656	$\Delta D=S_G-I_G$	0.0063	0.0125	0.0188	0.0251	0.0329	0.0376	0.0438	0.0501	0.0564	0.0626	0.0689	0.0752
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0072	0.0145	0.0217	0.0290	**0.1656**	0.0434	0.0507	0.0579	0.0652	0.0724	0.0797	0.0869
0.9693	beta$^*_G$	1.1915	0.8459	0.7308	0.6732	**0.5307**	0.6156	0.5992	0.5868	0.5772	0.5695	0.5633	0.5580
$n_{EG}=n_G$	B^*_G	(0.1607)	0.1821	0.3684	0.4855	0.8844	0.6244	0.6690	0.7041	0.7324	0.7558	0.7754	0.7920
0.0103	LN(B^*_G)	#NUM!	(1.7032)	(0.9986)	(0.7227)	(0.1228)	(0.4710)	(0.4020)	(0.3508)	(0.3114)	(0.2800)	(0.2544)	(0.2332)
alpha $_G$	LN(Ω_G)/LN(B	#NUM!	0.0183	0.0312	0.0431	0.2535	0.0661	0.0775	0.0887	0.1000	0.1112	0.1224	0.1335
0.0224	delta$_{0\,G}$	#NUM!	1.018	1.031	1.043	1.253	1.066	1.077	1.089	1.100	1.111	1.122	1.134
	$g_A{}^*{}_G$	(0.0014)	0.0022	0.0058	0.0095	0.0777	0.0167	0.0203	0.0239	0.0276	0.0312	0.0348	0.0384
	1−delta$_{0\,G}$	#NUM!	(0.0183)	(0.0312)	(0.0431)	(0.2535)	(0.0661)	(0.0775)	(0.0887)	(0.1000)	(0.1112)	(0.1224)	(0.1335)
	(1−delta$_{0\,G}$)g_A	#NUM!	(0.0000)	(0.0002)	(0.0004)	(0.0197)	(0.0011)	(0.0016)	(0.0021)	(0.0028)	(0.0035)	(0.0043)	(0.0051)
	$(1-\alpha_G)n_G$	0.0101	0.0101	0.0101	0.0101	0.0101	0.0101	0.0101	0.0101	0.0101	0.0101	0.0101	0.0101
	lambda$^*_G$	#NUM!	0.0101	0.0099	0.0097	(0.0096)	0.0090	0.0085	0.0080	0.0073	0.0066	0.0058	0.0050
	Speed years	#NUM!	99.39	100.81	103.15	(104.21)	111.13	117.25	125.34	136.10	150.69	171.08	201.04
$g_y{}^*{}_G=g_A{}^*{}_G/(1-\text{alpha}_G)$		(0.0014)	0.0023	0.0060	0.0097	0.0795	0.0171	0.0208	0.0245	0.0282	0.0319	0.0356	0.0393
a_{TAX}		0.7760											
	4. France	EG: G size											
Case of bankrupcy		0.0500	0.1000	0.1500	0.2000	0.2500	**0.3222**	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.0388	0.0776	0.1164	0.1552	0.1940	**0.2500**	0.2716	0.3104	0.3492	0.3880	0.4268	0.4656
0.1571	$\Delta D=S_G-I_G$	0.0112	0.0224	0.0336	0.0448	0.0560	0.0722	0.0784	0.0896	0.1008	0.1120	0.1232	0.1344
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0061	0.0122	0.0183	0.0244	0.0305	**0.1571**	0.0427	0.0488	0.0549	0.0610	0.0671	0.0732
1.1962	beta$^*_G$	0.9730	0.7440	0.6677	0.6296	0.6067	**0.5329**	0.5805	0.5723	0.5660	0.5609	0.5567	0.5533
$n_{EG}=n_G$	B^*_G	0.0278	0.3440	0.4976	0.5884	0.6483	0.8766	0.7226	0.7472	0.7669	0.7829	0.7962	0.8075
0.0048	LN(B^*_G)	(3.5833)	(1.0670)	(0.6979)	(0.5304)	(0.4334)	(0.1317)	(0.3249)	(0.2914)	(0.2654)	(0.2448)	(0.2279)	(0.2138)
alpha $_G$	LN(Ω_G)/LN(B	(0.0500)	(0.1679)	(0.2568)	(0.3379)	(0.4135)	(1.3611)	(0.5516)	(0.6150)	(0.6751)	(0.7321)	(0.7863)	(0.8380)
(0.1315)	delta$_{0\,G}$	0.950	0.832	0.743	0.662	0.586	(0.361)	0.448	0.385	0.325	0.268	0.214	0.162
	$g_A{}^*{}_G$	0.0002	0.0031	0.0061	0.0090	0.0120	0.0734	0.0179	0.0209	0.0238	0.0268	0.0297	0.0327
	1−delta$_{0\,G}$	0.0500	0.1679	0.2568	0.3379	0.4135	1.3611	0.5516	0.6150	0.6751	0.7321	0.7863	0.8380
	(1−delta$_{0\,G}$)g_A	0.0000	0.0005	0.0016	0.0031	0.0050	0.0999	0.0099	0.0128	0.0161	0.0196	0.0234	0.0274
	$(1-\alpha_G)n_G$	0.0054	0.0054	0.0054	0.0054	0.0054	0.0054	0.0054	0.0054	0.0054	0.0054	0.0054	0.0054
	lambda$^*_G$	0.0055	0.0060	0.0070	0.0085	0.0104	0.1054	0.0153	0.0183	0.0215	0.0250	0.0288	0.0328
	Speed years	183.37	167.52	142.74	117.68	96.13	9.49	65.27	54.73	46.46	39.93	34.70	30.46
$g_y{}^*{}_G=g_A{}^*{}_G/(1-\text{alpha}_G)$		0.0001	0.0028	0.0054	0.0080	0.0106	0.0649	0.0158	0.0184	0.0210	0.0237	0.0263	0.0289
a_{TAX}		0.8302											
	5. Germany	EG: G size											
Sacrificing technology		0.0500	0.1000	0.1500	0.2000	**0.2409**	0.3000	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.0415	0.0830	0.1245	0.1660	**0.2000**	0.2491	0.2906	0.3321	0.3736	0.4151	0.4566	0.4981
0.0874	$\Delta D=S_G-I_G$	0.0085	0.0170	0.0255	0.0340	0.0409	0.0509	0.0594	0.0679	0.0764	0.0849	0.0934	0.1019
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0036	0.0073	0.0109	0.0145	**0.0874**	0.0218	0.0254	0.0290	0.0326	0.0363	0.0399	0.0435
1.1430	beta$^*_G$	0.2967	0.4010	0.4358	0.4532	**0.4967**	0.4706	0.4756	0.4793	0.4822	0.4845	0.4864	0.4880
$n_{EG}=n_G$	B^*_G	2.3708	1.4936	1.2946	1.2065	1.0132	1.1250	1.1028	1.0864	1.0739	1.0639	1.0559	1.0492
(0.0013)	LN(B^*_G)	0.8632	0.4012	0.2582	0.1877	0.0131	0.1177	0.0978	0.0829	0.0713	0.0620	0.0544	0.0480
alpha $_G$	LN(Ω_G)/LN(B	0.1548	0.3332	0.5177	0.7120	10.1867	1.1352	1.3665	1.6129	1.8757	2.1568	2.4581	2.7819
(0.1172)	delta$_{0\,G}$	1.155	1.333	1.518	1.712	11.187	2.135	2.367	2.613	2.876	3.157	3.458	3.782
	$g_A{}^*{}_G$	0.0026	0.0043	0.0061	0.0079	0.0440	0.0115	0.0133	0.0151	0.0169	0.0187	0.0205	0.0223
	1−delta$_{0\,G}$	(0.1548)	(0.3332)	(0.5177)	(0.7120)	(10.1867)	(1.1352)	(1.3665)	(1.6129)	(1.8757)	(2.1568)	(2.4581)	(2.7819)
	(1−delta$_{0\,G}$)g_A	(0.0004)	(0.0014)	(0.0032)	(0.0056)	(0.4478)	(0.0131)	(0.0182)	(0.0244)	(0.0317)	(0.0403)	(0.0504)	(0.0620)
	$(1-\alpha_G)n_G$	(0.0015)	(0.0015)	(0.0015)	(0.0015)	(0.0015)	(0.0015)	(0.0015)	(0.0015)	(0.0015)	(0.0015)	(0.0015)	(0.0015)
	lambda$^*_G$	(0.0019)	(0.0029)	(0.0047)	(0.0071)	(0.4493)	(0.0146)	(0.0197)	(0.0259)	(0.0332)	(0.0418)	(0.0519)	(0.0635)
	Speed years	(528.99)	(339.83)	(214.00)	(140.02)	(2.23)	(68.63)	(50.80)	(38.67)	(30.13)	(23.92)	(19.29)	(15.75)
$g_y{}^*{}_G=g_A{}^*{}_G/(1-\text{alpha}_G)$		0.0023	0.0039	0.0055	0.0071	0.0394	0.0103	0.0119	0.0135	0.0151	0.0167	0.0183	0.0199
a_{TAX}				**0.6300**									
	6. the UK	EG: G size											
Sacrificing technology		0.0500	0.1000	0.1500	0.2000	**0.2619**	0.3000	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.0315	0.0630	0.0945	0.1260	**0.1650**	0.1890	0.2205	0.2520	0.2835	0.3150	0.3465	0.3780
0.0458	$\Delta D=S_G-I_G$	0.0185	0.0370	0.0555	0.0740	0.0969	0.1110	0.1295	0.1480	0.1665	0.1850	0.2035	0.2220
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0014	0.0029	0.0043	0.0058	**0.0458**	0.0087	0.0101	0.0115	0.0130	0.0144	0.0159	0.0173
2.3285	beta$^*_G$	4.0398	2.3214	1.7486	1.4622	**0.7112**	1.1758	1.0939	1.0326	0.9848	0.9466	0.9154	0.8894
$n_{EG}=n_G$	B^*_G	(0.7525)	(0.5692)	(0.4281)	(0.3161)	0.4060	(0.1495)	(0.0859)	(0.0315)	0.0154	0.0564	0.0924	0.1244
0.0054	LN(B^*_G)	#NUM!	#NUM!	#NUM!	#NUM!	(0.9013)	#NUM!	#NUM!	#NUM!	(4.1733)	(2.8759)	(2.3814)	(2.0843)
alpha $_G$	LN(Ω_G)/LN(B	#NUM!	#NUM!	#NUM!	#NUM!	(0.9377)	#NUM!	#NUM!	#NUM!	(0.2025)	(0.2939)	(0.3549)	(0.4055)
(0.5415)	delta$_{0\,G}$	#NUM!	#NUM!	#NUM!	#NUM!	0.062	#NUM!	#NUM!	#NUM!	0.797	0.706	0.645	0.594
	$g_A{}^*{}_G$	(0.0044)	(0.0038)	(0.0032)	(0.0027)	**0.0132**	(0.0015)	(0.0009)	(0.0004)	0.0002	0.0008	0.0013	0.0019
	1−delta$_{0\,G}$	#NUM!	#NUM!	#NUM!	#NUM!	0.9377	#NUM!	#NUM!	#NUM!	0.2025	0.2939	0.3549	0.4055
	(1−delta$_{0\,G}$)g_A	#NUM!	#NUM!	#NUM!	#NUM!	0.0124	#NUM!	#NUM!	#NUM!	0.0000	0.0002	0.0005	0.0008
	$(1-\alpha_G)n_G$	0.0083	0.0083	0.0083	0.0083	0.0083	0.0083	0.0083	0.0083	0.0083	0.0083	0.0083	0.0083
	lambda$^*_G$	#NUM!	#NUM!	#NUM!	#NUM!	0.0207	#NUM!	#NUM!	#NUM!	0.0083	0.0085	0.0087	0.0090
	Speed years	#NUM!	#NUM!	#NUM!	#NUM!	**48.41**	#NUM!	#NUM!	#NUM!	120.45	117.81	114.44	110.64
$g_y{}^*{}_G=g_A{}^*{}_G/(1-\text{alpha}_G)$		(0.0028)	(0.0025)	(0.0021)	(0.0017)	0.0086	(0.0010)	(0.0006)	(0.0002)	0.0001	0.0005	0.0009	0.0012

Chapter 13

Table 3-3 Answers to Krugman's (July 1st, 2012) righteousness at the current EU financial crisis: by country

a_{TAX}	**0.9120**												
	7. China	EG: G size											
Stoping macro-inequali		0.0500	0.1000	0.1500	**0.1919**	0.2500	0.3000	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.0456	0.0912	0.1368	**0.1750**	0.2280	0.2736	0.3192	0.3648	0.4104	0.4560	0.5016	0.5472
0.3328	$\Delta D=S_G-I_G$	0.0044	0.0088	0.0132	0.0169	0.0220	0.0264	0.0308	0.0352	0.0396	0.0440	0.0484	0.0528
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0152	0.0304	0.0455	**0.3328**	0.0759	0.0911	0.1062	0.1214	0.1366	0.1518	0.1670	0.1821
1.8028	beta $^*_G$	0.9208	0.8123	0.7761	**0.7136**	0.7471	0.7399	0.7347	0.7309	0.7279	0.7254	0.7235	0.7218
$n_{EG}=n_G$	B^*_G	0.0861	0.2311	0.2885	0.4013	0.3384	0.3515	0.3610	0.3682	0.3739	0.3785	0.3822	0.3854
0.0062	LN(B^*_G)	(2.4528)	(1.4647)	(1.2430)	(0.9131)	(1.0834)	(1.0455)	(1.0188)	(0.9990)	(0.9838)	(0.9716)	(0.9617)	(0.9535)
alpha $_G$	LN(Ω_G)/LN(E	(0.2403)	(0.4024)	(0.4741)	(0.6454)	(0.5440)	(0.5637)	(0.5785)	(0.5899)	(0.5991)	(0.6066)	(0.6128)	(0.6181)
0.2364	delta $_{0\,G}$	0.760	0.598	0.526	0.355	0.456	0.436	0.422	0.410	0.401	0.393	0.387	0.382
	$g_A{}^*_G$	0.0012	0.0057	0.0102	0.0953	0.0192	0.0237	0.0282	0.0327	0.0372	0.0417	0.0462	0.0507
	1−delta $_{0\,G}$	0.2403	0.4024	0.4741	0.6454	0.5440	0.5637	0.5785	0.5899	0.5991	0.6066	0.6128	0.6181
	(1−delta $_{0\,G}$)g_A	0.0003	0.0023	0.0048	0.0615	0.0104	0.0134	0.0163	0.0193	0.0223	0.0253	0.0283	0.0313
	(1-α_G)n_G	0.0047	0.0047	0.0047	0.0047	0.0047	0.0047	0.0047	0.0047	0.0047	0.0047	0.0047	0.0047
	lambda $^*_G$	0.0050	0.0070	0.0095	0.0662	0.0151	0.0181	0.0210	0.0240	0.0270	0.0300	0.0330	0.0360
	Speed years	200.06	142.80	104.78	15.10	66.02	55.37	47.59	41.69	37.06	33.35	30.30	27.76
$g_y{}^*_G=g_A{}^*_G/(1-alpha_G)$		0.0016	0.0075	0.0134	0.1248	0.0251	0.0310	0.0369	0.0428	0.0487	0.0546	0.0605	0.0663
a_{TAX}		0.7929											
	8. Inidia	EG: G size											
Stoping macro-inequali		0.0500	0.1000	0.1500	**0.2207**	0.2500	0.3000	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.0396	0.0793	0.1189	**0.1750**	0.1982	0.2379	0.2775	0.3171	0.3568	0.3964	0.4361	0.4757
0.4692	$\Delta D=S_G-I_G$	0.0104	0.0207	0.0311	0.0457	0.0518	0.0621	0.0725	0.0829	0.0932	0.1036	0.1139	0.1243
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0186	0.0372	0.0558	**0.4692**	0.0930	0.1116	0.1302	0.1488	0.1674	0.1860	0.2046	0.2232
3.2909	beta $^*_G$	1.2746	1.0413	0.9636	**0.8266**	0.9014	0.8859	0.8748	0.8664	0.8600	0.8548	0.8505	0.8470
$n_{EG}=n_G$	B^*_G	(0.2154)	(0.0397)	0.0378	0.2097	0.1094	0.1288	0.1432	0.1542	0.1629	0.1699	0.1757	0.1806
0.0137	LN(B^*_G)	#NUM!	#NUM!	(3.2762)	(1.5619)	(2.2130)	(2.0492)	(1.9437)	(1.8698)	(1.8149)	(1.7725)	(1.7388)	(1.7112)
alpha $_G$	LN(Ω_G)/LN(E	#NUM!	#NUM!	(0.3636)	(0.7627)	(0.5382)	(0.5813)	(0.6128)	(0.6371)	(0.6563)	(0.6720)	(0.6851)	(0.6961)
0.2079	delta $_{0\,G}$	#NUM!	#NUM!	0.636	0.237	0.462	0.419	0.387	0.363	0.344	0.328	0.315	0.304
	$g_A{}^*_G$	(0.0051)	(0.0015)	0.0020	0.0813	0.0092	0.0127	0.0163	0.0199	0.0234	0.0270	0.0306	0.0342
	1−delta $_{0\,G}$	#NUM!	#NUM!	0.3636	0.7627	0.5382	0.5813	0.6128	0.6371	0.6563	0.6720	0.6851	0.6961
	(1−delta $_{0\,G}$)g_A	#NUM!	#NUM!	0.0007	0.0620	0.0049	0.0074	0.0100	0.0127	0.0154	0.0182	0.0209	0.0238
	(1-α_G)n_G	0.0109	0.0109	0.0109	0.0109	0.0109	0.0109	0.0109	0.0109	0.0109	0.0109	0.0109	0.0109
	lambda $^*_G$	#NUM!	#NUM!	0.0116	0.0729	0.0158	0.0183	0.0209	0.0235	0.0263	0.0290	0.0318	0.0347
	Speed years	#NUM!	#NUM!	86.05	13.71	63.22	54.68	47.90	42.47	38.07	34.44	31.41	28.86
$g_y{}^*_G=g_A{}^*_G/(1-alpha_G)$		(0.0064)	(0.0019)	0.0026	0.1027	0.0116	0.0161	0.0206	0.0251	0.0296	0.0341	0.0386	0.0431
a_{TAX}	**0.9833**												
	9. Brazil	EG: G size											
Stoping macro-inequali		0.0500	0.1000	0.1500	0.2000	**0.2593**	0.3000	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.0492	0.0983	0.1475	0.1967	**0.2550**	0.2950	0.3442	0.3933	0.4425	0.4917	0.5408	0.5900
0.1784	$\Delta D=S_G-I_G$	0.0008	0.0017	0.0025	0.0033	0.0043	0.0050	0.0058	0.0067	0.0075	0.0083	0.0092	0.0100
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0088	0.0175	0.0263	0.0351	**0.1784**	0.0526	0.0614	0.0702	0.0789	0.0877	0.0965	0.1052
2.0024	beta $^*_G$	1.2910	0.9988	0.9014	0.8527	**0.7354**	0.8040	0.7901	0.7797	0.7716	0.7651	0.7597	0.7553
$n_{EG}=n_G$	B^*_G	(0.2254)	0.0012	0.1094	0.1727	0.3599	0.2438	0.2657	0.2826	0.2961	0.3071	0.3162	0.3239
0.0087	LN(B^*_G)	#NUM!	(6.7377)	(2.2131)	(1.7561)	(1.0219)	(1.4116)	(1.3256)	(1.2637)	(1.2171)	(1.1806)	(1.1513)	(1.1272)
alpha $_G$	LN(Ω_G)/LN(E	#NUM!	(0.1031)	(0.3137)	(0.3954)	(0.6794)	(0.4919)	(0.5238)	(0.5494)	(0.5705)	(0.5881)	(0.6031)	(0.6160)
0.1614	delta $_{0\,G}$	#NUM!	0.897	0.686	0.605	0.321	0.508	0.476	0.451	0.430	0.412	0.397	0.384
	$g_A{}^*_G$	(0.0026)	0.0000	0.0026	0.0052	0.0472	0.0103	0.0129	0.0155	0.0180	0.0206	0.0232	0.0257
	1−delta $_{0\,G}$	#NUM!	0.1031	0.3137	0.3954	0.6794	0.4919	0.5238	0.5494	0.5705	0.5881	0.6031	0.6160
	(1−delta $_{0\,G}$)g_A	#NUM!	0.0000	0.0008	0.0020	0.0321	0.0051	0.0067	0.0085	0.0103	0.0121	0.0140	0.0159
	(1-α_G)n_G	0.0073	0.0073	0.0073	0.0073	0.0073	0.0073	0.0073	0.0073	0.0073	0.0073	0.0073	0.0073
	lambda $^*_G$	#NUM!	0.0073	0.0081	0.0094	0.0394	0.0124	0.0141	0.0158	0.0176	0.0194	0.0213	0.0232
	Speed years	#NUM!	136.65	123.01	106.86	25.39	80.73	71.10	63.26	56.81	51.46	46.97	43.15
$g_y{}^*_G=g_A{}^*_G/(1-alpha_G)$		(0.0030)	0.0000	0.0031	0.0062	0.0563	0.0123	0.0154	0.0184	0.0215	0.0246	0.0276	0.0307
a_{TAX}	**0.8734**												
	10. Mexic	EG: G size											
Stoping macro-inequali		0.0500	0.1000	0.1500	**0.2004**	0.2500	0.3000	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.0437	0.0873	0.1310	**0.1750**	0.2183	0.2620	0.3057	0.3493	0.3930	0.4367	0.4803	0.5240
0.4488	$\Delta D=S_G-I_G$	0.0063	0.0127	0.0190	0.0254	0.0317	0.0380	0.0443	0.0507	0.0570	0.0633	0.0697	0.0760
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0196	0.0392	0.0588	**0.4488**	0.0980	0.1176	0.1372	0.1568	0.1764	0.1960	0.2156	0.2352
3.3115	beta $^*_G$	1.1040	0.9658	0.9198	**0.8397**	0.8829	0.8737	0.8671	0.8622	0.8583	0.8553	0.8527	0.8507
$n_{EG}=n_G$	B^*_G	(0.0942)	0.0354	0.0872	0.1909	0.1326	0.1446	0.1533	0.1599	0.1650	0.1692	0.1727	0.1756
0.0095	LN(B^*_G)	#NUM!	(3.3412)	(2.4390)	(1.6559)	(2.0202)	(1.9340)	(1.8756)	(1.8334)	(1.8015)	(1.7765)	(1.7563)	(1.7398)
alpha $_G$	LN(Ω_G)/LN(E	#NUM!	(0.3584)	(0.4909)	(0.7231)	(0.5927)	(0.6191)	(0.6384)	(0.6531)	(0.6647)	(0.6740)	(0.6818)	(0.6883)
0.3037	delta $_{0\,G}$	#NUM!	0.642	0.509	0.277	0.407	0.381	0.362	0.347	0.335	0.326	0.318	0.312
	$g_A{}^*_G$	(0.0020)	0.0013	0.0047	0.0719	0.0115	0.0149	0.0182	0.0216	0.0250	0.0284	0.0317	0.0351
	1−delta $_{0\,G}$	#NUM!	0.3584	0.4909	0.7231	0.5927	0.6191	0.6384	0.6531	0.6647	0.6740	0.6818	0.6883
	(1−delta $_{0\,G}$)g_A	#NUM!	0.0005	0.0023	0.0520	0.0068	0.0092	0.0116	0.0141	0.0166	0.0191	0.0216	0.0242
	(1-α_G)n_G	0.0066	0.0066	0.0066	0.0066	0.0066	0.0066	0.0066	0.0066	0.0066	0.0066	0.0066	0.0066
	lambda $^*_G$	#NUM!	0.0071	0.0089	0.0586	0.0134	0.0158	0.0182	0.0207	0.0232	0.0257	0.0282	0.0308
	Speed years	#NUM!	141.12	112.08	17.06	74.59	63.29	54.81	48.27	43.08	38.88	35.40	32.49
$g_y{}^*_G=g_A{}^*_G/(1-alpha_G)$		(0.0029)	0.0019	0.0068	0.1033	0.0165	0.0213	0.0262	0.0310	0.0359	0.0407	0.0456	0.0504
a_{TAX}		0.8267											
	11. Russia	EG: G size											
Stoping macro-inequali		0.0500	0.1000	0.1500	0.2000	0.2500	**0.2782**	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.0413	0.0827	0.1240	0.1653	0.2067	**0.2300**	0.2893	0.3307	0.3720	0.4133	0.4547	0.4960
0.2932	$\Delta D=S_G-I_G$	0.0087	0.0173	0.0260	0.0347	0.0433	0.0482	0.0607	0.0693	0.0780	0.0867	0.0953	0.1040
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0121	0.0242	0.0364	0.0485	0.0606	**0.2932**	0.0848	0.0970	0.1091	0.1212	0.1333	0.1454
0.9738	beta $^*_G$	0.3758	0.4450	0.4681	0.4797	0.4866	**0.5086**	0.4945	0.4970	0.4989	0.5004	0.5017	0.5028
$n_{EG}=n_G$	B^*_G	1.6611	1.2470	1.1362	1.0848	1.0551	0.9663	1.0222	1.0121	1.0044	0.9982	0.9932	0.9890
(0.0035)	LN(B^*_G)	0.5075	0.2207	0.1277	0.0814	0.0536	(0.0343)	0.0220	0.0121	0.0044	(0.0018)	(0.0068)	(0.0110)
alpha $_G$	LN(Ω_G)/LN(E	(0.0522)	(0.1201)	(0.2076)	(0.3257)	(0.4942)	0.7727	(1.2070)	(2.1971)	(6.0686)	14.8140	3.8826	2.4042
0.0836	delta $_{0\,G}$	0.948	0.880	0.792	0.674	0.506	1.773	(0.207)	(1.197)	(5.069)	15.814	4.883	3.404
	$g_A{}^*_G$	0.0076	0.0135	0.0193	0.0252	0.0311	0.1441	0.0429	0.0488	0.0547	0.0605	0.0664	0.0723
	1−delta $_{0\,G}$	0.0522	0.1201	0.2076	0.3257	0.4942	(0.7727)	1.2070	2.1971	6.0686	(14.8140)	(3.8826)	(2.4042)
	(1−delta $_{0\,G}$)g_A	0.0004	0.0016	0.0040	0.0082	0.0154	(0.1114)	0.0518	0.1072	0.3317	(0.8970)	(0.2579)	(0.1739)
	(1-α_G)n_G	(0.0033)	(0.0033)	(0.0033)	(0.0033)	(0.0033)	(0.0033)	(0.0033)	(0.0033)	(0.0033)	(0.0033)	(0.0033)	(0.0033)
	lambda $^*_G$	(0.0029)	(0.0016)	0.0008	0.0050	0.0121	(0.1146)	0.0485	0.1039	0.3285	(0.9002)	(0.2612)	(0.1771)
	Speed years	(349.94)	(610.69)	1312.28	201.45	82.49	(8.73)	20.61	9.62	3.04	(1.11)	(3.83)	(5.65)
$g_y{}^*_G=g_A{}^*_G/(1-alpha_G)$		0.0083	0.0147	0.0211	0.0275	0.0340	0.1572	0.0468	0.0532	0.0596	0.0661	0.0725	0.0789
a_{TAX}		0.8062											
	12. S. Afric	EG: G size											
Stoping macro-inequali		0.0500	0.1000	0.1500	0.2000	**0.2481**	0.3000	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.0403	0.0806	0.1209	0.1612	**0.2000**	0.2419	0.2822	0.3225	0.3628	0.4031	0.4434	0.4837
0.0791	$\Delta D=S_G-I_G$	0.0097	0.0194	0.0291	0.0388	0.0481	0.0581	0.0678	0.0775	0.0872	0.0969	0.1066	0.1163
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0032	0.0064	0.0096	0.0127	**0.0791**	0.0191	0.0223	0.0255	0.0287	0.0319	0.0351	0.0382
1.1370	beta $^*_G$	1.8586	1.1776	0.9506	0.8371	**0.5515**	0.7236	0.6912	0.6668	0.6479	0.6328	0.6204	0.6101
$n_{EG}=n_G$	B^*_G	(0.4620)	(0.1508)	0.0520	0.1946	0.8133	0.3820	0.4468	0.4996	0.5434	0.5803	0.6118	0.6391
0.0076	LN(B^*_G)	#NUM!	#NUM!	(2.9573)	(1.6368)	(0.2067)	(0.9624)	(0.8056)	(0.6940)	(0.6100)	(0.5442)	(0.4913)	(0.4477)
alpha $_G$	LN(Ω_G)/LN(E	#NUM!	#NUM!	(0.0434)	(0.0785)	(0.6212)	(0.1334)	(0.1594)	(0.1850)	(0.2105)	(0.2360)	(0.2614)	(0.2868)
(0.1614)	delta $_{0\,G}$	#NUM!	#NUM!	0.957	0.922	0.379	0.867	0.841	0.815	0.789	0.764	0.739	0.713
	$g_A{}^*_G$	(0.0027)	(0.0011)	0.0005	0.0021	0.0355	0.0053	0.0069	0.0085	0.0101	0.0117	0.0133	0.0149
	1−delta $_{0\,G}$	#NUM!	#NUM!	0.0434	0.0785	0.6212	0.1334	0.1594	0.1850	0.2105	0.2360	0.2614	0.2868
	(1−delta $_{0\,G}$)g_A	#NUM!	#NUM!	0.0000	0.0002	0.0220	0.0007	0.0011	0.0016	0.0021	0.0028	0.0035	0.0043
	(1-α_G)n_G	0.0088	0.0088	0.0088	0.0088	0.0088	0.0088	0.0088	0.0088	0.0088	0.0088	0.0088	0.0088
	lambda $^*_G$	#NUM!	#NUM!	0.0088	0.0090	0.0308	0.0095	0.0099	0.0104	0.0109	0.0116	0.0123	0.0131
	Speed years	#NUM!	#NUM!	113.28	111.48	32.43	105.13	100.96	96.35	91.47	86.44	81.40	76.43
$g_y{}^*_G=g_A{}^*_G/(1-alpha_G)$		(0.0024)	(0.0010)	0.0004	0.0018	0.0305	0.0046	0.0059	0.0073	0.0087	0.0101	0.0115	0.0128

Table 3-4 Answers to Krugman's (July 1st, 2012) righteousness at the current EU financial crisis: by country

a_{TAX}	**0.9309**												
	1. Denmark	EG: G size											
Case of Samuelson, 1998		0.0500	0.1000	0.1500	0.2000	0.2500	0.3000	0.3500	**0.4082**	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.0465	0.0931	0.1396	0.1862	0.2327	0.2793	0.3258	**0.3800**	0.4189	0.4654	0.5120	0.5585
0.2556	$\Delta D=S_G-I_G$	0.0035	0.0069	0.0104	0.0138	0.0173	0.0207	0.0242	0.0282	0.0311	0.0346	0.0380	0.0415
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0119	0.0238	0.0357	0.0476	0.0595	0.0714	0.0833	**0.2556**	0.1071	0.1190	0.1309	0.1428
1.5029	beta$^*_G$	0.7291	0.6885	0.6749	0.6681	0.6641	0.6613	0.6594	**0.6516**	0.6568	0.6559	0.6552	0.6546
$n_{EG}=n_G$	B^*_G	0.3715	0.4525	0.4817	0.4967	0.5059	0.5121	0.5165	0.5348	0.5225	0.5246	0.5263	0.5277
0.0018	LN(B^*_G)	(0.9902)	(0.7929)	(0.7304)	(0.6997)	(0.6814)	(0.6693)	(0.6606)	(0.6259)	(0.6492)	(0.6452)	(0.6419)	(0.6392)
alpha $_G$	LN(Ω_G)/LN(E	(0.4114)	(0.5138)	(0.5577)	(0.5822)	(0.5979)	(0.6087)	(0.6167)	(0.6508)	(0.6276)	(0.6315)	(0.6347)	(0.6374)
0.1814	delta$_{0\ G}$	0.589	0.486	0.442	0.418	0.402	0.391	0.383	0.349	0.372	0.369	0.365	0.363
	$g_A{}^*_G$	0.0032	0.0074	0.0116	0.0158	0.0200	0.0242	0.0284	0.0891	0.0367	0.0409	0.0451	0.0493
	1−delta$_{0\ G}$	0.4114	0.5138	0.5577	0.5822	0.5979	0.6087	0.6167	0.6508	0.6276	0.6315	0.6347	0.6374
	(1−delta$_{0\ G}$)g_A	0.0013	0.0038	0.0065	0.0092	0.0119	0.0147	0.0175	0.0580	0.0231	0.0258	0.0286	0.0314
	$(1-\alpha_G)n_G$	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
	lambda$^*_G$	0.0028	0.0053	0.0080	0.0107	0.0134	0.0162	0.0190	0.0595	0.0246	0.0273	0.0301	0.0329
	Speed years	354.30	188.49	125.50	93.53	74.38	61.68	52.67	16.82	40.72	36.57	33.18	30.37
$g_y{}^*_G=g_A{}^*_G/(1\text{-alpha}_G)$		0.0039	0.0091	0.0142	0.0193	0.0244	0.0295	0.0346	0.1088	0.0449	0.0500	0.0551	0.0602
a_{TAX}		**0.8242**											
	2. Finland	EG: G size											
Case of weakened PRI		0.0500	0.1000	0.1500	0.2000	0.2500	0.3000	**0.3276**	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.0412	0.0824	0.1236	0.1648	0.2060	0.2473	**0.2700**	0.3297	0.3709	0.4121	0.4533	0.4945
0.1922	$\Delta D=S_G-I_G$	0.0088	0.0176	0.0264	0.0352	0.0440	0.0527	0.0576	0.0703	0.0791	0.0879	0.0967	0.1055
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0079	0.0158	0.0238	0.0317	0.0396	0.0475	**0.1922**	0.0634	0.0713	0.0792	0.0871	0.0951
2.5435	beta$^*_G$	1.0585	0.8864	0.8290	0.8004	0.7832	0.7717	**0.7285**	0.7573	0.7526	0.7487	0.7456	0.7430
$n_{EG}=n_G$	B^*_G	(0.0553)	0.1281	0.2062	0.2494	0.2769	0.2959	0.3727	0.3204	0.3288	0.3356	0.3412	0.3459
0.0038	LN(B^*_G)	#NUM!	(2.0546)	(1.5789)	(1.3885)	(1.2841)	(1.2178)	(0.9870)	(1.1381)	(1.1123)	(1.0919)	(1.0753)	(1.0616)
alpha $_G$	LN(Ω_G)/LN(E	#NUM!	(0.4544)	(0.5913)	(0.6723)	(0.7270)	(0.7666)	(0.9458)	(0.8203)	(0.8393)	(0.8550)	(0.8682)	(0.8794)
(0.0211)	delta$_{0\ G}$	#NUM!	0.546	0.409	0.328	0.273	0.233	0.054	0.180	0.161	0.145	0.132	0.121
	$g_A{}^*_G$	(0.0005)	0.0018	0.0041	0.0063	0.0086	0.0109	0.0522	0.0154	0.0176	0.0199	0.0222	0.0244
	1−delta$_{0\ G}$	#NUM!	0.4544	0.5913	0.6723	0.7270	0.7666	0.9458	0.8203	0.8393	0.8550	0.8682	0.8794
	(1−delta$_{0\ G}$)g_A	#NUM!	0.0008	0.0024	0.0043	0.0062	0.0083	0.0494	0.0126	0.0148	0.0170	0.0192	0.0215
	$(1-\alpha_G)n_G$	0.0038	0.0038	0.0038	0.0038	0.0038	0.0038	0.0038	0.0038	0.0038	0.0038	0.0038	0.0038
	lambda$^*_G$	#NUM!	0.0046	0.0062	0.0081	0.0101	0.0122	0.0532	0.0164	0.0186	0.0209	0.0231	0.0253
	Speed years	#NUM!	215.09	160.41	123.69	99.25	82.30	18.80	60.80	53.65	47.96	43.33	39.50
$g_y{}^*_G=g_A{}^*_G/(1\text{-alpha}_G)$		(0.0005)	0.0018	0.0040	0.0062	0.0084	0.0106	0.0511	0.0151	0.0173	0.0195	0.0217	0.0239
a_{TAX}	**0.8765**												
	3. Netherla	EG: G size											
Case of no growth		0.0500	0.1000	0.1500	0.2000	0.2500	0.3000	**0.3651**	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.0438	0.0877	0.1315	0.1753	0.2191	0.2630	**0.3200**	0.3506	0.3944	0.4383	0.4821	0.5259
0.1400	$\Delta D=S_G-I_G$	0.0062	0.0123	0.0185	0.0247	0.0309	0.0370	0.0451	0.0494	0.0556	0.0617	0.0679	0.0741
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0061	0.0123	0.0184	0.0246	0.0307	0.0368	**0.1400**	0.0491	0.0552	0.0614	0.0675	0.0737
1.4731	beta$^*_G$	0.9467	0.7715	0.7131	0.6839	0.6664	0.6547	**0.6117**	0.6401	0.6353	0.6314	0.6282	0.6255
$n_{EG}=n_G$	B^*_G	0.0563	0.2961	0.4023	0.4621	0.5006	0.5274	0.6348	0.5622	0.5742	0.5839	0.5919	0.5987
0.0036	LN(B^*_G)	(2.8777)	(1.2170)	(0.9106)	(0.7719)	(0.6920)	(0.6399)	(0.4544)	(0.5759)	(0.5548)	(0.5381)	(0.5244)	(0.5131)
alpha $_G$	LN(Ω_G)/LN(E	(0.1346)	(0.3183)	(0.4254)	(0.5019)	(0.5598)	(0.6054)	(0.8526)	(0.6727)	(0.6982)	(0.7200)	(0.7387)	(0.7551)
(0.0008)	delta$_{0\ G}$	0.865	0.682	0.575	0.498	0.440	0.395	0.147	0.327	0.302	0.280	0.261	0.245
	$g_A{}^*_G$	0.0003	0.0028	0.0053	0.0078	0.0102	0.0127	0.0544	0.0177	0.0201	0.0226	0.0251	0.0276
	1−delta$_{0\ G}$	0.1346	0.3183	0.4254	0.5019	0.5598	0.6054	0.8526	0.6727	0.6982	0.7200	0.7387	0.7551
	(1−delta$_{0\ G}$)g_A	0.0000	0.0009	0.0022	0.0039	0.0057	0.0077	0.0464	0.0119	0.0141	0.0163	0.0185	0.0208
	$(1-\alpha_G)n_G$	0.0036	0.0036	0.0036	0.0036	0.0036	0.0036	0.0036	0.0036	0.0036	0.0036	0.0036	0.0036
	lambda$^*_G$	0.0037	0.0045	0.0059	0.0075	0.0094	0.0113	0.0500	0.0155	0.0177	0.0199	0.0222	0.0244
	Speed years	272.95	221.61	170.45	133.08	106.94	88.36	20.01	64.49	56.54	50.23	45.12	40.91
$g_y{}^*_G=g_A{}^*_G/(1\text{-alpha}_G)$		0.0003	0.0028	0.0053	0.0078	0.0102	0.0127	0.0543	0.0177	0.0201	0.0226	0.0251	0.0276
a_{TAX}	**1.0318**												
	4. Norway	EG: G size											
Case of bankrupcy		0.0500	0.1000	0.1500	0.2000	**0.2568**	0.3000	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.0516	0.1032	0.1548	0.2064	**0.2650**	0.3096	0.3611	0.4127	0.4643	0.5159	0.5675	0.6191
0.0313	$\Delta D=S_G-I_G$	(0.0016)	(0.0032)	(0.0048)	(0.0064)	(0.0082)	(0.0096)	(0.0111)	(0.0127)	(0.0143)	(0.0159)	(0.0175)	(0.0191)
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0016	0.0032	0.0049	0.0065	**0.0313**	0.0097	0.0113	0.0129	0.0146	0.0162	0.0178	0.0194
0.8398	beta$^*_G$	3.3089	1.8919	1.4196	1.1835	**0.6212**	0.9473	0.8798	0.8292	0.7899	0.7584	0.7326	0.7112
$n_{EG}=n_G$	B^*_G	(0.6978)	(0.4714)	(0.2956)	(0.1550)	0.6097	0.0556	0.1366	0.2059	0.2660	0.3186	0.3649	0.4061
0.0104	LN(B^*_G)	#NUM!	#NUM!	#NUM!	#NUM!	(0.4947)	(2.8894)	(1.9910)	(1.5803)	(1.3242)	(1.1439)	(1.0080)	(0.9011)
alpha $_G$	LN(Ω_G)/LN(E	#NUM!	#NUM!	#NUM!	#NUM!	0.3529	0.0604	0.0877	0.1105	0.1318	0.1526	0.1732	0.1938
0.0622	delta$_{0\ G}$	#NUM!	#NUM!	#NUM!	#NUM!	1.353	1.060	1.088	1.110	1.132	1.153	1.173	1.194
	$g_A{}^*_G$	(0.0037)	(0.0029)	(0.0020)	(0.0012)	0.0119	0.0005	0.0014	0.0022	0.0031	0.0039	0.0048	0.0056
	1−delta$_{0\ G}$	#NUM!	#NUM!	#NUM!	#NUM!	(0.3529)	(0.0604)	(0.0877)	(0.1105)	(0.1318)	(0.1526)	(0.1732)	(0.1938)
	(1−delta$_{0\ G}$)g_A	#NUM!	#NUM!	#NUM!	#NUM!	(0.0042)	(0.0000)	(0.0001)	(0.0002)	(0.0004)	(0.0006)	(0.0008)	(0.0011)
	$(1-\alpha_G)n_G$	0.0097	0.0097	0.0097	0.0097	0.0097	0.0097	0.0097	0.0097	0.0097	0.0097	0.0097	0.0097
	lambda$^*_G$	#NUM!	#NUM!	#NUM!	#NUM!	0.0056	0.0097	0.0096	0.0095	0.0093	0.0092	0.0089	0.0087
	Speed years	#NUM!	#NUM!	#NUM!	#NUM!	179.92	102.91	103.85	105.21	107.01	109.26	112.05	115.44
$g_y{}^*_G=g_A{}^*_G/(1\text{-alpha}_G)$		(0.0040)	(0.0031)	(0.0022)	(0.0013)	0.0127	0.0005	0.0015	0.0024	0.0033	0.0042	0.0051	0.0060
a_{TAX}	**1.0282**												
	5. Sweden	EG: G size											
Sacrificing technology		0.0500	0.1000	0.1500	0.2000	**0.2665**	0.3000	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.0514	0.1028	0.1542	0.2056	**0.2740**	0.3085	0.3599	0.4113	0.4627	0.5141	0.5655	0.6169
(0)	$\Delta D=S_G-I_G$	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	(0)	(0)	(0)	(0)	**(0)**	(0)	(0)	(0)	(0)	(0)	(0)	(0)
0.9711	beta$^*_G$	0.1742	0.3195	0.3679	0.3922	**0.4499**	0.4164	0.4233	0.4285	0.4325	0.4358	0.4384	0.4406
$n_{EG}=n_G$	B^*_G	4.7421	2.1300	1.7178	1.5500	1.2228	1.4016	1.3623	1.3337	1.3119	1.2948	1.2810	1.2696
0.0043	LN(B^*_G)	1.5565	0.7561	0.5411	0.4382	0.2011	0.3376	0.3092	0.2880	0.2715	0.2584	0.2476	0.2387
alpha $_G$	LN(Ω_G)/LN(E	(0.0188)	(0.0387)	(0.0541)	(0.0668)	(0.1456)	(0.0867)	(0.0947)	(0.1017)	(0.1078)	(0.1133)	(0.1182)	(0.1227)
(0.1229)	delta$_{0\ G}$	0.981	0.961	0.946	0.933	0.854	0.913	0.905	0.898	0.892	0.887	0.882	0.877
	$g_A{}^*_G$	(0.0064)	(0.0105)	(0.0147)	(0.0188)	(0.0827)	(0.0271)	(0.0312)	(0.0353)	(0.0395)	(0.0436)	(0.0478)	(0.0519)
	1−delta$_{0\ G}$	0.0188	0.0387	0.0541	0.0668	0.1456	0.0867	0.0947	0.1017	0.1078	0.1133	0.1182	0.1227
	(1−delta$_{0\ G}$)g_A	(0.0001)	(0.0004)	(0.0008)	(0.0013)	(0.0120)	(0.0023)	(0.0030)	(0.0036)	(0.0043)	(0.0049)	(0.0056)	(0.0064)
	$(1-\alpha_G)n_G$	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049	0.0049
	lambda$^*_G$	0.0047	0.0044	0.0041	0.0036	(0.0072)	0.0025	0.0019	0.0013	0.0006	(0.0001)	(0.0008)	(0.0015)
	Speed years	211.16	224.80	246.14	277.77	(139.15)	398.67	526.07	792.14	1671.34	(11471.71)	(1264.63)	(662.37)
$g_y{}^*_G=g_A{}^*_G/(1\text{-alpha}_G)$		(0.0057)	(0.0094)	(0.0131)	(0.0167)	(0.0737)	(0.0241)	(0.0278)	(0.0315)	(0.0352)	(0.0388)	(0.0425)	(0.0462)
a_{TAX}	**0.8855**												
	6. Canada	EG: G size											
Sacrificing technology		0.0500	0.1000	0.1500	0.2000	0.2500	**0.2880**	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.0443	0.0886	0.1328	0.1771	0.2214	**0.2550**	0.3099	0.3542	0.3985	0.4428	0.4870	0.5313
0.1159	$\Delta D=S_G-I_G$	0.0057	0.0114	0.0172	0.0229	0.0286	0.0330	0.0401	0.0458	0.0515	0.0572	0.0630	0.0687
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0051	0.0103	0.0154	0.0205	0.0257	**0.1159**	0.0359	0.0410	0.0462	0.0513	0.0564	0.0616
1.4072	beta$^*_G$	1.6721	1.1279	0.9465	0.8558	0.8013	**0.6318**	0.7391	0.7197	0.7046	0.6925	0.6826	0.6744
$n_{EG}=n_G$	B^*_G	(0.4019)	(0.1134)	0.0566	0.1686	0.2479	0.5827	0.3529	0.3895	0.4193	0.4441	0.4650	0.4829
0.0095	LN(B^*_G)	#NUM!	#NUM!	(2.8722)	(1.7805)	(1.3946)	(0.5401)	(1.0415)	(0.9430)	(0.8692)	(0.8118)	(0.7657)	(0.7279)
alpha $_G$	LN(Ω_G)/LN(E	#NUM!	#NUM!	(0.1189)	(0.1919)	(0.2449)	(0.6325)	(0.3280)	(0.3623)	(0.3930)	(0.4208)	(0.4461)	(0.4693)
(0.0134)	delta$_{0\ G}$	#NUM!	#NUM!	0.881	0.808	0.755	0.368	0.672	0.638	0.607	0.579	0.554	0.531
	$g_A{}^*_G$	(0.0034)	(0.0013)	0.0008	0.0030	0.0051	0.0427	0.0094	0.0115	0.0136	0.0158	0.0179	0.0201
	1−delta$_{0\ G}$	#NUM!	#NUM!	0.1189	0.1919	0.2449	0.6325	0.3280	0.3623	0.3930	0.4208	0.4461	0.4693
	(1−delta$_{0\ G}$)g_A	#NUM!	#NUM!	0.0001	0.0006	0.0012	0.0270	0.0031	0.0042	0.0054	0.0066	0.0080	0.0094
	$(1-\alpha_G)n_G$	0.0097	0.0097	0.0097	0.0097	0.0097	0.0097	0.0097	0.0097	0.0097	0.0097	0.0097	0.0097
	lambda$^*_G$	#NUM!	#NUM!	0.0098	0.0102	0.0109	0.0366	0.0127	0.0138	0.0150	0.0163	0.0177	0.0191
	Speed years	#NUM!	#NUM!	102.48	97.77	91.67	27.29	78.53	72.32	66.57	61.35	56.65	52.44
$g_y{}^*_G=g_A{}^*_G/(1\text{-alpha}_G)$		(0.0034)	(0.0013)	0.0008	0.0029	0.0050	0.0421	0.0092	0.0114	0.0135	0.0156	0.0177	0.0198

Table 3-5 Answers to Krugman's (July 1st, 2012) righteousness at the current EU financial crisis: by country

a_{TAX}				**0.6478**									
	7. Greece	EG: G size											
Stoping macro-inequali		0.0500	0.1000	0.1500	0.2000	**0.2408**	0.3000	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.0324	0.0648	0.0972	0.1296	**0.1560**	0.1943	0.2267	0.2591	0.2915	0.3239	0.3563	0.3887
0.1858	$\Delta D=S_G-I_G$	0.0176	0.0352	0.0528	0.0704	0.0848	0.1057	0.1233	0.1409	0.1585	0.1761	0.1937	0.2113
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0060	0.0120	0.0181	0.0241	**0.1858**	0.0361	0.0421	0.0481	0.0542	0.0602	0.0662	0.0722
2.1002	beta$^*_G$	0.8531	0.7304	0.6895	0.6691	**0.6157**	0.6486	0.6428	0.6384	0.6350	0.6323	0.6301	0.6282
$n_{EG}=n_G$	B^*_G	0.1722	0.3691	0.4503	0.4946	0.6242	0.5417	0.5557	0.5664	0.5748	0.5816	0.5872	0.5919
0.0018	LN(B^*_G)	(1.7590)	(0.9967)	(0.7979)	(0.7040)	(0.4713)	(0.6131)	(0.5875)	(0.5685)	(0.5538)	(0.5420)	(0.5325)	(0.5245)
alpha $_G$	LN(Ω_G)/LN(E	(0.4218)	(0.7444)	(0.9299)	(1.0539)	(1.5743)	(1.2103)	(1.2629)	(1.3052)	(1.3399)	(1.3690)	(1.3936)	(1.4148)
(0.3579)	delta$_{0\,G}$	0.578	0.256	0.070	(0.054)	(0.574)	(0.210)	(0.263)	(0.305)	(0.340)	(0.369)	(0.394)	(0.415)
	$g_A^*{}_G$	0.0009	0.0032	0.0056	0.0080	0.0714	0.0127	0.0150	0.0174	0.0198	0.0221	0.0245	0.0268
	1−delta$_{0\,G}$	0.4218	0.7444	0.9299	1.0539	1.5743	1.2103	1.2629	1.3052	1.3399	1.3690	1.3936	1.4148
	(1−delta$_{0\,G}$)g_A	0.0004	0.0024	0.0052	0.0084	0.1124	0.0154	0.0190	0.0227	0.0265	0.0303	0.0341	0.0380
	$(1-\alpha_G)n_G$	0.0024	0.0024	0.0024	0.0024	0.0024	0.0024	0.0024	0.0024	0.0024	0.0024	0.0024	0.0024
	lambda$^*_G$	0.0028	0.0048	0.0076	0.0108	0.1148	0.0178	0.0214	0.0252	0.0289	0.0327	0.0366	0.0404
	Speed years	356.32	206.23	130.79	92.35	8.71	56.22	46.65	39.76	34.58	30.56	27.35	24.74
$g_y^*{}_G=g_A^*{}_G/(1-\text{alpha}_G)$		0.0007	0.0024	0.0041	0.0059	0.0526	0.0093	0.0111	0.0128	0.0146	0.0163	0.0180	0.0198
a_{TAX}		**0.8435**											
	8. Iceland	EG: G size											
Stoping macro-inequali		0.0500	0.1000	0.1500	0.2000	0.2500	0.3000	**0.3319**	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.0422	0.0844	0.1265	0.1687	0.2109	0.2531	**0.2800**	0.3374	0.3796	0.4218	0.4640	0.5061
0.1146	$\Delta D=S_G-I_G$	0.0078	0.0156	0.0235	0.0313	0.0391	0.0469	0.0519	0.0626	0.0704	0.0782	0.0860	0.0939
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0048	0.0097	0.0145	0.0193	0.0242	0.0290	**0.1146**	0.0387	0.0435	0.0483	0.0532	0.0580
1.9435	beta$^*_G$	7.2571	3.9562	2.8559	2.3058	1.9757	1.7556	**0.9338**	1.4805	1.3888	1.3155	1.2555	1.2055
$n_{EG}=n_G$	B^*_G	(0.8622)	(0.7472)	(0.6498)	(0.5663)	(0.4938)	(0.4304)	0.0709	(0.3246)	(0.2800)	(0.2398)	(0.2035)	(0.1704)
0.0476	LN(B^*_G)	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	(2.6460)	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
alpha $_G$	LN(Ω_G)/LN(E	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	(0.2511)	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
(0.0709)	delta$_{0\,G}$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.749	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
	$g_A^*{}_G$	(0.0302)	(0.0286)	(0.0269)	(0.0252)	(0.0236)	(0.0219)	0.0076	(0.0186)	(0.0169)	(0.0152)	(0.0136)	(0.0119)
	1−delta$_{0\,G}$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.2511	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
	(1−delta$_{0\,G}$)g_A	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.0019	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
	$(1-\alpha_G)n_G$	0.0510	0.0510	0.0510	0.0510	0.0510	0.0510	0.0510	0.0510	0.0510	0.0510	0.0510	0.0510
	lambda$^*_G$	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0.0529	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
	Speed years	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	18.90	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
$g_y^*{}_G=g_A^*{}_G/(1-\text{alpha}_G)$		(0.0282)	(0.0267)	(0.0251)	(0.0236)	(0.0220)	(0.0205)	0.0071	(0.0173)	(0.0158)	(0.0142)	(0.0127)	(0.0111)
a_{TAX}				**0.3827**									
	9. Ireland	EG: G size											
Stoping macro-inequali		0.0500	0.1000	0.1500	0.2000	0.2500	0.3000	0.3500	0.4000	0.4500	0.5000	**0.5487**	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.0191	0.0383	0.0574	0.0765	0.0957	0.1148	0.1339	0.1531	0.1722	0.1914	**0.2100**	0.2296
1.5586	$\Delta D=S_G-I_G$	0.0309	0.0617	0.0926	0.1235	0.1543	0.1852	0.2161	0.2469	0.2778	0.3086	0.3387	0.3704
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0298	0.0596	0.0895	0.1193	0.1491	0.1789	0.2088	0.2386	0.2684	0.2982	**1.5586**	0.3579
3.6414	beta$^*_G$	1.1977	0.9879	0.9180	0.8830	0.8620	0.8480	0.8381	0.8306	0.8247	0.8201	**0.7861**	0.8131
$n_{EG}=n_G$	B^*_G	(0.1650)	0.0123	0.0894	0.1325	0.1601	0.1792	0.1932	0.2040	0.2125	0.2194	0.2720	0.2299
0.0155	LN(B^*_G)	#NUM!	(4.4021)	(2.4151)	(2.0212)	(1.8323)	(1.7194)	(1.6438)	(1.5896)	(1.5488)	(1.5169)	(1.3019)	(1.4702)
alpha $_G$	LN(Ω_G)/LN(E	#NUM!	(0.2936)	(0.5351)	(0.6394)	(0.7053)	(0.7517)	(0.7862)	(0.8130)	(0.8344)	(0.8520)	(0.9927)	(0.8791)
(0.0544)	delta$_{0\,G}$	#NUM!	0.706	0.465	0.361	0.295	0.248	0.214	0.187	0.166	0.148	0.007	0.121
	$g_A^*{}_G$	(0.0059)	0.0007	0.0073	0.0140	0.0206	0.0272	0.0338	0.0404	0.0470	0.0537	0.3333	0.0669
	1−delta$_{0\,G}$	#NUM!	0.2936	0.5351	0.6394	0.7053	0.7517	0.7862	0.8130	0.8344	0.8520	0.9927	0.8791
	(1−delta$_{0\,G}$)g_A	#NUM!	0.0002	0.0039	0.0089	0.0145	0.0204	0.0266	0.0329	0.0393	0.0457	0.3309	0.0588
	$(1-\alpha_G)n_G$	0.0163	0.0163	0.0163	0.0163	0.0163	0.0163	0.0163	0.0163	0.0163	0.0163	0.0163	0.0163
	lambda$^*_G$	#NUM!	0.0165	0.0203	0.0253	0.0308	0.0368	0.0429	0.0492	0.0556	0.0620	0.3472	0.0751
	Speed years	#NUM!	60.45	49.37	39.60	32.42	27.20	23.31	20.33	17.99	16.12	2.88	13.31
$g_y^*{}_G=g_A^*{}_G/(1-\text{alpha}_G)$		(0.0056)	0.0007	0.0070	0.0132	0.0195	0.0258	0.0321	0.0383	0.0446	0.0509	0.3161	0.0634
a_{TAX}		**0.8159**											
	10. Italy	EG: G size											
Stoping macro-inequali		0.0500	0.1000	0.1500	0.2000	0.2500	**0.2844**	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.0408	0.0816	0.1224	0.1632	0.2040	**0.2320**	0.2856	0.3264	0.3671	0.4079	0.4487	0.4895
0.1435	$\Delta D=S_G-I_G$	0.0092	0.0184	0.0276	0.0368	0.0460	0.0524	0.0644	0.0736	0.0829	0.0921	0.1013	0.1105
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0059	0.0117	0.0176	0.0234	0.0293	**0.1435**	0.0410	0.0468	0.0527	0.0585	0.0644	0.0702
1.3170	beta$^*_G$	0.9390	0.7444	0.6796	0.6472	0.6277	**0.5657**	0.6055	0.5985	0.5931	0.5888	0.5853	0.5823
$n_{EG}=n_G$	B^*_G	0.0649	0.3433	0.4715	0.5452	0.5931	0.7676	0.6516	0.6708	0.6860	0.6984	0.7087	0.7173
0.0038	LN(B^*_G)	(2.7343)	(1.0692)	(0.7519)	(0.6066)	(0.5224)	(0.2645)	(0.4283)	(0.3993)	(0.3768)	(0.3590)	(0.3444)	(0.3322)
alpha $_G$	LN(Ω_G)/LN(E	(0.1007)	(0.2575)	(0.3662)	(0.4539)	(0.5271)	(1.0409)	(0.6429)	(0.6896)	(0.7306)	(0.7670)	(0.7996)	(0.8288)
(0.0822)	delta$_{0\,G}$	0.899	0.742	0.634	0.546	0.473	(0.041)	0.357	0.310	0.269	0.233	0.200	0.171
	$g_A^*{}_G$	0.0004	0.0030	0.0056	0.0083	0.0109	0.0623	0.0162	0.0188	0.0214	0.0241	0.0267	0.0293
	1−delta$_{0\,G}$	0.1007	0.2575	0.3662	0.4539	0.5271	1.0409	0.6429	0.6896	0.7306	0.7670	0.7996	0.8288
	(1−delta$_{0\,G}$)g_A	0.0000	0.0008	0.0021	0.0037	0.0057	0.0648	0.0104	0.0130	0.0157	0.0185	0.0213	0.0243
	$(1-\alpha_G)n_G$	0.0042	0.0042	0.0042	0.0042	0.0042	0.0042	0.0042	0.0042	0.0042	0.0042	0.0042	0.0042
	lambda$^*_G$	0.0042	0.0049	0.0062	0.0079	0.0099	0.0690	0.0145	0.0171	0.0198	0.0226	0.0255	0.0285
	Speed years	238.47	202.93	160.84	126.48	101.02	14.49	68.74	58.42	50.47	44.22	39.21	35.13
$g_y^*{}_G=g_A^*{}_G/(1-\text{alpha}_G)$		0.0003	0.0028	0.0052	0.0076	0.0101	0.0576	0.0149	0.0174	0.0198	0.0222	0.0247	0.0271
a_{TAX}		**0.8596**											
	11. Portuga	EG: G size											
Stoping macro-inequali		0.0500	0.1000	0.1500	0.2000	**0.2676**	0.3000	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.0430	0.0860	0.1289	0.1719	**0.2300**	0.2579	0.3009	0.3438	0.3868	0.4298	0.4728	0.5157
0.0986	$\Delta D=S_G-I_G$	0.0070	0.0140	0.0211	0.0281	0.0376	0.0421	0.0491	0.0562	0.0632	0.0702	0.0772	0.0843
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0042	0.0085	0.0127	0.0169	**0.0986**	0.0254	0.0297	0.0339	0.0381	0.0424	0.0466	0.0508
2.2990	beta$^*_G$	0.3625	0.5228	0.5762	0.6029	**0.6693**	0.6296	0.6373	0.6430	0.6474	0.6510	0.6539	0.6563
$n_{EG}=n_G$	B^*_G	1.7589	0.9129	0.7355	0.6586	0.4942	0.5883	0.5692	0.5553	0.5446	0.5361	0.5293	0.5236
(0.0019)	LN(B^*_G)	0.5647	(0.0911)	(0.3071)	(0.4176)	(0.7049)	(0.5306)	(0.5635)	(0.5883)	(0.6078)	(0.6234)	(0.6363)	(0.6470)
alpha $_G$	LN(Ω_G)/LN(E	1.4742	(9.1398)	(2.7104)	(1.9936)	(1.1810)	(1.5690)	(1.4774)	(1.4150)	(1.3698)	(1.3354)	(1.3084)	(1.2867)
(0.0648)	delta$_{0\,G}$	2.474	(8.140)	(1.710)	(0.994)	(0.181)	(0.569)	(0.477)	(0.415)	(0.370)	(0.335)	(0.308)	(0.287)
	$g_A^*{}_G$	0.0027	0.0040	0.0054	0.0067	0.0326	0.0094	0.0108	0.0121	0.0134	0.0148	0.0161	0.0175
	1−delta$_{0\,G}$	(1.4742)	9.1398	2.7104	1.9936	1.1810	1.5690	1.4774	1.4150	1.3698	1.3354	1.3084	1.2867
	(1−delta$_{0\,G}$)g_A	(0.0040)	0.0370	0.0146	0.0134	0.0385	0.0148	0.0159	0.0171	0.0184	0.0197	0.0211	0.0225
	$(1-\alpha_G)n_G$	(0.0020)	(0.0020)	(0.0020)	(0.0020)	(0.0020)	(0.0020)	(0.0020)	(0.0020)	(0.0020)	(0.0020)	(0.0020)	(0.0020)
	lambda$^*_G$	(0.0060)	0.0350	0.0126	0.0114	0.0365	0.0128	0.0139	0.0151	0.0164	0.0178	0.0191	0.0205
	Speed years	(167.61)	28.59	79.27	87.49	27.39	78.21	71.90	66.06	60.87	56.31	52.31	48.79
$g_y^*{}_G=g_A^*{}_G/(1-\text{alpha}_G)$		0.0025	0.0038	0.0051	0.0063	0.0306	0.0088	0.0101	0.0114	0.0126	0.0139	0.0151	0.0164
a_{TAX}			**0.6816**										
	12. Spain	EG: G size											
Stoping macro-inequali		0.0500	0.1000	0.1500	0.2000	0.2500	**0.2787**	0.3500	0.4000	0.4500	0.5000	0.5500	0.6000
$b_{IG/YG}$	$Y_G=T_{AX}$	0.0341	0.0682	0.1022	0.1363	0.1704	**0.1900**	0.2386	0.2726	0.3067	0.3408	0.3749	0.4090
0.1359	$\Delta D=S_G-I_G$	0.0159	0.0318	0.0478	0.0637	0.0796	0.0887	0.1114	0.1274	0.1433	0.1592	0.1751	0.1910
Omega $_G$	$I_G=b_{IG/YG}\cdot Y_G$	0.0046	0.0093	0.0139	0.0185	0.0232	**0.1359**	0.0324	0.0371	0.0417	0.0463	0.0510	0.0556
0.6875	beta$^*_G$	1.2552	0.7989	0.6468	0.5708	0.5252	**0.3738**	0.4730	0.4567	0.4441	0.4339	0.4256	0.4187
$n_{EG}=n_G$	B^*_G	(0.2033)	0.2517	0.5460	0.7519	0.9041	1.6755	1.1141	1.1895	1.2520	1.3046	1.3495	1.3883
0.0094	LN(B^*_G)	#NUM!	(1.3796)	(0.6052)	(0.2851)	(0.1008)	0.5161	0.1080	0.1735	0.2247	0.2659	0.2997	0.3281
alpha $_G$	LN(Ω_G)/LN(E	#NUM!	0.2716	0.6192	1.3143	3.7186	(0.7260)	(3.4693)	(2.1595)	(1.6674)	(1.4092)	(1.2501)	(1.1421)
(0.3312)	delta$_{0\,G}$	#NUM!	1.272	1.619	2.314	4.719	0.274	(2.469)	(1.159)	(0.667)	(0.409)	(0.250)	(0.142)
	$g_A^*{}_G$	(0.0012)	0.0019	0.0049	0.0080	0.0110	0.0851	0.0171	0.0201	0.0232	0.0262	0.0293	0.0323
	1−delta$_{0\,G}$	#NUM!	(0.2716)	(0.6192)	(1.3143)	(3.7186)	0.7260	3.4693	2.1595	1.6674	1.4092	1.2501	1.1421
	(1−delta$_{0\,G}$)g_A	#NUM!	(0.0005)	(0.0030)	(0.0105)	(0.0409)	0.0618	0.0593	0.0435	0.0386	0.0370	0.0366	0.0369
	$(1-\alpha_G)n_G$	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125
	lambda$^*_G$	#NUM!	0.0119	0.0094	0.0020	(0.0284)	0.0743	0.0717	0.0559	0.0511	0.0494	0.0490	0.0494
	Speed years	#NUM!	83.71	106.23	500.16	(35.15)	13.47	13.94	17.88	19.57	20.24	20.39	20.26
$g_y^*{}_G=g_A^*{}_G/(1-\text{alpha}_G)$		(0.0009)	0.0014	0.0037	0.0060	0.0083	0.0639	0.0128	0.0151	0.0174	0.0197	0.0220	0.0243

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