«Notes»

Supplement to "Growth Accounting" [2000/May]: The Method for Measuring the Elasticity with Examples Using Recursive Programming

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This note supplements Chapter 6 in "Growth Accounting: a New Approach Using Recursive programming" [2000/May] and presents some examples of measuring the elasticity, with a brief summary of the methodology.

I advocate that economic growth is based not on money assets but thoroughly on physical and human capital (combined with Propositions 3-1 and 3-2 in Chapter 3 in Growth Accounting [2000]). I support Hayek's [1931] "neutral money" in that money should be neutral to economic growth. Then how is money neutral to economic growth? There are three methods for measuring neutral money: (1) When the elasticity of substitution between capital and labour, σ, is close to 1.0. (2) When the market discount rate is adjusted so as to be closer to the discount rate endogenously measured in my model. (3) When Tobin's q is closer to 1.0, which is measured as the ratio of valuation-value of dividends to the initial capital value in my model. The above (2) and (3) were discussed in Chapter 3 in Growth Accounting [2000].

In this supplement, I discuss the above (1) in terms of the structure of the substitution between capital, labour, and related values. I also raise thirteen case studies and empirical results by country (see the contents of recursive programming below).

The equation of the rate of increase of a ratio connects absolute values (such

as Y, W, P, L, and K) with the ratios that are defined using them. The rate of change in a ratio is defined as $\Delta z/z$, where a ratio, z, is Y divided by X and the increase of z, Δz, is measured as follows:

Values	Y(1) X(1),	Y(2) X(2).
Increase of values		$\Delta Y(2) \equiv Y(2) - Y(1)$.
		$\Delta X(2) \equiv X(2) - X(1)$.
Rates	$z(1) \equiv Y(1)/X(1)$.	$z(2) \equiv Y(2)/X(2)$.

Increase of z $$\Delta z(2) = \frac{z(2)(1+g_{X(2)}) - z(1)}{g_{X(2)}}, \tag{S1}$$

where $$g_{X(2)} \equiv \frac{X(2)-X(1)}{X(1)} = \frac{\Delta X(2)}{X(1)}. \tag{S2}$$

The growth rate used for the increase of z is not the growth rate of z, but the growth rate of X as the value of the denominator. As a result, the rate of change in z is measured as follows:

Since $$\frac{Y(2)}{X(2)} = \frac{Y(1)}{X(1)} \cdot \frac{X(1)}{X(2)} + \frac{Y(2)-Y(1)}{X(2)-X(1)} \cdot \frac{X(2)-X(1)}{X(2)},$$

and also, $$\frac{X(1)}{X(2)} + \frac{X(2)-X(1)}{X(2)} = 1,$$

the rate of change in the ratio, $\Delta z(2)$ is derived as:[1)]

$$\Delta z(2) = \frac{z(2)(1+g_{X(2)}) - z(1)}{g_{X(2)}}.$$ [2)]

Accordingly,

1) The original idea comes from Kamiryo, "Structure of Income, Assets, and Capital" [1989, p. 159]. Related equations are reformulated more generally in this monograph.

2) For example, in the case of the capital-output ratio, $\Delta\Omega(2) = \frac{\Omega(2)(1+g_Y(2)) - \Omega(1)}{g_Y(2)}$, where the growth rate used is the growth rate of the denominator of the capital-output ratio; the growth rate of output.

$$\frac{\Delta z}{z}(2) = \frac{z(2)(1+g_{X(2)}) - z(1)}{g_{X(2)} \cdot z(2)} = \frac{1+g_{X(2)} - z(1)/z(2)}{g_{X2}}. \tag{S3}$$

The growth rate of absolute values is obtained as shown in Equation S2, but the growth rate of a ratio cannot be obtained as in the case of using absolute values. It is necessary that the elasticity of substitution be measured using Equation S3 while MPL and MPK are measured by Equation S2 if ΔY, ΔL, and ΔK are used as absolute values.

First, let me review briefly MPL and MPK. Solow [1956, p. 79] gives the traditional marginal-productivity equations as follows:

$$\frac{\partial F}{\partial L} = \frac{w}{p},$$

and

$$\frac{\partial F}{\partial K} = \frac{r}{p},$$

where p is the selling price of a unit of real output, w is the money wage rate, and r (instead of using Solow's q) is the money rental per unit of time of a unit of capital stock. I suggest that ∂F/∂L = w and ∂F/∂K = r at p = 1 only if the growth rate of output equals the growth rate of population/workers. This result holds only in the Harrod-Domar steady growth-state.

MPL and MPK, in our case, are defined and measured as follows:[3)]

$$MPL(2) \equiv \frac{\Delta Y}{\Delta L} = \frac{Y(2) - Y(1)}{L(2) - L(1)}. \tag{S4}$$

$$MPK(2) \equiv \frac{\Delta Y}{\Delta K} = \frac{Y(2) - Y(1)}{K(2) - K(1)}. \tag{S5}$$

where the increase of each absolute value is obtained using Equation S2.

Now let me explain the equation of the elasticity of substitution between labour and capital, σ. The elasticity of substitution, σ, is generally defined as,

3) Mathematically speaking, of course, e.g., $MPL = \lim_{t \to 0} \frac{\Delta Y}{\Delta L}$.

$$\sigma \equiv \frac{\dfrac{d\left(\dfrac{K}{L}\right)}{K/L}}{\dfrac{d\left(\dfrac{r}{w}\right)}{r/w}}. \tag{S7}$$

where r is defined as the rate of profit on capital/the rental rate and w is the wage rate.

I express this definition as,

$$\sigma \equiv \frac{\dfrac{\Delta\left(\dfrac{K}{L}\right)}{K/L}}{\dfrac{\Delta\left(\dfrac{r}{w}\right)}{r/w}} = \frac{\dfrac{\Delta k}{k}}{\dfrac{\Delta\left(\dfrac{r}{w}\right)}{r/w}}. \tag{S8}$$

where k ≡ K/L or the capital-labour ratio. The numerator of this equation uses k, but can be replaced by L/K or l/k. The value of σ becomes negative if negative sign is put into this equation.[4)]

The numerator and denominator of Equation S8 are reformulated as follows:

For the numerator, $\Delta k(2) = \dfrac{k(2)\,(1+g_{k(2)}) - k(1)}{g_{K(2)}}$, (S9)

where $g_{K(2)} \equiv \dfrac{k(2)-k(1)}{k(1)} = \dfrac{\Delta k(2)}{k(1)}$.

For the denominator, (r/w) is expressed using absolute values as,

$$r/w = \frac{L \cdot P}{W \cdot K}.$$

Accordingly,

4) Sato, R. [June, 1998] advised me by a letter to remove the negative sign of σ in Kamiryo [1998, p. 127]. Otherwise, the values of σ become negative as I tested using national accounts. I express σ as positive values in this monograph. For various forms of σ, Dr. Tsutomu Tokimasa [1998, 1999] helped me greatly, but in this respect, he prefers a negative sign to a positive sign in Equation S8.

$$\Delta\left(\frac{r}{w}\right)(2)=\frac{\left(\frac{r}{w}\right)(2)(1+g_{(r/w)(2)})-\left(\frac{r}{w}\right)(1)}{g_{(r/w)(2)}}, \tag{S10}$$

where

$$g_{(r/w)(2)}\equiv\frac{\left(\frac{r}{w}\right)(2)-\left(\frac{r}{w}\right)(1)}{\left(\frac{r}{w}\right)(1)}.$$

Let me state the difference between the Harrod model and the Solow model using the above elasticity of substitution.

1. The steady growth-state is shown: $g_Y^* = g_K^*$.
2. If $g_Y \neq n$, $g_y^* = g_k^* \neq 0$. If $g_Y = n$, $g_y^* = g_k^* = 0$ and, accordingly, $\lambda = 0$.
3. The rate of profit, r^* is fixed since $r^* = \alpha / \Omega$, where Ω and α are fixed.
4. If $g_Y \neq n$, $\frac{\Delta k(t)}{k(t)} \neq 1$ and $\frac{\Delta\left(\frac{r}{w}\right)}{r/w} \neq 1$. If $g_Y = n$, $\frac{\Delta k(t)}{k(t)} = 1$ and $\frac{\Delta\left(\frac{r}{w}\right)}{r/w} = 1$.[5)]
5. As a result, if $g_Y \neq n$, the elasticity of substitution, $\sigma(t) = \sigma \neq 1$. If $g_Y = n$, the elasticity of substitution, $\sigma(t) = \sigma = 1$.[6)]
6. MPL = APL and MPK = APK.
7. Y = wL + rK holds always. If $g_Y \neq n$, the price-level of products, $p \neq 1$. If $g_Y = n$, the price-level of products, $p = 1$.[7]

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5) The growth rate of output is expressed as $g_Y^* = s_{SP/Y} / (1 - s_{SP/Y})$ in the Kamiryo model. As long as $g^*_Y = n$, the value of σ is 1.0, where $g^*_Y > s_{SP/Y}$ since $g_Y^* = s_{SP/Y} / (1 - s_{SP/Y})$.

6) This implies that $\sigma = 1$ holds if the growth rate of per capita output is zero and that marginal productivity (theory) strictly holds only in this case. The literature using differentials cannot reveal this fact.

7) Theoretically, the price-level of products is one under the steady growth-state. However, I find that the price-level of labour is not one under the steady growth-state if $g_Y \neq n$. In this case, the price-level of products is not one since the price-level of products is the weighted-average of the price-levels of labour and capital: $p = \frac{p_w \cdot w \cdot L + r \cdot K}{w \cdot L + r \cdot K} = \frac{p \cdot Y}{Y} = p$. Nevertheless, the price-level of products is fixed, which is important as a condition for strong marginal productivity.

8. The price-level of labour, p_w: Using w and MPL, $p_w = (w/MPL)/(1-\alpha)$, but $p_w \neq 1$ if $g_Y \neq n$.
9. The price-level of capital, p_r: Using r and MPK, $p_r = (r/MPK)/\alpha$, and $p_r = 1$.

Let me now summarize the differences of the price levels of products, labour, and capital referring to other values of elasticity.

I indicate that the numerator of MPL or MPK is the increase in output as a whole (see, Equations S4 and S5). As a result, the price-levels of capital, labour and, accordingly, products are one under the necessary condition: $g_Y = n$. (confer Figure 4-2 in Chapter 4 in Growth Accounting [2000]). However, when the necessary condition is not satisfied, the price-level of labour, p_w, does not show one:

$$p_w = \frac{w/MPL}{1-\alpha} \neq 1 \tag{S12}$$

$$p_r = \frac{r/MPK}{\alpha} = 1 \tag{S13}$$

How are Equations S12 and S13 proved/justified? To lead to the justification, I raise another question: how are the price-levels of labour and capital expressed? Equations S12 and S13 finally reduce to the elasticity of labour with respect to output and the elasticity of capital with respect to output as follows:

$$p_w = \frac{w/MPL}{1-\alpha} = \frac{y(1-\alpha)}{MPL(1-\alpha)} = \frac{Y}{L} / \frac{\Delta Y}{\Delta L} = \frac{1}{\sigma_y}, \tag{S14}$$

where σ_y is one if $g_Y = n$ and much more than one if $g_Y \neq n$ because of the difference of g_Y and n.

$$p_r = \frac{r/MPK}{\alpha} = \frac{1}{MPK} \cdot \frac{r}{r \cdot \Omega} = \frac{\Delta\Omega}{\Omega} = \sigma_\Omega, \tag{S15}$$

where σ_Ω is one regardless of $g_Y \neq n$ or $g_Y = n$. This implies that law of conser-

vation of the capital-output ratio holds as proved by Samuelson [1970].

Thus, the price-level of labour cannot be one unless $g_Y = n$.

In short, the price-levels are replaced by the values of the elasticity. It is interesting to note that $\sigma_k = \sigma_\Omega \cdot \sigma_y$ and thus $\sigma_k = \frac{p_r}{p_w}$. If $\sigma_\Omega = 1$, then $\sigma_k = \sigma_y$.

As a result, the value of σ is calculated using recursive-programming in the Solow model, the Solow-Kamiryo model, and the Kamiryo model.

In short, the above equations constitute the structure of the elasticity of substitution, together with MPL and MPK. Without the equation of the rate of change in a ratio, any recursive-programming of the above models (including the Solow model) cannot be completed.

Finally, let me summarize all the important values of elasticity.

1. The elasticity of consumption with respect to labour, $\sigma_{cC/L} \equiv \frac{\Delta c_{C/L}}{c_{C/L}}$ (S16)
2. The elasticity of output with respect to labour, $\sigma_y \equiv \frac{\Delta y}{y}$ (S17)
3. The elasticity of capital with respect to output, $\sigma_\Omega \equiv \frac{\Delta \Omega}{\Omega}$ (S18)
4. The elasticity of capital with respect to labour, $\sigma_k \equiv \frac{\Delta k}{k}$ (S19)
5. The elasticity of profit with respect to capital, $\sigma_r \equiv \frac{\Delta r}{r}$ (S20)
6. The elasticity of wages with respect to labour, $\sigma_w \equiv \frac{\Delta w}{w}$ (S21)
7. The elasticity of the rate of profit/the rental rate with respect to the wage rate, $\sigma_{r/w} \equiv \frac{\Delta(r/w)}{r/w}$ (S22)
8. The elasticity of profit with respect to output, $\sigma_\alpha \equiv \frac{\Delta \alpha}{\alpha}$ (S23)
9. The elasticity of consumed dividends with respect to saving, $\sigma_{C_D/S} \equiv \frac{\Delta(C_D/S)}{C_D/S}$ (S24)
10. The elasticity of substitution between labour and capital (the elasticity of capital with respect to labour divided by the elasticity of capital with respect

to labour), $\sigma \equiv \dfrac{\dfrac{\Delta\left(\dfrac{K}{L}\right)}{K/L}}{\dfrac{\Delta\left(\dfrac{r}{w}\right)}{r/w}} = \dfrac{\dfrac{\Delta k}{k}}{\dfrac{\Delta\left(\dfrac{r}{w}\right)}{r/w}}$ (see, Equation S8)

I summarize four fundamental relationships between two values of the elasticity as follows:

1. $\sigma_k = \sigma_\Omega \cdot \sigma_y$ (S25)
2. $\sigma_\alpha = \sigma_\Omega \cdot \sigma_r$ (S26)
3. $\sigma_{C/Y} = \sigma_{C/L} / \sigma_y$ [8] (S27)
4. $\sigma_{C_D/S} = \sigma_{C_D/S_P} / \sigma_{S/S_P} = \sigma_\gamma / \sigma_\theta$ (S28)

In the steady growth-state, where the retention ratio and the rate of saving are variables, the values of σ_Ω, $\sigma_{C/Y}$, σ_γ, σ_θ, and $\sigma_{CD/S}$ are one. Also, $\sigma_k = \sigma_y$, $\sigma_\alpha = \sigma_r$, and $\sigma_{C/L} = \sigma_y$. Accordingly, $\sigma_k = \sigma_{C/L}$. At that point in time when the balanced growth-state exists, the values of σ_Ω, $\sigma_{C/Y}$, σ_γ, σ_θ, and $\sigma_{CD/S}$ are not one, but very close to one. Samuelson [1970] proved "law of conservation of the capital-output ratio": $\sigma_\Omega = 1$. This law holds perfectly in the steady growth-state and almost strictly at that point in time when the balanced growth-state exists. I also find that this law holds roughly in the unbalanced growth-state. This is because the values of σ_Ω are close to one.

Law of conservation is represented by the capital-output as a basis for all-important laws. Thus, this law is shown by other values such as the ratio of consumption to output, the ratio of consumed dividends to undistributed profit, the ratio of saving to undistributed profit, and the ratio of consumed dividends to saving. Sato [1981, pp. 233–235] advocates as follows:

"Although Ramsey did not mention it explicitly, his rule is closely related to and is derived from the law of conservation of energy."

8) Define utility as consumption per capital. Then, $\sigma_{C/L}$ shows the elasticity of per capita consumption or utility.

In short, I state that the law of conservation exists at a center of all the relationships in the balanced growth-state and that per capita consumption is also expressed by connecting it with the law of conservation of the capital-output ratio.

For examination, Table A3-1 (see below) shows the case of the Harrod model, where the rate of technological progress is zero and the elasticity of substitution is 1.0 if the growth rate of output equals the growth rate of population/ workers. Table A3-2 (see below) shows cases of increasing returns to capital and diminishing returns to capital of the Kamiryo model, where the relationships among important values of elasticity are calculated without using differentials.

It is now possible to measure important values of elasticity without using conventional differentials as shown in this supplement.

Contents of Recursive Programming: from Unpublished Appendices in Chapter 4, 5, 6, and 7 in Growth Accounting [2000]

Appendix 4

A4-1 Case study of the Solow model with lambda given and the structure of elasticity of substitution: IRC, CRC, and DRC

A4-2 Case study of the Solow model and the Solow-Kamiryo model with $\lambda = 0$ (including the case of $s_{SP/Y} = n$) and the structure of elasticity of substitution: only under DRC

A4-3 Case study of the Solow-Kamiryo model with $\Psi > 1$, $\Psi = 1$, and $\Psi < 1$ and the structure of elasticity of substitution: IRC, CRC, and DRC

A4-4 Case study of the Solow model and the Solow-Kamiryo model: with $\alpha = 0$ & $\alpha = 1$ and the structure of elasticity of substitution

Appendix 5

A5-1 Case study of the Kamiryo model (Type 2): both $s_{S/Y}$ and $s_{SP/Y}$ are variables

A5-2 Case study of the Kamiryo model (Type 2): the capital-output ratio changes

A5-3 Case study of the Kamiryo model (Type 2): the relative share of profit changes

A5-4 Case study of the Kamiryo model (Type 2): the growth rate of workers/population changes

A5-5 Case study of the Kamiryo model (Type 2): $s_{SP/Y} = n$ and s are parameters

Appendix 6: This supplement presented some of the following tables.

A6-1-1 to 6-1-4 Case study of the Kamiryo model under the modified golden rule: by the retention ratio with the structure of σ

A6-2-1 to 6-2-4 Case study of the Kamiryo model under the modified golden rule: by the retention ratio, with the structure of σ under the change in α

A6-3-1 to 6-3-4 Case study of the Kamiryo model under the modified golden rule: by the coefficient of time preference and with per capita consumption, under $s^0_{SP/P} < s^*_{SP/P}$ and $s^0_{S/Y} < s^*_{S/Y}$

A6-4-1 to 6-4-4 Case study of the Kamiryo model under the modified golden rule: by the coefficient of time preference and with per capita consumption, under $s^0_{SP/P} > s^*_{SP/P}$ and $s^0_{S/Y} > s^*_{S/Y}$

Appendix 7

A7-1 Results by country using the time-series analysis and Type 2: six countries

A7-2 Results by company using the time-series analysis and Type 2: ten Japanese and US companies

KMs& sSPY varia with sigm(A6-1)

Appendix 6-1-1 Case study of the Kamiryo Model under the modified golden rule, $P=S+C_D$: **both $s_{S/Y}$ and $s_{SP/Y}$ are variables**

$g_Y(t)=s_{SP/Y}(t)/(1-s_{SP/Y}(t))$ $g_K(t)=(I/Y^0)(t)/\Omega(t-1)$

$I/Y^0(t)=s_{S/Y}(t)(1+g_Y(t))$

1 Balanced growth-state: $g^*_Y=g^*_{KP}=g_Y=g_{KP}$ Ω is constant and $s^*_{SP/Y}$ is not equal to n under $\lambda=0$

gamma=1	where $S_P=C_D$	$L^0=$	n	Ω^0	α	k^0	$s^*_{SP/P}$	$s^*_{SP/Y}$	$s^*_{SWD/WD}$	$s^*_{SWD/Y}$	$s^*_{S/Y}=s^*_{SP/Y}$	Ω^0	$\theta^*=s^*_{S/Y}/s^*_{SP/Y}$	$\Psi^*=\Omega^*/\theta^*$	y^0	r^0
gamma=$c_{D/Y}/s_{SP/Y}$		25	0.01	1.5	0.08	11	0.4	0.032	0.016529	0.016	0.048		1.5	1.000000	7.333333	0.053333
$\theta=S/S_P=\Omega=K/Y$		time	$g^*_Y(t)$	$g^*_K(t)$	$g^*_k(t)$	$g^*_y(t)$	$g^*_\Omega(t)$	$\Omega^*(t)$	$c^*_{D/Y}=\alpha-s^*_{S/Y}$	$r^*(t)$	$k^*(t)$	$y^*(t)$	$I/Y^{0*}(t)$	$A^*(t)$	$\lambda^*(t)$	
1.5		1	0.033058	0.033058	0.022830	0.022830	0.000000	1.500000	0.032000	0.053333	11.25113	7.500750	0.049587	0.460396	-----	
		2	0.033058	0.033058	0.022830	0.022830	0.000000	1.500000	0.032000	0.053333	11.50798	7.671989	0.049587	0.460396	0.000000	
		3	0.033058	0.033058	0.022830	0.022830	0.000000	1.500000	0.032000	0.053333	11.77071	7.847137	0.049587	0.460396	0.000000	

2 Unbalanced growth-state **Ω, $s_{SP/Y}$, and $s_{S/Y}$ are variables towards $s^*_{SP/Y}=\alpha-s^*_{S/Y}$**

											$a=s^*_{S/Y}/s^0_{S/Y}$	$g_{sS/Y}=a^{\wedge}(1/10)-1$	$\theta^*=s^*_{S/Y}/s^*_{SP/Y}$	$\Psi^*=\Omega^0/\theta^*$	$A(t)=g_y(t)/(I/Y^0)$	
											1.2	0.018399	1.500000	1.000000	$\lambda=(A(t)-A(t-1))/A(t-1)$	
$b=s^*_{SP/Y}/s^0_{SP/Y}$	$g_{sSP/Y}=b^{\wedge}(1/10)-1$	$L^0=$	n	Ω^0	α	k^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	$s^0_{SWD/WD}$	$s^0_{SWD/Y}$	$s^0_{S/Y}$	$\theta^0=s^0_{S/Y}/s^0_{SP}$	$\Psi^0=\Omega^0/\theta^0$	y^0	r^0	
1.333333	0.029186	25	0.01	1.5	0.08	11	**0.300000**	0.024000	0.016393	0.016000	0.040000	1.666667	0.900000	7.333333	0.053333	
$\theta(t)=s_{S/Y}(t)/s_{SP/Y}(t)$	$\Psi(t)=\Omega^0/\theta(t)$	time	$g_Y(t)=s_{SP/Y}(t)/(1-s_S$	$g_K(t)$	$g_k(t)$	$g_y(t)$	$g_\Omega(t)$	$\Omega(t)$	$s_{S/Y}(t)$	$r(t)$	$k(t)$	$y(t)$	$I/Y^0(t)$	$A(t)$	$\lambda(t)$	
1.649199	0.909533	1	0.025326	0.027845	0.017668	0.015174	0.002457	1.503685	0.040736	0.053203	11.1944	7.4446	0.041768	0.363302	-----	
1.631914	0.919166	2	0.026084	0.028309	0.018128	0.015925	0.002168	1.506945	0.041485	0.053088	11.3973	7.5632	0.042568	0.374116	0.029765	
1.614810	0.928902	3	0.026866	0.028789	0.018603	0.016699	0.001873	1.509767	0.042249	0.052988	11.6093	7.6895	0.043384	0.384918	0.028874	
1.597886	0.938740	4	0.027672	0.029287	0.019096	0.017497	0.001572	1.512140	0.043026	0.052905	11.8310	7.8240	0.044217	0.395711	0.028040	
1.581139	0.948683	5	0.028503	0.029803	0.019607	0.018320	0.001265	1.514052	0.043818	0.052838	12.0630	7.9673	0.045067	0.406497	0.027257	
1.564567	0.958732	6	0.029359	0.030339	0.020137	0.019167	0.000952	1.515493	0.044624	0.052788	12.3059	8.1201	0.045934	0.417279	0.026522	
1.548169	0.968886	7	0.030242	0.030894	0.020687	0.020041	0.000633	1.516452	0.045445	0.052755	12.5605	8.2828	0.046819	0.428057	0.025830	
1.531944	0.979148	8	0.031152	0.031470	0.021258	0.020942	0.000309	1.516920	0.046281	0.052738	12.8275	8.4563	0.047723	0.438835	0.025178	
1.515888	0.989519	9	0.032090	0.032068	0.021850	0.021872	-0.000021	1.516888	0.047133	0.052740	13.1077	8.6412	0.048645	0.449614	0.024563	
1.500000	**1.000000**	**10**	**0.033058**	**0.032690**	**0.022465**	**0.022830**	**-0.000356**	**1.516348**	**0.048000**	**0.052758**	**13.4022**	**8.8385**	**0.049587**	**0.460396**	**0.023982**	
1.484279	1.010592	11	0.034056	0.033335	0.023104	0.023817	-0.000697	1.515291	0.048883	0.052795	13.7119	9.0490	0.050548	0.471184	0.023432	
1.468723	1.021296	12	0.035084	0.034006	0.023768	0.024836	-0.001042	1.513713	0.049783	0.052850	14.0378	9.2737	0.051529	0.481979	0.022911	
1.453329	1.032113	13	0.036145	0.034703	0.024459	0.025886	-0.001392	1.511606	0.050699	0.052924	14.3811	9.5138	0.052531	0.492784	0.022418	
1.438097	1.043045	14	0.037240	0.035429	0.025177	0.026970	-0.001746	1.508967	0.051631	0.053016	14.7432	9.7704	0.053554	0.503600	0.021949	
1.423025	1.054093	15	0.038368	0.036183	0.025924	0.028087	-0.002104	1.505792	0.052581	0.053128	15.1254	10.0448	0.054599	0.514430	0.021505	
1.408111	1.065257	16	0.039532	0.036968	0.026701	0.029240	-0.002467	1.502077	0.053549	0.053260	15.5292	10.3385	0.055666	0.525275	0.021082	
1.393353	1.076540	17	0.040733	0.037785	0.027510	0.030429	-0.002833	1.497822	0.054534	0.053411	15.9564	10.6531	0.056755	0.536137	0.020680	
1.378749	1.087943	18	0.041972	0.038635	0.028352	0.031655	-0.003202	1.493025	0.055537	0.053582	16.4088	10.9903	0.057868	0.547019	0.020297	
1.364299	1.099466	19	0.043250	0.039521	0.029228	0.032920	-0.003574	1.487689	0.056559	0.053775	16.8884	11.3521	0.059006	0.557922	0.019932	
1.350000	1.111111	20	0.044568	0.040443	0.030142	0.034226	-0.003949	1.481814	0.057600	0.053988	17.3975	11.7407	0.060167	0.568849	0.019584	
1.335851	1.122880	21	0.045929	0.041405	0.031094	0.035573	-0.004325	1.475404	0.058660	0.054222	17.9384	12.1583	0.061354	0.579800	0.019252	
1.321850	1.134773	22	0.047333	0.042406	0.032086	0.036963	-0.004704	1.468465	0.059739	0.054479	18.5140	12.6077	0.062567	0.590778	0.018935	
1.307996	1.146792	23	0.048782	0.043451	0.033120	0.038398	-0.005083	1.461001	0.060838	0.054757	19.1272	13.0918	0.063806	0.601785	0.018632	
1.294288	1.158939	24	0.050277	0.044540	0.034198	0.039878	-0.005462	1.453020	0.061958	0.055058	19.7813	13.6139	0.065073	0.612823	0.018342	
1.280722	1.171214	25	0.051820	0.045675	0.035322	0.041406	-0.005842	1.444532	0.063098	0.055381	20.4800	14.1776	0.066367	0.623894	0.018065	
1.267300	1.183619	26	0.053413	0.046860	0.036495	0.042984	-0.006221	1.435545	0.064259	0.055728	21.2274	14.7870	0.067691	0.634999	0.017800	
1.254017	1.196156	27	0.055058	0.048096	0.037719	0.044612	-0.006599	1.426072	0.065441	0.056098	22.0281	15.4467	0.069044	0.646141	0.017546	

KMs& sSPY varia with sigm(A6−1)

A6-1-1(2) Structure of the elasticity of substitution

Marginal rate that is measured using the growth rate of the denominator

Marginal rate of profit: $\Delta r(t)=((r(2)(1+g_K(2)-r(1))/g_K(2)$

n	α^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	L^0	Y^0	W^0	P^0	ΔP^0	K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$
0.01	0.08	0.400000	0.032000	25	183.3333	168.6667	14.6667	-----	275.000	-----	=ΔP/ΔK	-----	6.7467	=ΔW/ΔL	-----
$g_\alpha(t)$	$\alpha(t)=\alpha(0)(1+g\alpha)^t$	$s_{SP/P}(t)$	$s_{SP/Y}(t)$	L(t)	Y(t)	W(t)	P(t)	ΔP(t)	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$
0.000000	0.080000	0.413223	0.033058	25.2500	189.3939	174.2424	15.1515	0.4848	284.091	9.0909	0.053333	5.5758	6.9007	22.3030	0.00239
0.000000	0.080000	0.413223	0.033058	25.5025	195.6549	180.0025	15.6524	0.5009	293.482	9.3914	0.053333	5.7601	7.0582	22.8122	0.00234
0.000000	0.080000	0.413223	0.033058	25.7575	202.1228	185.9530	16.1698	0.5174	303.184	9.7019	0.053333	5.9505	7.2194	23.3330	0.00229

n	α^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	L^0	Y^0	W^0	P^0	ΔP^0	K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$
0.01	0.08	0.300000	0.024000	25	183.3333	168.6667	14.6667	-----	275.000	-----	=ΔP/ΔK	-----	6.7467	=ΔW/ΔL	-----
$g_\alpha(t)$	$\alpha(t)=\alpha(0)(1+g\alpha)^t$	$s_{SP/P}(t)$	$s_{SP/Y}(t)$	L(t)	Y(t)	W(t)	P(t)	ΔP(t)	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$
0.000000	0.080000	0.316575	0.025326	25.2500	187.9764	172.9383	15.0381	0.3714	282.657	7.6574	0.048508	4.2717	6.8490	17.0866	0.00284
0.000000	0.080000	0.326056	0.026084	25.5025	192.8797	177.4493	15.4304	0.3923	290.659	8.0017	0.049022	4.5110	6.9581	17.8654	0.00274
0.000000	0.080000	0.335828	0.026866	25.7575	198.0617	182.2167	15.8449	0.4146	299.027	8.3679	0.049541	4.7674	7.0743	18.6938	0.00265
0.000000	0.080000	0.345901	0.027672	26.0151	203.5424	187.2590	16.2834	0.4385	307.785	8.7576	0.050066	5.0423	7.1981	19.5761	0.00256
0.000000	0.080000	0.356284	0.028503	26.2753	209.3439	192.5964	16.7475	0.4641	316.958	9.1730	0.050596	5.3374	7.3300	20.5165	0.00247
0.000000	0.080000	0.366988	0.029359	26.5380	215.4901	198.2509	17.2392	0.4917	326.574	9.6160	0.051132	5.6544	7.4705	21.5200	0.00238
0.000000	0.080000	0.378022	0.030242	26.8034	222.0069	204.2463	17.7605	0.5213	336.663	10.0891	0.051674	5.9955	7.6202	22.5920	0.00229
0.000000	0.080000	0.389399	0.031152	27.0714	228.9228	210.6090	18.3138	0.5533	347.258	10.5948	0.052221	6.3627	7.7798	23.7383	0.00220
0.000000	0.080000	0.401129	0.032090	27.3421	236.2690	217.3675	18.9015	0.5877	358.394	11.1360	0.052774	6.7585	7.9499	24.9655	0.00211
0.000000	**0.080000**	**0.413223**	**0.033058**	**27.6156**	**244.0796**	**224.5532**	**19.5264**	**0.6248**	**370.109**	**11.7158**	**0.053333**	**7.1857**	**8.1314**	**26.2807**	**0.00203**
0.000000	0.080000	0.425694	0.034056	27.8917	252.3918	232.2005	20.1913	0.6650	382.447	12.3377	0.053898	7.6473	8.3251	27.6919	0.00195
0.000000	0.080000	0.438554	0.035084	28.1706	261.2468	240.3471	20.8997	0.7084	395.453	13.0055	0.054469	8.1466	8.5318	29.2080	0.00186
0.000000	0.080000	0.451817	0.036145	28.4523	270.6897	249.0345	21.6552	0.7554	409.176	13.7236	0.055046	8.6874	8.7527	30.8386	0.00178
0.000000	0.080000	0.465495	0.037240	28.7369	280.7700	258.3084	22.4616	0.8064	423.673	14.4965	0.055629	9.2739	8.9888	32.5946	0.00171
0.000000	0.080000	0.479602	0.038368	29.0242	291.5427	268.2193	23.3234	0.8618	439.003	15.3297	0.056218	9.9108	9.2412	34.4882	0.00163
0.000000	0.080000	0.494153	0.039532	29.3145	303.0680	278.8226	24.2454	0.9220	455.231	16.2289	0.056814	10.6033	9.5114	36.5326	0.00156
0.000000	0.080000	0.509163	0.040733	29.6076	315.4129	290.1798	25.2330	0.9876	472.432	17.2008	0.057415	11.3573	9.8009	38.7429	0.00148
0.000000	0.080000	0.524647	0.041972	29.9037	328.6513	302.3592	26.2921	1.0591	490.685	18.2525	0.058024	12.1794	10.1111	41.1359	0.00141
0.000000	0.080000	0.540621	0.043250	30.2027	342.8654	315.4361	27.4292	1.1371	510.077	19.3922	0.058638	13.0769	10.4440	43.7302	0.00134
0.000000	0.080000	0.557103	0.044568	30.5048	358.1463	329.4946	28.6517	1.2225	530.706	20.6292	0.059259	14.0584	10.8014	46.5469	0.00127
0.000000	0.080000	0.574109	0.045929	30.8098	374.5955	344.6278	29.9676	1.3159	552.680	21.9737	0.059887	15.1333	11.1857	49.6096	0.00121
0.000000	0.080000	0.591659	0.047333	31.1179	392.3261	360.9400	31.3861	1.4184	576.117	23.4372	0.060521	16.3122	11.5991	52.9447	0.00114
0.000000	0.080000	0.609769	0.048782	31.4291	411.4644	378.5472	32.9171	1.5311	601.150	25.0328	0.061162	17.6072	12.0445	56.5822	0.00108
0.000000	0.080000	0.628461	0.050277	31.7434	432.1515	397.5794	34.5721	1.6550	627.925	26.7751	0.061810	19.0322	12.5248	60.5559	0.00102
0.000000	0.080000	0.647753	0.051820	32.0608	454.5457	418.1820	36.3637	1.7915	656.606	28.6808	0.062465	20.6027	13.0434	64.9039	0.00096
0.000000	0.080000	0.667668	0.053413	32.3814	478.8246	440.5186	38.3060	1.9423	687.374	30.7686	0.063126	22.3366	13.6041	69.6694	0.00091
0.000000	0.080000	0.688228	0.055058	32.7052	505.1878	464.7728	40.4150	2.1091	720.434	33.0600	0.063795	24.2542	14.2110	74.9015	0.00085

KMs& sSPY varia with sigm(A6-1)

A6-1-1(3) $\Delta\Omega(t)=((\Omega(2)(1+g_Y(2)-\Omega(1))/g_Y(2)$ $\Delta y(t)=((y(2)(1+n)-y(1))/n$ $\Delta(r/w)(t)=((r/w)(2)(1+g_{WK}(2)-(r/w)(1))/g_{WK}(2)$ Elasticity of substitution, σ $\sigma_r=\Delta r/r$

$\Delta k(t)=((k(2)(1+n)-k(1))/n$ where, $g_{WK}=((W*K)(2)-(W*K)(1))/(W*K)(1)$ $\sigma=(\Delta k/k)/(\Delta(r/w)(t)/(r/w)(t))$ 1

$(W*K)^0$		1/MPK		MPK	MPL		(A)	Marginal rate		$(r/w)^0$	(B)=$\Delta(r/w)(t)/(r/w)(t)$				$\sigma_\alpha=\sigma_k/\sigma_y$
46383		=ΔK/ΔY		=ΔY/ΔK	=ΔY/ΔL		$\sigma_k=\sigma_\Omega*\sigma_y$	=ΔK/ΔL		0.007905			Y=wL+rK is confirme		1
(W*K)(t)	$g_{WK}(t)$	$\Delta\Omega(t)$	$\sigma_\Omega=\Delta\Omega/\Omega$	$=1/\Delta\Omega(t)$	Δy	$\sigma_y=\Delta y/y$	$=\Delta k/k$	Δk	$\Delta(r/w)(t)$	$r/w(t)$	$\Delta(r/w)(t)/(r/w)(t)$	$\sigma(t)$=(A)/(B)	Y=wL+rK	$p_w=(w/MPL)/(1-\alpha$	$p_r=(r/MPK)/\alpha$
49501	0.067209	1.500000	1.000000	0.666667	24.24242	3.2320	3.2320	36.3636	0.005103	0.007729	0.660318	4.894615	189.394	0.30941	1.00000
52828	0.067209	1.500000	1.000000	0.666667	24.79587	3.2320	3.2320	37.1938	0.004989	0.007556	0.660318	4.894615	195.655	0.30941	1.00000
56378	0.067209	1.500000	1.000000	0.666667	25.36195	3.2320	3.2320	38.0429	0.004878	0.007388	0.660318	4.894615	202.123	0.30941	1.00000

$(W*K)^0$		1/MPK		MPK	MPL		(A)	Marginal rate		$(r/w)^0$	(B)=$\Delta(r/w)(t)/(r/w)(t)$				
46383		=ΔK/ΔY		=ΔY/ΔK	=ΔY/ΔL		$\sigma_k=\sigma_\Omega*\sigma_y$	=ΔK/ΔL		0.007905			Y=wL+rK is confirmed.		
(W*K)(t)	$g_{WK}(t)$	$\Delta\Omega(t)$	$\sigma_\Omega=\Delta\Omega/\Omega$	$=1/\Delta\Omega(t)$	Δy	$\sigma_y=\Delta y/y$	$=\Delta k/k$	Δk	$\Delta(r/w)(t)$	$r/w(t)$	$\Delta(r/w)(t)/(r/w)(t)$	$\sigma(t)$=(A)/(B)	Y=wL+rK	$p_w=(w/MPL)/(1-\alpha$	$p_r=(r/MPK)/\alpha$
48882	0.053876	1.649199	1.096771	0.606355	18.57242	2.4947	2.7362	30.6296	0.005220	0.007768	0.672056	4.071337	187.976	0.40084	1.09677
51577	0.055132	1.631914	1.082929	0.612777	19.41888	2.5676	2.7805	31.6899	0.005121	0.007630	0.671195	4.142584	192.880	0.38948	1.08293
54488	0.056429	1.614810	1.069576	0.619268	20.31938	2.6425	2.8263	32.8119	0.005021	0.007490	0.670325	4.216389	198.062	0.37843	1.06958
57635	0.057770	1.597886	1.056705	0.625827	21.27833	2.7196	2.8738	34.0003	0.004920	0.007350	0.669442	4.292879	203.542	0.36770	1.05671
61045	0.059155	1.581139	1.044309	0.632456	22.30055	2.7990	2.9230	35.2603	0.004819	0.007209	0.668548	4.372187	209.344	0.35727	1.04431
64744	0.060588	1.564567	1.032382	0.639154	23.39133	2.8807	2.9740	36.5973	0.004718	0.007066	0.667639	4.454455	215.490	0.34714	1.03238
68762	0.062070	1.548169	1.020916	0.645924	24.55650	2.9648	3.0268	38.0176	0.004616	0.006923	0.666715	4.539828	222.007	0.33730	1.02092
73136	0.063602	1.531944	1.009904	0.652766	25.80249	3.0513	3.0815	39.5280	0.004513	0.006779	0.665774	4.628463	228.923	0.32773	1.00990
77903	0.065188	1.515888	0.999341	0.659680	27.13638	3.1403	3.1383	41.1357	0.004410	0.006634	0.664815	4.720521	236.269	0.31844	0.99934
83109	**0.066828**	**1.500000**	**0.989219**	**0.666667**	**28.56597**	**3.2320**	**3.1972**	**42.8490**	**0.004307**	**0.006488**	**0.663838**	**4.816171**	**244.080**	**0.30941**	**0.98922**
88804	0.068526	1.484279	0.979534	0.673728	30.09992	3.3263	3.2583	44.6767	0.004204	0.006342	0.662840	4.915593	252.392	0.30063	0.97953
95046	0.070284	1.468723	0.970278	0.680864	31.74780	3.4234	3.3217	46.6287	0.004100	0.006194	0.661821	5.018974	261.247	0.29211	0.97028
101899	0.072103	1.453329	0.961447	0.688075	33.52022	3.5233	3.3875	48.7159	0.003995	0.006047	0.660780	5.126508	270.690	0.28382	0.96145
109438	0.073988	1.438097	0.953034	0.695363	35.42896	3.6262	3.4559	50.9503	0.003891	0.005898	0.659715	5.238403	280.770	0.27577	0.95303
117749	0.075939	1.423025	0.945034	0.702728	37.48713	3.7320	3.5269	53.3451	0.003786	0.005749	0.658627	5.354872	291.543	0.26795	0.94503
126929	0.077961	1.408111	0.937442	0.710171	39.70934	3.8409	3.6006	55.9151	0.003682	0.005600	0.657513	5.476142	303.068	0.26035	0.93744
137090	0.080057	1.393353	0.930253	0.717693	42.11187	3.9530	3.6773	58.6767	0.003577	0.005450	0.656374	5.602447	315.413	0.25297	0.93025
148363	0.082228	1.378749	0.923460	0.725295	44.71291	4.0684	3.7570	61.6479	0.003472	0.005299	0.655209	5.734035	328.651	0.24580	0.92346
160897	0.084480	1.364299	0.917059	0.732977	47.53283	4.1871	3.8398	64.8490	0.003367	0.005149	0.654018	5.871163	342.865	0.23883	0.91706
174865	0.086814	1.350000	0.911046	0.740741	50.59447	4.3093	3.9260	68.3025	0.003263	0.004998	0.652799	6.014101	358.146	0.23205	0.91105
190469	0.089235	1.335851	0.905413	0.748586	53.92345	4.4351	4.0156	72.0337	0.003158	0.004847	0.651553	6.163129	374.595	0.22547	0.90541
207944	0.091746	1.321850	0.900158	0.756515	57.54860	4.5645	4.1088	76.0706	0.003054	0.004697	0.650279	6.318541	392.326	0.21908	0.90016
227564	0.094352	1.307996	0.895274	0.764528	61.50244	4.6978	4.2058	80.4450	0.002950	0.004546	0.648978	6.480642	411.464	0.21287	0.89527
249650	0.097056	1.294288	0.890757	0.772626	65.82163	4.8349	4.3067	85.1921	0.002847	0.004396	0.647648	6.649750	432.151	0.20683	0.89076
274581	0.099863	1.280722	0.886600	0.780809	70.54767	4.9760	4.4117	90.3520	0.002744	0.004246	0.646292	6.826196	454.546	0.20097	0.88660
302801	0.102777	1.267300	0.882800	0.789079	75.72757	5.1212	4.5210	95.9695	0.002642	0.004096	0.644908	7.010323	478.825	0.19527	0.88280
334838	0.105802	1.254017	0.879351	0.797437	81.41472	5.2707	4.6348	102.0955	0.002540	0.003948	0.643497	7.202487	505.188	0.18973	0.87935

KMs& sSPY varia with sigm(A6−1)

Appendix 6-1-2 Case study of the Kamiryo Model under the modified golden rule, $P=S+C_D$: **both $s_{S/Y}$ and $s_{SP/Y}$ are variables**

1 Balanced growth-state: $g^*_Y=g^*_{KP}=g_Y=g_{KP}$ Ω is constant and $s^*_{SP/Y}$ is not equal to n under $\lambda=0$

gamma=1 where $S_P=C_D$	$L^0=$	n	Ω^0	α	k^0	$s^*_{SP/P}$	$s^*_{SP/Y}$	$s^*_{SWD/WD}$	$s^*_{SWD/Y}$	$s^*_{S/Y}=s^*_{SP/Y}$	$\Omega'\theta^*=s^*_{S/Y}/s^*_{SP/Y}$	$\Psi^*=\Omega^*/\theta^*$	y^0	r^0
$gamma=c_{D/Y}/s_{SP/Y}$	25	0.01	1.5	0.08	11	0.4	0.032	0.016529	0.016	0.048	1.5	1.000000	7.333333	0.053333

$\theta=S/S_P=\Omega=K/Y$	time	$g^*_Y(t)$	$g^*_K(t)$	$g^*_k(t)$	$g^*_y(t)$	$g^*_\Omega(t)$	$\Omega^*(t)$	$c^*_{D/Y}=\alpha-s^*_{S/Y}$	$r^*(t)$	$k^*(t)$	$y^*(t)$	$I/Y^{0*}(t)$	$A^*(t)$	$\lambda^*(t)$
1.5	1	0.033058	0.033058	0.022830	0.022830	0.000000	1.500000	0.032000	0.053333	11.25113	7.500750	0.049587	0.460396	-----
	2	0.033058	0.033058	0.022830	0.022830	0.000000	1.500000	0.032000	0.053333	11.50798	7.671989	0.049587	0.460396	0.000000
	3	0.033058	0.033058	0.022830	0.022830	0.000000	1.500000	0.032000	0.053333	11.77071	7.847137	0.049587	0.460396	0.000000

2 Unbalanced growth-state **Ω, $s_{SP/Y}$, and $s_{S/Y}$ are variables towards $s^*_{SP/Y}=\alpha-s^*_{S/Y}$**

$b=s^*_{SP/Y}/s^0_{SP/Y}$	$g_{sSP/Y}=b^{\wedge}(1/10)-1$	$L^0=$	n	Ω^0	α	k^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	$s^0_{SWD/WD}$	$s^0_{SWD/Y}$	$s^0_{S/Y}$	$\theta^0=s^0_{S/Y}/s^0_{SP}$	$\Psi^0=\Omega^0/\theta^0$	y^0	r^0
								$a=s^*_{S/Y}/s^0_{S/Y}$		1.2	0.018399	$\theta^*=s^*_{S/Y}/s^*_{SP/Y}$	$\Psi^*=\Omega^0/\theta^*$	$A(t)=g_y(t)/(I/Y^0)$	
0.800000	-0.022067	25	0.01	1.5	0.08	11	**0.500000**	0.040000	0.000000	0.000000	0.040000	1.000000	1.500000	7.333333	0.053333

$\theta(t)=s_{S/Y}(t)/s_{SP/Y}(t)$	$\Psi(t)=\Omega^0/\theta(t)$	time	$g_Y(t)=s_{SP/Y}(t)/(1-s_S$	$g_K(t)$	$g_k(t)$	$g_y(t)$	$g_\Omega(t)$	$\Omega(t)$	$s_{S/Y}(t)$	$r(t)$	$k(t)$	$y(t)$	$I/Y^0(t)$	$A(t)$	$\lambda(t)$
1.041380	1.440397	1	0.040710	0.028263	0.018082	0.030406	-0.011960	1.482060	0.040736	0.053979	11.1989	7.5563	0.042394	0.717212	-----
1.084472	1.383162	2	0.039776	0.029105	0.018916	0.029481	-0.010262	1.466851	0.041485	0.054539	11.4107	7.7791	0.043136	0.683446	-0.047079
1.129347	1.328201	3	0.038864	0.029922	0.019725	0.028578	-0.008608	1.454225	0.042249	0.055012	11.6358	8.0014	0.043891	0.651118	-0.047302
1.176079	1.275425	4	0.037974	0.030711	0.020505	0.027697	-0.006997	1.444049	0.043026	0.055400	11.8744	8.2230	0.044660	0.620167	-0.047534
1.224745	1.224745	5	0.037105	0.031470	0.021257	0.026836	-0.005433	1.436203	0.043818	0.055702	12.1268	8.4437	0.045444	0.590538	-0.047776
1.275425	1.176079	6	0.036256	0.032197	0.021978	0.025996	-0.003917	1.430578	0.044624	0.055921	12.3933	8.6632	0.046242	0.562177	-0.048027
1.328201	1.129347	7	0.035428	0.032892	0.022666	0.025176	-0.002449	1.427075	0.045445	0.056059	12.6742	8.8813	0.047055	0.535031	-0.048287
1.383162	1.084472	8	0.034619	0.033554	0.023320	0.024375	-0.001030	1.425605	0.046281	0.056117	12.9698	9.0978	0.047883	0.509050	-0.048559
1.440397	1.041380	9	0.033829	0.034180	0.023941	0.023593	0.000340	1.426089	0.047133	0.056097	13.2803	9.3124	0.048727	0.484187	-0.048842
1.500000	**1.000000**	**10**	**0.033058**	**0.034771**	**0.024526**	**0.022830**	**0.001658**	**1.428454**	**0.048000**	**0.056005**	**13.6060**	**9.5250**	**0.049587**	**0.460396**	**-0.049136**
1.562070	0.960265	11	0.032305	0.035327	0.025076	0.022084	0.002927	1.432636	0.048883	0.055841	13.9472	9.7354	0.050462	0.437632	-0.049444
1.626708	0.922108	12	0.031569	0.035846	0.025590	0.021356	0.004146	1.438575	0.049783	0.055611	14.3041	9.9433	0.051354	0.415854	-0.049764
1.694020	0.885467	13	0.030851	0.036329	0.026069	0.020645	0.005314	1.446220	0.050699	0.055317	14.6770	10.1485	0.052263	0.395020	-0.050099
1.764119	0.850283	14	0.030150	0.036777	0.026512	0.019950	0.006433	1.455524	0.051631	0.054963	15.0661	10.3510	0.053188	0.375092	-0.050448
1.837117	0.816497	15	0.029465	0.037190	0.026921	0.019272	0.007504	1.466446	0.052581	0.054554	15.4717	10.5505	0.054131	0.356033	-0.050813
1.913137	0.784053	16	0.028796	0.037568	0.027295	0.018610	0.008526	1.478949	0.053549	0.054092	15.8940	10.7468	0.055091	0.337805	-0.051196
1.992302	0.752898	17	0.028143	0.037911	0.027635	0.017963	0.009501	1.493001	0.054534	0.053583	16.3332	10.9399	0.056069	0.320376	-0.051596
2.074743	0.722981	18	0.027505	0.038222	0.027942	0.017331	0.010430	1.508573	0.055537	0.053030	16.7896	11.1295	0.057065	0.303712	-0.052015
2.160595	0.694253	19	0.026881	0.038500	0.028218	0.016714	0.011314	1.525641	0.056559	0.052437	17.2634	11.3155	0.058080	0.287781	-0.052455
2.250000	0.666667	20	0.026273	0.038747	0.028462	0.016111	0.012155	1.544185	0.057600	0.051807	17.7548	11.4978	0.059113	0.272552	-0.052916
2.343104	0.640176	21	0.025678	0.038963	0.028676	0.015523	0.012952	1.564186	0.058660	0.051145	18.2639	11.6763	0.060166	0.257998	-0.053401
2.440061	0.614739	22	0.025097	0.039150	0.028862	0.014948	0.013709	1.585630	0.059739	0.050453	18.7910	11.8508	0.061238	0.244089	-0.053911
2.541031	0.590312	23	0.024530	0.039310	0.029019	0.014386	0.014426	1.608504	0.060838	0.049736	19.3363	12.0213	0.062331	0.230798	-0.054449
2.646178	0.566855	24	0.023975	0.039442	0.029151	0.013837	0.015105	1.632800	0.061958	0.048996	19.9000	12.1876	0.063443	0.218101	-0.055015
2.755676	0.544331	25	0.023434	0.039549	0.029257	0.013301	0.015746	1.658511	0.063098	0.048236	20.4822	12.3498	0.064576	0.205972	-0.055612
2.869705	0.522702	26	0.022905	0.039632	0.029339	0.012777	0.016353	1.685632	0.064259	0.047460	21.0831	12.5075	0.065730	0.194387	-0.056243
2.988453	0.501932	27	0.022388	0.039692	0.029398	0.012266	0.016925	1.714161	0.065441	0.046670	21.7029	12.6610	0.066906	0.183325	-0.056911

KMs& sSPY varia with sigm(A6−1)

A6-1-2(2) Structure of the elasticity of substitution

Marginal rate that is measured using the growth rate of the denominator

Marginal rate of profit: $\Delta r(t)=((r(2)(1+g_K(2)-r(1))/g_K(2)$

n	α^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	L^0	Y^0	W^0	P^0	ΔP^0	K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$
0.01	0.08	0.400000	0.032000	25	183.3333	168.6667	14.6667	-----	275.000	-----	=ΔP/ΔK	-----	6.7467	=ΔW/ΔL	-----
$g_\alpha(t)$	$\alpha(t)=\alpha(0)(1+g\alpha)^t$	$s_{SP/P}(t)$	$s_{SP/Y}(t)$	L(t)	Y(t)	W(t)	P(t)	ΔP(t)	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$
0.000000	0.080000	0.413223	0.033058	25.2500	189.3939	174.2424	15.1515	0.4848	284.091	9.0909	0.053333	5.5758	6.9007	22.3030	0.00239
0.000000	0.080000	0.413223	0.033058	25.5025	195.6549	180.0025	15.6524	0.5009	293.482	9.3914	0.053333	5.7601	7.0582	22.8122	0.00234
0.000000	0.080000	0.413223	0.033058	25.7575	202.1228	185.9530	16.1698	0.5174	303.184	9.7019	0.053333	5.9505	7.2194	23.3330	0.00229

n	α^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	L^0	Y^0	W^0	P^0	ΔP^0	K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$
0.01	0.08	0.500000	0.040000	25	183.3333	168.6667	14.6667	-----	275.000	-----	=ΔP/ΔK	-----	6.7467	=ΔW/ΔL	-----
$g_\alpha(t)$	$\alpha(t)=\alpha(0)(1+g\alpha)^t$	$s_{SP/P}(t)$	$s_{SP/Y}(t)$	L(t)	Y(t)	W(t)	P(t)	ΔP(t)	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$
0.000000	0.080000	0.508872	0.040710	25.2500	190.7968	175.5330	15.2637	0.5971	282.772	7.7723	0.076821	6.8664	6.9518	27.4655	0.00280
0.000000	0.080000	0.497196	0.039776	25.5025	198.3859	182.5150	15.8709	0.6071	291.002	8.2301	0.073769	6.9819	7.1567	27.6513	0.00267
0.000000	0.080000	0.485798	0.038864	25.7575	206.0959	189.6082	16.4877	0.6168	299.710	8.7073	0.070837	7.0932	7.3613	27.8139	0.00255
0.000000	0.080000	0.474671	0.037974	26.0151	213.9221	196.8083	17.1138	0.6261	308.914	9.2042	0.068023	7.2001	7.5652	27.9534	0.00243
0.000000	0.080000	0.463807	0.037105	26.2753	221.8596	204.1108	17.7488	0.6350	318.635	9.7214	0.065320	7.3025	7.7682	28.0702	0.00233
0.000000	0.080000	0.453201	0.036256	26.5380	229.9034	211.5111	18.3923	0.6435	328.895	10.2592	0.062724	7.4003	7.9701	28.1644	0.00223
0.000000	0.080000	0.442846	0.035428	26.8034	238.0483	219.0044	19.0439	0.6516	339.713	10.8181	0.060232	7.4933	8.1708	28.2363	0.00213
0.000000	0.080000	0.432735	0.034619	27.0714	246.2893	226.5861	19.7031	0.6593	351.111	11.3986	0.057838	7.5817	8.3699	28.2863	0.00204
0.000000	0.080000	0.422863	0.033829	27.3421	254.6210	234.2513	20.3697	0.6665	363.112	12.0010	0.055540	7.6652	8.5674	28.3147	0.00196
0.000000	**0.080000**	**0.413223**	**0.033058**	**27.6156**	**263.0382**	**241.9952**	**21.0431**	**0.6734**	**375.738**	**12.6258**	**0.053333**	**7.7438**	**8.7630**	**28.3220**	**0.00188**
0.000000	0.080000	0.403810	0.032305	27.8917	271.5356	249.8128	21.7228	0.6798	389.012	13.2735	0.051214	7.8176	8.9565	28.3087	0.00181
0.000000	0.080000	0.394618	0.031569	28.1706	280.1078	257.6992	22.4086	0.6858	402.956	13.9445	0.049179	7.8864	9.1478	28.2752	0.00174
0.000000	0.080000	0.385641	0.030851	28.4523	288.7495	265.6495	23.1000	0.6913	417.595	14.6392	0.047225	7.9503	9.3367	28.2221	0.00167
0.000000	0.080000	0.376874	0.030150	28.7369	297.4553	273.6589	23.7964	0.6965	432.953	15.3580	0.045348	8.0093	9.5229	28.1499	0.00161
0.000000	0.080000	0.368313	0.029465	29.0242	306.2198	281.7222	24.4976	0.7012	449.055	16.1015	0.043546	8.0634	9.7065	28.0593	0.00155
0.000000	0.080000	0.359951	0.028796	29.3145	315.0377	289.8347	25.2030	0.7054	465.925	16.8699	0.041816	8.1125	9.8871	27.9508	0.00150
0.000000	0.080000	0.351784	0.028143	29.6076	323.9038	297.9915	25.9123	0.7093	483.589	17.6638	0.040155	8.1567	10.0647	27.8250	0.00144
0.000000	0.080000	0.343808	0.027505	29.9037	332.8126	306.1876	26.6250	0.7127	502.072	18.4836	0.038559	8.1961	10.2391	27.6826	0.00139
0.000000	0.080000	0.336017	0.026881	30.2027	341.7591	314.4183	27.3407	0.7157	521.402	19.3297	0.037027	8.2307	10.4103	27.5242	0.00135
0.000000	0.080000	0.328407	0.026273	30.5048	350.7380	322.6789	28.0590	0.7183	541.604	20.2025	0.035556	8.2606	10.5780	27.3504	0.00130
0.000000	0.080000	0.320974	0.025678	30.8098	359.7442	330.9647	28.7795	0.7205	562.707	21.1025	0.034143	8.2857	10.7422	27.1621	0.00126
0.000000	0.080000	0.313713	0.025097	31.1179	368.7727	339.2709	29.5018	0.7223	584.737	22.0302	0.032786	8.3062	10.9028	26.9597	0.00122
0.000000	0.080000	0.306621	0.024530	31.4291	377.8186	347.5931	30.2255	0.7237	607.723	22.9858	0.031483	8.3222	11.0596	26.7441	0.00118
0.000000	0.080000	0.299692	0.023975	31.7434	386.8769	355.9268	30.9502	0.7247	631.693	23.9700	0.030232	8.3337	11.2126	26.5158	0.00114
0.000000	0.080000	0.292924	0.023434	32.0608	395.9430	364.2675	31.6754	0.7253	656.676	24.9831	0.029031	8.3408	11.3618	26.2756	0.00110
0.000000	0.080000	0.286312	0.022905	32.3814	405.0120	372.6111	32.4010	0.7255	682.701	26.0255	0.027877	8.3435	11.5069	26.0241	0.00107
0.000000	0.080000	0.279852	0.022388	32.7052	414.0795	380.9531	33.1264	0.7254	709.799	27.0977	0.026770	8.3421	11.6481	25.7620	0.00104

KMs& sSPY varia with sigm(A6-1)

A6-1-2(3) $\Delta\Omega(t)=((\Omega(2)(1+g_Y(2)-\Omega(1))/g_Y(2)$ $\Delta y(t)=((y(2)(1+n)-y(1))/n$ $\Delta(r/w)(t)=((r/w)(2)(1+g_{WK}(2)-(r/w)(1))/g_{WK}(2)$ Elasticity of substitution, σ $\sigma_r=\Delta r/r$

$\Delta k(t)=((k(2)(1+n)-k(1))/n$ where, $g_{WK}=((W*K)(2)-(W*K)(1))/(W*K)(1)$ $\sigma=(\Delta k/k)/(\Delta(r/w)(t)/(r/w)(t))$ 1

$(W*K)^0$		1/MPK		MPK	MPL		(A)	Marginal rate			$(r/w)^0$	(B)=Δ(r/w)(t)/(r/w)(t)			$\sigma_\alpha=\sigma_k/\sigma_y$
46383		=ΔK/ΔY		=ΔY/ΔK	=ΔY/ΔL		$\sigma_k=\sigma_\Omega*\sigma_y$	=ΔK/ΔL			0.007905			Y=wL+rK is confirme	1
(W*K)(t)	$g_{WK}(t)$	$\Delta\Omega(t)$	$\sigma_\Omega=\Delta\Omega/\Omega$	=1/ΔΩ(t)	Δy	$\sigma_y=\Delta y/y$	=Δk/k	Δk	Δ(r/w)(t)	r/w(t)	Δ(r/w)(t)/(r/w)(t)	σ(t)=(A)/(B)	Y=wL+rK	$p_w=(w/MPL)/(1-\alpha$	$p_r=(r/MPK)/\alpha$
49501	0.067209	1.500000	1.000000	0.666667	24.24242	3.2320	3.2320	36.3636	0.005103	0.007729	0.660318	4.894615	189.394	0.30941	1.00000
52828	0.067209	1.500000	1.000000	0.666667	24.79587	3.2320	3.2320	37.1938	0.004989	0.007556	0.660318	4.894615	195.655	0.30941	1.00000
56378	0.067209	1.500000	1.000000	0.666667	25.36195	3.2320	3.2320	38.0429	0.004878	0.007388	0.660318	4.894615	202.123	0.30941	1.00000

$(W*K)^0$		1/MPK		MPK	MPL		(A)	Marginal rate			$(r/w)^0$	(B)=Δ(r/w)(t)/(r/w)(t)			
46383		=ΔK/ΔY		=ΔY/ΔK	=ΔY/ΔL		$\sigma_k=\sigma_\Omega*\sigma_y$	=ΔK/ΔL			0.007905			Y=wL+rK is confirmed.	
(W*K)(t)	$g_{WK}(t)$	$\Delta\Omega(t)$	$\sigma_\Omega=\Delta\Omega/\Omega$	=1/ΔΩ(t)	Δy	$\sigma_y=\Delta y/y$	=Δk/k	Δk	Δ(r/w)(t)	r/w(t)	Δ(r/w)(t)/(r/w)(t)	σ(t)=(A)/(B)	Y=wL+rK	$p_w=(w/MPL)/(1-\alpha$	$p_r=(r/MPK)/\alpha$
49636	0.070123	1.041380	0.702657	0.960265	29.85383	3.9508	2.7761	31.0892	0.005763	0.007765	0.742139	3.740663	190.797	0.25311	0.70266
53112	0.070039	1.084472	0.739320	0.922108	30.05573	3.8637	2.8565	32.5946	0.005562	0.007621	0.729920	3.913420	198.386	0.25882	0.73932
56827	0.069948	1.129347	0.776597	0.885467	30.23247	3.7784	2.9343	34.1429	0.005366	0.007473	0.718014	4.086689	206.096	0.26466	0.77660
60797	0.069850	1.176079	0.814432	0.850283	30.38418	3.6950	3.0093	35.7342	0.005173	0.007323	0.706437	4.259891	213.922	0.27063	0.81443
65037	0.069742	1.224745	0.852766	0.816497	30.51109	3.6135	3.0815	37.3683	0.004985	0.007171	0.695204	4.432451	221.860	0.27674	0.85277
69565	0.069621	1.275425	0.891545	0.784053	30.61346	3.5337	3.1505	39.0452	0.004801	0.007016	0.684325	4.603801	229.903	0.28299	0.89155
74399	0.069485	1.328201	0.930716	0.752898	30.69162	3.4558	3.2163	40.7646	0.004623	0.006861	0.673806	4.773388	238.048	0.28937	0.93072
79557	0.069334	1.383162	0.970228	0.722981	30.74594	3.3795	3.2789	42.5266	0.004449	0.006705	0.663652	4.940681	246.289	0.29590	0.97023
85060	0.069165	1.440397	1.010033	0.694253	30.77685	3.3049	3.3381	44.3309	0.004281	0.006548	0.653864	5.105173	254.621	0.30258	1.01003
90927	**0.068978**	**1.500000**	**1.050086**	**0.666667**	**30.78481**	**3.2320**	**3.3939**	**46.1772**	**0.004119**	**0.006391**	**0.644441**	**5.266388**	**263.038**	**0.30941**	**1.05009**
97180	0.068773	1.562070	1.090347	0.640176	30.77032	3.1607	3.4462	48.0654	0.003961	0.006235	0.635381	5.423887	271.536	0.31639	1.09035
103841	0.068547	1.626708	1.130777	0.614739	30.73393	3.0909	3.4952	49.9951	0.003810	0.006079	0.626679	5.577266	280.108	0.32353	1.13078
110934	0.068302	1.694020	1.171343	0.590312	30.67621	3.0227	3.5406	51.9661	0.003663	0.005925	0.618328	5.726162	288.750	0.33083	1.17134
118482	0.068036	1.764119	1.212016	0.566855	30.59777	2.9560	3.5827	53.9781	0.003523	0.005772	0.610322	5.870253	297.455	0.33829	1.21202
126509	0.067751	1.837117	1.252769	0.544331	30.49924	2.8908	3.6215	56.0307	0.003387	0.005620	0.602651	6.009260	306.220	0.34593	1.25277
135041	0.067445	1.913137	1.293579	0.522702	30.38127	2.8270	3.6569	58.1235	0.003257	0.005471	0.595308	6.142943	315.038	0.35373	1.29358
144105	0.067121	1.992302	1.334428	0.501932	30.24454	2.7646	3.6892	60.2563	0.003132	0.005324	0.588282	6.271107	323.904	0.36171	1.33443
153728	0.066778	2.074743	1.375302	0.481987	30.08974	2.7036	3.7183	62.4285	0.003012	0.005179	0.581562	6.393597	332.813	0.36988	1.37530
163938	0.066416	2.160595	1.416188	0.462835	29.91757	2.6439	3.7443	64.6398	0.002897	0.005037	0.575139	6.510294	341.759	0.37822	1.41619
174764	0.066037	2.250000	1.457079	0.444444	29.72875	2.5856	3.7674	66.8897	0.002787	0.004898	0.569001	6.621120	350.738	0.38676	1.45708
186236	0.065641	2.343104	1.497971	0.426784	29.52400	2.5285	3.7877	69.1778	0.002681	0.004761	0.563138	6.726029	359.744	0.39548	1.49797
198384	0.065230	2.440061	1.538860	0.409826	29.30407	2.4727	3.8052	71.5037	0.002580	0.004628	0.557539	6.825007	368.773	0.40441	1.53886
211240	0.064804	2.541031	1.579748	0.393541	29.06967	2.4182	3.8201	73.8669	0.002483	0.004497	0.552193	6.918071	377.819	0.41353	1.57975
224836	0.064363	2.646178	1.620638	0.377904	28.82154	2.3648	3.8325	76.2669	0.002391	0.004370	0.547090	7.005265	386.877	0.42287	1.62064
239206	0.063910	2.755676	1.661536	0.362887	28.56042	2.3126	3.8425	78.7033	0.002302	0.004245	0.542219	7.086655	395.943	0.43241	1.66154
254382	0.063445	2.869705	1.702450	0.348468	28.28704	2.2616	3.8503	81.1755	0.002217	0.004124	0.537570	7.162332	405.012	0.44217	1.70245
270400	0.062969	2.988453	1.743391	0.334621	28.00212	2.2117	3.8558	83.6830	0.002136	0.004007	0.533134	7.232402	414.079	0.45214	1.74339

KMs& sSPY varia with sigm(A6-1)

Appendix 6-1-3 Case study of the Kamiryo Model under the modified golden rule, $P=S+C_D$: **both $s_{S/Y}$ and $s_{SP/Y}$ are variables**

1 Balanced growth-state: $g^*_{Y}=g^*_{KP}=g_Y=g_{KP}$ Ω is constant and $s^*_{SP/Y}$ is not equal to n under $\lambda=0$

gamma=1	where $S_P=C_D$	$L^0=$	n	Ω^0	α	k^0	$s^*_{SP/P}$	$s^*_{SP/Y}$	$s^*_{SWD/WD}$	$s^*_{SWD/Y}$	$s^*_{S/Y}=s^*_{SP/Y}$	$\Omega^1\theta^*=s^*_{S/Y}/s^*_{SP/Y}$	$\Psi^*=\Omega^*/\theta^*$	y^0	r^0
gamma=$c_{D/Y}/s_{SP/Y}$		25	0.01	1.5	0.08	11	0.4	0.032	0.016529	0.016	0.048	1.5	1.000000	7.333333	0.053333
$\theta=S/S_P=\Omega=K/Y$		time	$g^*_Y(t)$	$g^*_K(t)$	$g^*_k(t)$	$g^*_y(t)$	$g^*_\Omega(t)$	$\Omega^*(t)$	$c^*_{D/Y}=\alpha-s^*_{S/Y}$	$r^*(t)$	$k^*(t)$	$y^*(t)$	$I/Y^{0*}(t)$	$A^*(t)$	$\lambda^*(t)$
1.5		1	0.033058	0.033058	0.022830	0.022830	0.000000	1.500000	0.032000	0.053333	11.25113	7.500750	0.049587	0.460396	-----
		2	0.033058	0.033058	0.022830	0.022830	0.000000	1.500000	0.032000	0.053333	11.50798	7.671989	0.049587	0.460396	0.000000
		3	0.033058	0.033058	0.022830	0.022830	0.000000	1.500000	0.032000	0.053333	11.77071	7.847137	0.049587	0.460396	0.000000

2 Unbalanced growth-state **Ω, $s_{SP/Y}$, and $s_{S/Y}$ are variables towards $s^*_{SP/Y}=\alpha-s^*_{S/Y}$**

										$a=s^*_{S/Y}/s^0_{S/Y}$	$g_{sS/Y}=a^{\wedge}(1/10)-1$	$\theta^*=s^*_{S/Y}/s^*_{SP/Y}$	$\Psi^*=\Omega^0/\theta^*$	$A(t)=g_y(t)/(I/Y^0)$		
										1.2	0.018399	1.500000	1.000000	$\lambda=(A(t)-A(t-1))/A(t-1)$		
$b=s^*_{SP/Y}/s^0_{SP/Y}$	$g_{sSP/Y}=b^{\wedge}(1/10)-1$	$L^0=$	n	Ω^0	α	k^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	$s^0_{SWD/WD}$	$s^0_{SWD/Y}$	$s^0_{S/Y}$	$\theta^0=s^0_{S/Y}/s^0_{SP/Y}$	$\Psi^0=\Omega^0/\theta^0$	y^0	r^0	
0.571429	-0.054425	25	0.01	1.5	0.08	11	**0.700000**	0.056000	-0.016949	-0.016000	0.040000	0.714286	2.100000	7.333333	0.053333	
$\theta(t)=s_{S/Y}(t)/s_{SP/Y}(t)$	$\Psi(t)=\Omega^0/\theta(t)$	time	$g_Y(t)=s_{SP/Y}(t)/(1-s_{S/Y})$	$g_K(t)$	$g_k(t)$	$g_y(t)$	$g_\Omega(t)$	$\Omega(t)$	$s_{S/Y}(t)$	$r(t)$	$k(t)$	$y(t)$	$I/Y^0(t)$	$A(t)$	$\lambda(t)$	
0.769297	1.949833	1	0.055913	0.028676	0.018491	0.045458	-0.025795	1.461308	0.040736	0.054745	11.2034	7.6667	0.043014	1.056836	-----	
0.828544	1.810404	2	0.052710	0.029886	0.019689	0.042287	-0.021681	1.429625	0.041485	0.055959	11.4240	7.9909	0.043672	0.968274	-0.083799	
0.892355	1.680945	3	0.049698	0.031021	0.020813	0.039305	-0.017793	1.404188	0.042249	0.056972	11.6617	8.3050	0.044348	0.886280	-0.084680	
0.961080	1.560744	4	0.046867	0.032077	0.021859	0.036502	-0.014127	1.384351	0.043026	0.057789	11.9167	8.6081	0.045043	0.810380	-0.085639	
1.035098	1.449138	5	0.044203	0.033051	0.022823	0.033865	-0.010680	1.369566	0.043818	0.058413	12.1886	8.8996	0.045755	0.740134	-0.086683	
1.114817	1.345512	6	0.041697	0.033941	0.023704	0.031383	-0.007446	1.359369	0.044624	0.058851	12.4776	9.1789	0.046485	0.675133	-0.087823	
1.200675	1.249297	7	0.039339	0.034746	0.024501	0.029048	-0.004419	1.353362	0.045445	0.059112	12.7833	9.4456	0.047233	0.614998	-0.089071	
1.293146	1.159962	8	0.037118	0.035467	0.025214	0.026850	-0.001592	1.351207	0.046281	0.059206	13.1056	9.6992	0.047999	0.559377	-0.090440	
1.392738	1.077015	9	0.035027	0.036104	0.025845	0.024779	0.001040	1.352613	0.047133	0.059145	13.4443	9.9395	0.048784	0.507944	-0.091947	
1.500000	**1.000000**	**10**	**0.033058**	**0.036660**	**0.026396**	**0.022830**	**0.003487**	**1.357329**	**0.048000**	**0.058939**	**13.7992**	**10.1664**	**0.049587**	**0.460396**	**-0.093609**	
1.615523	0.928492	11	0.031203	0.037138	0.026869	0.020993	0.005756	1.365142	0.048883	0.058602	14.1700	10.3798	0.050408	0.416451	-0.095451	
1.739943	0.862097	12	0.029454	0.037541	0.027268	0.019262	0.007855	1.375865	0.049783	0.058145	14.5564	10.5798	0.051249	0.375847	-0.097500	
1.873946	0.800450	13	0.027807	0.037873	0.027597	0.017630	0.009794	1.389341	0.050699	0.057581	14.9581	10.7663	0.052108	0.338342	-0.099787	
2.018269	0.743211	14	0.026254	0.038138	0.027860	0.016093	0.011580	1.405430	0.051631	0.056922	15.3748	10.9396	0.052987	0.303711	-0.102355	
2.173707	0.690066	15	0.024789	0.038340	0.028060	0.014643	0.013223	1.424014	0.052581	0.056179	15.8062	11.0998	0.053885	0.271745	-0.105251	
2.341115	0.640720	16	0.023409	0.038484	0.028202	0.013276	0.014731	1.444991	0.053549	0.055364	16.2520	11.2471	0.054802	0.242250	-0.108539	
2.521418	0.594903	17	0.022106	0.038574	0.028291	0.011987	0.016112	1.468273	0.054534	0.054486	16.7118	11.3819	0.055740	0.215046	-0.112297	
2.715606	0.552363	18	0.020878	0.038615	0.028331	0.010771	0.017374	1.493782	0.055537	0.053555	17.1852	11.5045	0.056697	0.189966	-0.116627	
2.924749	0.512864	19	0.019720	0.038610	0.028327	0.009623	0.018525	1.521454	0.056559	0.052581	17.6720	11.6152	0.057675	0.166855	-0.121661	
3.150000	0.476190	20	0.018626	0.038564	0.028281	0.008541	0.019573	1.551234	0.057600	0.051572	18.1718	11.7144	0.058673	0.145568	-0.127576	
3.392599	0.442139	21	0.017595	0.038480	0.028198	0.007520	0.020524	1.583072	0.058660	0.050535	18.6842	11.8025	0.059692	0.125973	-0.134614	
3.653881	0.410522	22	0.016621	0.038363	0.028083	0.006556	0.021387	1.616928	0.059739	0.049477	19.2089	11.8799	0.060732	0.107944	-0.143112	
3.935286	0.381167	23	0.015702	0.038217	0.027937	0.005646	0.022166	1.652769	0.060838	0.048404	19.7456	11.9470	0.061794	0.091368	-0.153562	
4.238364	0.353910	24	0.014835	0.038043	0.027766	0.004787	0.022869	1.690566	0.061958	0.047321	20.2938	12.0042	0.062877	0.076138	-0.166696	
4.564784	0.328603	25	0.014016	0.037847	0.027571	0.003977	0.023501	1.730296	0.063098	0.046235	20.8533	12.0519	0.063982	0.062153	-0.183674	
4.916342	0.305105	26	0.013244	0.037629	0.027356	0.003211	0.024067	1.771939	0.064259	0.045148	21.4238	12.0906	0.065110	0.049323	-0.206429	
5.294977	0.283287	27	0.012514	0.037394	0.027123	0.002489	0.024573	1.815480	0.065441	0.044065	22.0049	12.1207	0.066260	0.037562	-0.238454	

KMs& sSPY varia with sigm(A6-1)

A6-1-3(2) Structure of the elasticity of substitution

Marginal rate that is measured using the growth rate of the denominator

Marginal rate of profit: $\Delta r(t)=((r(2)(1+g_K(2)-r(1))/g_K(2)$

n	α^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	L^0	Y^0	W^0	P^0	ΔP^0	K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$
0.01	0.08	0.400000	0.032000	25	183.3333	168.6667	14.6667	-----	275.000	-----	=ΔP/ΔK	-----	6.7467	=ΔW/ΔL	-----
$g_\alpha(t)$	$\alpha(t)=\alpha(0)(1+g\alpha)^t$	$s_{SP/P}(t)$	$s_{SP/Y}(t)$	L(t)	Y(t)	W(t)	P(t)	ΔP(t)	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$
0.000000	0.080000	0.413223	0.033058	25.2500	189.3939	174.2424	15.1515	0.4848	284.091	9.0909	0.053333	5.5758	6.9007	22.3030	0.00239
0.000000	0.080000	0.413223	0.033058	25.5025	195.6549	180.0025	15.6524	0.5009	293.482	9.3914	0.053333	5.7601	7.0582	22.8122	0.00234
0.000000	0.080000	0.413223	0.033058	25.7575	202.1228	185.9530	16.1698	0.5174	303.184	9.7019	0.053333	5.9505	7.2194	23.3330	0.00229

n	α^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	L^0	Y^0	W^0	P^0	ΔP^0	K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$
0.01	0.08	0.700000	0.056000	25	183.3333	168.6667	14.6667	-----	275.000	-----	=ΔP/ΔK	-----	6.7467	=ΔW/ΔL	-----
$g_\alpha(t)$	$\alpha(t)=\alpha(0)(1+g\alpha)^t$	$s_{SP/P}(t)$	$s_{SP/Y}(t)$	L(t)	Y(t)	W(t)	P(t)	ΔP(t)	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$
0.000000	0.080000	0.698912	0.055913	25.2500	193.5840	178.0973	15.4867	0.8201	282.886	7.8858	0.103991	9.4306	7.0534	37.7226	0.00276
0.000000	0.080000	0.658869	0.052710	25.5025	203.7878	187.4847	16.3030	0.8163	291.340	8.4542	0.096555	9.3874	7.3516	37.1779	0.00260
0.000000	0.080000	0.621228	0.049698	25.7575	213.9157	196.8024	17.1133	0.8102	300.378	9.0377	0.089650	9.3177	7.6406	36.5363	0.00245
0.000000	0.080000	0.585833	0.046867	26.0151	223.9412	206.0259	17.9153	0.8020	310.013	9.6353	0.083240	9.2235	7.9195	35.8089	0.00232
0.000000	0.080000	0.552540	0.044203	26.2753	233.8401	215.1329	18.7072	0.7919	320.259	10.2464	0.077287	9.1070	8.1877	35.0066	0.00221
0.000000	0.080000	0.521215	0.041697	26.5380	243.5906	224.1033	19.4872	0.7800	331.129	10.8700	0.071761	8.9704	8.4446	34.1402	0.00210
0.000000	0.080000	0.491732	0.039339	26.8034	253.1731	232.9192	20.2538	0.7666	342.635	11.5055	0.066629	8.8159	8.6899	33.2199	0.00201
0.000000	0.080000	0.463976	0.037118	27.0714	262.5704	241.5647	21.0056	0.7518	354.787	12.1521	0.061865	8.6455	8.9232	32.2553	0.00192
0.000000	0.080000	0.437840	0.035027	27.3421	271.7675	250.0261	21.7414	0.7358	367.596	12.8092	0.057441	8.4613	9.1444	31.2556	0.00184
0.000000	**0.080000**	**0.413223**	**0.033058**	**27.6156**	**280.7515**	**258.2914**	**22.4601**	**0.7187**	**381.072**	**13.4761**	**0.053333**	**8.2653**	**9.3531**	**30.2293**	**0.00176**
0.000000	0.080000	0.390032	0.031203	27.8917	289.5117	266.3508	23.1609	0.7008	395.224	14.1522	0.049520	8.0594	9.5495	29.1841	0.00170
0.000000	0.080000	0.368179	0.029454	28.1706	298.0391	274.1959	23.8431	0.6822	410.062	14.8372	0.045979	7.8452	9.7334	28.1273	0.00163
0.000000	0.080000	0.347584	0.027807	28.4523	306.3266	281.8204	24.5061	0.6630	425.592	15.5303	0.042691	7.6245	9.9050	27.0654	0.00158
0.000000	0.080000	0.328170	0.026254	28.7369	314.3688	289.2193	25.1495	0.6434	441.823	16.2313	0.039638	7.3988	10.0644	26.0042	0.00152
0.000000	0.080000	0.309867	0.024789	29.0242	322.1618	296.3888	25.7729	0.6234	458.763	16.9397	0.036803	7.1696	10.2118	24.9490	0.00148
0.000000	0.080000	0.292608	0.023409	29.3145	329.7031	303.3269	26.3763	0.6033	476.418	17.6552	0.034172	6.9381	10.3473	23.9044	0.00143
0.000000	0.080000	0.276331	0.022106	29.6076	336.9917	310.0324	26.9593	0.5831	494.796	18.3775	0.031728	6.7055	10.4714	22.8743	0.00139
0.000000	0.080000	0.260978	0.020878	29.9037	344.0275	316.5053	27.5222	0.5629	513.902	19.1064	0.029459	6.4729	10.5842	21.8624	0.00135
0.000000	0.080000	0.246494	0.019720	30.2027	350.8115	322.7466	28.0649	0.5427	533.744	19.8417	0.027353	6.2413	10.6860	20.8715	0.00131
0.000000	0.080000	0.232829	0.018626	30.5048	357.3459	328.7582	28.5877	0.5227	554.327	20.5831	0.025397	6.0116	10.7773	19.9041	0.00128
0.000000	0.080000	0.219934	0.017595	30.8098	363.6333	334.5426	29.0907	0.5030	575.658	21.3307	0.023581	5.7844	10.8583	18.9623	0.00124
0.000000	0.080000	0.207766	0.016621	31.1179	369.6773	340.1031	29.5742	0.4835	597.742	22.0842	0.021895	5.5605	10.9295	18.0479	0.00121
0.000000	0.080000	0.196280	0.015702	31.4291	375.4822	345.4436	30.0386	0.4644	620.585	22.8437	0.020329	5.3404	10.9912	17.1620	0.00118
0.000000	0.080000	0.185439	0.014835	31.7434	381.0525	350.5683	30.4842	0.4456	644.195	23.6091	0.018875	5.1247	11.0438	16.3056	0.00116
0.000000	0.080000	0.175206	0.014016	32.0608	386.3935	355.4820	30.9115	0.4273	668.575	24.3805	0.017525	4.9137	11.0877	15.4795	0.00113
0.000000	0.080000	0.165544	0.013244	32.3814	391.5107	360.1898	31.3209	0.4094	693.733	25.1579	0.016272	4.7078	11.1234	14.6841	0.00111
0.000000	0.080000	0.156421	0.012514	32.7052	396.4099	364.6972	31.7128	0.3919	719.674	25.9414	0.015109	4.5073	11.1510	13.9194	0.00109

KMs& sSPY varia with sigm(A6-1)

A6-1-3(3) $\Delta\Omega(t)=((\Omega(2)(1+g_Y(2)-\Omega(1))/g_Y(2)$ $\Delta y(t)=((y(2)(1+n)-y(1))/n$ $\Delta k(t)=((k(2)(1+n)-k(1))/n$ $\Delta(r/w)(t)=((r/w)(2)(1+g_{WK}(2)-(r/w)(1))/g_{WK}(2)$ where, $g_{WK}=((W*K)(2)-(W*K)(1))/(W*K)(1)$ Elasticity of substitution, σ $\sigma=(\Delta k/k)/(\Delta(r/w)(t)/(r/w)(t))$ $\sigma_r=\Delta r/r$ 1 $\sigma_\alpha=\sigma_k/\sigma_y$ 1

$(W*K)^0$ 46383		1/MPK $=\Delta K/\Delta Y$		MPK $=\Delta Y/\Delta K$	MPL $=\Delta Y/\Delta L$		**(A)** $\sigma_k=\sigma_\Omega*\sigma_y$	Marginal rate $=\Delta K/\Delta L$			$(r/w)^0$ 0.007905	**(B)**$=\Delta(r/w)(t)/(r/w)(t)$		Y=wL+rK is confirme		
$(W*K)(t)$	$g_{WK}(t)$	$\Delta\Omega(t)$	$\sigma_\Omega=\Delta\Omega/\Omega$	$=1/\Delta\Omega(t)$	Δy	$\sigma_y=\Delta y/y$	$=\Delta k/k$	Δk	$\Delta(r/w)(t)$	$r/w(t)$	$\Delta(r/w)(t)/(r/w)(t)$	$\sigma(t)$=**(A)/(B)**	Y=wL+rK	$p_w=(w/MPL)/(1-\alpha$	$p_r=(r/MPK)/\alpha$
49501	0.067209	1.500000	1.000000	0.666667	24.24242	3.2320	3.2320	36.3636	0.005103	0.007729	0.660318	4.894615	189.394	0.30941	1.00000
52828	0.067209	1.500000	1.000000	0.666667	24.79587	3.2320	3.2320	37.1938	0.004989	0.007556	0.660318	4.894615	195.655	0.30941	1.00000
56378	0.067209	1.500000	1.000000	0.666667	25.36195	3.2320	3.2320	38.0429	0.004878	0.007388	0.660318	4.894615	202.123	0.30941	1.00000

$(W*K)^0$ 46383		1/MPK $=\Delta K/\Delta Y$		MPK $=\Delta Y/\Delta K$	MPL $=\Delta Y/\Delta L$		**(A)** $\sigma_k=\sigma_\Omega*\sigma_y$	Marginal rate $=\Delta K/\Delta L$			$(r/w)^0$ 0.007905	**(B)**$=\Delta(r/w)(t)/(r/w)(t)$		Y=wL+rK is confirmed.		
$(W*K)(t)$	$g_{WK}(t)$	$\Delta\Omega(t)$	$\sigma_\Omega=\Delta\Omega/\Omega$	$=1/\Delta\Omega(t)$	Δy	$\sigma_y=\Delta y/y$	$=\Delta k/k$	Δk	$\Delta(r/w)(t)$	$r/w(t)$	$\Delta(r/w)(t)/(r/w)(t)$	$\sigma(t)$=**(A)/(B)**	Y=wL+rK	$p_w=(w/MPL)/(1-\alpha$	$p_r=(r/MPK)/\alpha$
50381	0.086192	0.769297	0.526444	1.299889	41.00282	5.3482	2.8155	31.5433	0.006097	0.007762	0.785469	3.584501	193.584	0.18698	0.52644
54622	0.084170	0.828544	0.579554	1.206936	40.41077	5.0571	2.9309	33.4821	0.005831	0.007612	0.766084	3.825771	203.788	0.19774	0.57955
59115	0.082261	0.892355	0.635496	1.120630	39.71334	4.7819	3.0389	35.4384	0.005570	0.007457	0.746989	4.068144	213.916	0.20912	0.63550
63871	0.080447	0.961080	0.694246	1.040496	38.92267	4.5216	3.1391	37.4078	0.005314	0.007297	0.728285	4.310290	223.941	0.22116	0.69425
68898	0.078716	1.035098	0.755786	0.966092	38.05068	4.2755	3.2314	39.3862	0.005066	0.007134	0.710056	4.550894	233.840	0.23389	0.75579
74207	0.077054	1.114817	0.820099	0.897008	37.10896	4.0428	3.3155	41.3697	0.004825	0.006969	0.692368	4.788680	243.591	0.24735	0.82010
79806	0.075452	1.200675	0.887179	0.832865	36.10860	3.8228	3.3915	43.3547	0.004593	0.006802	0.675273	5.022437	253.173	0.26159	0.88718
85704	0.073901	1.293146	0.957030	0.773308	35.06014	3.6148	3.4594	45.3379	0.004371	0.006635	0.658809	5.251037	262.570	0.27664	0.95703
91909	0.072396	1.392738	1.029665	0.718010	33.97350	3.4180	3.5194	47.3162	0.004159	0.006468	0.642998	5.473449	271.767	0.29257	1.02966
98428	**0.070930**	**1.500000**	**1.105112**	**0.666667**	**32.85789**	**3.2320**	**3.5717**	**49.2868**	**0.003956**	**0.006302**	**0.627857**	**5.688752**	**280.752**	**0.30941**	**1.10511**
105268	0.069499	1.615523	1.183411	0.618995	31.72185	3.0561	3.6166	51.2474	0.003764	0.006137	0.613388	5.896140	289.512	0.32721	1.18341
112437	0.068101	1.739943	1.264618	0.574731	30.57317	2.8898	3.6545	53.1956	0.003582	0.005974	0.599590	6.094929	298.039	0.34605	1.26462
119941	0.066733	1.873946	1.348802	0.533633	29.41892	2.7325	3.6856	55.1295	0.003409	0.005813	0.586454	6.284551	306.327	0.36597	1.34880
127784	0.065393	2.018269	1.436051	0.495474	28.26547	2.5838	3.7104	57.0473	0.003246	0.005656	0.573968	6.464554	314.369	0.38703	1.43605
135972	0.064080	2.173707	1.526464	0.460044	27.11850	2.4432	3.7294	58.9477	0.003092	0.005501	0.562114	6.634598	322.162	0.40931	1.52646
144510	0.062794	2.341115	1.620159	0.427147	25.98302	2.3102	3.7429	60.8292	0.002947	0.005351	0.550874	6.794443	329.703	0.43286	1.62016
153403	0.061534	2.521418	1.717268	0.396602	24.86340	2.1845	3.7513	62.6910	0.002811	0.005203	0.540227	6.943945	336.992	0.45778	1.71727
162653	0.060299	2.715606	1.817940	0.368242	23.76344	2.0656	3.7551	64.5321	0.002683	0.005060	0.530152	7.083044	344.027	0.48413	1.81794
172264	0.059091	2.924749	1.922338	0.341910	22.68636	1.9532	3.7546	66.3519	0.002562	0.004921	0.520626	7.211756	350.812	0.51199	1.92234
182240	0.057908	3.150000	2.030642	0.317460	21.63488	1.8469	3.7503	68.1499	0.002448	0.004785	0.511627	7.330162	357.346	0.54146	2.03064
192582	0.056752	3.392599	2.143048	0.294759	20.61125	1.7463	3.7425	69.9257	0.002342	0.004654	0.503132	7.438401	363.633	0.57263	2.14305
203294	0.055622	3.653881	2.259767	0.273682	19.61726	1.6513	3.7316	71.6791	0.002241	0.004527	0.495120	7.536659	369.677	0.60558	2.25977
214377	0.054519	3.935286	2.381026	0.254111	18.65433	1.5614	3.7178	73.4101	0.002147	0.004404	0.487570	7.625164	375.482	0.64044	2.38103
225834	0.053443	4.238364	2.507067	0.235940	17.72352	1.4764	3.7016	75.1187	0.002059	0.004285	0.480461	7.704174	381.052	0.67730	2.50707
237666	0.052393	4.564784	2.638152	0.219068	16.82557	1.3961	3.6831	76.8051	0.001976	0.004170	0.473774	7.773976	386.393	0.71628	2.63815
249876	0.051371	4.916342	2.774555	0.203403	15.96094	1.3201	3.6627	78.4694	0.001897	0.004059	0.467489	7.834877	391.511	0.75751	2.77456
262463	0.050376	5.294977	2.916571	0.188858	15.12983	1.2483	3.6407	80.1121	0.001824	0.003952	0.461590	7.887200	396.410	0.80111	2.91657

KMs& sSPY varia with sigm(A6-1)

Appendix 6-1-4 Case study of the Kamiryo Model under the modified golden rule, $P=S+C_D$: **both $s_{S/Y}$ and $s_{SP/Y}$ are variables**

1 Balanced growth-state: $g^*_Y=g^*_{KP}=g_Y=g_{KP}$ Ω is constant and $s^*_{SP/Y}$ is not equal to n under $\lambda=0$

gamma=1 where $S_P=C_D$	$L^0=$	n	Ω^0	α	k^0	$s^*_{SP/P}$	$s^*_{SP/Y}$	$s^*_{SWD/WD}$	$s^*_{SWD/Y}$	$s^*_{S/Y}=s^*_{SP/Y}$	$\Omega'\theta^*=s^*_{S/Y}/s^*_{SP/Y}$	$\Psi^*=\Omega^*/\theta^*$	y^0	r^0
gamma=$c_{D/Y}/s_{SP/Y}$	25	0.01	1.5	0.08	11	0.4	0.032	0.016529	0.016	0.048	1.5	1.000000	7.333333	0.053333

$\theta=S/S_P=\Omega=K/Y$	time	$g^*_Y(t)$	$g^*_K(t)$	$g^*_k(t)$	$g^*_y(t)$	$g^*_\Omega(t)$	$\Omega^*(t)$	$c^*_{D/Y}=\alpha-s^*_{S/Y}$	$r^*(t)$	$k^*(t)$	$y^*(t)$	$I/Y^{0*}(t)$	$A^*(t)$	$\lambda^*(t)$
1.5	1	0.033058	0.033058	0.022830	0.022830	0.000000	1.500000	0.032000	0.053333	11.25113	7.500750	0.049587	0.460396	-----
	2	0.033058	0.033058	0.022830	0.022830	0.000000	1.500000	0.032000	0.053333	11.50798	7.671989	0.049587	0.460396	0.000000
	3	0.033058	0.033058	0.022830	0.022830	0.000000	1.500000	0.032000	0.053333	11.77071	7.847137	0.049587	0.460396	0.000000

2 Unbalanced growth-state **Ω, $s_{SP/Y}$, and $s_{S/Y}$ are variables towards $s^*_{SP/Y}=\alpha-s^*_{S/Y}$**

$a=s^*_{S/Y}/s^0_{S/Y}$	$g_{sS/Y}=a$^(1/10)-1	$\theta^*=s^*_{S/Y}/s^*_{SP/Y}$	$\Psi^*=\Omega^0/\theta^*$	$A(t)=g_y(t)/(I/Y^0)$
1.2	0.018399	1.500000	1.000000	$\lambda=(A(t)-A(t-1))/A(t-1)$

$b=s^*_{SP/Y}/s^0_{SP/Y}$	$g_{sSP/Y}=b$^(1/10)-1	$L^0=$	n	Ω^0	α	k^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	$s^0_{SWD/WD}$	$s^0_{SWD/Y}$	$s^0_{S/Y}$	$\theta^0=s^0_{S/Y}/s^0_{SP}$	$\Psi^0=\Omega^0/\theta^0$	y^0	r^0
0.400000	-0.087556	25	0.01	1.5	0.08	11	**1.000000**	0.080000	-0.043478	-0.040000	0.040000	0.500000	3.000000	7.333333	0.053333

$\theta(t)=s_{S/Y}(t)/s_{SP/Y}(t)$	$\Psi(t)=\Omega^0/\theta(t)$	time	$g_Y(t)=s_{SP/Y}(t)/(1-s_S$	$g_K(t)$	$g_k(t)$	$g_y(t)$	$g_\Omega(t)$	$\Omega(t)$	$s_{S/Y}(t)$	r(t)	k(t)	y(t)	$I/Y^0(t)$	A(t)	$\lambda(t)$
0.558062	2.687875	1	0.078743	0.029296	0.019105	0.068063	-0.045838	1.431243	0.040736	0.055895	11.2102	7.8325	0.043944	1.548864	-----
0.622865	2.408225	2	0.071357	0.031054	0.020846	0.060749	-0.037619	1.377401	0.041485	0.058080	11.4438	8.3083	0.044446	1.366822	-0.117533
0.695195	2.157669	3	0.064705	0.032658	0.022433	0.054163	-0.030100	1.335942	0.042249	0.059883	11.7006	8.7583	0.044983	1.204097	-0.119054
0.775923	1.933182	4	0.058707	0.034097	0.023859	0.048225	-0.023245	1.304888	0.043026	0.061308	11.9797	9.1806	0.045552	1.058672	-0.120775
0.866025	1.732051	5	0.053293	0.035369	0.025118	0.042864	-0.017017	1.282683	0.043818	0.062369	12.2806	9.5742	0.046153	0.928742	-0.122729
0.966591	1.551846	6	0.048401	0.036473	0.026211	0.038021	-0.011377	1.268090	0.044624	0.063087	12.6025	9.9382	0.046784	0.812688	-0.124959
1.078835	1.390389	7	0.043977	0.037413	0.027142	0.033640	-0.006287	1.260118	0.045445	0.063486	12.9446	10.2725	0.047444	0.709059	-0.127514
1.204112	1.245731	8	0.039972	0.038196	0.027917	0.029676	-0.001708	1.257965	0.046281	0.063595	13.3059	10.5774	0.048131	0.616556	-0.130458
1.343938	1.116123	9	0.036345	0.038829	0.028544	0.026084	0.002397	1.260980	0.047133	0.063443	13.6857	10.8533	0.048846	0.534016	-0.133873
1.500000	**1.000000**	**10**	**0.033058**	**0.039324**	**0.029034**	**0.022830**	**0.006066**	**1.268629**	**0.048000**	**0.063060**	**14.0831**	**11.1010**	**0.049587**	**0.460396**	**-0.137861**
1.674185	0.895958	11	0.030076	0.039691	0.029397	0.019878	0.009334	1.280471	0.048883	0.062477	14.4971	11.3217	0.050353	0.394762	-0.142561
1.868596	0.802742	12	0.027371	0.039942	0.029646	0.017199	0.012237	1.296139	0.049783	0.061722	14.9269	11.5164	0.051145	0.336276	-0.148153
2.085584	0.719223	13	0.024915	0.040090	0.029792	0.014767	0.014806	1.315330	0.050699	0.060821	15.3716	11.6865	0.051962	0.284191	-0.154890
2.327768	0.644394	14	0.022684	0.040144	0.029846	0.012558	0.017073	1.337786	0.051631	0.059800	15.8303	11.8332	0.052803	0.237833	-0.163122
2.598076	0.577350	15	0.020657	0.040117	0.029818	0.010551	0.019066	1.363293	0.052581	0.058681	16.3024	11.9581	0.053668	0.196602	-0.173362
2.899773	0.517282	16	0.018814	0.040018	0.029721	0.008727	0.020812	1.391666	0.053549	0.057485	16.7869	12.0624	0.054556	0.159958	-0.186385
3.236504	0.463463	17	0.017138	0.039858	0.029562	0.007068	0.022336	1.422751	0.054534	0.056229	17.2832	12.1477	0.055469	0.127419	-0.203420
3.612337	0.415244	18	0.015614	0.039645	0.029351	0.005559	0.023661	1.456415	0.055537	0.054929	17.7904	12.2152	0.056405	0.098553	-0.226544
4.031813	0.372041	19	0.014228	0.039387	0.029096	0.004186	0.024806	1.492543	0.056559	0.053600	18.3081	12.2664	0.057364	0.072972	-0.259563
4.500000	0.333333	20	0.012966	0.039092	0.028804	0.002937	0.025792	1.531039	0.057600	0.052252	18.8354	12.3024	0.058347	0.050330	-0.310287
5.022554	0.298653	21	0.011817	0.038766	0.028482	0.001799	0.026634	1.571817	0.058660	0.050897	19.3719	12.3245	0.059353	0.030315	-0.397671
5.605789	0.267581	22	0.010771	0.038416	0.028134	0.000764	0.027350	1.614806	0.059739	0.049542	19.9169	12.3339	0.060383	0.012650	-0.582723
6.256751	0.239741	23	0.009819	0.038045	0.027768	-0.000179	0.027952	1.659942	0.060838	0.048194	20.4700	12.3317	0.061436	-0.002915	-1.230472
6.983305	0.214798	24	0.008952	0.037659	0.027385	-0.001038	0.028453	1.707173	0.061958	0.046861	21.0305	12.3189	0.062512	-0.016604	4.695146
7.794229	0.192450	25	0.008162	0.037262	0.026992	-0.001820	0.028865	1.756450	0.063098	0.045546	21.5982	12.2965	0.063613	-0.028615	0.723414
8.699319	0.172427	26	0.007442	0.036857	0.026591	-0.002533	0.029198	1.807734	0.064259	0.044254	22.1725	12.2654	0.064737	-0.039129	0.367410

KMs& sSPY varia with sigm(A6-1)

A6-1-4(2) Structure of the elasticity of substitution

Marginal rate that is measured using the growth rate of the denominator

Marginal rate of profit: $\Delta r(t)=((r(2)(1+g_K(2)-r(1))/g_K(2)$

n	α^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	L^0	Y^0	W^0	P^0	ΔP^0	K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$
0.01	0.08	0.400000	0.032000	25	183.3333	168.6667	14.6667	-----	275.000	-----	=ΔP/ΔK	-----	6.7467	=ΔW/ΔL	-----
$g_\alpha(t)$	$\alpha(t)=\alpha(0)(1+g\alpha)^t$	$s_{SP/P}(t)$	$s_{SP/Y}(t)$	L(t)	Y(t)	W(t)	P(t)	ΔP(t)	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$
0.000000	0.080000	0.413223	0.033058	25.2500	189.3939	174.2424	15.1515	0.4848	284.091	9.0909	0.053333	5.5758	6.9007	22.3030	0.00239
0.000000	0.080000	0.413223	0.033058	25.5025	195.6549	180.0025	15.6524	0.5009	293.482	9.3914	0.053333	5.7601	7.0582	22.8122	0.00234
0.000000	0.080000	0.413223	0.033058	25.7575	202.1228	185.9530	16.1698	0.5174	303.184	9.7019	0.053333	5.9505	7.2194	23.3330	0.00229

n	α^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	L^0	Y^0	W^0	P^0	ΔP^0	K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$
0.01	0.08	1.000000	0.080000	25	183.3333	168.6667	14.6667	-----	275.000	-----	=ΔP/ΔK	-----	6.7467	=ΔW/ΔL	-----
$g_\alpha(t)$	$\alpha(t)=\alpha(0)(1+g\alpha)^t$	$s_{SP/P}(t)$	$s_{SP/Y}(t)$	L(t)	Y(t)	W(t)	P(t)	ΔP(t)	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$
0.000000	0.080000	0.984292	0.078743	25.2500	197.7696	181.9481	15.8216	1.1549	283.056	8.0563	0.143353	13.2814	7.2059	53.1255	0.00270
0.000000	0.080000	0.891962	0.071357	25.5025	211.8819	194.9313	16.9505	1.1290	291.846	8.7900	0.128439	12.9833	7.6436	51.4188	0.00250
0.000000	0.080000	0.808811	0.064705	25.7575	225.5917	207.5443	18.0473	1.0968	301.377	9.5310	0.115076	12.6130	8.0576	49.4579	0.00233
0.000000	0.080000	0.733837	0.058707	26.0151	238.8355	219.7286	19.1068	1.0595	311.654	10.2762	0.103103	12.1843	8.4462	47.3038	0.00218
0.000000	0.080000	0.666161	0.053293	26.2753	251.5637	231.4386	20.1251	1.0183	322.676	11.0230	0.092376	11.7100	8.8082	45.0122	0.00205
0.000000	0.080000	0.605011	0.048401	26.5380	263.7396	242.6404	21.0992	0.9741	334.446	11.7691	0.082765	11.2018	9.1431	42.6326	0.00194
0.000000	0.080000	0.549709	0.043977	26.8034	275.3380	253.3110	22.0270	0.9279	346.958	12.5128	0.074154	10.6705	9.4507	40.2085	0.00184
0.000000	0.080000	0.499654	0.039972	27.0714	286.3439	263.4364	22.9075	0.8805	360.211	13.2524	0.066439	10.1254	9.7312	37.7767	0.00176
0.000000	0.080000	0.454316	0.036345	27.3421	296.7512	273.0111	23.7401	0.8326	374.197	13.9867	0.059527	9.5747	9.9850	35.3682	0.00168
0.000000	**0.080000**	**0.413223**	**0.033058**	**27.6156**	**306.5611**	**282.0362**	**24.5249**	**0.7848**	**388.912**	**14.7149**	**0.053333**	**9.0252**	**10.2129**	**33.0083**	**0.00162**
0.000000	0.080000	0.375955	0.030076	27.8917	315.7814	290.5189	25.2625	0.7376	404.349	15.4364	0.047784	8.4826	10.4160	30.7168	0.00156
0.000000	0.080000	0.342136	0.027371	28.1706	324.4246	298.4706	25.9540	0.6915	420.499	16.1507	0.042813	7.9518	10.5951	28.5094	0.00150
0.000000	0.080000	0.311434	0.024915	28.4523	332.5075	305.9069	26.6006	0.6466	437.357	16.8577	0.038359	7.4363	10.7516	26.3974	0.00145
0.000000	0.080000	0.283547	0.022684	28.7369	340.0501	312.8461	27.2040	0.6034	454.914	17.5573	0.034368	6.9391	10.8866	24.3886	0.00141
0.000000	0.080000	0.258208	0.020657	29.0242	347.0743	319.3084	27.7659	0.5619	473.164	18.2496	0.030792	6.4623	11.0014	22.4880	0.00137
0.000000	0.080000	0.235175	0.018814	29.3145	353.6042	325.3159	28.2883	0.5224	492.099	18.9351	0.027588	6.0075	11.0975	20.6981	0.00133
0.000000	0.080000	0.214231	0.017138	29.6076	359.6644	330.8913	28.7732	0.4848	511.713	19.6140	0.024718	5.5754	11.1759	19.0193	0.00130
0.000000	0.080000	0.195181	0.015614	29.9037	365.2804	336.0580	29.2224	0.4493	532.000	20.2868	0.022146	5.1667	11.2380	17.4505	0.00127
0.000000	0.080000	0.177848	0.014228	30.2027	370.4776	340.8394	29.6382	0.4158	552.954	20.9540	0.019842	4.7814	11.2851	15.9893	0.00124
0.000000	0.080000	0.162075	0.012966	30.5048	375.2812	345.2587	30.0225	0.3843	574.570	21.6162	0.017778	4.4193	11.3182	14.6322	0.00121
0.000000	0.080000	0.147716	0.011817	30.8098	379.7160	349.3387	30.3773	0.3548	596.844	22.2741	0.015928	4.0800	11.3386	13.3750	0.00119
0.000000	0.080000	0.134643	0.010771	31.1179	383.8061	353.1016	30.7045	0.3272	619.772	22.9282	0.014271	3.7629	11.3472	12.2133	0.00117
0.000000	0.080000	0.122739	0.009819	31.4291	387.5747	356.5687	31.0060	0.3015	643.352	23.5794	0.012786	3.4671	11.3452	11.1419	0.00115
0.000000	0.080000	0.111896	0.008952	31.7434	391.0441	359.7606	31.2835	0.2776	667.580	24.2282	0.011456	3.1919	11.3334	10.1558	0.00113
0.000000	0.080000	0.102019	0.008162	32.0608	394.2356	362.6968	31.5389	0.2553	692.455	24.8753	0.010264	2.9362	11.3128	9.2498	0.00111
0.000000	0.080000	0.093020	0.007442	32.3814	397.1694	365.3958	31.7736	0.2347	717.977	25.5215	0.009196	2.6990	11.2841	8.4185	0.00109

KMs& sSPY varia with sigm(A6-1)

A6-1-4(3) $\Delta\Omega(t)=((\Omega(2)(1+g_Y(2)-\Omega(1))/g_Y(2)$ $\Delta y(t)=((y(2)(1+n)-y(1))/n$ $\Delta(r/w)(t)=((r/w)(2)(1+g_{WK}(2)-(r/w)(1))/g_{WK}(2)$ Elasticity of substitution, σ $\sigma_r=\Delta r/r$

$\Delta k(t)=((k(2)(1+n)-k(1))/n$ where, $g_{WK}=((W*K)(2)-(W*K)(1))/(W*K)(1)$ $\sigma=(\Delta k/k)/(\Delta(r/w)(t)/(r/w)(t))$ 1

$(W*K)^0$		1/MPK		MPK	MPL		(A)	Marginal rate		$(r/w)^0$	**(B)**=$\Delta(r/w)(t)/(r/w)(t)$				$\sigma_\alpha=\sigma_k/\sigma_y$
46383		**=ΔK/ΔY**		**=ΔY/ΔK**	**=ΔY/ΔL**		$\sigma_k=\sigma_\Omega*\sigma_y$	=ΔK/ΔL		0.007905			Y=wL+rK is confirme		1
(W*K)(t)	$g_{WK}(t)$	$\Delta\Omega(t)$	$\sigma_\Omega=\Delta\Omega/\Omega$	$=1/\Delta\Omega(t)$	Δy	$\sigma_y=\Delta y/y$	=Δk/k	Δk	Δ(r/w)(t)	r/w(t)	Δ(r/w)(t)/(r/w)(t)	σ(t)=**(A)/(B)**	Y=wL+rK	p_w=(w/MPL)/(1-α	p_r=(r/MPK)/α
49501	0.067209	1.500000	1.000000	0.666667	24.24242	3.2320	3.2320	36.3636	0.005103	0.007729	0.660318	4.894615	189.394	0.30941	1.00000
52828	0.067209	1.500000	1.000000	0.666667	24.79587	3.2320	3.2320	37.1938	0.004989	0.007556	0.660318	4.894615	195.655	0.30941	1.00000
56378	0.067209	1.500000	1.000000	0.666667	25.36195	3.2320	3.2320	38.0429	0.004878	0.007388	0.660318	4.894615	202.123	0.30941	1.00000

$(W*K)^0$		1/MPK		MPK	MPL		(A)	Marginal rate		$(r/w)^0$	**(B)**=$\Delta(r/w)(t)/(r/w)(t)$				
46383		**=ΔK/ΔY**		**=ΔY/ΔK**	**=ΔY/ΔL**		$\sigma_k=\sigma_\Omega*\sigma_y$	=ΔK/ΔL		0.007905			Y=wL+rK is confirmed.		
(W*K)(t)	$g_{WK}(t)$	$\Delta\Omega(t)$	$\sigma_\Omega=\Delta\Omega/\Omega$	$=1/\Delta\Omega(t)$	Δy	$\sigma_y=\Delta y/y$	=Δk/k	Δk	Δ(r/w)(t)	r/w(t)	Δ(r/w)(t)/(r/w)(t)	σ(t)=**(A)/(B)**	Y=wL+rK	p_w=(w/MPL)/(1-α	p_r=(r/MPK)/α
51502	0.110346	0.558062	0.389914	1.791917	57.74516	7.3725	2.8747	32.2254	0.006414	0.007757	0.826865	3.476574	197.770	0.13564	0.38991
56890	0.104627	0.622865	0.452203	1.605483	55.89003	6.7270	3.0420	34.8120	0.006085	0.007599	0.800763	3.798858	211.882	0.14865	0.45220
62549	0.099476	0.695195	0.520378	1.438446	53.75864	6.1380	3.1941	37.3727	0.005756	0.007432	0.774485	4.124154	225.592	0.16292	0.52038
68479	0.094806	0.775923	0.594628	1.288788	51.41723	5.6006	3.3303	39.8958	0.005432	0.007259	0.748341	4.450214	238.835	0.17855	0.59463
74680	0.090547	0.866025	0.675167	1.154701	48.92631	5.1102	3.4503	42.3714	0.005117	0.007081	0.722596	4.774820	251.564	0.19569	0.67517
81150	0.086640	0.966591	0.762242	1.034564	46.33983	4.6628	3.5542	44.7917	0.004812	0.006900	0.697467	5.095843	263.740	0.21446	0.76224
87888	0.083035	1.078835	0.856138	0.926926	43.70487	4.2545	3.6425	47.1503	0.004522	0.006718	0.673128	5.411276	275.338	0.23504	0.85614
94893	0.079695	1.204112	0.957190	0.830487	41.06164	3.8820	3.7158	49.4428	0.004246	0.006535	0.649706	5.719270	286.344	0.25760	0.95719
102160	0.076586	1.343938	1.065788	0.744082	38.44372	3.5421	3.7752	51.6660	0.003986	0.006354	0.627296	6.018154	296.751	0.28232	1.06579
109687	**0.073682**	**1.500000**	**1.182379**	**0.666667**	**35.87853**	**3.2320**	**3.8214**	**53.8178**	**0.003742**	**0.006175**	**0.605959**	**6.306446**	**306.561**	**0.30941**	**1.18238**
117471	0.070961	1.674185	1.307476	0.597306	33.38787	2.9490	3.8558	55.8975	0.003513	0.005998	0.585729	6.582857	315.781	0.33910	1.30748
125507	0.068407	1.868596	1.441663	0.535161	30.98850	2.6908	3.8792	57.9050	0.003301	0.005826	0.566621	6.846281	324.425	0.37164	1.44166
133791	0.066003	2.085584	1.585597	0.479482	28.69280	2.4552	3.8930	59.8412	0.003104	0.005657	0.548632	7.095793	332.508	0.40730	1.58560
142318	0.063738	2.327768	1.740015	0.429596	26.50934	2.2402	3.8981	61.7076	0.002921	0.005493	0.531750	7.330629	340.050	0.44638	1.74001
151085	0.061602	2.598076	1.905736	0.384900	24.44349	2.0441	3.8955	63.5061	0.002752	0.005334	0.515949	7.550174	347.074	0.48921	1.90574
160088	0.059585	2.899773	2.083670	0.344855	22.498	1.8651	3.8863	65.2389	0.002596	0.005180	0.501202	7.753954	353.604	0.53616	2.08367
169321	0.057679	3.236504	2.274821	0.308975	20.673	1.7018	3.8713	66.9089	0.002453	0.005031	0.487474	7.941615	359.664	0.58761	2.27482
178783	0.055878	3.612337	2.480294	0.276829	18.968	1.5528	3.8514	68.5187	0.002320	0.004888	0.474728	8.112923	365.280	0.64399	2.48029
188468	0.054175	4.031813	2.701304	0.248027	17.380	1.4169	3.8274	70.0715	0.002199	0.004750	0.462926	8.267747	370.478	0.70579	2.70130
198375	0.052565	4.500000	2.939181	0.222222	15.905	1.2928	3.7998	71.5703	0.002087	0.004617	0.452028	8.406059	375.281	0.77351	2.93918
208501	0.051042	5.022554	3.195381	0.199102	14.538	1.1796	3.7693	73.0183	0.001984	0.004489	0.441994	8.527925	379.716	0.84774	3.19538
218843	0.049601	5.605789	3.471494	0.178387	13.275	1.0763	3.7365	74.4186	0.001890	0.004366	0.432785	8.633507	383.806	0.92909	3.47149
229399	0.048238	6.256751	3.769258	0.159827	12.111	0.9821	3.7017	75.7743	0.001803	0.004248	0.424362	8.723051	387.575	1.01824	3.76926
240169	0.046948	6.983305	4.090568	0.143199	11.039	0.8961	3.6655	77.0884	0.001723	0.004135	0.416687	8.796894	391.044	1.11595	4.09057
251151	0.045728	7.794229	4.437490	0.128300	10.054	0.8176	3.6283	78.3639	0.001650	0.004026	0.409721	8.855454	394.236	1.22303	4.43749
262346	0.044572	8.699319	4.812278	0.114952	9.151	0.7460	3.5902	79.6036	0.001582	0.003922	0.403428	8.899226	397.169	1.34039	4.81228

KMalfa adjusted with sigm(A6-2)

Appendix 6-2-1 Case study of the Kamiryo Model **under the modified golden rule, $P=S+S_P$: both $s_{S/Y}$ and $s_{SP/Y}$ are variables**

$g_Y(t)=s_{SP/Y}(t)/(1-s_{SP/Y}(t))$ $g_K(t)=(I/Y^U)(t)/\Omega(t-1)$

$I/Y^0(t)=s_{S/Y}(t)(1+g_Y(t))$

1 Balanced growth-state: $g^*_Y=g^*_{KP}=g_Y=g_{KP}$ Ω is constant and $s^*_{SP/Y}$ is not equal to n under $\lambda=0$

gamma=1 where $S_P=C_D$	$L^0=$	n	Ω^0	α	k^0	$s^*_{SP/P}$	$s^*_{SP/Y}$	$s^*_{SWD/WD}$	$s^*_{SWD/Y}$	$s^*_{S/Y}=s^*_{SP/Y}$	Ω^0	$\theta^*=s^*_{S/Y}/s^*_{SP/Y}$	$\Psi^*=\Omega^*/\theta^*$	y^0	r^0
gamma=$c_{D/Y}/s_{SP/Y}$	25	0.01	1.5	0.08	11	0.4	0.032	0.016529	0.016	0.048		1.5	1.000000	7.333333	0.053333

$\theta=S/S_P=\Omega=K/Y$	time	$g^*_Y(t)$	$g^*_K(t)$	$g^*_k(t)$	$g^*_y(t)$	$g^*_\Omega(t)$	$\Omega^*(t)$	$c^*_{D/Y}=\alpha-s^*_{S/Y}$	$r^*(t)$	$k^*(t)$	$y^*(t)$	$I/Y^{0*}(t)$	$A^*(t)$	$\lambda^*(t)$
1.5	1	0.033058	0.033058	0.022830	0.022830	0.000000	1.500000	0.032000	0.053333	11.25113	7.500750	0.049587	0.460396	-----
	2	0.033058	0.033058	0.022830	0.022830	0.000000	1.500000	0.032000	0.053333	11.50798	7.671989	0.049587	0.460396	0.000000
	3	0.033058	0.033058	0.022830	0.022830	0.000000	1.500000	0.032000	0.053333	11.77071	7.847137	0.049587	0.460396	0.000000

2 Unbalanced growth-state **Ω, $s_{SP/Y}$, and $s_{S/Y}$ are variables towards $s^*_{SP/Y}=\alpha-s^*_{S/Y}$**

$a=s^*_{S/Y}/s^0_{S/Y}$	$g_{sSP/Y}=a^{(1/10)}-1$	$\theta^*=s^*_{S/Y}/s^*_{SP/Y}$	$\Psi^*=\Omega^U/\theta^*$	$A(t)=g_y(t)/(I/Y^U)$
1.2	0.018399	1.500000	1.000000	$\lambda=(A(t)-A(t-1))/A(t-1)$

$b=s^*_{SP/Y}/s^0_{SP/Y}$	$g_{sSP/Y}=b^{(1/10)}-1$	$L^0=$	n	Ω^0	α	k^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	$s^0_{SWD/WD}$	$s^0_{SWD/Y}$	$s^0_{S/Y}$	$\theta^0=s^0_{S/Y}/s^0_{SP/}$	$\Psi^0=\Omega^0/\theta^0$	y^0	r^0
1.333333	0.029186	25	0.01	1.5	0.08	11	**0.300000**	0.024000	0.016393	0.016000	0.040000	1.666667	0.900000	7.333333	0.053333

$\theta(t)=s_{S/Y}(t)/s_{SP/Y}(t)$	$\Psi(t)=\Omega^0/\theta(t)$	time	$g_Y(t)=s_{SP/Y}(t)/(1-s_{SI}$	$g_K(t)$	$g_k(t)$	$g_y(t)$	$g_\Omega(t)$	$\Omega(t)$	$s_{S/Y}(t)$	**r(t)**	k(t)	y(t)	$I/Y^0(t)$	A(t)	$\lambda(t)$
1.649199	0.909533	1	0.025326	0.027845	0.017668	0.015174	0.002457	1.503685	0.040736	0.054267	11.1944	7.4446	0.041768	0.363302	-----
1.631914	0.919166	2	0.026084	0.028309	0.018128	0.015925	0.002168	1.506945	0.041485	0.055232	11.3973	7.5632	0.042568	0.374116	0.029765
1.614810	0.928902	3	0.026866	0.028789	0.018603	0.016699	0.001873	1.509767	0.042249	0.056232	11.6093	7.6895	0.043384	0.384918	0.028874
1.597886	0.938740	4	0.027672	0.029287	0.019096	0.017497	0.001572	1.512140	0.043026	0.057266	11.8310	7.8240	0.044217	0.395711	0.028040
1.581139	0.948683	5	0.028503	0.029803	0.019607	0.018320	0.001265	1.514052	0.043818	0.058338	12.0630	7.9673	0.045067	0.406497	0.027257
1.564567	0.958732	6	0.029359	0.030339	0.020137	0.019167	0.000952	1.515493	0.044624	0.059448	12.3059	8.1201	0.045934	0.417279	0.026522
1.548169	0.968886	7	0.030242	0.030894	0.020687	0.020041	0.000633	1.516452	0.045445	0.060599	12.5605	8.2828	0.046819	0.428057	0.025830
1.531944	0.979148	8	0.031152	0.031470	0.021258	0.020942	0.000309	1.516920	0.046281	0.061791	12.8275	8.4563	0.047723	0.438835	0.025178
1.515888	0.989519	9	0.032090	0.032068	0.021850	0.021872	-0.000021	1.516888	0.047133	0.063029	13.1077	8.6412	0.048645	0.449614	0.024563
1.500000	**1.000000**	**10**	**0.033058**	**0.032690**	**0.022465**	**0.022830**	**-0.000356**	**1.516348**	**0.048000**	**0.064312**	**13.4022**	**8.8385**	**0.049587**	**0.460396**	**0.023982**
1.484279	1.010592	11	0.034056	0.033335	0.023104	0.023817	-0.000697	1.515291	0.048883	0.065644	13.7119	9.0490	0.050548	0.471184	0.023432
1.468723	1.021296	12	0.035084	0.034006	0.023768	0.024836	-0.001042	1.513713	0.049783	0.067027	14.0378	9.2737	0.051529	0.481979	0.022911
1.453329	1.032113	13	0.036145	0.034703	0.024459	0.025886	-0.001392	1.511606	0.050699	0.068463	14.3811	9.5138	0.052531	0.492784	0.022418
1.438097	1.043045	14	0.037240	0.035429	0.025177	0.026970	-0.001746	1.508967	0.051631	0.069954	14.7432	9.7704	0.053554	0.503600	0.021949
1.423025	1.054093	15	0.038368	0.036183	0.025924	0.028087	-0.002104	1.505792	0.052581	0.071504	15.1254	10.0448	0.054599	0.514430	0.021505
1.408111	1.065257	16	0.039532	0.036968	0.026701	0.029240	-0.002467	1.502077	0.053549	0.073114	15.5292	10.3385	0.055666	0.525275	0.021082
1.393353	1.076540	17	0.040733	0.037785	0.027510	0.030429	-0.002833	1.497822	0.054534	0.074788	15.9564	10.6531	0.056755	0.536137	0.020680
1.378749	1.087943	18	0.041972	0.038635	0.028352	0.031655	-0.003202	1.493025	0.055537	0.076529	16.4088	10.9903	0.057868	0.547019	0.020297
1.364299	1.099466	19	0.043250	0.039521	0.029228	0.032920	-0.003574	1.487689	0.056559	0.078340	16.8884	11.3521	0.059006	0.557922	0.019932
1.350000	1.111111	20	0.044568	0.040443	0.030142	0.034226	-0.003949	1.481814	0.057600	0.080223	17.3975	11.7407	0.060167	0.568849	0.019584
1.335851	1.122880	21	0.045929	0.041405	0.031094	0.035573	-0.004325	1.475404	0.058660	0.082183	17.9384	12.1583	0.061354	0.579800	0.019252
1.321850	1.134773	22	0.047333	0.042406	0.032086	0.036963	-0.004704	1.468465	0.059739	0.084223	18.5140	12.6077	0.062567	0.590778	0.018935
1.307996	1.146792	23	0.048782	0.043451	0.033120	0.038398	-0.005083	1.461001	0.060838	0.086346	19.1272	13.0918	0.063806	0.601785	0.018632
1.294288	1.158939	24	0.050277	0.044540	0.034198	0.039878	-0.005462	1.453020	0.061958	0.088557	19.7813	13.6139	0.065073	0.612823	0.018342
1.280722	1.171214	25	0.051820	0.045675	0.035322	0.041406	-0.005842	1.444532	0.063098	0.090859	20.4800	14.1776	0.066367	0.623894	0.018065
1.267300	1.183619	26	0.053413	0.046860	0.036495	0.042984	-0.006221	1.435545	0.064259	0.093256	21.2274	14.7870	0.067691	0.634999	0.017800
1.254017	1.196156	27	0.055058	0.048096	0.037719	0.044612	-0.006599	1.426072	0.065441	0.095753	22.0281	15.4467	0.069044	0.646141	0.017546

KMalfa adjusted with sigm(A6-2)

A6-2-1(2) alfa is adjusted using gα(t) Structure of the elasticity of substitution Marginal rate that is measured using the growth rate of the denominator

Marginal rate of profit: $\Delta r(t)=((r(2)(1+g_K(2)-r(1))/g_K(2)$

n	α^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	L^0	Y^0	W^0	P^0	ΔP^0	K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$
0.01	0.08	0.400000	0.032000	25	183.333	168.667	14.6667	-----	275.000	-----	=ΔP/ΔK	-----	6.7467	=ΔW/ΔL	-----
$g_\alpha(t)$	$\alpha(t)=\alpha(0)(1+g\alpha)^t$	$s_{SP/P}(t)$	$s_{SP/Y}(t)$	L(t)	Y(t)	W(t)	P(t)	ΔP(t)	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$
0.000000	0.080000	0.413223	0.033058	25.2500	189.394	174.242	15.1515	0.4848	284.091	9.0909	0.053333	5.5758	6.9007	22.3030	0.00239
0.000000	0.080000	0.413223	0.033058	25.5025	195.655	180.003	15.6524	0.5009	293.482	9.3914	0.053333	5.7601	7.0582	22.8122	0.00234
0.000000	0.080000	0.413223	0.033058	25.7575	202.123	185.953	16.1698	0.5174	303.184	9.7019	0.053333	5.9505	7.2194	23.3330	0.00229

n	α^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	L^0	Y^0	W^0	P^0	ΔP^0	K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$
0.01	0.08	0.300000	0.024000	25	183.333	168.667	14.6667	-----	275.000	-----	=ΔP/ΔK	-----	6.7467	=ΔW/ΔL	-----
$g_\alpha(t)$	$\alpha(t)=\alpha(0)(1+g\alpha)^t$	$s_{SP/P}(t)$	$s_{SP/Y}(t)$	L(t)	Y(t)	W(t)	P(t)	ΔP(t)	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$
0.020000	0.081600	0.310368	0.025326	25.2500	187.976	172.638	15.3389	0.6722	282.657	7.6574	0.087786	3.9709	6.8371	15.8836	0.00553
0.020000	0.083232	0.313395	0.026084	25.5025	192.880	176.826	16.0538	0.7149	290.659	8.0017	0.089342	4.1884	6.9337	16.5876	0.00539
0.020000	0.084897	0.316458	0.026866	25.7575	198.062	181.247	16.8148	0.7610	299.027	8.3679	0.090944	4.4209	7.0367	17.3353	0.00525
0.020000	0.086595	0.319559	0.027672	26.0151	203.542	185.917	17.6257	0.8109	307.785	8.7576	0.092593	4.6699	7.1465	18.1301	0.00511
0.020000	0.088326	0.322697	0.028503	26.2753	209.344	190.853	18.4906	0.8649	316.958	9.1730	0.094292	4.9366	7.2636	18.9758	0.00497
0.020000	0.090093	0.325874	0.029359	26.5380	215.490	196.076	19.4141	0.9235	326.574	9.6160	0.096041	5.2226	7.3885	19.8765	0.00483
0.020000	0.091895	0.329091	0.030242	26.8034	222.007	201.606	20.4013	0.9871	336.663	10.0891	0.097842	5.5297	7.5216	20.8368	0.00470
0.020000	0.093733	0.332348	0.031152	27.0714	228.923	207.465	21.4576	1.0563	347.258	10.5948	0.099697	5.8597	7.6636	21.8617	0.00456
0.020000	0.095607	0.335647	0.032090	27.3421	236.269	213.680	22.5891	1.1315	358.394	11.1360	0.101607	6.2147	7.8150	22.9567	0.00443
0.020000	**0.097520**	**0.338987**	**0.033058**	**27.6156**	**244.080**	220.277	**23.8025**	**1.2135**	**370.109**	**11.7158**	**0.103575**	**6.5971**	**7.9766**	**24.1279**	**0.00429**
0.020000	0.099470	0.342370	0.034056	27.8917	252.392	227.286	25.1054	1.3029	382.447	12.3377	0.105601	7.0094	8.1489	25.3820	0.00416
0.020000	0.101459	0.345797	0.035084	28.1706	261.247	234.741	26.5059	1.4005	395.453	13.0055	0.107687	7.4545	8.3328	26.7265	0.00403
0.020000	0.103489	0.349269	0.036145	28.4523	270.690	242.676	28.0133	1.5073	409.176	13.7236	0.109836	7.9355	8.5292	28.1694	0.00390
0.020000	0.105558	0.352787	0.037240	28.7369	280.770	251.132	29.6376	1.6243	423.673	14.4965	0.112050	8.4560	8.7390	29.7200	0.00377
0.020000	0.107669	0.356351	0.038368	29.0242	291.543	260.152	31.3902	1.7526	439.003	15.3297	0.114329	9.0200	8.9633	31.3882	0.00364
0.020000	0.109823	0.359963	0.039532	29.3145	303.068	269.784	33.2838	1.8935	455.231	16.2289	0.116677	9.6318	9.2031	33.1853	0.00352
0.020000	0.112019	0.363625	0.040733	29.6076	315.413	280.081	35.3323	2.0485	472.432	17.2008	0.119096	10.2963	9.4597	35.1237	0.00339
0.020000	0.114260	0.367336	0.041972	29.9037	328.651	291.100	37.5516	2.2193	490.685	18.2525	0.121587	11.0192	9.7346	37.2173	0.00327
0.020000	0.116545	0.371099	0.043250	30.2027	342.865	302.906	39.9592	2.4076	510.077	19.3922	0.124153	11.8065	10.0291	39.4816	0.00314
0.020000	0.118876	0.374914	0.044568	30.5048	358.146	315.571	42.5749	2.6157	530.706	20.6292	0.126797	12.6652	10.3450	41.9339	0.00302
0.020000	0.121253	0.378784	0.045929	30.8098	374.595	329.175	45.4209	2.8460	552.680	21.9737	0.129519	13.6032	10.6841	44.5937	0.00290
0.020000	0.123678	0.382708	0.047333	31.1179	392.326	343.804	48.5223	3.1013	576.117	23.4372	0.132324	14.6293	11.0484	47.4826	0.00279
0.020000	0.126152	0.386689	0.048782	31.4291	411.464	359.557	51.9070	3.3848	601.150	25.0328	0.135214	15.7535	11.4403	50.6252	0.00267
0.020000	0.128675	0.390727	0.050277	31.7434	432.151	376.544	55.6071	3.7001	627.925	26.7751	0.138190	16.9871	11.8621	54.0489	0.00256
0.020000	0.131248	0.394826	0.051820	32.0608	454.546	394.887	59.6584	4.0513	656.606	28.6808	0.141257	18.3429	12.3168	57.7849	0.00244
0.020000	0.133873	0.398985	0.053413	32.3814	478.825	414.723	64.1019	4.4435	687.374	30.7686	0.144416	19.8354	12.8074	61.8681	0.00233
0.020000	0.136551	0.403207	0.055058	32.7052	505.188	436.204	68.9839	4.8820	720.434	33.0600	0.147670	21.4813	13.3374	66.3383	0.00223

KMalfa adjusted with sigm(A6-2)

A6-2-1(3) $\Delta\Omega(t)=((\Omega(2)(1+g_Y(2)-\Omega(1))/g_Y(2)$ $\Delta y(t)=((y(2)(1+n)-y(1))/n$ $\Delta k(t)=((k(2)(1+n)-k(1))/n$ $\Delta(r/w)(t)=((r/w)(2)(1+g_{WK}(2)-(r/w)(1))/g_{WK}(2)$ where, $g_{WK}=((W*K)(2)-(W*K)(1))/(W*K)(1)$ Elasticity of substitution, σ $\sigma=(\Delta k/k)/(\Delta(r/w)(t)/(r/w)(t))$ $\sigma_r=\Delta r/r$ 1

$(W*K)^0$ 46383		1/MPK $=\Delta K/\Delta Y$		MPK $=\Delta Y/\Delta K$	MPL $=\Delta Y/\Delta L$		**(A)** $\sigma_k=\sigma_\Omega*\sigma_y$	Marginal rate $=\Delta K/\Delta L$		$(r/w)^0$ 0.007905	**(B)**$=\Delta(r/w)(t)/(r/w)(t)$		Y=wL+rK is confirme		$\sigma_\alpha=\sigma_k/\sigma_y$ 1
(W*K)(t)	$g_{WK}(t)$	$\Delta\Omega(t)$	$\sigma_\Omega=\Delta\Omega/\Omega$	$=1/\Delta\Omega(t)$	Δy	$\sigma_y=\Delta y/y$	$=\Delta k/k$	Δk	$\Delta(r/w)(t)$	$r/w(t)$	$\Delta(r/w)(t)/(r/w)(t)$	$\sigma(t)$=**(A)/(B)**	Y=wL+rK	$p_w=(w/MPL)/(1-\alpha$	$p_r=(r/MPK)/\alpha$
49501	0.067209	1.500000	1.000000	0.666667	24.2424	3.23200	3.23200	36.3636	0.005103	0.007729	0.660318	4.89461	189.394	0.30941	1.00000
52828	0.067209	1.500000	1.000000	0.666667	24.7959	3.23200	3.23200	37.1938	0.004989	0.007556	0.660318	4.89461	195.655	0.30941	1.00000
56378	0.067209	1.500000	1.000000	0.666667	25.3619	3.23200	3.23200	38.0429	0.004878	0.007388	0.660318	4.89461	202.123	0.30941	1.00000

$(W*K)^0$ 46383		1/MPK $=\Delta K/\Delta Y$		MPK $=\Delta Y/\Delta K$	MPL $=\Delta Y/\Delta L$		**(A)** $\sigma_k=\sigma_\Omega*\sigma_y$	Marginal rate $=\Delta K/\Delta L$		$(r/w)^0$ 0.007905	**(B)**$=\Delta(r/w)(t)/(r/w)(t)$		Y=wL+rK is confirmed.		
(W*K)(t)	$g_{WK}(t)$	$\Delta\Omega(t)$	$\sigma_\Omega=\Delta\Omega/\Omega$	$=1/\Delta\Omega(t)$	Δy	$\sigma_y=\Delta y/y$	$=\Delta k/k$	Δk	$\Delta(r/w)(t)$	$r/w(t)$	$\Delta(r/w)(t)/(r/w)(t)$	$\sigma(t)$=**(A)/(B)**	Y=wL+rK	$p_w=(w/MPL)/(1-\alpha$	$p_r=(r/MPK)/\alpha$
48797	0.052044	1.649199	1.096771	0.606355	18.5724	2.49475	2.73617	30.6296	0.008550	0.007937	1.077263	2.53993	187.976	0.40084	1.09677
51396	0.053257	1.631914	1.082929	0.612777	19.4189	2.56756	2.78048	31.6899	0.008506	0.007966	1.067774	2.60400	192.880	0.38948	1.08293
54198	0.054511	1.614810	1.069576	0.619268	20.3194	2.64250	2.82635	32.8119	0.008458	0.007991	1.058386	2.67043	198.062	0.37843	1.06958
57222	0.055807	1.597886	1.056705	0.625827	21.2783	2.71962	2.87384	34.0003	0.008407	0.008013	1.049096	2.73934	203.542	0.36770	1.05671
60492	0.057147	1.581139	1.044309	0.632456	22.3005	2.79899	2.92302	35.2603	0.008352	0.008032	1.039905	2.81085	209.344	0.35727	1.04431
64033	0.058533	1.564567	1.032382	0.639154	23.3913	2.88069	2.97397	36.5973	0.008294	0.008046	1.030811	2.88508	215.490	0.34714	1.03238
67873	0.059967	1.548169	1.020916	0.645924	24.5565	2.96476	3.02677	38.0176	0.008232	0.008057	1.021813	2.96216	222.007	0.33730	1.02092
72044	0.061450	1.531944	1.009904	0.652766	25.8025	3.05129	3.08151	39.5280	0.008167	0.008063	1.012912	3.04223	228.923	0.32773	1.00990
76582	0.062984	1.515888	0.999341	0.659680	27.1364	3.14035	3.13827	41.1357	0.008098	0.008065	1.004106	3.12544	236.269	0.31844	0.99934
81527	**0.064573**	**1.500000**	**0.989219**	**0.666667**	**28.5660**	**3.23200**	**3.19716**	**42.8490**	**0.008026**	**0.008063**	**0.995394**	**3.21195**	**244.080**	**0.30941**	**0.98922**
86925	0.066217	1.484279	0.979534	0.673728	30.0999	3.32633	3.25825	44.6767	0.007949	0.008056	0.986776	3.30192	252.392	0.30063	0.97953
92829	0.067919	1.468723	0.970278	0.680864	31.7478	3.42341	3.32166	46.6287	0.007869	0.008044	0.978250	3.39551	261.247	0.29211	0.97028
99297	0.069682	1.453329	0.961447	0.688075	33.5202	3.52333	3.38749	48.7159	0.007785	0.008027	0.969816	3.49292	270.690	0.28382	0.96145
106398	0.071508	1.438097	0.953034	0.695363	35.4290	3.62616	3.45585	50.9503	0.007696	0.008005	0.961474	3.59433	280.770	0.27577	0.95303
114208	0.073400	1.423025	0.945034	0.702728	37.4871	3.73199	3.52686	53.3451	0.007604	0.007977	0.953222	3.69994	291.543	0.26795	0.94503
122814	0.075360	1.408111	0.937442	0.710171	39.7093	3.84091	3.60064	55.9151	0.007508	0.007944	0.945060	3.80995	303.068	0.26035	0.93744
132319	0.077392	1.393353	0.930253	0.717693	42.1119	3.95302	3.67730	58.6767	0.007408	0.007906	0.936987	3.92460	315.413	0.25297	0.93025
142838	0.079498	1.378749	0.923460	0.725295	44.7129	4.06839	3.75699	61.6479	0.007303	0.007862	0.929002	4.04412	328.651	0.24580	0.92346
154505	0.081682	1.364299	0.917059	0.732977	47.5328	4.18713	3.83984	64.8490	0.007195	0.007811	0.921106	4.16873	342.865	0.23883	0.91706
167476	0.083947	1.350000	0.911046	0.740741	50.5945	4.30933	3.92600	68.3025	0.007082	0.007755	0.913297	4.29871	358.146	0.23205	0.91105
181928	0.086296	1.335851	0.905413	0.748586	53.9234	4.43511	4.01560	72.0337	0.006966	0.007692	0.905574	4.43432	374.595	0.22547	0.90541
198071	0.088734	1.321850	0.900158	0.756515	57.5486	4.56455	4.10881	76.0706	0.006845	0.007623	0.897939	4.57583	392.326	0.21908	0.90016
216148	0.091263	1.307996	0.895274	0.764528	61.5024	4.69777	4.20579	80.4450	0.006720	0.007548	0.890389	4.72354	411.464	0.21287	0.89527
236442	0.093888	1.294288	0.890757	0.772626	65.8216	4.83488	4.30670	85.1921	0.006591	0.007466	0.882925	4.87776	432.151	0.20683	0.89076
259285	0.096614	1.280722	0.886600	0.780809	70.5477	4.97599	4.41171	90.3520	0.006459	0.007377	0.875547	5.03881	454.546	0.20097	0.88660
285070	0.099444	1.267300	0.882800	0.789079	75.7276	5.12122	4.52101	95.9695	0.006322	0.007281	0.868255	5.20701	478.825	0.19527	0.88280
314256	0.102384	1.254017	0.879351	0.797437	81.4147	5.27069	4.63478	102.0955	0.006182	0.007179	0.861049	5.38272	505.188	0.18973	0.87935

KMalfa adjusted with sigm(A6-2)

Appendix 6-2-2 Case study of the Kamiryo Model **under the modified golden rule, $P=S+S_P$: both $s_{S/Y}$ and $s_{SP/Y}$ are variables**

1 Balanced growth-state: $g^*_{Y}=g^*_{KP}=g_Y=g_{KP}$ Ω is constant and $s^*_{SP/Y}$ is not equal to n under $\lambda=0$

gamma=1 where $S_P=C_D$	$L^0=$	n	Ω^0	α	k^0	$s^*_{SP/P}$	$s^*_{SP/Y}$	$s^*_{SWD/WD}$	$s^*_{SWD/Y}$	$s^*_{S/Y}=s^*_{SP/Y}$	Ω^0	$\theta^*=s^*_{S/Y}/s^*_{SP/Y}$	$\Psi^*=\Omega^*/\theta^*$	y^0	r^0
gamma=$c_{D/Y}/s_{SP/Y}$	25	0.01	1.5	0.08	11	0.4	0.032	0.016529	0.016	0.048	1.5	1.000000	7.333333	0.053333	

$\theta=S/S_P=\Omega=K/Y$	time	$g^*_Y(t)$	$g^*_K(t)$	$g^*_k(t)$	$g^*_y(t)$	$g^*_\Omega(t)$	$\Omega^*(t)$	$c^*_{D/Y}=\alpha-s^*_{S/Y}$	$r^*(t)$	$k^*(t)$	$y^*(t)$	$I/Y^{0*}(t)$	$A^*(t)$	$\lambda^*(t)$
1.5	1	0.033058	0.033058	0.022830	0.022830	0.000000	1.500000	0.032000	0.053333	11.25113	7.500750	0.049587	0.460396	-----
	2	0.033058	0.033058	0.022830	0.022830	0.000000	1.500000	0.032000	0.053333	11.50798	7.671989	0.049587	0.460396	0.000000
	3	0.033058	0.033058	0.022830	0.022830	0.000000	1.500000	0.032000	0.053333	11.77071	7.847137	0.049587	0.460396	0.000000

2 Unbalanced growth-state **Ω, $s_{SP/Y}$, and $s_{S/Y}$ are variables towards $s^*_{SP/Y}=\alpha-s^*_{S/Y}$**

										$a=s^*_{S/Y}/s^0_{S/Y}$	$g_{s/Y}=a^{\wedge}(1/10)-1$	$\theta^*=s^*_{S/Y}/s^*_{SP/Y}$	$\Psi^*=\Omega^0/\theta^*$	$A(t)=g_y(t)/(I/Y^0)$	
										1.2	0.018399	1.500000	1.000000	$\lambda=(A(t)-A(t-1))/A(t-1)$	
$b=s^*_{SP/Y}/s^0_{SP/Y}$	$g_{sP/Y}=b^{\wedge}(1/10)-1$	$L^0=$	n	Ω^0	α	k^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	$s^0_{SWD/WD}$	$s^0_{SWD/Y}$	$s^0_{S/Y}$	$\theta^0=s^0_{S/Y}/s^0_{SP/}$	$\Psi^0=\Omega^0/\theta^0$	y^0	r^0
0.800000	-0.022067	25	0.01	1.5	0.08	11	**0.500000**	0.040000	0.000000	0.000000	0.040000	1.000000	1.500000	7.333333	0.053333

$\theta(t)=s_{S/Y}(t)/s_{SP/Y}(t)$	$\Psi(t)=\Omega^0/\theta(t)$	time	$g_Y(t)=s_{SP/Y}(t)/(1-s_{SI}$	$g_K(t)$	$g_k(t)$	$g_y(t)$	$g_\Omega(t)$	$\Omega(t)$	$s_{S/Y}(t)$	$r(t)$	$k(t)$	$y(t)$	$I/Y^0(t)$	$A(t)$	$\lambda(t)$
1.041380	1.440397	1	0.040710	0.028263	0.018082	0.030406	-0.011960	1.482060	0.040736	0.056138	11.1989	7.5563	0.042394	0.717212	-----
1.084472	1.383162	2	0.039776	0.029105	0.018916	0.029481	-0.010262	1.466851	0.041485	0.058989	11.4107	7.7791	0.043136	0.683446	-0.047079
1.129347	1.328201	3	0.038864	0.029922	0.019725	0.028578	-0.008608	1.454225	0.042249	0.061881	11.6358	8.0014	0.043891	0.651118	-0.047302
1.176079	1.275425	4	0.037974	0.030711	0.020505	0.027697	-0.006997	1.444049	0.043026	0.064810	11.8744	8.2230	0.044660	0.620167	-0.047534
1.224745	1.224745	5	0.037105	0.031470	0.021257	0.026836	-0.005433	1.436203	0.043818	0.067771	12.1268	8.4437	0.045444	0.590538	-0.047776
1.275425	1.176079	6	0.036256	0.032197	0.021978	0.025996	-0.003917	1.430578	0.044624	0.070759	12.3933	8.6632	0.046242	0.562177	-0.048027
1.328201	1.129347	7	0.035428	0.032892	0.022666	0.025176	-0.002449	1.427075	0.045445	0.073769	12.6742	8.8813	0.047055	0.535031	-0.048287
1.383162	1.084472	8	0.034619	0.033554	0.023320	0.024375	-0.001030	1.425605	0.046281	0.076799	12.9698	9.0978	0.047883	0.509050	-0.048559
1.440397	1.041380	9	0.033829	0.034180	0.023941	0.023593	0.000340	1.426089	0.047133	0.079844	13.2803	9.3124	0.048727	0.484187	-0.048842
1.500000	**1.000000**	**10**	**0.033058**	**0.034771**	**0.024526**	**0.022830**	**0.001658**	**1.428454**	**0.048000**	**0.082900**	**13.6060**	**9.5250**	**0.049587**	**0.460396**	**-0.049136**
1.562070	0.960265	11	0.032305	0.035327	0.025076	0.022084	0.002927	1.432636	0.048883	0.085965	13.9472	9.7354	0.050462	0.437632	-0.049444
1.626708	0.922108	12	0.031569	0.035846	0.025590	0.021356	0.004146	1.438575	0.049783	0.089034	14.3041	9.9433	0.051354	0.415854	-0.049764
1.694020	0.885467	13	0.030851	0.036329	0.026069	0.020645	0.005314	1.446220	0.050699	0.092106	14.6770	10.1485	0.052263	0.395020	-0.050099
1.764119	0.850283	14	0.030150	0.036777	0.026512	0.019950	0.006433	1.455524	0.051631	0.095178	15.0661	10.3510	0.053188	0.375092	-0.050448
1.837117	0.816497	15	0.029465	0.037190	0.026921	0.019272	0.007504	1.466446	0.052581	0.098248	15.4717	10.5505	0.054131	0.356033	-0.050813
1.913137	0.784053	16	0.028796	0.037568	0.027295	0.018610	0.008526	1.478949	0.053549	0.101314	15.8940	10.7468	0.055091	0.337805	-0.051196
1.992302	0.752898	17	0.028143	0.037911	0.027635	0.017963	0.009501	1.493001	0.054534	0.104375	16.3332	10.9399	0.056069	0.320376	-0.051596
2.074743	0.722981	18	0.027505	0.038222	0.027942	0.017331	0.010430	1.508573	0.055537	0.107430	16.7896	11.1295	0.057065	0.303712	-0.052015
2.160595	0.694253	19	0.026881	0.038500	0.028218	0.016714	0.011314	1.525641	0.056559	0.110477	17.2634	11.3155	0.058080	0.287781	-0.052455
2.250000	0.666667	20	0.026273	0.038747	0.028462	0.016111	0.012155	1.544185	0.057600	0.113516	17.7548	11.4978	0.059113	0.272552	-0.052916
2.343104	0.640176	21	0.025678	0.038963	0.028676	0.015523	0.012952	1.564186	0.058660	0.116547	18.2639	11.6763	0.060166	0.257998	-0.053401
2.440061	0.614739	22	0.025097	0.039150	0.028862	0.014948	0.013709	1.585630	0.059739	0.119570	18.7910	11.8508	0.061238	0.244089	-0.053911
2.541031	0.590312	23	0.024530	0.039310	0.029019	0.014386	0.014426	1.608504	0.060838	0.122584	19.3363	12.0213	0.062331	0.230798	-0.054449
2.646178	0.566855	24	0.023975	0.039442	0.029151	0.013837	0.015105	1.632800	0.061958	0.125591	19.9000	12.1876	0.063443	0.218101	-0.055015
2.755676	0.544331	25	0.023434	0.039549	0.029257	0.013301	0.015746	1.658511	0.063098	0.128589	20.4822	12.3498	0.064576	0.205972	-0.055612
2.869705	0.522702	26	0.022905	0.039632	0.029339	0.012777	0.016353	1.685632	0.064259	0.131581	21.0831	12.5075	0.065730	0.194387	-0.056243
2.988453	0.501932	27	0.022388	0.039692	0.029398	0.012266	0.016925	1.714161	0.065441	0.134567	21.7029	12.6610	0.066906	0.183325	-0.056911

KMalfa adjusted with sigm(A6-2)

A6-2-2(2) alfa is adjusted using gα(t) Structure of the elasticity of substitution Marginal rate that is measured using the growth rate of the denominator

Marginal rate of profit: $\Delta r(t)=((r(2)(1+g_K(2)-r(1))/g_K(2)$

n	α^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	L^0	Y^0	W^0	P^0	ΔP^0	K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$
0.01	0.08	0.400000	0.032000	25	183.333	168.667	14.6667	-----	275.000	-----	=ΔP/ΔK	-----	6.7467	=ΔW/ΔL	-----
$g_\alpha(t)$	$\alpha(t)=\alpha(0)(1+g\alpha)^t$	$s_{SP/P}(t)$	$s_{SP/Y}(t)$	L(t)	Y(t)	W(t)	P(t)	ΔP(t)	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$
0.000000	0.080000	0.413223	0.033058	25.2500	189.394	174.242	15.1515	0.4848	284.091	9.0909	0.053333	5.5758	6.9007	22.3030	0.00239
0.000000	0.080000	0.413223	0.033058	25.5025	195.655	180.003	15.6524	0.5009	293.482	9.3914	0.053333	5.7601	7.0582	22.8122	0.00234
0.000000	0.080000	0.413223	0.033058	25.7575	202.123	185.953	16.1698	0.5174	303.184	9.7019	0.053333	5.9505	7.2194	23.3330	0.00229

n	α^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	L^0	Y^0	W^0	P^0	ΔP^0	K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$
0.01	0.08	0.500000	0.040000	25	183.333	168.667	14.6667	-----	275.000	-----	=ΔP/ΔK	-----	6.7467	=ΔW/ΔL	-----
$g_\alpha(t)$	$\alpha(t)=\alpha(0)(1+g\alpha)^t$	$s_{SP/P}(t)$	$s_{SP/Y}(t)$	L(t)	Y(t)	W(t)	P(t)	ΔP(t)	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$
0.040000	0.083200	0.489300	0.040710	25.2500	190.797	174.922	15.8743	1.2076	282.772	7.7723	0.155376	6.2558	6.9276	25.0233	0.00621
0.040000	0.086528	0.459686	0.039776	25.5025	198.386	181.220	17.1659	1.2916	291.002	8.2301	0.156940	6.2974	7.1060	24.9403	0.00629
0.040000	0.089989	0.431873	0.038864	25.7575	206.096	187.550	18.5464	1.3805	299.710	8.7073	0.158540	6.3296	7.2813	24.8194	0.00639
0.040000	0.093589	0.405750	0.037974	26.0151	213.922	193.901	20.0207	1.4743	308.914	9.2042	0.160176	6.3519	7.4534	24.6604	0.00650
0.040000	0.097332	0.381216	0.037105	26.2753	221.860	200.266	21.5941	1.5734	318.635	9.7214	0.161849	6.3641	7.6218	24.4631	0.00662
0.040000	0.101226	0.358172	0.036256	26.5380	229.903	206.631	23.2721	1.6780	328.895	10.2592	0.163560	6.3658	7.7862	24.2272	0.00675
0.040000	0.105275	0.336527	0.035428	26.8034	238.048	212.988	25.0604	1.7883	339.713	10.8181	0.165310	6.3566	7.9463	23.9528	0.00690
0.040000	0.109486	0.316195	0.034619	27.0714	246.289	219.324	26.9651	1.9047	351.111	11.3986	0.167098	6.3363	8.1017	23.6398	0.00707
0.040000	0.113865	0.297098	0.033829	27.3421	254.621	225.629	28.9924	2.0273	363.112	12.0010	0.168927	6.3044	8.2520	23.2882	0.00725
0.040000	**0.118420**	**0.279159**	**0.033058**	**27.6156**	**263.038**	231.889	**31.1489**	**2.1565**	**375.738**	**12.6258**	**0.170797**	**6.2608**	**8.3971**	**22.8979**	**0.00746**
0.040000	0.123156	0.262307	0.032305	27.8917	271.536	238.094	33.4413	2.2925	389.012	13.2735	0.172709	6.2049	8.5364	22.4690	0.00769
0.040000	0.128083	0.246477	0.031569	28.1706	280.108	244.231	35.8769	2.4356	402.956	13.9445	0.174664	6.1366	8.6697	22.0016	0.00794
0.040000	0.133206	0.231606	0.030851	28.4523	288.750	250.286	38.4631	2.5862	417.595	14.6392	0.176663	6.0555	8.7967	21.4957	0.00822
0.040000	0.138534	0.217635	0.030150	28.7369	297.455	256.248	41.2077	2.7446	432.953	15.3580	0.178706	5.9612	8.9170	20.9516	0.00853
0.040000	0.144075	0.204511	0.029465	29.0242	306.220	262.101	44.1188	2.9111	449.055	16.1015	0.180795	5.8535	9.0304	20.3692	0.00888
0.040000	0.149838	0.192181	0.028796	29.3145	315.038	267.833	47.2048	3.0860	465.925	16.8699	0.182930	5.7319	9.1365	19.7487	0.00926
0.040000	0.155832	0.180597	0.028143	29.6076	323.904	273.429	50.4746	3.2698	483.589	17.6638	0.185113	5.5962	9.2351	19.0903	0.00970
0.040000	0.162065	0.169713	0.027505	29.9037	332.813	278.875	53.9374	3.4628	502.072	18.4836	0.187345	5.4461	9.3258	18.3941	0.01019
0.040000	0.168548	0.159488	0.026881	30.2027	341.759	284.156	57.6028	3.6654	521.402	19.3297	0.189626	5.2811	9.4083	17.6602	0.01074
0.040000	0.175290	0.149881	0.026273	30.5048	350.738	289.257	61.4808	3.8780	541.604	20.2025	0.191957	5.1009	9.4824	16.8888	0.01137
0.040000	0.182301	0.140854	0.025678	30.8098	359.744	294.162	65.5819	4.1011	562.707	21.1025	0.194341	4.9051	9.5477	16.0799	0.01209
0.040000	0.189594	0.132373	0.025097	31.1179	368.773	298.856	69.9169	4.3350	584.737	22.0302	0.196777	4.6935	9.6040	15.2338	0.01292
0.040000	0.197177	0.124404	0.024530	31.4291	377.819	303.321	74.4972	4.5803	607.723	22.9858	0.199267	4.4656	9.6510	14.3504	0.01389
0.040000	0.205064	0.116916	0.023975	31.7434	386.877	307.542	79.3347	4.8374	631.693	23.9700	0.201812	4.2209	9.6884	13.4300	0.01503
0.040000	0.213267	0.109881	0.023434	32.0608	395.943	311.501	84.4415	5.1069	656.676	24.9831	0.204413	3.9592	9.7160	12.4724	0.01639
0.040000	0.221798	0.103270	0.022905	32.3814	405.012	315.181	89.8307	5.3892	682.701	26.0255	0.207072	3.6799	9.7334	11.4779	0.01804
0.040000	0.230669	0.097057	0.022388	32.7052	414.079	318.564	95.5155	5.6848	709.799	27.0977	0.209789	3.3827	9.7405	10.4463	0.02008

KMalfa adjusted with sigm(A6-2)

A6-2-2(3) $\Delta\Omega(t)=((\Omega(2)(1+g_Y(2)-\Omega(1))/g_Y(2)$ $\Delta y(t)=((y(2)(1+n)-y(1))/n$ $\Delta(r/w)(t)=((r/w)(2)(1+g_{WK}(2)-(r/w)(1))/g_{WK}(2)$ Elasticity of substitution, σ $\sigma_r=\Delta r/r$

$\Delta k(t)=((k(2)(1+n)-k(1))/n$ where, $g_{WK}=((W*K)(2)-(W*K)(1))/(W*K)(1)$ $\sigma=(\Delta k/k)/(\Delta(r/w)(t)/(r/w)(t))$ 1

$(W*K)^0$		1/MPK		MPK	MPL		(A)	Marginal rate		$(r/w)^0$	(B)=$\Delta(r/w)(t)/(r/w)(t)$				$\sigma_\alpha=\sigma_k/\sigma_y$
46383		=ΔK/ΔY		=ΔY/ΔK	=ΔY/ΔL		$\sigma_k=\sigma_\Omega*\sigma_y$	=ΔK/ΔL		0.007905			Y=wL+rK is confirme		1
(W*K)(t)	$g_{WK}(t)$	$\Delta\Omega(t)$	$\sigma_\Omega=\Delta\Omega/\Omega$	=1/$\Delta\Omega(t)$	Δy	$\sigma_y=\Delta y/y$	=$\Delta k/k$	Δk	$\Delta(r/w)(t)$	r/w(t)	$\Delta(r/w)(t)/(r/w)(t)$	$\sigma(t)$=(A)/(B)	Y=wL+rK	p_w=(w/MPL)/(1-α	p_r=(r/MPK)/α
49501	0.067209	1.500000	1.000000	0.666667	24.2424	3.23200	3.23200	36.3636	0.005103	0.007729	0.660318	4.89461	189.394	0.30941	1.00000
52828	0.067209	1.500000	1.000000	0.666667	24.7959	3.23200	3.23200	37.1938	0.004989	0.007556	0.660318	4.89461	195.655	0.30941	1.00000
56378	0.067209	1.500000	1.000000	0.666667	25.3619	3.23200	3.23200	38.0429	0.004878	0.007388	0.660318	4.89461	202.123	0.30941	1.00000

$(W*K)^0$		1/MPK		MPK	MPL		(A)	Marginal rate		$(r/w)^0$	(B)=$\Delta(r/w)(t)/(r/w)(t)$				
46383		=ΔK/ΔY		=ΔY/ΔK	=ΔY/ΔL		$\sigma_k=\sigma_\Omega*\sigma_y$	=ΔK/ΔL		0.007905			Y=wL+rK is confirmed.		
(W*K)(t)	$g_{WK}(t)$	$\Delta\Omega(t)$	$\sigma_\Omega=\Delta\Omega/\Omega$	=1/$\Delta\Omega(t)$	Δy	$\sigma_y=\Delta y/y$	=$\Delta k/k$	Δk	$\Delta(r/w)(t)$	r/w(t)	$\Delta(r/w)(t)/(r/w)(t)$	$\sigma(t)$=(A)/(B)	Y=wL+rK	p_w=(w/MPL)/(1-α	p_r=(r/MPK)/α
49463	0.066401	1.041380	0.702657	0.960265	29.8538	3.95085	2.77609	31.0892	0.011091	0.008104	1.368667	2.02832	190.797	0.25311	0.70266
52735	0.066154	1.084472	0.739320	0.922108	30.0557	3.86366	2.85648	32.5946	0.011292	0.008301	1.360211	2.10003	198.386	0.25882	0.73932
56210	0.065894	1.129347	0.776597	0.885467	30.2325	3.77840	2.93430	34.1429	0.011492	0.008499	1.352242	2.16995	206.096	0.26466	0.77660
59899	0.065619	1.176079	0.814432	0.850283	30.3842	3.69502	3.00935	35.7342	0.011694	0.008695	1.344813	2.23774	213.922	0.27063	0.81443
63812	0.065324	1.224745	0.852766	0.816497	30.5111	3.61349	3.08146	37.3683	0.011897	0.008892	1.337974	2.30308	221.860	0.27674	0.85277
67960	0.065007	1.275425	0.891545	0.784053	30.6135	3.53375	3.15049	39.0452	0.012103	0.009088	1.331771	2.36564	229.903	0.28299	0.89155
72355	0.064667	1.328201	0.930716	0.752898	30.6916	3.45577	3.21634	40.7646	0.012312	0.009283	1.326247	2.42514	238.048	0.28937	0.93072
77007	0.064301	1.383162	0.970228	0.722981	30.7459	3.37951	3.27889	42.5266	0.012527	0.009479	1.321442	2.48130	246.289	0.29590	0.97023
81929	0.063907	1.440397	1.010033	0.694253	30.7769	3.30493	3.33809	44.3309	0.012747	0.009676	1.317391	2.53386	254.621	0.30258	1.01003
87130	**0.063484**	**1.500000**	**1.050086**	**0.666667**	**30.7848**	**3.23200**	**3.39388**	**46.1772**	**0.012974**	**0.009873**	**1.314131**	**2.58260**	**263.038**	**0.30941**	**1.05009**
92621	0.063030	1.562070	1.090347	0.640176	30.7703	3.16068	3.44624	48.0654	0.013209	0.010070	1.311696	2.62731	271.536	0.31639	1.09035
98414	0.062544	1.626708	1.130777	0.614739	30.7339	3.09093	3.49515	49.9951	0.013454	0.010270	1.310120	2.66781	280.108	0.32353	1.13078
104518	0.062024	1.694020	1.171343	0.590312	30.6762	3.02272	3.54065	51.9661	0.013711	0.010471	1.309437	2.70395	288.750	0.33083	1.17134
110943	0.061471	1.764119	1.212016	0.566855	30.5978	2.95602	3.58274	53.9781	0.013979	0.010674	1.309682	2.73558	297.455	0.33829	1.21202
117698	0.060882	1.837117	1.252769	0.544331	30.4992	2.89079	3.62149	56.0307	0.014262	0.010880	1.310893	2.76261	306.220	0.34593	1.25277
124790	0.060258	1.913137	1.293579	0.522702	30.3813	2.82700	3.65694	58.1235	0.014561	0.011089	1.313111	2.78495	315.038	0.35373	1.29358
132227	0.059598	1.992302	1.334428	0.501932	30.2445	2.76461	3.68918	60.2563	0.014878	0.011302	1.316380	2.80252	323.904	0.36171	1.33443
140015	0.058901	2.074743	1.375302	0.481987	30.0897	2.70361	3.71827	62.4285	0.015215	0.011520	1.320749	2.81528	332.813	0.36988	1.37530
148160	0.058166	2.160595	1.416188	0.462835	29.9176	2.64394	3.74432	64.6398	0.015574	0.011742	1.326274	2.82319	341.759	0.37822	1.41619
156663	0.057393	2.250000	1.457079	0.444444	29.7287	2.58560	3.76742	66.8897	0.015958	0.011971	1.333019	2.82623	350.738	0.38676	1.45708
165527	0.056581	2.343104	1.497971	0.426784	29.5240	2.52854	3.78768	69.1778	0.016370	0.012207	1.341058	2.82440	359.744	0.39548	1.49797
174752	0.055730	2.440061	1.538860	0.409826	29.3041	2.47275	3.80521	71.5037	0.016813	0.012450	1.350476	2.81768	368.773	0.40441	1.53886
184335	0.054839	2.541031	1.579748	0.393541	29.0697	2.41818	3.82011	73.8669	0.017292	0.012702	1.361371	2.80608	377.819	0.41353	1.57975
194272	0.053907	2.646178	1.620638	0.377904	28.8215	2.36482	3.83251	76.2669	0.017809	0.012963	1.373861	2.78959	386.877	0.42287	1.62064
204555	0.052932	2.755676	1.661536	0.362887	28.5604	2.31263	3.84252	78.7033	0.018371	0.013235	1.388081	2.76823	395.943	0.43241	1.66154
215175	0.051914	2.869705	1.702450	0.348468	28.2870	2.26160	3.85026	81.1755	0.018983	0.013519	1.404192	2.74197	405.012	0.44217	1.70245
226116	0.050850	2.988453	1.743391	0.334621	28.0021	2.21169	3.85584	83.6830	0.019651	0.013815	1.422387	2.71082	414.079	0.45214	1.74339

KMalfa adjusted with sigm(A6-2)

Appendix 6-2-3 Case study of the Kamiryo Model **under the modified golden rule, $P=S+S_P$: both $s_{S/Y}$ and $s_{SP/Y}$ are variables**

1 Balanced growth-state: $g^*_Y=g^*_{KP}=g_Y=g_{KP}$ Ω is constant and $s^*_{SP/Y}$ is not equal to n under $\lambda=0$

gamma=1	where $S_P=C_D$	$L^0=$	n	Ω^0	α	k^0	$s^*_{SP/P}$	$s^*_{SP/Y}$	$s^*_{SWD/WD}$	$s^*_{SWD/Y}$	$s^*_{S/Y}=s^*_{SP/Y}$	Ω^0	$\theta^*=s^*_{S/Y}/s^*_{SP/Y}$	$\Psi^*=\Omega^*/\theta^*$	y^0	r^0
gamma=$c_{D/Y}/s_{SP/Y}$		25	0.01	1.5	0.08	11	0.4	0.032	0.016529	0.016	0.048	1.5	1.000000	7.333333	0.053333	

$\theta=S/S_P=\Omega=K/Y$	time	$g^*_Y(t)$	$g^*_K(t)$	$g^*_k(t)$	$g^*_y(t)$	$g^*_\Omega(t)$	$\Omega^*(t)$	$c^*_{D/Y}=\alpha-s^*_{S/Y}$	$r^*(t)$	$k^*(t)$	$y^*(t)$	$I/Y^{0*}(t)$	$A^*(t)$	$\lambda^*(t)$
1.5	1	0.033058	0.033058	0.022830	0.022830	0.000000	1.500000	0.032000	0.053333	11.25113	7.500750	0.049587	0.460396	-----
	2	0.033058	0.033058	0.022830	0.022830	0.000000	1.500000	0.032000	0.053333	11.50798	7.671989	0.049587	0.460396	0.000000
	3	0.033058	0.033058	0.022830	0.022830	0.000000	1.500000	0.032000	0.053333	11.77071	7.847137	0.049587	0.460396	0.000000

2 Unbalanced growth-state **Ω, $s_{SP/Y}$, and $s_{S/Y}$ are variables towards $s^*_{SP/Y}=\alpha-s^*_{S/Y}$**

$a=s^*_{S/Y}/s^0_{S/Y}$	$g_{sS/Y}=a^{\wedge}(1/10)-1$	$\theta^*=s^*_{S/Y}/s^*_{SP/Y}$	$\Psi^*=\Omega^U/\theta^*$	$A(t)=g_y(t)/(I/Y^U)$
1.2	0.018399	1.500000	1.000000	$\lambda=(A(t)-A(t-1))/A(t-1)$

$b=s^*_{SP/Y}/s^0_{SP/Y}$	$g_{sSP/Y}=b^{\wedge}(1/10)-1$	$L^0=$	n	Ω^0	α	k^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	$s^0_{SWD/WD}$	$s^0_{SWD/Y}$	$s^0_{S/Y}$	$\theta^0=s^0_{S/Y}/s^0_{SP/}$	$\Psi^0=\Omega^0/\theta^0$	y^0	r^0
0.571429	-0.054425	25	0.01	1.5	0.08	11	**0.700000**	0.056000	-0.016949	-0.016000	0.040000	0.714286	2.100000	7.333333	0.053333

$\theta(t)=s_{S/Y}(t)/s_{SP/Y}(t)$	$\Psi(t)=\Omega^0/\theta(t)$	time	$g_Y(t)=s_{SP/Y}(t)/(1-s_{SI}$	$g_K(t)$	$g_k(t)$	$g_y(t)$	$g_\Omega(t)$	$\Omega(t)$	$s_{S/Y}(t)$	**r(t)**	k(t)	y(t)	$I/Y^0(t)$	A(t)	$\lambda(t)$
0.769297	1.949833	1	0.055913	0.028676	0.018491	0.045458	-0.025795	1.461308	0.040736	0.058030	11.2034	7.6667	0.043014	1.056836	-----
0.828544	1.810404	2	0.052710	0.029886	0.019689	0.042287	-0.021681	1.429625	0.041485	0.062875	11.4240	7.9909	0.043672	0.968274	-0.083799
0.892355	1.680945	3	0.049698	0.031021	0.020813	0.039305	-0.017793	1.404188	0.042249	0.067855	11.6617	8.3050	0.044348	0.886280	-0.084680
0.961080	1.560744	4	0.046867	0.032077	0.021859	0.036502	-0.014127	1.384351	0.043026	0.072957	11.9167	8.6081	0.045043	0.810380	-0.085639
1.035098	1.449138	5	0.044203	0.033051	0.022823	0.033865	-0.010680	1.369566	0.043818	0.078169	12.1886	8.8996	0.045755	0.740134	-0.086683
1.114817	1.345512	6	0.041697	0.033941	0.023704	0.031383	-0.007446	1.359369	0.044624	0.083481	12.4776	9.1789	0.046485	0.675133	-0.087823
1.200675	1.249297	7	0.039339	0.034746	0.024501	0.029048	-0.004419	1.353362	0.045445	0.088883	12.7833	9.4456	0.047233	0.614998	-0.089071
1.293146	1.159962	8	0.037118	0.035467	0.025214	0.026850	-0.001592	1.351207	0.046281	0.094366	13.1056	9.6992	0.047999	0.559377	-0.090440
1.392738	1.077015	9	0.035027	0.036104	0.025845	0.024779	0.001040	1.352613	0.047133	0.099924	13.4443	9.9395	0.048784	0.507944	-0.091947
1.500000	**1.000000**	**10**	**0.033058**	**0.036660**	**0.026396**	**0.022830**	**0.003487**	**1.357329**	**0.048000**	**0.105551**	**13.7992**	**10.1664**	**0.049587**	**0.460396**	**-0.093609**
1.615523	0.928492	11	0.031203	0.037138	0.026869	0.020993	0.005756	1.365142	0.048883	0.111244	14.1700	10.3798	0.050408	0.416451	-0.095451
1.739943	0.862097	12	0.029454	0.037541	0.027268	0.019262	0.007855	1.375865	0.049783	0.117000	14.5564	10.5798	0.051249	0.375847	-0.097500
1.873946	0.800450	13	0.027807	0.037873	0.027597	0.017630	0.009794	1.389341	0.050699	0.122817	14.9581	10.7663	0.052108	0.338342	-0.099787
2.018269	0.743211	14	0.026254	0.038138	0.027860	0.016093	0.011580	1.405430	0.051631	0.128695	15.3748	10.9396	0.052987	0.303711	-0.102355
2.173707	0.690066	15	0.024789	0.038340	0.028060	0.014643	0.013223	1.424014	0.052581	0.134637	15.8062	11.0998	0.053885	0.271745	-0.105251
2.341115	0.640720	16	0.023409	0.038484	0.028202	0.013276	0.014731	1.444991	0.053549	0.140643	16.2520	11.2471	0.054802	0.242250	-0.108539
2.521418	0.594903	17	0.022106	0.038574	0.028291	0.011987	0.016112	1.468273	0.054534	0.146718	16.7118	11.3819	0.055740	0.215046	-0.112297
2.715606	0.552363	18	0.020878	0.038615	0.028331	0.010771	0.017374	1.493782	0.055537	0.152865	17.1852	11.5045	0.056697	0.189966	-0.116627
2.924749	0.512864	19	0.019720	0.038610	0.028327	0.009623	0.018525	1.521454	0.056559	0.159090	17.6720	11.6152	0.057675	0.166855	-0.121661
3.150000	0.476190	20	0.018626	0.038564	0.028281	0.008541	0.019573	1.551234	0.057600	0.165398	18.1718	11.7144	0.058673	0.145568	-0.127576
3.392599	0.442139	21	0.017595	0.038480	0.028198	0.007520	0.020524	1.583072	0.058660	0.171796	18.6842	11.8025	0.059692	0.125973	-0.134614
3.653881	0.410522	22	0.016621	0.038363	0.028083	0.006556	0.021387	1.616928	0.059739	0.178291	19.2089	11.8799	0.060732	0.107944	-0.143112
3.935286	0.381167	23	0.015702	0.038217	0.027937	0.005646	0.022166	1.652769	0.060838	0.184890	19.7456	11.9470	0.061794	0.091368	-0.153562
4.238364	0.353910	24	0.014835	0.038043	0.027766	0.004787	0.022869	1.690566	0.061958	0.191601	20.2938	12.0042	0.062877	0.076138	-0.166696
4.564784	0.328603	25	0.014016	0.037847	0.027571	0.003977	0.023501	1.730296	0.063098	0.198434	20.8533	12.0519	0.063982	0.062153	-0.183674
4.916342	0.305105	26	0.013244	0.037629	0.027356	0.003211	0.024067	1.771939	0.064259	0.205397	21.4238	12.0906	0.065110	0.049323	-0.206429
5.294977	0.283287	27	0.012514	0.037394	0.027123	0.002489	0.024573	1.815480	0.065441	0.212499	22.0049	12.1207	0.066260	0.037562	-0.238454

KMalfa adjusted with sigm(A6-2)

A6-2-3(2) alfa is adjusted using gα(t) Structure of the elasticity of substitution Marginal rate that is measured using the growth rate of the denominator

Marginal rate of profit: $\Delta r(t)=((r(2)(1+g_K(2)-r(1))/g_K(2)$

n	α^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	L^0	Y^0	W^0	P^0	ΔP^0	K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$
0.01	0.08	0.400000	0.032000	25	183.333	168.667	14.6667	-----	275.000	-----	=ΔP/ΔK	-----	6.7467	=ΔW/ΔL	-----
$g_\alpha(t)$	$\alpha(t)=\alpha(0)(1+g\alpha)^t$	$s_{SP/P}(t)$	$s_{SP/Y}(t)$	L(t)	Y(t)	W(t)	P(t)	ΔP(t)	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$
0.000000	0.080000	0.413223	0.033058	25.2500	189.394	174.242	15.1515	0.4848	284.091	9.0909	0.053333	5.5758	6.9007	22.3030	0.00239
0.000000	0.080000	0.413223	0.033058	25.5025	195.655	180.003	15.6524	0.5009	293.482	9.3914	0.053333	5.7601	7.0582	22.8122	0.00234
0.000000	0.080000	0.413223	0.033058	25.7575	202.123	185.953	16.1698	0.5174	303.184	9.7019	0.053333	5.9505	7.2194	23.3330	0.00229

n	α^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	L^0	Y^0	W^0	P^0	ΔP^0	K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$
0.01	0.08	0.700000	0.056000	25	183.333	168.667	14.6667	-----	275.000	-----	=ΔP/ΔK	-----	6.7467	=ΔW/ΔL	-----
$g_\alpha(t)$	$\alpha(t)=\alpha(0)(1+g\alpha)^t$	$s_{SP/P}(t)$	$s_{SP/Y}(t)$	L(t)	Y(t)	W(t)	P(t)	ΔP(t)	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$
0.060000	0.084800	0.659351	0.055913	25.2500	193.584	177.168	16.4159	1.7493	282.886	7.8858	0.221823	8.5014	7.0166	34.0058	0.00652
0.060000	0.089888	0.586391	0.052710	25.5025	203.788	185.470	18.3181	1.9021	291.340	8.4542	0.224993	8.3016	7.2726	32.8775	0.00684
0.060000	0.095281	0.521595	0.049698	25.7575	213.916	193.533	20.3822	2.0641	300.378	9.0377	0.228386	8.0638	7.5137	31.6197	0.00722
0.060000	0.100998	0.464035	0.046867	26.0151	223.941	201.324	22.6176	2.2355	310.013	9.6353	0.232010	7.7900	7.7387	30.2437	0.00767
0.060000	0.107058	0.412890	0.044203	26.2753	233.840	208.806	25.0345	2.4168	320.259	10.2464	0.235871	7.4821	7.9469	28.7606	0.00820
0.060000	0.113482	0.367436	0.041697	26.5380	243.591	215.948	27.6430	2.6086	331.129	10.8700	0.239979	7.1419	8.1373	27.1811	0.00883
0.060000	0.120290	0.327030	0.039339	26.8034	253.173	222.719	30.4543	2.8113	342.635	11.5055	0.244342	6.7712	8.3094	25.5152	0.00958
0.060000	0.127508	0.291104	0.037118	27.0714	262.570	229.091	33.4798	3.0255	354.787	12.1521	0.248969	6.3718	8.4625	23.7724	0.01047
0.060000	0.135158	0.259157	0.035027	27.3421	271.767	235.036	36.7316	3.2519	367.596	12.8092	0.253869	5.9453	8.5961	21.9614	0.01156
0.060000	**0.143268**	**0.230742**	**0.033058**	**27.6156**	**280.752**	240.529	**40.2227**	**3.4910**	**381.072**	**13.4761**	**0.259053**	**5.4930**	**8.7099**	**20.0900**	**0.01289**
0.060000	0.151864	0.205464	0.031203	27.8917	289.512	245.545	43.9664	3.7437	395.224	14.1522	0.264531	5.0165	8.8035	18.1653	0.01456
0.060000	0.160976	0.182974	0.029454	28.1706	298.039	250.062	47.9771	4.0107	410.062	14.8372	0.270313	4.5167	8.8767	16.1937	0.01669
0.060000	0.170634	0.162961	0.027807	28.4523	306.327	254.057	52.2698	4.2928	425.592	15.5303	0.276411	3.9947	8.9292	14.1805	0.01949
0.060000	0.180872	0.145150	0.026254	28.7369	314.369	257.508	56.8606	4.5908	441.823	16.2313	0.282836	3.4514	8.9609	12.1304	0.02332
0.060000	0.191725	0.129297	0.024789	29.0242	322.162	260.395	61.7664	4.9057	458.763	16.9397	0.289601	2.8873	8.9717	10.0472	0.02882
0.060000	0.203228	0.115184	0.023409	29.3145	329.703	262.698	67.0050	5.2386	476.418	17.6552	0.296717	2.3028	8.9614	7.9340	0.03740
0.060000	0.215422	0.102619	0.022106	29.6076	336.992	264.396	72.5954	5.5904	494.796	18.3775	0.304198	1.6982	8.9300	5.7929	0.05251
0.060000	0.228347	0.091432	0.020878	29.9037	344.027	265.470	78.5577	5.9623	513.902	19.1064	0.312059	1.0735	8.8775	3.6256	0.08607
0.060000	0.242048	0.081469	0.019720	30.2027	350.812	265.898	84.9132	6.3555	533.744	19.8417	0.320312	0.4285	8.8038	1.4330	0.22352
0.060000	0.256571	0.072597	0.018626	30.5048	357.346	265.661	91.6845	6.7713	554.327	20.5831	0.328974	-0.2370	8.7089	(0.7847)	(0.41926)
0.060000	0.271965	0.064695	0.017595	30.8098	363.633	264.738	98.8956	7.2110	575.658	21.3307	0.338059	-0.9236	8.5926	(3.0278)	(0.11165)
0.060000	0.288283	0.057656	0.016621	31.1179	369.677	263.106	106.5717	7.6761	597.742	22.0842	0.347585	-1.6321	8.4551	(5.2973)	(0.06562)
0.060000	0.305580	0.051386	0.015702	31.4291	375.482	260.742	114.7398	8.1681	620.585	22.8437	0.357567	-2.3633	8.2962	(7.5947)	(0.04708)
0.060000	0.323915	0.045800	0.014835	31.7434	381.052	257.624	123.4285	8.6887	644.195	23.6091	0.368023	-3.1184	8.1158	(9.9219)	(0.03709)
0.060000	0.343350	0.040823	0.014016	32.0608	386.393	253.725	132.6681	9.2395	668.575	24.3805	0.378972	-3.8985	7.9139	(12.2814)	(0.03086)
0.060000	0.363951	0.036388	0.013244	32.3814	391.511	249.020	142.4906	9.8225	693.733	25.1579	0.390433	-4.7053	7.6902	(14.6761)	(0.02660)
0.060000	0.385788	0.032437	0.012514	32.7052	396.410	243.480	152.9301	10.4395	719.674	25.9414	0.402426	-5.5403	7.4447	(17.1094)	(0.02352)

KMalfa adjusted with sigm(A6-2)

A6-2-3(3) $\Delta\Omega(t)=((\Omega(2)(1+g_Y(2)-\Omega(1))/g_Y(2)$ $\Delta y(t)=((y(2)(1+n)-y(1))/n$ $\Delta k(t)=((k(2)(1+n)-k(1))/n$ $\Delta(r/w)(t)=((r/w)(2)(1+g_{WK}(2)-(r/w)(1))/g_{WK}(2)$ where, $g_{WK}=((W^*K)(2)-(W^*K)(1))/(W^*K)(1)$ Elasticity of substitution, σ $\sigma=(\Delta k/k)/(\Delta(r/w)(t)/(r/w)(t))$ $\sigma_r=\Delta r/r$ 1

$(W^*K)^0$		1/MPK		MPK	MPL		(A)	Marginal rate		$(r/w)^0$	(B)=$\Delta(r/w)(t)/(r/w)(t)$				$\sigma_\alpha=\sigma_k/\sigma_y$
46383		=ΔK/ΔY		=ΔY/ΔK	=ΔY/ΔL		$\sigma_k=\sigma_\Omega*\sigma_y$	=ΔK/ΔL		0.007905			Y=wL+rK is confirme		1
(W*K)(t)	$g_{WK}(t)$	$\Delta\Omega(t)$	$\sigma_\Omega=\Delta\Omega/\Omega$	=1/ΔΩ(t)	Δy	$\sigma_y=\Delta y/y$	=Δk/k	Δk	Δ(r/w)(t)	r/w(t)	Δ(r/w)(t)/(r/w)(t)	σ(t)=(A)/(B)	Y=wL+rK	p_w=(w/MPL)/(1-α	p_r=(r/MPK)/α
49501	0.067209	1.500000	1.000000	0.666667	24.2424	3.23200	3.23200	36.3636	0.005103	0.007729	0.660318	4.89461	189.394	0.30941	1.00000
52828	0.067209	1.500000	1.000000	0.666667	24.7959	3.23200	3.23200	37.1938	0.004989	0.007556	0.660318	4.89461	195.655	0.30941	1.00000
56378	0.067209	1.500000	1.000000	0.666667	25.3619	3.23200	3.23200	38.0429	0.004878	0.007388	0.660318	4.89461	202.123	0.30941	1.00000

$(W^*K)^0$		1/MPK		MPK	MPL		(A)	Marginal rate		$(r/w)^0$	(B)=$\Delta(r/w)(t)/(r/w)(t)$				
46383		=ΔK/ΔY		=ΔY/ΔK	=ΔY/ΔL		$\sigma_k=\sigma_\Omega*\sigma_y$	=ΔK/ΔL		0.007905			Y=wL+rK is confirmed.		
(W*K)(t)	$g_{WK}(t)$	$\Delta\Omega(t)$	$\sigma_\Omega=\Delta\Omega/\Omega$	=1/ΔΩ(t)	Δy	$\sigma_y=\Delta y/y$	=Δk/k	Δk	Δ(r/w)(t)	r/w(t)	Δ(r/w)(t)/(r/w)(t)	σ(t)=(A)/(B)	Y=wL+rK	p_w=(w/MPL)/(1-α	p_r=(r/MPK)/α
50118	0.080525	0.769297	0.526444	1.299889	41.0028	5.34817	2.81551	31.5433	0.012807	0.008270	1.548559	1.81815	193.584	0.18698	0.52644
54035	0.078143	0.828544	0.579554	1.206936	40.4108	5.05710	2.93086	33.4821	0.013445	0.008645	1.555103	1.88467	203.788	0.19774	0.57955
58133	0.075848	0.892355	0.635496	1.120630	39.7133	4.78187	3.03886	35.4384	0.014112	0.009031	1.562652	1.94468	213.916	0.20912	0.63550
62413	0.073620	0.961080	0.694246	1.040496	38.9227	4.52162	3.13912	37.4078	0.014815	0.009428	1.571500	1.99753	223.941	0.22116	0.69425
66872	0.071444	1.035098	0.755786	0.966092	38.0507	4.27553	3.23139	39.3862	0.015561	0.009837	1.581947	2.04267	233.840	0.23389	0.75579
71507	0.069306	1.114817	0.820099	0.897008	37.1090	4.04284	3.31553	41.3697	0.016356	0.010259	1.594304	2.07961	243.591	0.24735	0.82010
76311	0.067192	1.200675	0.887179	0.832865	36.1086	3.82281	3.39152	43.3547	0.017210	0.010697	1.608897	2.10798	253.173	0.26159	0.88718
81278	0.065090	1.293146	0.957030	0.773308	35.0601	3.61476	3.45943	45.3379	0.018133	0.011151	1.626077	2.12747	262.570	0.27664	0.95703
86398	0.062992	1.392738	1.029665	0.718010	33.9735	3.41802	3.51942	47.3162	0.019136	0.011624	1.646228	2.13787	271.767	0.29257	1.02966
91659	**0.060888**	**1.500000**	**1.105112**	**0.666667**	**32.8579**	**3.23200**	**3.57172**	**49.2868**	**0.020235**	**0.012119**	**1.669780**	**2.13904**	**280.752**	**0.30941**	**1.10511**
97046	0.058768	1.615523	1.183411	0.618995	31.7219	3.05610	3.61662	51.2474	0.021447	0.012636	1.697234	2.13089	289.512	0.32721	1.18341
102541	0.056626	1.739943	1.264618	0.574731	30.5732	2.88977	3.65446	53.1956	0.022791	0.013181	1.729176	2.11341	298.039	0.34605	1.26462
108125	0.054453	1.873946	1.348802	0.533633	29.4189	2.73250	3.68560	55.1295	0.024295	0.013754	1.766319	2.08660	306.327	0.36597	1.34880
113773	0.052241	2.018269	1.436051	0.495474	28.2655	2.58378	3.71044	57.0473	0.025988	0.014362	1.809537	2.05049	314.369	0.38703	1.43605
119460	0.049983	2.173707	1.526464	0.460044	27.1185	2.44316	3.72940	58.9477	0.027912	0.015007	1.859932	2.00513	322.162	0.40931	1.52646
125154	0.047668	2.341115	1.620159	0.427147	25.9830	2.31019	3.74288	60.8292	0.030116	0.015694	1.918916	1.95052	329.703	0.43286	1.62016
130822	0.045288	2.521418	1.717268	0.396602	24.8634	2.18446	3.75131	62.6910	0.032668	0.016430	1.988335	1.88666	336.992	0.45778	1.71727
136425	0.042832	2.715606	1.817940	0.368242	23.7634	2.06557	3.75509	64.5321	0.035655	0.017219	2.070658	1.81348	344.027	0.48413	1.81794
141922	0.040286	2.924749	1.922338	0.341910	22.6864	1.95316	3.75463	66.3519	0.039200	0.018071	2.169260	1.73083	350.812	0.51199	1.92234
147263	0.037638	3.150000	2.030642	0.317460	21.6349	1.84686	3.75031	68.1499	0.043470	0.018992	2.288883	1.63849	357.346	0.54146	2.03064
152398	0.034870	3.392599	2.143048	0.294759	20.6112	1.74634	3.74250	69.9257	0.048712	0.019993	2.436412	1.53607	363.633	0.57263	2.14305
157269	0.031962	3.653881	2.259767	0.273682	19.6173	1.65130	3.73155	71.6791	0.055294	0.021087	2.622224	1.42305	369.677	0.60558	2.25977
161813	0.028891	3.935286	2.381026	0.254111	18.6543	1.56143	3.71780	73.4101	0.063799	0.022286	2.862721	1.29869	375.482	0.64044	2.38103
165960	0.025629	4.238364	2.507067	0.235940	17.7235	1.47645	3.70155	75.1187	0.075203	0.023608	3.185432	1.16203	381.052	0.67730	2.50707
169634	0.022141	4.564784	2.638152	0.219068	16.8256	1.39609	3.68311	76.8051	0.091279	0.025074	3.640353	1.01174	386.393	0.71628	2.63815
172753	0.018387	4.916342	2.774555	0.203403	15.9609	1.32011	3.66272	78.4694	0.115615	0.026709	4.328699	0.84615	391.511	0.75751	2.77456
175226	0.014314	5.294977	2.916571	0.188858	15.1298	1.24826	3.64065	80.1121	0.156735	0.028544	5.491029	0.66302	396.410	0.80111	2.91657

KMalfa adjusted with sigm(A6−2)

Appendix 6-2-4 Case study of the Kamiryo Model **under the modified golden rule, $P=S+S_P$: both $s_{S/Y}$ and $s_{SP/Y}$ are variables**

1 Balanced growth-state: $g^*_Y=g^*_{KP}=g_Y=g_{KP}$ Ω is constant and $s^*_{SP/Y}$ is not equal to n under $\lambda=0$

gamma=1	where $S_P=C_D$	$L^0=$	n	Ω^0	α	k^0	$s^*_{SP/P}$	$s^*_{SP/Y}$	$s^*_{SWD/WD}$	$s^*_{SWD/Y}$	$s^*_{S/Y}=s^*_{SP/Y}$	Ω^0	$\theta^*=s^*_{S/Y}/s^*_{SP/Y}$	$\Psi^*=\Omega^*/\theta^*$	y^0	r^0
gamma=$c_{D/Y}/s_{SP/Y}$		25	0.01	1.5	0.08	11	0.4	0.032	0.016529	0.016	0.048	1.5	1.000000	7.333333	0.053333	
$\theta=S/S_P=\Omega=K/Y$		time	$g^*_Y(t)$	$g^*_K(t)$	$g^*_k(t)$	$g^*_y(t)$	$g^*_\Omega(t)$	$\Omega^*(t)$	$c^*_{D/Y}=\alpha-s^*_{S/Y}$	$r^*(t)$	$k^*(t)$	$y^*(t)$	$I/Y^{0*}(t)$	$A^*(t)$	$\lambda^*(t)$	
1.5		1	0.033058	0.033058	0.022830	0.022830	0.000000	1.500000	0.032000	0.053333	11.25113	7.500750	0.049587	0.460396	-----	
		2	0.033058	0.033058	0.022830	0.022830	0.000000	1.500000	0.032000	0.053333	11.50798	7.671989	0.049587	0.460396	0.000000	
		3	0.033058	0.033058	0.022830	0.022830	0.000000	1.500000	0.032000	0.053333	11.77071	7.847137	0.049587	0.460396	0.000000	

2 Unbalanced growth-state **Ω, $s_{SP/Y}$, and $s_{S/Y}$ are variables towards $s^*_{SP/Y}=\alpha-s^*_{S/Y}$**

										$a=s^*_{S/Y}/s^0_{S/Y}$	$g_{sS/Y}=a^{(1/10)-1}$	$\theta^*=s^*_{S/Y}/s^*_{SP/Y}$	$\Psi^*=\Omega^0/\theta^*$	$A(t)=g_y(t)/(I/Y^0)$		
										1.2	0.018399	1.500000	1.000000	$\lambda=(A(t)-A(t-1))/A(t-1)$		
$b=s^*_{SP/Y}/s^0_{SP/Y}$	$g_{sSP/Y}=b^{(1/10)-1}$	$L^0=$	n	Ω^0	α	k^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	$s^0_{SWD/WD}$	$s^0_{SWD/Y}$	$s^0_{S/Y}$	$\theta^0=s^0_{S/Y}/s^0_{SP/}$	$\Psi^0=\Omega^0/\theta^0$	y^0	r^0	
0.400000	-0.087556	25	0.01	1.5	0.08	11	**1.000000**	0.080000	-0.043478	-0.040000	0.040000	0.500000	3.000000	7.333333	0.053333	
$\theta(t)=s_{S/Y}(t)/s_{SP/Y}(t)$	$\Psi(t)=\Omega^0/\theta(t)$	time	$g_Y(t)=s_{SP/Y}(t)/(1-s_{SI}$	$g_K(t)$	$g_k(t)$	$g_y(t)$	$g_\Omega(t)$	$\Omega(t)$	$s_{S/Y}(t)$	**r(t)**	k(t)	y(t)	$I/Y^0(t)$	A(t)	$\lambda(t)$	
0.558062	2.687875	1	0.078743	0.029296	0.019105	0.068063	-0.045838	1.431243	0.040736	0.054778	11.2102	7.8325	0.043944	1.548864	-----	
0.622865	2.408225	2	0.071357	0.031054	0.020846	0.060749	-0.037619	1.377401	0.041485	0.055780	11.4438	8.3083	0.044446	1.366822	-0.117533	
0.695195	2.157669	3	0.064705	0.032658	0.022433	0.054163	-0.030100	1.335942	0.042249	0.056361	11.7006	8.7583	0.044983	1.204097	-0.119054	
0.775923	1.933182	4	0.058707	0.034097	0.023859	0.048225	-0.023245	1.304888	0.043026	0.056548	11.9797	9.1806	0.045552	1.058672	-0.120775	
0.866025	1.732051	5	0.053293	0.035369	0.025118	0.042864	-0.017017	1.282683	0.043818	0.056377	12.2806	9.5742	0.046153	0.928742	-0.122729	
0.966591	1.551846	6	0.048401	0.036473	0.026211	0.038021	-0.011377	1.268090	0.044624	0.055885	12.6025	9.9382	0.046784	0.812688	-0.124959	
1.078835	1.390389	7	0.043977	0.037413	0.027142	0.033640	-0.006287	1.260118	0.045445	0.055114	12.9446	10.2725	0.047444	0.709059	-0.127514	
1.204112	1.245731	8	0.039972	0.038196	0.027917	0.029676	-0.001708	1.257965	0.046281	0.054104	13.3059	10.5774	0.048131	0.616556	-0.130458	
1.343938	1.116123	9	0.036345	0.038829	0.028544	0.026084	0.002397	1.260980	0.047133	0.052895	13.6857	10.8533	0.048846	0.534016	-0.133873	
1.500000	**1.000000**	**10**	**0.033058**	**0.039324**	**0.029034**	**0.022830**	**0.006066**	**1.268629**	**0.048000**	**0.051525**	**14.0831**	**11.1010**	**0.049587**	**0.460396**	**-0.137861**	
1.674185	0.895958	11	0.030076	0.039691	0.029397	0.019878	0.009334	1.280471	0.048883	0.050027	14.4971	11.3217	0.050353	0.394762	-0.142561	
1.868596	0.802742	12	0.027371	0.039942	0.029646	0.017199	0.012237	1.296139	0.049783	0.048434	14.9269	11.5164	0.051145	0.336276	-0.148153	
2.085584	0.719223	13	0.024915	0.040090	0.029792	0.014767	0.014806	1.315330	0.050699	0.046773	15.3716	11.6865	0.051962	0.284191	-0.154890	
2.327768	0.644394	14	0.022684	0.040144	0.029846	0.012558	0.017073	1.337786	0.051631	0.045068	15.8303	11.8332	0.052803	0.237833	-0.163122	
2.598076	0.577350	15	0.020657	0.040117	0.029818	0.010551	0.019066	1.363293	0.052581	0.043340	16.3024	11.9581	0.053668	0.196602	-0.173362	
2.899773	0.517282	16	0.018814	0.040018	0.029721	0.008727	0.020812	1.391666	0.053549	0.041608	16.7869	12.0624	0.054556	0.159958	-0.186385	
3.236504	0.463463	17	0.017138	0.039858	0.029562	0.007068	0.022336	1.422751	0.054534	0.039885	17.2832	12.1477	0.055469	0.127419	-0.203420	
3.612337	0.415244	18	0.015614	0.039645	0.029351	0.005559	0.023661	1.456415	0.055537	0.038183	17.7904	12.2152	0.056405	0.098553	-0.226544	
4.031813	0.372041	19	0.014228	0.039387	0.029096	0.004186	0.024806	1.492543	0.056559	0.036514	18.3081	12.2664	0.057364	0.072972	-0.259563	
4.500000	0.333333	20	0.012966	0.039092	0.028804	0.002937	0.025792	1.531039	0.057600	0.034884	18.8354	12.3024	0.058347	0.050330	-0.310287	
5.022554	0.298653	21	0.011817	0.038766	0.028482	0.001799	0.026634	1.571817	0.058660	0.033299	19.3719	12.3245	0.059353	0.030315	-0.397671	
5.605789	0.267581	22	0.010771	0.038416	0.028134	0.000764	0.027350	1.614806	0.059739	0.031765	19.9169	12.3339	0.060383	0.012650	-0.582723	
6.256751	0.239741	23	0.009819	0.038045	0.027768	-0.000179	0.027952	1.659942	0.060838	0.030283	20.4700	12.3317	0.061436	-0.002915	-1.230472	
6.983305	0.214798	24	0.008952	0.037659	0.027385	-0.001038	0.028453	1.707173	0.061958	0.028856	21.0305	12.3189	0.062512	-0.016604	4.695146	
7.794229	0.192450	25	0.008162	0.037262	0.026992	-0.001820	0.028865	1.756450	0.063098	0.027486	21.5982	12.2965	0.063613	-0.028615	0.723414	
8.699319	0.172427	26	0.007442	0.036857	0.026591	-0.002533	0.029198	1.807734	0.064259	0.026172	22.1725	12.2654	0.064737	-0.039129	0.367410	

KMalfa adjusted with sigm(A6-2)

A6-2-4(2) alfa is adjusted using gα(t) Structure of the elasticity of substitution Marginal rate that is measured using the growth rate of the denominator

Marginal rate of profit: $\Delta r(t)=((r(2)(1+g_K(2)-r(1))/g_K(2)$

n	α^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	L^0	Y^0	W^0	P^0	ΔP^0	K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$
0.01	0.08	0.400000	0.032000	25	183.333	168.667	14.6667	-----	275.000	-----	=ΔP/ΔK	-----	6.7467	=ΔW/ΔL	-----
$g_\alpha(t)$	α(t)=α(0)(1+gα)^t	$s_{SP/P}(t)$	$s_{SP/Y}(t)$	L(t)	Y(t)	W(t)	P(t)	ΔP(t)	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$
0.000000	0.080000	0.413223	0.033058	25.2500	189.394	174.242	15.1515	0.4848	284.091	9.0909	0.053333	5.5758	6.9007	22.3030	0.00239
0.000000	0.080000	0.413223	0.033058	25.5025	195.655	180.003	15.6524	0.5009	293.482	9.3914	0.053333	5.7601	7.0582	22.8122	0.00234
0.000000	0.080000	0.413223	0.033058	25.7575	202.123	185.953	16.1698	0.5174	303.184	9.7019	0.053333	5.9505	7.2194	23.3330	0.00229

n	α^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	L^0	Y^0	W^0	P^0	ΔP^0	K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$
0.01	0.08	1.000000	0.080000	25	183.333	168.667	14.6667	-----	275.000	-----	=ΔP/ΔK	-----	6.7467	=ΔW/ΔL	-----
$g_\alpha(t)$	α(t)=α(0)(1+gα)^t	$s_{SP/P}(t)$	$s_{SP/Y}(t)$	L(t)	Y(t)	W(t)	P(t)	ΔP(t)	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$
-0.020000	0.078400	1.004380	0.078743	25.2500	197.770	182.264	15.5051	0.8385	283.056	8.0563	0.104076	13.5978	7.2184	54.3913	0.00191
-0.020000	0.076832	0.928740	0.071357	25.5025	211.882	195.603	16.2793	0.7742	291.846	8.7900	0.088074	13.3381	7.6699	52.8240	0.00167
-0.020000	0.075295	0.859348	0.064705	25.7575	225.592	208.606	16.9860	0.7067	301.377	9.5310	0.074147	13.0031	8.0988	50.9875	0.00145
-0.020000	0.073789	0.795601	0.058707	26.0151	238.835	221.212	17.6235	0.6375	311.654	10.2762	0.062040	12.6063	8.5032	48.9421	0.00127
-0.020000	0.072314	0.736968	0.053293	26.2753	251.564	233.372	18.1915	0.5680	322.676	11.0230	0.051525	12.1603	8.8818	46.7431	0.00110
-0.020000	0.070867	0.682978	0.048401	26.5380	263.740	245.049	18.6905	0.4990	334.446	11.7691	0.042403	11.6769	9.2339	44.4405	0.00095
-0.020000	0.069450	0.633214	0.043977	26.8034	275.338	256.216	19.1222	0.4317	346.958	12.5128	0.034501	11.1667	9.5591	42.0782	0.00082
-0.020000	0.068061	0.587302	0.039972	27.0714	286.344	266.855	19.4889	0.3666	360.211	13.2524	0.027665	10.6393	9.8574	39.6938	0.00070
-0.020000	0.066700	0.544909	0.036345	27.3421	296.751	276.958	19.7932	0.3044	374.197	13.9867	0.021762	10.1029	10.1293	37.3193	0.00058
-0.020000	**0.065366**	**0.505736**	**0.033058**	**27.6156**	**306.561**	286.522	**20.0386**	**0.2454**	**388.912**	**14.7149**	**0.016675**	**9.5646**	**10.3754**	**34.9811**	**0.00048**
-0.020000	0.064059	0.469514	0.030076	27.8917	315.781	295.553	20.2285	0.1899	404.349	15.4364	0.012300	9.0304	10.5964	32.7003	0.00038
-0.020000	0.062777	0.436000	0.027371	28.1706	324.425	304.058	20.3665	0.1380	420.499	16.1507	0.008546	8.5052	10.7934	30.4936	0.00028
-0.020000	0.061522	0.404974	0.024915	28.4523	332.508	312.051	20.4565	0.0899	437.357	16.8577	0.005336	7.9930	10.9675	28.3735	0.00019
-0.020000	0.060291	0.376236	0.022684	28.7369	340.050	319.548	20.5021	0.0456	454.914	17.5573	0.002598	7.4969	11.1198	26.3490	0.00010
-0.020000	0.059086	0.349606	0.020657	29.0242	347.074	326.567	20.5071	0.0050	473.164	18.2496	0.000274	7.0193	11.2515	24.4261	0.00001
-0.020000	0.057904	0.324918	0.018814	29.3145	353.604	333.129	20.4750	-0.0320	492.099	18.9351	-0.001692	6.5619	11.3640	22.6083	(0.00007)
-0.020000	0.056746	0.302022	0.017138	29.6076	359.664	339.255	20.4094	-0.0656	511.713	19.6140	-0.003345	6.1258	11.4584	20.8970	(0.00016)
-0.020000	0.055611	0.280781	0.015614	29.9037	365.280	344.967	20.3135	-0.0959	532.000	20.2868	-0.004726	5.7118	11.5359	19.2918	(0.00024)
-0.020000	0.054499	0.261068	0.014228	30.2027	370.478	350.287	20.1905	-0.1230	552.954	20.9540	-0.005872	5.3202	11.5979	17.7911	(0.00033)
-0.020000	0.053409	0.242769	0.012966	30.5048	375.281	355.238	20.0433	-0.1473	574.570	21.6162	-0.006812	4.9509	11.6453	16.3921	(0.00042)
-0.020000	0.052340	0.225777	0.011817	30.8098	379.716	359.841	19.8745	-0.1687	596.844	22.2741	-0.007576	4.6036	11.6794	15.0913	(0.00050)
-0.020000	0.051294	0.209996	0.010771	31.1179	383.806	364.119	19.6868	-0.1877	619.772	22.9282	-0.008186	4.2778	11.7013	13.8845	(0.00059)
-0.020000	0.050268	0.195336	0.009819	31.4291	387.575	368.092	19.4825	-0.2043	643.352	23.5794	-0.008664	3.9729	11.7118	12.7673	(0.00068)
-0.020000	0.049262	0.1817	0.008952	31.7434	391.044	371.780	19.2638	-0.2187	667.580	24.2282	-0.009028	3.6882	11.7121	11.7349	(0.00077)
-0.020000	0.048277	0.1691	0.008162	32.0608	394.236	375.203	19.0326	-0.2312	692.455	24.8753	-0.009294	3.4227	11.7029	10.7824	(0.00086)
-0.020000	0.047312	0.1573	0.007442	32.3814	397.169	378.379	18.7907	-0.2419	717.977	25.5215	-0.009476	3.1756	11.6851	9.9049	(0.00096)

KMalfa adjusted with sigm(A6-2)

A6-2-4(3) $\Delta\Omega(t)=((\Omega(2)(1+g_Y(2)-\Omega(1))/g_Y(2)$ $\Delta y(t)=((y(2)(1+n)-y(1))/n$ $\Delta(r/w)(t)=((r/w)(2)(1+g_{WK}(2)-(r/w)(1))/g_{WK}(2)$ Elasticity of substitution, σ $\sigma_r=\Delta r/r$

$'g_K(2)$ $\Delta k(t)=((k(2)(1+n)-k(1))/n$ where, $g_{WK}=((W*K)(2)-(W*K)(1))/(W*K)(1)$ $\sigma=(\Delta k/k)/(\Delta(r/w)(t)/(r/w)(t))$ 1

$(W*K)^0$	1/MPK	MPK	MPL	(A)	Marginal rate	$(r/w)^0$	(B)=$\Delta(r/w)(t)/(r/w)(t)$	$\sigma_\alpha=\sigma_k/\sigma_y$
46383	=ΔK/ΔY	=ΔY/ΔK	=ΔY/ΔL	$\sigma_k=\sigma_\Omega*\sigma_y$	=ΔK/ΔL	0.007905	Y=wL+rK is confirmed	1

	$\sigma_y=\Delta y/y$	=Δk/k	Δk	Δ(r/w)(t)	r/w(t)	Δ(r/w)(t)/(r/w)(t)	σ(t)=(A)/(B)	Y=wL+rK	$p_w=(w/MPL)/(1-\alpha)$	$p_r=(r/MPK)/\alpha$	(W*K)(t)	$g_{WK}(t)$	ΔΩ(t)	$\sigma_\Omega=\Delta\Omega/\Omega$	=1/ΔΩ(t)	Δy
24	3.23200	3.23200	36.3636	0.005103	0.007729	0.660318	4.89461	189.394	0.30941	1.00000	49501	0.067209	1.500000	1.000000	0.666667	24.24
59	3.23200	3.23200	37.1938	0.004989	0.007556	0.660318	4.89461	195.655	0.30941	1.00000	52828	0.067209	1.500000	1.000000	0.666667	24.79
19	3.23200	3.23200	38.0429	0.004878	0.007388	0.660318	4.89461	202.123	0.30941	1.00000	56378	0.067209	1.500000	1.000000	0.666667	25.36

$(W*K)^0$	1/MPK	MPK	MPL	(A)	Marginal rate	$(r/w)^0$	(B)=$\Delta(r/w)(t)/(r/w)(t)$
46383	=ΔK/ΔY	=ΔY/ΔK	=ΔY/ΔL	$\sigma_k=\sigma_\Omega*\sigma_y$	=ΔK/ΔL	0.007905	Y=wL+rK is confirmed.

(W*K)(t)	$g_{WK}(t)$	ΔΩ(t)	$\sigma_\Omega=\Delta\Omega/\Omega$	=1/ΔΩ(t)	Δy	$\sigma_y=\Delta y/y$	=Δk/k	Δk	Δ(r/w)(t)	r/w(t)	Δ(r/w)(t)/(r/w)(t)	σ(t)=(A)/(B)	Y=wL+rK	$p_w=(w/MPL)/(1-\alpha)$	$p_r=(r/MPK)/\alpha$
51591	0.112277	0.558062	0.389914	1.791917	57.7452	7.37254	2.87466	32.2254	0.004769	0.007589	0.628497	4.57386	197.770	0.13564	0.38991
57086	0.106506	0.622865	0.452203	1.605483	55.8900	6.72703	3.04199	34.8120	0.004306	0.007273	0.592029	5.13823	211.882	0.14865	0.45220
62869	0.101306	0.695195	0.520378	1.438446	53.7586	6.13803	3.19410	37.3727	0.003865	0.006959	0.555447	5.75050	225.592	0.16292	0.52038
68941	0.096589	0.775923	0.594628	1.288788	51.4172	5.60061	3.33028	39.8958	0.003452	0.006650	0.519042	6.41620	238.835	0.17855	0.59463
75304	0.092285	0.866025	0.675167	1.154701	48.9263	5.11024	3.45027	42.3714	0.003066	0.006347	0.483061	7.14251	251.564	0.19569	0.67517
81956	0.088334	0.966591	0.762242	1.034564	46.3398	4.66281	3.55418	44.7917	0.002710	0.006052	0.447698	7.93880	263.740	0.21446	0.76224
88896	0.084688	1.078835	0.856138	0.926926	43.7049	4.25455	3.64248	47.1503	0.002382	0.005766	0.413103	8.81737	275.338	0.23504	0.85614
96124	0.081307	1.204112	0.957190	0.830487	41.0616	3.88203	3.71585	49.4428	0.002082	0.005489	0.379384	9.79443	286.344	0.25760	0.95719
103637	0.078158	1.343938	1.065788	0.744082	38.4437	3.54214	3.77517	51.6660	0.001810	0.005222	0.346615	10.89153	296.751	0.28232	1.06579
111432	**0.075216**	**1.500000**	**1.182379**	**0.666667**	**35.8785**	**3.23200**	**3.82145**	**53.8178**	**0.001564**	**0.004966**	**0.314842**	**12.13768**	**306.561**	**0.30941**	**1.18238**
119506	0.072459	1.674185	1.307476	0.597306	33.3879	2.94902	3.85577	55.8975	0.001341	0.004721	0.284087	13.57250	315.781	0.33910	1.30748
127856	0.069869	1.868596	1.441663	0.535161	30.9885	2.69081	3.87924	57.9050	0.001141	0.004487	0.254357	15.25115	324.425	0.37164	1.44166
136478	0.067431	2.085584	1.585597	0.479482	28.6928	2.45521	3.89298	59.8412	0.000962	0.004265	0.225647	17.25253	332.508	0.40730	1.58560
145367	0.065133	2.327768	1.740015	0.429596	26.5093	2.24024	3.89806	61.7076	0.000802	0.004053	0.197941	19.69307	340.050	0.44638	1.74001
154520	0.062964	2.598076	1.905736	0.384900	24.4435	2.04410	3.89551	63.5061	0.000660	0.003852	0.171218	22.75173	347.074	0.48921	1.90574
163933	0.060916	2.899773	2.083670	0.344855	22.50	1.86512	3.88630	65.2389	0.000533	0.003661	0.145455	26.71819	353.604	0.53616	2.08367
173601	0.058980	3.236504	2.274821	0.308975	20.67	1.70182	3.87133	66.9089	0.000420	0.003481	0.120626	32.09371	359.664	0.58761	2.27482
183522	0.057149	3.612337	2.480294	0.276829	18.97	1.55281	3.85143	68.5187	0.000320	0.003310	0.096703	39.82730	365.280	0.64399	2.48029
193693	0.055417	4.031813	2.701304	0.248027	17.38	1.41685	3.82736	70.0715	0.000232	0.003148	0.073661	51.95923	370.478	0.70579	2.70130
204109	0.053778	4.500000	2.939181	0.222222	15.90	1.29280	3.79977	71.570	0.000154	0.002996	0.051472	73.82285	375.281	0.77351	2.93918
214769	0.052228	5.022554	3.195381	0.199102	14.54	1.17961	3.76929	73.018	0.000086	0.002851	0.030110	125.18461	379.716	0.84774	3.19538
225671	0.050760	5.605789	3.471494	0.178387	13.28	1.07632	3.73646	74.419	0.000026	0.002715	0.009551	391.21555	383.806	0.92909	3.47149
236813	0.049371	6.256751	3.769258	0.159827	12.11	0.98209	3.70173	75.774	-0.000026	0.002586	-0.010230	(361.864)	387.575	1.01824	3.76926
248193	0.048056	6.983305	4.090568	0.143199	11.04	0.89610	3.66555	77.088	-0.000072	0.002464	-0.029255	(125.296)	391.044	1.11595	4.09057
259811	0.046811	7.794229	4.437490	0.128300	10.05	0.81764	3.62826	78.364	-0.000112	0.002349	-0.047548	(76.307)	394.236	1.22303	4.43749
271667	0.045632	8.699319	4.812278	0.114952	9.15	0.74605	3.59019	79.604	-0.000146	0.002240	-0.065131	(55.123)	397.169	1.34039	4.81228

KMpercapita s0p<sp & s0<s(A6-3)

Appendix 6-3-1 Case study of the Kamiryo Model by gamma, $Y=S_P+S_D+S_W+C_D+C_W$: both $s_{S/Y}$ and $s_{SP/Y}$ are variables (1) $g_Y(t)=s_{SP/Y}(t)/(1-s_{SP/Y}(t))$ $I/Y^0(t)=s_{S/Y}(t)(1+g_Y(t))$ $g_K(t)=(I/Y^0)(t)/\Omega(t-1)$

1 Balanced growth-state: $g^*_Y=g^*_{KP}=g_Y=g_{KP}$ Ω is constant and $s^*_{SP/Y}$ is not equal to n under $\lambda=0$ **Starting with a given capital-output ratio Ω^0: $s_P=s_{SP/P}$ is derived using Ω^0**

gamma	$L^0=$	n	Ω^0	α	k^0	$s^*_{SP/P}$	$s^*_{SP/Y}$	$s^*_{SWD/WD}$	$s^*_{SWD/Y}$	$s^*_{S/Y}=s^*_{SP/Y}$	Ω^0	variables	y^0	r^0
-0.5	25	0.01	1.5	0.08	11	1.00000	0.08000	0.04348	0.04000	0.12			7.333333	0.053333

$\theta=S/S_P=\Omega=K/Y$	time	$g^*_Y(t)$	$g^*_K(t)$	$g^*_k(t)$	$g^*_y(t)$	$g^*_\Omega(t)$	$\Omega^*(t)$	$c^*_{D/Y}=\alpha-s^*_{S/Y}$	$r^*(t)$	$k^*(t)$	$y^*(t)$	$I/Y^{0*}(t)$	$A^*(t)$	$\lambda^*(t)$
1.5	1	0.086957	0.086957	0.076195	0.076195	0.000000	1.500000	-0.040000	0.053333	11.838140	7.892094	0.130435	0.584158	-----
	2	0.086957	0.086957	0.076195	0.076195	0.000000	1.500000	-0.040000	0.053333	12.740142	8.493428	0.130435	0.584158	0.000000
	3	0.086957	0.086957	0.076195	0.076195	0.000000	1.500000	-0.040000	0.053333	13.710872	9.140581	0.130435	0.584158	0.000000

from DRC to IRC

$a=s^*_{S/Y}/s^0_{S/Y}$	$g_{s/Y}=a^{\wedge}(1/10)-1$	$\theta^*=s^*_{S/Y}/s^*_{SP/Y}$	$\Psi^*=\Omega^0/\theta^*$	$A(t)=g_y(t)/(I/Y^0)$
3	0.116123	1.500000	1.000000	$\lambda=(A(t)-A(t-1))/A(t-1)$

2 Unbalanced growth-state Ω, $s_{SP/Y}$, and $s_{S/Y}$ are variables, where saving differs from profit

$b=s^*_{SP/Y}/s^0_{SP/Y}$	$g_{s/Y}=b^{\wedge}(1/10)-1$	$L^0=$	n	Ω^0	α	k^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	$s^0_{SWD/WD}$	$s^0_{SWD/Y}$	$s^0_{S/Y}$	$\theta^0=s^0_{S/Y}/s^0_{SP/Y}$	$\Psi^0=\Omega^0/\theta^0$	y^0	r^0
3.333333	0.127945	25	0.01	1.5	0.08	11	**0.3**	0.024000	0.016393	0.016000	**0.04**	1.666667	0.900000	7.333333	0.053333

$\theta(t)=s_{S/Y}(t)/s_{SP/Y}(t)$	$\Psi(t)=\Omega^0/\theta(t)$	time	$g_Y(t)=s_{SP/Y}(t)/(1-s_{SP/Y}$	$g_K(t)$	$g_k(t)$	$g_y(t)$	$g_\Omega(t)$	$\Omega(t)$	$s_{S/Y}(t)$	r(t)	k(t)	y(t)	$I/Y^0(t)$	A(t)	$\lambda(t)$
1.649199	0.909533	1	0.027824	0.030591	0.020388	0.017647	0.002693	1.504039	0.044645	0.053190	11.2243	7.4627	0.045887	0.384583	-----
1.631914	0.919166	2	0.031496	0.034174	0.023934	0.021283	0.002596	1.507943	0.049829	0.053052	11.4929	7.6216	0.051399	0.414079	0.076696
1.614810	0.928902	3	0.035669	0.038197	0.027918	0.025415	0.002441	1.511624	0.055616	0.052923	11.8138	7.8153	0.057599	0.441242	0.065599
1.597886	0.938740	4	0.040418	0.042724	0.032400	0.030116	0.002217	1.514975	0.062074	0.052806	12.1965	8.0507	0.064583	0.466323	0.056842
1.581139	0.948683	5	0.045826	0.047827	0.037453	0.035471	0.001914	1.517874	0.069282	0.052705	12.6533	8.3362	0.072457	0.489547	0.049801
1.564567	0.958732	6	0.051994	0.053593	0.043162	0.041578	0.001520	1.520182	0.077327	0.052625	13.1995	8.6828	0.081348	0.511114	0.044055
1.548169	0.968886	7	0.059039	0.060126	0.049630	0.048553	0.001026	1.521742	0.086307	0.052571	13.8546	9.1044	0.091402	0.531206	0.039309
1.531944	0.979148	8	0.067099	0.067549	0.056979	0.056534	0.000422	1.522384	0.096329	0.052549	14.6440	9.6191	0.102793	0.549982	0.035348
1.515888	0.989519	9	0.076340	0.076014	0.065361	0.065683	-0.000303	1.521923	0.107515	0.052565	15.6011	10.2509	0.115723	0.567590	0.032015
1.500000	**1.000000**	**10**	**0.086957**	**0.085704**	**0.074954**	**0.076195**	**-0.001152**	**1.520169**	**0.120000**	**0.052626**	**16.7705**	**11.0320**	**0.130435**	**0.584158**	**0.029191**
1.484279	1.010592	11	0.099186	0.096844	0.085984	0.088303	-0.002130	1.516931	0.133935	0.052738	18.2125	12.0061	0.147219	0.599804	0.026783
1.468723	1.021296	12	0.113314	0.109713	0.098726	0.102291	-0.003235	1.512024	0.149488	0.052909	20.0105	13.2343	0.166427	0.614631	0.024720
1.453329	1.032113	13	0.129692	0.124658	0.113522	0.118507	-0.004456	1.505286	0.166847	0.053146	22.2822	14.8026	0.188485	0.628733	0.022945
1.438097	1.043045	14	0.148754	0.142114	0.130806	0.137380	-0.005780	1.496585	0.186221	0.053455	25.1968	16.8362	0.213923	0.642195	0.021411
1.423025	1.054093	15	0.171042	0.162635	0.151123	0.159447	-0.007179	1.485841	0.207846	0.053842	29.0046	19.5207	0.243396	0.655092	0.020082
1.408111	1.065257	16	0.197242	0.186923	0.175172	0.185388	-0.008619	1.473035	0.231982	0.054310	34.0854	23.1396	0.277738	0.667491	0.018928
1.393353	1.076540	17	0.228238	0.215891	0.203853	0.216077	-0.010052	1.458228	0.258920	0.054861	41.0338	28.1395	0.318016	0.679454	0.017922
1.378749	1.087943	18	0.265184	0.250730	0.238347	0.252657	-0.011424	1.441569	0.288987	0.055495	50.8141	35.2492	0.365622	0.691034	0.017043
1.364299	1.099466	19	0.309617	0.293021	0.280219	0.296651	-0.012672	1.423301	0.322545	0.056207	65.0532	45.7059	0.422411	0.702281	0.016275
1.350000	1.111111	20	0.363636	0.344909	0.331593	0.350135	-0.013734	1.403754	0.360000	0.056990	86.6244	61.7091	0.490909	0.713238	0.015602
1.335851	1.122880	21	0.430176	0.409367	0.395413	0.416016	-0.014550	1.383330	0.401804	0.057831	120.8768	87.3810	0.574651	0.723945	0.015012
1.321850	1.134773	22	0.513476	0.490655	0.475896	0.498491	-0.015078	1.362472	0.448463	0.058717	178.4016	130.9397	0.678738	0.734438	0.014494
1.307996	1.146792	23	0.619898	0.595112	0.579319	0.603859	-0.015301	1.341625	0.500540	0.059629	281.7530	210.0087	0.810824	0.744748	0.014038
1.294288	1.158939	24	0.759444	0.732648	0.715493	0.742024	-0.015230	1.321192	0.558664	0.060551	483.3452	365.8401	0.982939	0.754903	0.013636
1.280722	1.171214	25	0.948803	0.919740	0.900732	0.929508	-0.014913	1.301489	0.623538	0.061468	918.7100	705.8914	1.215153	0.764931	0.013283
1.267300	1.183619	26	1.218064	1.186066	1.164421	1.196103	-0.014426	1.282714	0.695946	0.062368	1988.4756	1550.2101	1.543652	0.774853	0.012971
1.254017	1.196156	27	1.627555	1.591144	1.565489	1.601540	-0.013857	1.264939	0.776761	0.063244	5101.4125	4032.9328	2.040982	0.784691	0.012696

KMpercapita s0p<sp & s0<s(A6-3)

A6-3-1 (2) Relationships among saving, profit, undistributed profit, dividends, saved dividends, consumed dividends, saved wages, and consumed wages: using ratios

Starting with a given retention ratio: $s_P=s_{SP/P}$

$\gamma(t)=(1/s_P)(t)-\Omega(t)$ $c_{D/Y}(t)=\gamma(t)*s_{SP/Y}(t)$ $s_{WD/WD}(t)=s_{WD/Y}(t)/(1-s_{SP/Y}(t))$

gamma given	s^0	c^0	Ω^0	θ^0	γ^0	$c_{D/Y}{}^0$	$c_{W/Y}{}^0$
-0.5	0.12	0.88000	1.50000	1.50000	-0.5	-0.04000	0.92000

$s_{SP/Y}{}^*(t)$	$s^*_P(t)=s^*_{SP/P}(t)$	$1-s^*_P(t)$	$s^*(t)=s^*_{S/Y}(t)$	$c^*(t)=1-s^*(t)$	$\Omega^*(t)$	$\theta^*(t)$	$\Psi^*(t)$	$\mu^*(t)=(S/P)^*(t)$	$(1/s_P)^*(t)=\Omega+\gamma$	$\gamma^*(t)=(1/s_P)(t)-\Omega(t)$	$c^*_{D/Y}(t)=\gamma(t)*s_S$	$c^*_{W/Y}(t)$	$s^*_{WD/Y}(t)$	$s^*_{WD/WD}(t)$	$(\Omega+\gamma)/\Omega$
0.08000	1.00000	0.00000	0.12000	0.88000	1.50000	1.50000	1.00000	1.50000	1.00000	-0.50000	-0.04000	0.92000	0.04000	0.04348	0.66667
0.08000	1.00000	0.00000	0.12000	0.88000	1.50000	1.50000	1.00000	1.50000	1.00000	-0.50000	-0.04000	0.92000	0.04000	0.04348	0.66667
0.08000	1.00000	0.00000	0.12000	0.88000	1.50000	1.50000	1.00000	1.50000	1.00000	-0.50000	-0.04000	0.92000	0.04000	0.04348	0.66667

$c^*_{D/D}=c^*_{D/Y}/(\alpha-s^*_{SP/Y})$

#DIV/0! : Dividends are not always saved.

$\gamma(t)=(1/s_P)(t)-\Omega(t)$ $c_{D/Y}(t)=\gamma(t)*s_{SP/Y}(t)$

from DRC to IRC

#DIV/0!	$s_P{}^0$	s^0	c^0	Ω^0	θ^0	$1/s_P{}^0$	γ^0	$c_{D/Y}{}^0$	$c_{W/Y}{}^0$
#DIV/0!	0.30000	0.04	0.96000	1.50000	1.66667	3.33333	1.83333	0.044	0.91600

$s_{SP/Y}(t)$	$s_P(t)=s_{SP/P}(t)$	$1-s_P(t)$	$s(t)=s_{S/Y}(t)$	$c(t)=1-s(t)$	$\Omega(t)$	$\theta(t)$	$\Psi(t)$	$\mu(t)=(S/P)(t)$	$(1/s_P)(t)=\Omega(t)+\gamma(t)$	**gamma (t)**	$\mathbf{c_{D/Y}(t)}$	$c_{W/Y}(t)$	$s_{WD/Y}(t)$	$s_{WD/WD}(t)$	$(\Omega+\gamma)/\Omega$
0.02707	0.33838	0.66162	0.04464	0.95536	1.50404	1.64920	0.91198	0.55806	2.95523	1.45119	0.03928	0.91607	0.01757	0.01806	1.96486
0.03053	0.38168	0.61832	0.04983	0.95017	1.50794	1.63191	0.92403	0.62287	2.62001	1.11207	0.03396	0.91621	0.01930	0.01990	1.73747
0.03444	0.43051	0.56949	0.05562	0.94438	1.51162	1.61481	0.93610	0.69519	2.32282	0.81119	0.02794	0.91645	0.02117	0.02193	1.53664
0.03885	0.48559	0.51441	0.06207	0.93793	1.51498	1.59789	0.94811	0.77592	2.05934	0.54436	0.02115	0.91678	0.02323	0.02417	1.35932
0.04382	0.54772	0.45228	0.06928	0.93072	1.51787	1.58114	0.95999	0.86603	1.82574	0.30787	0.01349	0.91723	0.02546	0.02663	1.20283
0.04942	0.61780	0.38220	0.07733	0.92267	1.52018	1.56457	0.97163	0.96659	1.61864	0.09846	0.00487	0.91781	0.02790	0.02935	1.06477
0.05575	0.69685	0.30315	0.08631	0.91369	1.52174	1.54817	0.98293	1.07883	1.43504	-0.08670	-0.00483	0.91853	0.03056	0.03236	0.94302
0.06288	0.78600	0.21400	0.09633	0.90367	1.52238	1.53194	0.99376	1.20411	1.27226	-0.25012	-0.01573	0.91940	0.03345	0.03569	0.83570
0.07093	0.88657	0.11343	0.10752	0.89248	1.52192	1.51589	1.00398	1.34394	1.12794	-0.39398	-0.02794	0.92043	0.03659	0.03938	0.74113
0.08000	**1.00000**	**0.00000**	**0.12000**	**0.88000**	**1.52017**	**1.50000**	**1.01345**	**1.50000**	**1.00000**	**-0.52017**	**-0.04161**	**0.92161**	**0.04000**	**0.04348**	**0.65782**
0.09024	1.12794	-0.12794	0.13393	0.86607	1.51693	1.48428	1.02200	1.67418	0.88657	-0.63036	-0.05688	0.92295	0.04370	0.04803	0.58445
0.10178	1.27226	-0.27226	0.14949	0.85051	1.51202	1.46872	1.02948	1.86860	0.78600	-0.72602	-0.07389	0.92441	0.04771	0.05311	0.51984
0.11480	1.43504	-0.43504	0.16685	0.83315	1.50529	1.45333	1.03575	2.08558	0.69685	-0.80844	-0.09281	0.92596	0.05204	0.05879	0.46293
0.12949	1.61864	-0.61864	0.18622	0.81378	1.49659	1.43810	1.04067	2.32777	0.61780	-0.87878	-0.11380	0.92757	0.05673	0.06517	0.41281
0.14606	1.82574	-0.82574	0.20785	0.79215	1.48584	1.42302	1.04414	2.59808	0.54772	-0.93812	-0.13702	0.92917	0.06179	0.07235	0.36863
0.16475	2.05934	-1.05934	0.23198	0.76802	1.47304	1.40811	1.04611	2.89977	0.48559	-0.98744	-0.16268	0.93070	0.06723	0.08050	0.32965
0.18583	2.32282	-1.32282	0.25892	0.74108	1.45823	1.39335	1.04656	3.23650	0.43051	-1.02772	-0.19098	0.93206	0.07309	0.08978	0.29523
0.20960	2.62001	-1.62001	0.28899	0.71101	1.44157	1.37875	1.04556	3.61234	0.38168	-1.05989	-0.22215	0.93317	0.07939	0.10044	0.26477
0.23642	2.95523	-1.95523	0.32255	0.67745	1.42330	1.36430	1.04325	4.03181	0.33838	-1.08492	-0.25649	0.93395	0.08613	0.11279	0.23775
0.26667	3.33333	-2.33333	0.36000	0.64000	1.40375	1.35000	1.03982	4.50000	0.30000	-1.10375	-0.29433	0.93433	0.09333	0.12727	0.21371
0.30079	3.75982	-2.75982	0.40180	0.59820	1.38333	1.33585	1.03554	5.02255	0.26597	-1.11736	-0.33609	0.93428	0.10102	0.14447	0.19227
0.33927	4.24087	-3.24087	0.44846	0.55154	1.36247	1.32185	1.03073	5.60579	0.23580	-1.12667	-0.38224	0.93378	0.10919	0.16526	0.17307
0.38268	4.78346	-3.78346	0.50054	0.49946	1.34163	1.30800	1.02571	6.25675	0.20905	-1.13257	-0.43341	0.93287	0.11786	0.19093	0.15582
0.43164	5.39548	-4.39548	0.55866	0.44134	1.32119	1.29429	1.02079	6.98331	0.18534	-1.13585	-0.49028	0.93161	0.12703	0.22349	0.14028
0.48686	6.08581	-5.08581	0.62354	0.37646	1.30149	1.28072	1.01621	7.79423	0.16432	-1.13717	-0.55365	0.93011	0.13667	0.26635	0.12625
0.54916	6.86445	-5.86445	0.69595	0.30405	1.28271	1.26730	1.01216	8.69932	0.14568	-1.13704	-0.62441	0.92846	0.14679	0.32559	0.11357
0.61942	7.74273	-6.74273	0.77676	0.22324	1.26494	1.25402	1.00871	9.70951	0.12915	-1.13579	-0.70353	0.92676	0.15734	0.41343	0.10210

KMpercapita s0p<sp & s0<s(A6-3)

A6-3-1(3) Structure of the elasticity of substitution

$S_D^{*0}=D^{*0}-C_D^{*0}$	$S_W^{*0}=S_{WD}^{*0}-S_D$	$S_W^{*0}=W^{*0}-C_W^{*0}$	$A^{*0}=C_D^{*0}+S_{WD}$	$S_W^{*0}=A^{*0}-D^{*0}$
7.33333	0.0000	0.00000	0.00000	0.00000

L^0	Y^0	W^0	S^0	S_{WD}^0	P^0	S_P^0	D^0	C_D^0	$C_D^0+S_{WD}^0$	$C_W^0=C^0-C_D^0$	C^0	$c_{C/L}^0=C^0/L^0$	$\Delta c_{C/L}^0$	$\sigma c_{C/L}^0=\Delta c_{C/L}^0/c_{C/L}^0$	$c_{C/Y}^0=C^0/Y^0$
25	183.3333	168.6667	22.0000	7.3333	14.6667	14.6667	0.0000	-7.3333	0.0000	168.6667	161.3333	6.4533	-----	-----	0.8800
$L^*(t)$	$Y^*(t)$	$W^*(t)$	$S^*(t)$	$S^*_{WD}(t)$	$P^*(t)$	$S_P^*(t)$	$D^*(t)$	$C_D^*(t)$	$C_{D(t)}+S_{WD(t)}$	$C_W(t)=C(t)-C_D$	$C^*(t)=c^*(t)*Y^*(t)$	$c_{C/L}^*(t)=C^*(t)/L^*(t)$	$\Delta c_{C/L}^*(t)$	$\sigma c_{C/L}^*(t)=\Delta c^*(t)/c^*$	$c_{C/Y}^*(t)=C^*(t)/Y^*(t)$
25.2500	199.2754	183.3333	23.9130	7.9710	15.9420	15.9420	0.0000	-7.9710	0.0000	183.3333	175.3623	6.9450	56.1159	8.0800	0.8800
25.5025	216.6037	199.2754	25.9924	8.6641	17.3283	17.3283	0.0000	-8.6641	0.0000	199.2754	190.6112	7.4742	60.3917	8.0800	0.8800
25.7575	235.4388	216.6037	28.2527	9.4176	18.8351	18.8351	0.0000	-9.4176	0.0000	216.6037	207.1861	8.0437	64.9932	8.0800	0.8800

$S_D^0=D^0-C_D^0$	$S_W^0=S_{WD}^0-S_D^0$	$S_W^0=W^0-C_W^0$	$A=C_D^0+S_{WD}^0$	$S_W^0=A^0-D^0$
2.9333	0.0000	0.00000	10.26667	0.00000

Marginal rate of per capita consumption: $\Delta c_{C/L}(2)=((c_{C/L}(2)(1+n)-c_{C/L}(1))/n$

$c_{C/L}(t)=C(t)/L(t)=c_{C/Y}(t)*y(t)$ $\sigma c_{C/L}^0=\Delta c_{C/L}^0/c_{C/L}^0$

L^0	Y^0	W^0	S^0	S_{WD}^0	P^0	S_P^0	D^0	C_D^0	$\gamma=C_D^0/S_P^0$	$C_W^0=C^0-C_D^0$	$C^0=c_{C/D}^0*Y^0$	$c_{C/L}^0=C^0/L^0$	$\Delta c_{C/L}^0$		$c_{C/Y}^0=C^0/Y^0$
25	183.3333	168.6667	7.3333	2.9333	14.6667	4.4000	10.2667	7.3333	10.2667	168.6667	176.0000	7.0400	-----	-----	0.9600
$L(t)$	$Y(t)$	$W(t)$	$S(t)=s_{S/Y}(t)*Y(t)$	$S_{WD}(t)=S(t)-S_P$	$P(t)$	$S_P(t)$	$D(t)$	$C_D(t)=S_P(t)*\gamma$	$\gamma(t)$	$C_W(t)=C(t)-C_D$	$C(t)=c(t)*Y(t)$	$c_{C/L}(t)=C(t)/L(t)$	$\Delta c_{C/L}(t)$	$\sigma c_{C/L}(t)=\Delta c(t)/c(t)$	$c_{C/Y}(t)=C(t)/Y(t)$
25.2500	188.43	173.36	8.41	3.31	15.07	5.10	9.97	6.6621	9.9737	173.36	180.02	7.1296	16.09	2.2564	0.9554
25.5025	194.37	178.82	9.69	3.75	15.55	5.93	9.61	5.8643	9.6146	178.82	184.68	7.2418	18.46	2.5497	0.9502
25.7575	201.30	185.20	11.20	4.26	16.10	6.93	9.17	4.9086	9.1711	185.20	190.11	7.3806	21.26	2.8810	0.9444
26.0151	209.44	192.68	13.00	4.86	16.76	8.14	8.62	3.7544	8.6189	192.68	196.44	7.5509	24.58	3.2552	0.9379
26.2753	219.04	201.51	15.18	5.58	17.52	9.60	7.93	2.3476	7.9252	201.51	203.86	7.7587	28.53	3.6777	0.9307
26.5380	230.42	211.99	17.82	6.43	18.43	11.39	7.05	0.6159	7.0455	211.99	212.61	8.0114	33.28	4.1547	0.9227
26.8034	244.03	224.51	21.06	7.46	19.52	13.60	5.92	-1.5390	5.9183	224.51	222.97	8.3186	39.04	4.6932	0.9137
27.0714	260.40	239.57	25.08	8.71	20.83	16.37	4.46	-4.2521	4.4580	239.57	235.32	8.6925	46.08	5.3012	0.9037
27.3421	280.28	257.86	30.13	10.26	22.42	19.88	2.54	-7.7120	2.5434	257.86	250.15	9.1488	54.78	5.9874	0.8925
27.6156	**304.65**	**280.28**	**36.56**	**12.19**	**24.37**	**24.37**	**0.00**	**-12.1862**	**0.0000**	**280.28**	**268.10**	**9.7081**	**65.64**	**6.7617**	**0.8800**
27.8917	334.87	308.08	44.85	14.63	26.79	30.22	-3.43	-18.0612	-3.4276	308.08	290.02	10.3981	79.39	7.6354	0.8661
28.1706	372.82	342.99	55.73	17.79	29.83	37.95	-8.12	-25.9062	-8.1203	342.99	317.09	11.2559	97.04	8.6209	0.8505
28.4523	421.17	387.48	70.27	21.92	33.69	48.35	-14.66	-36.5771	-14.6580	387.48	350.90	12.3328	120.03	9.7323	0.8332
28.7369	483.82	445.11	90.10	27.45	38.71	62.65	-23.94	-51.3920	-23.9450	445.11	393.72	13.7009	150.51	10.9854	0.8138
29.0242	566.57	521.25	117.76	35.01	45.33	82.75	-37.43	-72.4341	-37.4274	521.25	448.81	15.4634	191.71	12.3976	0.7922
29.3145	678.32	624.06	157.36	45.61	54.27	111.75	-57.49	-103.0930	-57.4859	624.06	520.97	17.7716	248.60	13.9883	0.7680
29.6076	833.14	766.49	215.72	60.90	66.65	154.82	-88.17	-149.0664	-88.1678	766.49	617.43	20.8536	329.05	15.7792	0.7411
29.9037	1054.08	969.75	304.62	83.68	84.33	220.94	-136.61	-220.2889	-136.6096	969.75	749.46	25.0626	445.96	17.7939	0.7110
30.2027	1380.44	1270.01	445.25	118.89	110.44	326.36	-215.93	-334.8192	-215.9261	1270.01	935.19	30.9637	621.07	20.0580	0.6775
30.5048	1882.42	1731.83	677.67	175.69	150.59	501.98	-351.39	-527.0776	-351.3850	1731.83	1204.75	39.4938	892.51	22.5987	0.6400
30.8098	2692.19	2476.82	1081.73	271.96	215.38	809.77	-594.40	-866.3589	-594.3963	2476.82	1610.46	52.2709	1329.98	25.4441	0.5982
31.1179	4074.57	3748.60	1827.29	444.92	325.97	1382.38	-1056.41	-1501.3276	-1056.4097	3748.60	2247.27	72.2180	2066.93	28.6207	0.5515
31.4291	6600.38	6072.35	3303.75	777.94	528.03	2525.81	-1997.78	-2775.7245	-1997.7832	6072.35	3296.63	104.8909	3372.18	32.1494	0.4995
31.7434	11613.00	10683.96	6487.77	1475.15	929.04	5012.62	-4083.58	-5558.7286	-4083.5777	10683.96	5125.23	161.4583	5818.19	36.0353	0.4413
32.0608	22631.44	20820.93	14111.57	3093.13	1810.52	11018.45	-9207.93	#########	-9207.9312	20820.93	8519.87	265.7411	10694.02	40.2423	0.3765
32.3814	50197.98	46182.15	34935.06	7368.52	4015.84	27566.54	-23550.70	#########	#########	46182.15	15262.92	471.3483	21032.07	44.6211	0.3041
32.7052	131897.96	121346.13	102453.19	20753.21	10551.84	81699.98	-71148.14	#########	#########	121346.13	29444.78	900.3081	43796.29	48.6459	0.2232

KMpercapita s0p<sp & s0<s(A6-3)

A6-3-1(4) Marginal rate is measured using the growth rate of the denominator

$\Delta\Omega(2)=((\Omega(2)(1+g_Y(2)-\Omega(1))/g_Y(2)$ $\Delta y(2)=((y(2)(1+n)-y(1))/$

Marginal rate of profit to capital: $\Delta r(2)=((r(2)(1+g_K(2)-r(1))/g_K(2)$ $\Delta k(2)=((k(2)(1+n)-k(1))/$

$\Delta c_{C/Y}{}^0$	$\sigma c_{C/Y}{}^0=\Delta c_{C/Y}{}^0/c_{C/Y}{}^0$	K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$	$(W*K)^0$		1/MPK		MPK	MPL	
-----	-----	275.000	-----	=ΔP/ΔK	-----	6.7467	=ΔW/ΔL	-----	46383		**=ΔK/ΔY**		**=ΔY/ΔK**	**=ΔY/ΔL**	
$\Delta c_{C/Y}(t)$	$\sigma c_{C/Y}(t)=\Delta c(t)/c(t)$	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$	(W*K)(t)	$g_{WK}(t)$	Δ Ω(t)	$\sigma_\Omega=\Delta\Omega/\Omega$	=1/ΔΩ(t)	Δy	$\sigma_y=\Delta y/y$
0.8800	1.0000	298.913	23.9130	0.053333	14.6667	7.2607	58.6667	0.00091	54801	0.181474	1.500000	1.000000	0.666667	63.76812	8.0800
0.8800	1.0000	324.905	25.9924	0.053333	15.9420	7.8140	63.1367	0.00084	64746	0.181474	1.500000	1.000000	0.666667	68.62690	8.0800
0.8800	1.0000	353.158	28.2527	0.053333	17.3283	8.4093	67.9474	0.00078	76495	0.181474	1.500000	1.000000	0.666667	73.85590	8.0800

$\sigma c_{C/L}(t)=\sigma c_{C/Y}(t)*\sigma_y(t)$

$\sigma c_{C/Y}{}^0=\Delta c_{C/Y}{}^0/c_{C/Y}{}^0$

$\Delta c_{C/Y}{}^0$		K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$	$(W*K)^0$		1/MPK		MPK	MPL	
-----	-----	275.000	-----	=ΔP/ΔK	-----	6.7467	=ΔW/ΔL	-----	46383		**=ΔK/ΔY**		**=ΔY/ΔK**	**=ΔY/ΔL**	
$\Delta c_{C/Y}(t)$	$\sigma c_{C/Y}(t)=\Delta c(t)/c(t)$	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$	(W*K)(t)	$g_{WK}(t)$	Δ Ω(t)	$\sigma_\Omega=\Delta\Omega/\Omega$	=1/ΔΩ(t)	Δy	$\sigma_y=\Delta y/y$
0.7884	0.8253	283.41	8.41	0.048508	4.69	6.866	18.772	0.00258	49132	0.059266	1.649199	1.096513	0.606355	20.40	2.7341
0.7856	0.8268	293.10	9.69	0.049022	5.46	7.012	21.624	0.00227	52412	0.066746	1.631914	1.082212	0.612777	23.50	3.0840
0.7822	0.8282	304.29	11.20	0.049541	6.38	7.190	25.011	0.00198	56355	0.075229	1.614810	1.068262	0.619268	27.19	3.4785
0.7781	0.8296	317.29	13.00	0.050066	7.49	7.407	29.060	0.00172	61137	0.084868	1.597886	1.054727	0.625827	31.59	3.9236
0.7734	0.8310	332.47	15.18	0.050596	8.83	7.669	33.941	0.00149	66997	0.095845	1.581139	1.041680	0.632456	36.89	4.4256
0.7679	0.8323	350.29	17.82	0.051132	10.48	7.988	39.876	0.00128	74258	0.108374	1.564567	1.029197	0.639154	43.34	4.9918
0.7616	0.8335	371.35	21.06	0.051674	12.52	8.376	47.161	0.00110	83370	0.122715	1.548169	1.017366	0.645924	51.26	5.6305
0.7543	0.8347	396.43	25.08	0.052221	15.06	8.850	56.203	0.00093	94974	0.139181	1.531944	1.006279	0.652766	61.09	6.3509
0.7460	0.8358	426.57	30.13	0.052774	18.29	9.431	67.558	0.00078	109995	0.158157	1.515888	0.996034	0.659680	73.43	7.1635
0.7364	**0.8368**	**463.13**	**36.56**	**0.053333**	**22.42**	**10.149**	**82.007**	**0.00065**	**129806**	**0.180113**	**1.500000**	**0.986732**	**0.666667**	**89.14**	**8.0800**
0.7256	0.8378	507.98	44.85	0.053898	27.80	11.046	100.668	0.00054	156499	0.205635	1.484279	0.978475	0.673728	109.42	9.1138
0.7133	0.8386	563.71	55.73	0.054469	34.91	12.176	125.163	0.00044	193348	0.235459	1.468723	0.971362	0.680864	136.05	10.2799
0.6993	0.8393	633.98	70.27	0.055046	44.48	13.618	157.907	0.00035	245651	0.270517	1.453329	0.965484	0.688075	171.64	11.5951
0.6835	0.8399	724.08	90.10	0.055629	57.64	15.489	202.579	0.00027	322297	0.312008	1.438097	0.960919	0.695363	220.19	13.0786
0.6657	0.8404	841.84	117.76	0.056218	76.13	17.959	264.931	0.00021	438805	0.361493	1.423025	0.957724	0.702728	287.97	14.7520
0.6457	0.8407	999.20	157.36	0.056814	102.81	21.288	354.227	0.00016	623557	0.421034	1.408111	0.955925	0.710171	385.03	16.6394
0.6231	0.8407	1214.91	215.72	0.057415	142.43	25.888	485.882	0.00012	931222	0.493404	1.393353	0.955511	0.717693	528.13	18.7684
0.5976	0.8405	1519.53	304.62	0.058024	203.26	32.429	686.516	0.00008	1473569	0.582403	1.378749	0.956422	0.725295	746.21	21.1697
0.5691	0.8400	1964.78	445.25	0.058638	300.25	42.049	1004.065	0.00006	2495287	0.693363	1.364299	0.958545	0.732977	1091.38	23.8782
0.5370	0.8391	2642.45	677.67	0.059259	461.82	56.772	1529.068	0.00004	4576272	0.833967	1.350000	0.961707	0.740741	1662.03	26.9333
0.5010	0.8375	3724.19	1081.73	0.059887	744.99	80.391	2442.209	0.00002	9224131	1.015643	1.335851	0.965678	0.748586	2654.58	30.3793
0.4607	0.8352	5551.48	1827.29	0.060521	1271.79	120.464	4127.859	0.00001	20810291	1.256071	1.321850	0.970185	0.756515	4486.80	34.2662
0.4155	0.8318	8855.24	3303.75	0.061162	2323.75	193.208	7467.563	0.00001	53772094	1.583918	1.307996	0.974934	0.764528	8116.92	38.6504
0.3648	0.8266	15343.01	6487.77	0.061810	4611.61	336.573	14673.063	0.00000	163924021	2.048496	1.294288	0.979636	0.772626	15948.98	43.5955
0.3081	0.8184	29454.58	14111.57	0.062465	10136.97	649.420	31934.14	0.00000	613271662	2.741195	1.280722	0.984044	0.780809	34711.02	49.1733
0.2446	0.8045	64389.64	34935.06	0.063126	25361.22	1426.193	79103.51	0.00000	#########	3.848833	1.267300	0.987983	0.789079	85982.07	55.4648
0.1736	0.7776	166842.83	102453.19	0.063795	75163.98	3710.298	232120.79	0.00000	#########	5.808373	1.254017	0.991366	0.797437	252305.21	62.5612

KMpercapita s0p<sp & s0<s(A6-3)

A6-3-1(5) $\Delta(r/w)(2)=((r/w)(2)(1+g_{WK}(2)-(r/w)(1))/g_{WK}(2)$ Elasticity of substitution, $\sigma(t)$ $\sigma_{C/Y}^*(t)=\sigma_{C/L}^*(t)/\sigma_y^*(t)$ $\sigma_\Omega^*(t)=\sigma_k^*(t)/\sigma_y^*(t)$ $\sigma r^*(t)=\Delta r^*(t)/r^*(t)$ $\sigma_\alpha^*(t)=\sigma_\Omega^*(t)*\sigma_r^*(t)$

'n where, $g_{WK}(2)=((W*K)(2)-(W*K)(1))/(W*K)(1)$ $\sigma(t)=(\Delta k/k)/(\Delta(r/w)(t)/(r/w)(t))$ 1.000000 1.000000 1.000000 1.000000

(A): Marginal rate $(r/w)^0$ **(B): $\sigma(r/w)(t)=\Delta(r/w)(t)/(r/w)(t)$**

$\sigma_k=\sigma_\Omega*\sigma_y$ =ΔK/ΔL 0.007905 Y=wL+rK is confirmed. $p_w^*(t)=1/\sigma y^*(t)$ $p_r^*(t)=\sigma_\Omega^*(t)$ $\sigma^*\gamma(t)=\Delta\gamma^*(t)/\gamma^*(t)$ $\sigma\theta^*(t)=\Delta\theta^*(t)/\theta^*(t)$ $\sigma\zeta^*(t)=\Delta\zeta^*(t)/\zeta^*(t)$

=Δk/k	Δk	Δ(r/w)(t)	r/w(t)	Δ(r/w)(t)/(r/w)(t)	σ(t)=(A)/(B)	Y=wL+rK	p_w=(w/MPL)/(1-α)	p_r=(r/MPK)/α	Δγ*(t)		Δθ*(t)		ζ*=C_D*/S*=γ*/θ*	Δζ*(t)	
8.0800	95.6522	0.004261	0.007345	0.580136	13.927765	199.275	0.12376	1.00000	-0.5	1	1.5	1	-0.333333	-0.333333	1
8.0800	102.9404	0.003960	0.006825	0.580136	13.927765	216.604	0.12376	1.00000	-0.5	1	1.5	1	-0.333333	-0.333333	1
8.0800	110.7838	0.003679	0.006342	0.580136	13.927765	235.439	0.12376	1.00000	-0.5	1	1.5	1	-0.333333	-0.333333	1

(A): Marginal rate $(r/w)^0$ **(B): $\sigma(r/w)(t)=\Delta(r/w)(t)/(r/w)(t)$** $p_w(t)=1/\sigma y(t)$ $p_r(t)=\sigma_\Omega(t)$

$\sigma_k=\sigma_\Omega*\sigma_y$ =ΔK/ΔL 0.007905 Y=wL+rK is confirmed. p_w=(w/MPL)/(1-α) $\sigma\gamma(t)=\Delta\gamma(t)/\gamma(t)$ $\sigma\theta(t)=\Delta\theta(t)/\theta(t)$ $\sigma\zeta(t)=\Delta\zeta(t)/\zeta(t)$

=Δk/k	Δk	Δ(r/w)(t)	r/w(t)	Δ(r/w)(t)/(r/w)(t)	σ(t)=(A)/(B)	Y=wL+rK		p_r=(r/MPK)/α	Δγ(t)		Δθ(t)		ζ=C_D/S=γ/θ	Δζ(t)	
2.9980	33.65	0.005082	0.007747	0.656002	4.570136	188.434	0.36575	1.09651	-1.535607	-1.058172	1.512672	0.917216	0.791917	-0.621902	-0.785312
3.3375	38.36	0.004853	0.007566	0.641411	5.203366	194.369	0.32426	1.08221	-1.538461	-1.383425	1.496818	0.917216	0.605483	-0.626921	-1.035406
3.7160	43.90	0.004629	0.007361	0.628893	5.908775	201.302	0.28748	1.06826	-1.540391	-1.898919	1.481130	0.917216	0.438446	-0.632752	-1.443170
4.1383	50.47	0.004408	0.007130	0.618232	6.693801	209.438	0.25487	1.05473	-1.541166	-2.831148	1.465607	0.917216	0.288788	-0.639416	-2.214135
4.6101	58.33	0.004187	0.006872	0.609236	7.566943	219.036	0.22596	1.04168	-1.540534	-5.003884	1.450246	0.917216	0.154701	-0.646921	-4.181761
5.1376	67.81	0.003964	0.006588	0.601733	8.537973	230.425	0.20033	1.02920	-1.538219	-15.62238	1.435047	0.917216	0.034564	-0.655265	-18.95816
5.7283	79.36	0.003738	0.006276	0.595569	9.618183	244.029	0.17760	1.01737	-1.533937	17.691746	1.420006	0.917216	-0.073074	-0.664431	9.092595
6.3908	93.59	0.003507	0.005938	0.590610	10.820661	260.403	0.15746	1.00628	-1.527397	6.106558	1.405124	0.917216	-0.169513	-0.674390	3.978403
7.1351	111.31	0.003270	0.005574	0.586736	12.160598	280.282	0.13960	0.99603	-1.518322	3.853823	1.390397	0.917216	-0.255918	-0.685094	2.677008
7.9728	**133.71**	**0.003027**	**0.005185**	**0.583848**	**13.655606**	**304.654**	**0.12376**	**0.98673**	**-1.506461**	**2.896099**	**1.375824**	**0.917216**	**-0.333333**	**-0.696484**	**2.089451**
8.9176	162.41	0.002778	0.004775	0.581861	15.326039	334.872	0.10972	0.97848	-1.491618	2.366287	1.361405	0.917216	-0.402694	-0.708483	1.759357
9.9855	199.81	0.002523	0.004346	0.580710	17.195275	372.817	0.09728	0.97136	-1.473674	2.029796	1.347136	0.917216	-0.464839	-0.721004	1.551084
11.1949	249.45	0.002265	0.003903	0.580350	19.289908	421.169	0.08624	0.96548	-1.452620	1.796818	1.333017	0.917216	-0.520518	-0.733949	1.410036
12.5675	316.66	0.002004	0.003451	0.580760	21.639772	483.819	0.07646	0.96092	-1.428585	1.625637	1.319046	0.917216	-0.570404	-0.747210	1.309967
14.1283	409.79	0.001745	0.002998	0.581947	24.277684	566.573	0.06779	0.95772	-1.401866	1.494338	1.305222	0.917216	-0.615100	-0.760676	1.236671
15.9060	542.16	0.001490	0.002551	0.583949	27.238745	678.325	0.06010	0.95592	-1.372946	1.390407	1.291542	0.917216	-0.655145	-0.774233	1.181773
17.9334	735.88	0.001244	0.002119	0.586844	30.559032	833.144	0.05328	0.95551	-1.342498	1.306292	1.278006	0.917216	-0.691025	-0.787769	1.140002
20.2472	1028.84	0.001011	0.001711	0.590753	34.273463	1054.080	0.04724	0.95642	-1.311366	1.237264	1.264611	0.917216	-0.723171	-0.801177	1.107866
22.8884	1488.96	0.000796	0.001337	0.595855	38.412648	1380.441	0.04188	0.95855	-1.280520	1.180292	1.251357	0.917216	-0.751973	-0.814355	1.082959
25.9020	2243.74	0.000605	0.001004	0.602391	42.998625	1882.420	0.03713	0.96171	-1.250978	1.133384	1.238242	0.917216	-0.777778	-0.827214	1.063561
29.3366	3546.12	0.000439	0.000719	0.610677	48.039512	2692.191	0.03292	0.96568	-1.223696	1.095168	1.225264	0.917216	-0.800898	-0.839674	1.048416
33.2446	5930.88	0.000303	0.000487	0.621123	53.523317	4074.566	0.02918	0.97019	-1.199447	1.064594	1.212423	0.917216	-0.821613	-0.851668	1.036581
37.6816	10616.90	0.000196	0.000309	0.634249	59.411285	6600.380	0.02587	0.97493	-1.178692	1.040722	1.199716	0.917216	-0.840173	-0.863142	1.027339
42.7077	20642.57	0.000117	0.000180	0.650723	65.631174	11612.998	0.02294	0.97964	-1.161493	1.022574	1.187142	0.917216	-0.856801	-0.874055	1.020138
48.3887	44455.19	0.000064	0.000095	0.671409	72.070404	22631.444	0.02034	0.98404	-1.147490	1.009073	1.174699	0.917216	-0.871700	-0.884378	1.014545
54.7983	108965.04	0.000031	0.000044	0.697461	78.568215	50197.984	0.01803	0.98798	-1.135968	0.999061	1.162388	0.917216	-0.885048	-0.894094	1.010221
62.0211	316395.09	0.000012	0.000017	0.730477	84.904878	131897.96	0.01598	0.99137	-1.126011	0.991395	1.150205	0.917216	-0.897008	-0.903196	1.006899

KMpercapita s0p<sp & s0<s(A6-3)

Appendix 6-3-2 Case study of the Kamiryo Model by gamma, $Y=S_P+S_D+S_W+C_D+C_W$: both $s_{S/Y}$ and $s_{SP/Y}$ are variables (1) $g_Y(t)=s_{SP/Y}(t)/(1-s_{SP/Y}(t))$ $I/Y^0(t)=s_{S/Y}(t)(1+g_Y(t))$ $g_K(t)=(I/Y^0)(t)/\Omega(t-1)$

1 Balanced growth-state: $g^*_Y=g^*_{KP}=g_Y=g_{KP}$ Ω is constant and $s^*_{SP/Y}$ is not equal to n under $\lambda=0$

gamma	$L^0=$	n	Ω^0	α	k^0	$s^*_{SP/P}$	$s^*_{SP/Y}$	$s^*_{SWD/WD}$	$s^*_{SWD/Y}$	$s^*_{S/Y}=s^*_{SP/Y}\,\Omega^0$		variables	y^0	r^0
0	25	0.01	1.5	0.08	11	0.66667	0.05333	0.02817	0.02667	0.08			7.333333	0.053333

$\theta=S/S_P=\Omega=K/Y$	time	$g^*_Y(t)$	$g^*_K(t)$	$g^*_k(t)$	$g^*_y(t)$	$g^*_\Omega(t)$	$\Omega^*(t)$	$c^*_{D/Y}=\alpha-s^*_{S/Y}$	$r^*(t)$	$k^*(t)$	$y^*(t)$	$I/Y^{0*}(t)$	$A^*(t)$	$\lambda^*(t)$
1.5	1	0.056338	0.056338	0.045879	0.045879	0.000000	1.500000	0.000000	0.053333	11.504672	7.669781	0.084507	0.542904	-----
	2	0.056338	0.056338	0.045879	0.045879	0.000000	1.500000	0.000000	0.053333	12.032497	8.021665	0.084507	0.542904	0.000000
	3	0.056338	0.056338	0.045879	0.045879	0.000000	1.500000	0.000000	0.053333	12.584539	8.389693	0.084507	0.542904	0.000000

from DRC to IRC

2 Unbalanced growth-state Ω, $s_{SP/Y}$, and $s_{S/Y}$ are variables, where saving differs from profit

$a=s^*_{S/Y}/s^0_{S/Y}$	$g_{s/Y}=a^{\wedge}(1/10)-1$	$\theta^*=s^*_{S/Y}/s^*_{SP/Y}$	$\Psi^*=\Omega^0/\theta^*$	$A(t)=g_y(t)/(I/Y^0)$
2	0.071773	1.500000	1.000000	$\lambda=(A(t)-A(t-1))/A(t-1)$

$b=s^*_{SP/Y}/s^0_{SP/Y}$	$g_{s/Y}=b^{\wedge}(1/10)-1$	$L^0=$	n	Ω^0	α	k^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	$s^0_{SWD/WD}$	$s^0_{SWD/Y}$	$s^0_{S/Y}$	$\theta^0=s^0_{S/Y}/s^0_{SP/Y}$	$\Psi^0=\Omega^0/\theta^0$	y^0	r^0
2.222222	0.083125	25	0.01	1.5	0.08	11	**0.3**	0.024000	0.016393	0.016000	**0.04**	1.666667	0.900000	7.333333	0.053333

$\theta(t)=s_{S/Y}(t)/s_{SP/Y}(t)$	$\Psi(t)=\Omega^0/\theta(t)$	time	$g_Y(t)=s_{SP/Y}(t)/(1-s_{SP/Y}$	$g_K(t)$	$g_k(t)$	$g_y(t)$	$g_\Omega(t)$	$\Omega(t)$	$s_{S/Y}(t)$	$r(t)$	$k(t)$	$y(t)$	$I/Y^0(t)$	$A(t)$	$\lambda(t)$
1.649199	0.909533	1	0.026689	0.029343	0.019152	0.016524	0.002586	1.503878	0.042871	0.053196	11.2107	7.4545	0.044015	0.375406	-----
1.631914	0.919166	2	0.028972	0.031438	0.021226	0.018784	0.002397	1.507483	0.045948	0.053069	11.4486	7.5945	0.047279	0.397295	0.058306
1.614810	0.928902	3	0.031456	0.033695	0.023461	0.021243	0.002171	1.510756	0.049246	0.052954	11.7172	7.7559	0.050795	0.418215	0.052658
1.597886	0.938740	4	0.034160	0.036130	0.025871	0.023920	0.001905	1.513634	0.052780	0.052853	12.0204	7.9414	0.054583	0.438238	0.047877
1.581139	0.948683	5	0.037105	0.038759	0.028475	0.026836	0.001596	1.516050	0.056569	0.052769	12.3626	8.1545	0.058667	0.457429	0.043791
1.564567	0.958732	6	0.040313	0.041603	0.031290	0.030013	0.001240	1.517930	0.060629	0.052703	12.7495	8.3992	0.063073	0.475849	0.040268
1.548169	0.968886	7	0.043811	0.044684	0.034341	0.033476	0.000836	1.519199	0.064980	0.052659	13.1873	8.6804	0.067827	0.493555	0.037209
1.531944	0.979148	8	0.047626	0.048026	0.037649	0.037254	0.000381	1.519778	0.069644	0.052639	13.6838	9.0038	0.072961	0.510600	0.034536
1.515888	0.989519	9	0.051790	0.051658	0.041245	0.041377	-0.000126	1.519587	0.074643	0.052646	14.2482	9.3763	0.078508	0.527034	0.032186
1.500000	**1.000000**	**10**	**0.056338**	**0.055612**	**0.045160**	**0.045879**	**-0.000687**	**1.518542**	**0.080000**	**0.052682**	**14.8916**	**9.8065**	**0.084507**	**0.542904**	**0.030112**
1.484279	1.010592	11	0.061308	0.059925	0.049431	0.050800	-0.001303	1.516563	0.085742	0.052751	15.6277	10.3047	0.090999	0.558253	0.028272
1.468723	1.021296	12	0.066745	0.064639	0.054098	0.056183	-0.001974	1.513570	0.091896	0.052855	16.4732	10.8836	0.098029	0.573122	0.026635
1.453329	1.032113	13	0.072696	0.069803	0.059211	0.062075	-0.002697	1.509487	0.098492	0.052998	17.4485	11.5593	0.105652	0.587549	0.025172
1.438097	1.043045	14	0.079218	0.075471	0.064823	0.068532	-0.003472	1.504247	0.105561	0.053183	18.5796	12.3514	0.113923	0.601569	0.023862
1.423025	1.054093	15	0.086372	0.081708	0.070998	0.075615	-0.004293	1.497789	0.113137	0.053412	19.8987	13.2854	0.122909	0.615215	0.022684
1.408111	1.065257	16	0.094228	0.088586	0.077808	0.083394	-0.005156	1.490067	0.121257	0.053689	21.4470	14.3933	0.132683	0.628519	0.021624
1.393353	1.076540	17	0.102866	0.096190	0.085336	0.091947	-0.006054	1.481046	0.129960	0.054016	23.2772	15.7167	0.143329	0.641509	0.020668
1.378749	1.087943	18	0.112378	0.104616	0.093679	0.101364	-0.006978	1.470712	0.139288	0.054395	25.4578	17.3099	0.154941	0.654212	0.019803
1.364299	1.099466	19	0.122867	0.113977	0.102948	0.111750	-0.007917	1.459068	0.149285	0.054830	28.0786	19.2442	0.167628	0.666655	0.019019
1.350000	1.111111	20	0.134454	0.124403	0.113270	0.123222	-0.008859	1.446141	0.160000	0.055320	31.2591	21.6155	0.181513	0.678860	0.018308
1.335851	1.122880	21	0.147276	0.136044	0.124796	0.135917	-0.009790	1.431983	0.171484	0.055867	35.1601	24.5534	0.196739	0.690849	0.017662
1.321850	1.134773	22	0.161496	0.149075	0.137698	0.149996	-0.010694	1.416670	0.183792	0.056470	40.0016	28.2364	0.213473	0.702645	0.017074
1.307996	1.146792	23	0.177300	0.163700	0.152178	0.165644	-0.011553	1.400304	0.196983	0.057130	46.0890	32.9136	0.231908	0.714265	0.016538
1.294288	1.158939	24	0.194911	0.180155	0.168470	0.183080	-0.012350	1.383011	0.211121	0.057845	53.8536	38.9394	0.252271	0.725729	0.016050
1.280722	1.171214	25	0.214590	0.198719	0.186850	0.202564	-0.013067	1.364939	0.226274	0.058611	63.9161	46.8271	0.274830	0.737053	0.015604
1.267300	1.183619	26	0.236649	0.219721	0.207644	0.224405	-0.013689	1.346254	0.242515	0.059424	77.1880	57.3354	0.299906	0.748253	0.015196
1.254017	1.196156	27	0.261464	0.243550	0.231238	0.248975	-0.014201	1.327136	0.259921	0.060280	95.0368	71.6104	0.327881	0.759345	0.014824

A6-3-2 (2) Relationships among saving, profit, undistributed profit, dividends, saved dividends, consumed dividends, saved wages, and consumed wages: using ratios

$\gamma(t)=(1/s_P)(t)-\Omega(t)$ $c_{D/Y}(t)=\gamma(t)*s_{SP/Y}(t)$ $s_{WD/WD}(t)=s_{WD/Y}(t)/(1-s_{SP/Y}(t))$

gamma given			s^0	c^0	Ω^0	θ^0				γ^0	$c_{D/Y}^{\ 0}$	$c_{W/Y}^{\ 0}$			
0			0.08	0.92000	1.50000	1.50000				0	0.00000	0.92000			
$s_{SP/Y}^*(t)$	$s^*_P(t)=s^*_{SP/P}(t$	$1-s^*_P(t)$	$s^*(t)=s^*_{S/Y}(t)$	$c^*(t)=1-s^*(t)$	$\Omega^*(t)$	$\theta^*(t)$	$\Psi^*(t)$	$\mu^*(t)=(S/P)^*(t)$	$(1/s_P)^*(t)=\Omega+\gamma$	$\gamma^*(t)=(1/s_P)(t)-\Omega(t)$	$c^*_{D/Y}(t)=\gamma(t)*s_S$	$c^*_{W/Y}(t)$	$s^*_{WD/Y}(t)$	$s^*_{WD/WD}(t)$	$(\Omega+\gamma)/\Omega$
0.05333	0.66667	0.33333	0.08000	0.92000	1.50000	1.50000	1.00000	1.00000	1.50000	0.00000	0.00000	0.92000	0.02667	0.02817	1.00000
0.05333	0.66667	0.33333	0.08000	0.92000	1.50000	1.50000	1.00000	1.00000	1.50000	0.00000	0.00000	0.92000	0.02667	0.02817	1.00000
0.05333	0.66667	0.33333	0.08000	0.92000	1.50000	1.50000	1.00000	1.00000	1.50000	0.00000	0.00000	0.92000	0.02667	0.02817	1.00000

$c^*_{D/D}=c^*_{D/Y}/(\alpha-s^*_{SP/Y})$

0.00000 : Dividends are not always saved.

$\gamma(t)=(1/s_P)(t)-\Omega(t)$ $c_{D/Y}(t)=\gamma(t)*s_{SP/Y}(t)$

0.00000	$s_P^{\ 0}$		s^0	c^0	Ω^0	θ^0			$1/s_P^{\ 0}$	γ^0	$c_{D/Y}^{\ 0}$	$c_{W/Y}^{\ 0}$		**from DRC to IRC**	
0.00000	0.30000		0.04	0.96000	1.50000	1.66667			3.33333	1.83333	0.044	0.91600			
$s_{SP/Y}(t)$	$s_P(t)=s_{SP/P}(t)$	$1-s_P(t)$	$s(t)=s_{S/Y}(t)$	$c(t)=1-s(t)$	$\Omega(t)$	$\theta(t)$	$\Psi(t)$	$\mu(t)=(S/P)(t)$	$(1/s_P)(t)=\Omega(t)+\gamma(t)$	**gamma (t)**	**$c_{D/Y}(t)$**	$c_{W/Y}(t)$	$s_{WD/Y}(t)$	$s_{WD/WD}(t)$	$(\Omega+\gamma)/\Omega$
0.02600	0.32494	0.67506	0.04287	0.95713	1.50388	1.64920	0.91188	0.53589	3.07751	1.57364	0.04091	0.91622	0.01688	0.01733	2.04638
0.02816	0.35195	0.64805	0.04595	0.95405	1.50748	1.63191	0.92375	0.57435	2.84133	1.33384	0.03756	0.91650	0.01779	0.01831	1.88481
0.03050	0.38120	0.61880	0.04925	0.95075	1.51076	1.61481	0.93556	0.61557	2.62327	1.11251	0.03393	0.91683	0.01875	0.01934	1.73639
0.03303	0.41289	0.58711	0.05278	0.94722	1.51363	1.59789	0.94727	0.65975	2.42194	0.90831	0.03000	0.91722	0.01975	0.02042	1.60008
0.03578	0.44721	0.55279	0.05657	0.94343	1.51605	1.58114	0.95883	0.70711	2.23607	0.72002	0.02576	0.91767	0.02079	0.02156	1.47493
0.03875	0.48439	0.51561	0.06063	0.93937	1.51793	1.56457	0.97019	0.75786	2.06446	0.54653	0.02118	0.91819	0.02188	0.02276	1.36005
0.04197	0.52465	0.47535	0.06498	0.93502	1.51920	1.54817	0.98129	0.81225	1.90602	0.38682	0.01624	0.91878	0.02301	0.02402	1.25462
0.04546	0.56827	0.43173	0.06964	0.93036	1.51978	1.53194	0.99206	0.87055	1.75974	0.23996	0.01091	0.91945	0.02418	0.02533	1.15789
0.04924	0.61550	0.38450	0.07464	0.92536	1.51959	1.51589	1.00244	0.93303	1.62469	0.10510	0.00518	0.92018	0.02540	0.02672	1.06916
0.05333	**0.66667**	**0.33333**	**0.08000**	**0.92000**	**1.51854**	**1.50000**	**1.01236**	**1.00000**	**1.50000**	**-0.01854**	**-0.00099**	**0.92099**	**0.02667**	**0.02817**	**0.98779**
0.05777	0.72208	0.27792	0.08574	0.91426	1.51656	1.48428	1.02175	1.07177	1.38488	-0.13168	-0.00761	0.92186	0.02798	0.02969	0.91317
0.06257	0.78211	0.21789	0.09190	0.90810	1.51357	1.46872	1.03053	1.14870	1.27860	-0.23497	-0.01470	0.92281	0.02933	0.03128	0.84476
0.06777	0.84712	0.15288	0.09849	0.90151	1.50949	1.45333	1.03864	1.23114	1.18047	-0.32902	-0.02230	0.92381	0.03072	0.03296	0.78203
0.07340	0.91754	0.08246	0.10556	0.89444	1.50425	1.43810	1.04600	1.31951	1.08987	-0.41437	-0.03042	0.92486	0.03216	0.03471	0.72453
0.07950	0.99381	0.00619	0.11314	0.88686	1.49779	1.42302	1.05254	1.41421	1.00623	-0.49156	-0.03908	0.92594	0.03363	0.03654	0.67181
0.08611	1.07642	-0.07642	0.12126	0.87874	1.49007	1.40811	1.05820	1.51572	0.92901	-0.56106	-0.04831	0.92706	0.03514	0.03846	0.62347
0.09327	1.16590	-0.16590	0.12996	0.87004	1.48105	1.39335	1.06294	1.62450	0.85771	-0.62334	-0.05814	0.92818	0.03669	0.04046	0.57912
0.10102	1.26281	-0.26281	0.13929	0.86071	1.47071	1.37875	1.06670	1.74110	0.79188	-0.67883	-0.06858	0.92929	0.03826	0.04256	0.53844
0.10942	1.36778	-0.36778	0.14929	0.85071	1.45907	1.36430	1.06946	1.86607	0.73111	-0.72796	-0.07966	0.93037	0.03986	0.04476	0.50108
0.11852	1.48148	-0.48148	0.16000	0.84000	1.44614	1.35000	1.07122	2.00000	0.67500	-0.77114	-0.09139	0.93139	0.04148	0.04706	0.46676
0.12837	1.60463	-0.60463	0.17148	0.82852	1.43198	1.33585	1.07196	2.14355	0.62320	-0.80879	-0.10382	0.93234	0.04311	0.04946	0.43520
0.13904	1.73802	-0.73802	0.18379	0.81621	1.41667	1.32185	1.07173	2.29740	0.57537	-0.84130	-0.11698	0.93318	0.04475	0.05198	0.40614
0.15060	1.88249	-0.88249	0.19698	0.80302	1.40030	1.30800	1.07057	2.46229	0.53121	-0.86909	-0.13088	0.93390	0.04638	0.05461	0.37935
0.16312	2.03897	-1.03897	0.21112	0.78888	1.38301	1.29429	1.06855	2.63902	0.49044	-0.89257	-0.14559	0.93447	0.04800	0.05736	0.35462
0.17668	2.20846	-1.20846	0.22627	0.77373	1.36494	1.28072	1.06576	2.82843	0.45280	-0.91213	-0.16115	0.93488	0.04960	0.06024	0.33174
0.19136	2.39204	-1.39204	0.24251	0.75749	1.34625	1.26730	1.06230	3.03143	0.41805	-0.92820	-0.17762	0.93511	0.05115	0.06326	0.31053
0.20727	2.59088	-1.59088	0.25992	0.74008	1.32714	1.25402	1.05831	3.24901	0.38597	-0.94117	-0.19508	0.93516	0.05265	0.06642	0.29083

KMpercapita s0p<sp & s0<s(A6-3)

A6-3-2 (3) Structure of the elasticity of substitution

					$S_D^{*0}=D^{*0}-C_D^{*0}$	$S_W^{*0}=S_{WD}^{*0}-S_D$	$S_W^{*0}=W^{*0}-C_W^{*0}$	$A^{*0}=C_D^{*0}+S_{WD}$	$S_W^{*0}=A^{*0}-D^{*0}$						
					4.88889	0.0000	0.00000	4.88889	0.00000						
L^0	Y^0	W^0	S^0	S_{WD}^0	P^0	S_P^0	D^0	C_D^0	$C_D^0+S_{WD}^0$	$C_W^0=C^0-C_D^0$	C^0	$c_{C/L}^0=C^0/L^0$	$\Delta c_{C/L}^0$	$\sigma c_{C/L}^0=\Delta c_{C/L}^0/c_{C/L}^0$	$c_{C/Y}^0=C^0/Y^0$
25	183.3333	168.6667	14.6667	4.8889	14.6667	9.7778	4.8889	0.0000	4.8889	168.6667	168.6667	6.7467	-----	-----	0.9200
$L^*(t)$	$Y^*(t)$	$W^*(t)$	$S^*(t)$	$S^*_{WD}(t)$	$P^*(t)$	$S_P^*(t)$	$D^*(t)$	$C_D^*(t)$	$C_{D(t)}+S_{WD(t)}$	$C_W(t)=C(t)-C_D$	$C^*(t)=c^*(t)*Y^*(t)$	$c_{C/L}^*(t)=C^*(t)/L^*(t)$	$\Delta c_{C/L}^*(t)$	$\sigma c_{C/L}^*(t)=\Delta c^*(t)/c^*$	$c_{C/Y}^*(t)=C^*(t)/Y^*(t)$
25.2500	193.6620	178.1690	15.4930	5.1643	15.4930	10.3286	5.1643	0.0000	5.1643	178.1690	178.1690	7.0562	38.0094	5.3867	0.9200
25.5025	204.5725	188.2067	16.3658	5.4553	16.3658	10.9105	5.4553	0.0000	5.4553	188.2067	188.2067	7.3799	39.7532	5.3867	0.9200
25.7575	216.0977	198.8099	17.2878	5.7626	17.2878	11.5252	5.7626	0.0000	5.7626	198.8099	198.8099	7.7185	41.5771	5.3867	0.9200

Marginal rate of per capita consumption: $\Delta c_{C/L}(2)=((c_{C/L}(2)(1+n)-c_{C/L}(1))/n$

					$S_D^0=D^0-C_D^0$	$S_W^0=S_{WD}^0-S_D^0$	$S_W^0=W^0-C_W^0$	$A=C_D^0+S_{WD}^0$	$S_W^0=A^0-D^0$						
					2.9333	0.0000	0.00000	10.26667	0.00000						
												$c_{C/L}(t)=C(t)/L(t)=c_{C/Y}(t)*y(t)$	$\sigma c_{C/L}^0=\Delta c_{C/L}^0/c_{C/L}^0$		
L^0	Y^0	W^0	S^0	S_{WD}^0	P^0	S_P^0	D^0	C_D^0	$\gamma=C_D^0/S_P^0$	$C_W^0=C^0-C_D^0$	$C^0=c_{C/D}^0*Y^0$	$c_{C/L}^0=C^0/L^0$	$\Delta c_{C/L}^0$		$c_{C/Y}^0=C^0/Y^0$
25	183.3333	168.6667	7.3333	2.9333	14.6667	4.4000	10.2667	7.3333	10.2667	168.6667	176.0000	7.0400	-----	-----	0.9600
L(t)	Y(t)	W(t)	$S(t)=s_{S/Y}(t)*Y(t)$	$S_{WD}(t)=S(t)-S_P(t)$	P(t)	$S_P(t)$	D(t)	$C_D(t)=S_P(t)*\gamma$	$\gamma(t)$	$C_W(t)=C(t)-C_D$	$C(t)=c(t)*Y(t)$	$c_{C/L}(t)=C(t)/L(t)$	$\Delta c_{C/L}(t)$	$\sigma c_{C/L}(t)=\Delta c(t)/c(t)$	$c_{C/Y}(t)=C(t)/Y(t)$
25.2500	188.23	173.17	8.07	3.18	15.06	4.89	10.17	6.9887	10.1652	173.17	180.16	7.1349	16.63	2.3304	0.9571
25.5025	193.68	178.19	8.90	3.45	15.49	5.45	10.04	6.5952	10.0411	178.19	184.78	7.2456	18.31	2.5272	0.9541
25.7575	199.77	183.79	9.84	3.75	15.98	6.09	9.89	6.1438	9.8894	183.79	189.93	7.3739	20.21	2.7405	0.9508
26.0151	206.60	190.07	10.90	4.08	16.53	6.82	9.70	5.6235	9.7035	190.07	195.69	7.5222	22.35	2.9717	0.9472
26.2753	214.26	197.12	12.12	4.45	17.14	7.67	9.48	5.0205	9.4753	197.12	202.14	7.6932	24.79	3.2224	0.9434
26.5380	222.90	205.07	13.51	4.88	17.83	8.64	9.19	4.3179	9.1944	205.07	209.39	7.8900	27.57	3.4942	0.9394
26.8034	232.66	214.05	15.12	5.35	18.61	9.77	8.85	3.4946	8.8477	214.05	217.55	8.1164	30.75	3.7889	0.9350
27.0714	243.75	224.25	16.98	5.89	19.50	11.08	8.42	2.5242	8.4187	224.25	226.77	8.3767	34.41	4.1083	0.9304
27.3421	256.37	235.86	19.14	6.51	20.51	12.62	7.89	1.3735	7.8859	235.86	237.23	8.6765	38.65	4.4545	0.9254
27.6156	**270.81**	**249.15**	**21.67**	**7.22**	**21.67**	**14.44**	**7.22**	**0.0000**	**7.2217**	**249.15**	**249.15**	**9.0220**	**43.58**	**4.8299**	**0.9200**
27.8917	287.42	264.42	24.64	8.04	22.99	16.60	6.39	-1.6503	6.3902	264.42	262.77	9.4212	49.34	5.2368	0.9143
28.1706	306.60	282.07	28.18	8.99	24.53	19.18	5.34	-3.6473	5.3445	282.07	278.42	9.8835	56.12	5.6778	0.9081
28.4523	328.89	302.58	32.39	10.10	26.31	22.29	4.02	-6.0816	4.0224	302.58	296.50	10.4208	64.15	6.1559	0.9015
28.7369	354.94	326.55	37.47	11.41	28.40	26.05	2.34	-9.0725	2.3416	326.55	317.47	11.0476	73.73	6.6741	0.8944
29.0242	385.60	354.75	43.63	12.97	30.85	30.66	0.19	-12.7776	0.1910	354.75	341.97	11.7823	85.25	7.2357	0.8869
29.3145	421.93	388.18	51.16	14.83	33.75	36.33	-2.58	-17.4078	-2.5795	388.18	370.77	12.6480	99.22	7.8445	0.8787
29.6076	465.34	428.11	60.48	17.07	37.23	43.40	-6.18	-23.2483	-6.1758	428.11	404.86	13.6742	116.29	8.5044	0.8700
29.9037	517.63	476.22	72.10	19.81	41.41	52.29	-10.88	-30.6892	-10.8831	476.22	445.53	14.8988	137.36	9.2195	0.8607
30.2027	581.23	534.73	86.77	23.17	46.50	63.60	-17.10	-40.2705	-17.1013	534.73	494.46	16.3713	163.63	9.9947	0.8507
30.5048	659.38	606.63	105.50	27.35	52.75	78.15	-25.40	-52.7501	-25.3982	606.63	553.88	18.1570	196.73	10.8347	0.8400
30.8098	756.49	695.97	129.73	32.61	60.52	97.11	-36.59	-69.2063	-36.5916	695.97	626.76	20.3429	238.93	11.7452	0.8285
31.1179	878.66	808.36	161.49	39.32	70.29	122.17	-51.88	-91.1973	-51.8770	808.36	717.17	23.0468	293.43	12.7319	0.8162
31.4291	1034.44	951.69	203.77	47.98	82.76	155.79	-73.03	-121.0123	-73.0307	951.69	830.67	26.4301	364.77	13.8012	0.8030
31.7434	1236.07	1137.18	260.96	59.34	98.89	201.62	-102.74	-162.0747	-102.7391	1137.18	975.11	30.7184	459.55	14.9600	0.7889
32.0608	1501.31	1381.21	339.71	74.46	120.11	265.25	-145.14	-219.6036	-145.1426	1381.21	1161.61	36.2313	587.52	16.2158	0.7737
32.3814	1856.60	1708.07	450.25	94.97	148.53	355.29	-206.76	-301.7247	-206.7571	1708.07	1406.35	43.4307	763.37	17.5766	0.7575
32.7052	2342.03	2154.67	608.74	123.31	187.36	485.43	-298.07	-421.3806	-298.0718	2154.67	1733.29	52.9974	1009.67	19.0512	0.7401

KMpercapita s0p<sp & s0<s(A6-3)

A6-3-2 (4) Marginal rate is measured using the growth rate of the denominator

$\Delta\Omega(2)=((\Omega(2)(1+g_Y(2)-\Omega(1))/g_Y(2)$

$\Delta y(2)=((y(2)(1+n)-y(1))/$

Marginal rate of profit to capital: $\Delta r(2)=((r(2)(1+g_K(2)-r(1))/g_K(2)$

$\Delta k(2)=((k(2)(1+n)-k(1))/$

$\Delta c_{C/Y}^0$	$\sigma c_{C/Y}^0=\Delta c_{C/Y}^0/c_{C/Y}^0$	K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$	$(W*K)^0$		1/MPK		MPK	MPL	
-----	-----	275.000	-----	=ΔP/ΔK	-----	6.7467	=ΔW/ΔL	-----	46383		**=ΔK/ΔY**		**=ΔY/ΔK**	**=ΔY/ΔL**	
$\Delta c_{C/Y}(t)$	$\sigma c_{C/Y}(t)=\Delta c(t)/c(t)$	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$	(W*K)(t)	$g_{WK}(t)$	Δ Ω(t)	$\sigma_\Omega=\Delta\Omega/\Omega$	=1/ΔΩ(t)	Δy	$\sigma_y=\Delta y/y$
0.9200	1.0000	290.493	15.4930	0.053333	9.5023	7.0562	38.0094	0.00140	51757	0.115850	1.500000	1.000000	0.666667	41.31455	5.3867
0.9200	1.0000	306.859	16.3658	0.053333	10.0377	7.3799	39.7532	0.00134	57753	0.115850	1.500000	1.000000	0.666667	43.21003	5.3867
0.9200	1.0000	324.147	17.2878	0.053333	10.6032	7.7185	41.5771	0.00128	64444	0.115850	1.500000	1.000000	0.666667	45.19248	5.3867

$\sigma c_{C/L}(t)=\sigma c_{C/Y}(t)*\sigma_y(t)$

$\sigma c_{C/Y}^0=\Delta c_{C/Y}^0/c_{C/Y}^0$

$\Delta c_{C/Y}^0$		K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$	$(W*K)^0$		1/MPK		MPK	MPL	
-----	-----	275.000	-----	=ΔP/ΔK	-----	6.7467	=ΔW/ΔL	-----	46383		**=ΔK/ΔY**		**=ΔY/ΔK**	**=ΔY/ΔL**	
$\Delta c_{C/Y}(t)$	$\sigma c_{C/Y}(t)=\Delta c(t)/c(t)$	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$	(W*K)(t)	$g_{WK}(t)$	Δ Ω(t)	$\sigma_\Omega=\Delta\Omega/\Omega$	=1/ΔΩ(t)	Δy	$\sigma_y=\Delta y/y$
0.8496	0.8876	283.07	8.07	0.048508	4.50	6.858	18.006	0.00269	49019	0.056815	1.649199	1.096630	0.606355	19.57	2.6255
0.8478	0.8887	291.97	8.90	0.049022	5.02	6.987	19.869	0.00247	52024	0.061321	1.631914	1.082542	0.612777	21.60	2.8437
0.8459	0.8897	301.81	9.84	0.049541	5.60	7.135	21.978	0.00225	55469	0.066211	1.614810	1.068875	0.619268	23.89	3.0801
0.8437	0.8908	312.71	10.90	0.050066	6.28	7.306	24.374	0.00205	59436	0.071524	1.597886	1.055662	0.625827	26.49	3.3362
0.8413	0.8918	324.83	12.12	0.050596	7.05	7.502	27.109	0.00187	64031	0.077302	1.581139	1.042933	0.632456	29.47	3.6135
0.8387	0.8928	338.35	13.51	0.051132	7.95	7.727	30.244	0.00169	69384	0.083594	1.564567	1.030725	0.639154	32.87	3.9139
0.8357	0.8938	353.46	15.12	0.051674	8.98	7.986	33.854	0.00153	75659	0.090453	1.548169	1.019070	0.645924	36.80	4.2392
0.8324	0.8947	370.44	16.98	0.052221	10.19	8.283	38.034	0.00137	83070	0.097940	1.531944	1.008005	0.652766	41.34	4.5916
0.8288	0.8957	389.58	19.14	0.052774	11.61	8.626	42.901	0.00123	91885	0.106124	1.515888	0.997566	0.659680	46.63	4.9733
0.8249	**0.8966**	**411.24**	**21.67**	**0.053333**	**13.29**	**9.022**	**48.599**	**0.00110**	**102460**	**0.115083**	**1.500000**	**0.987790**	**0.666667**	**52.82**	**5.3867**
0.8206	0.8976	435.88	24.64	0.053898	15.27	9.480	55.312	0.00097	115257	0.124907	1.484279	0.978712	0.673728	60.12	5.8344
0.8159	0.8985	464.06	28.18	0.054469	17.65	10.013	63.276	0.00086	130898	0.135698	1.468723	0.970370	0.680864	68.78	6.3194
0.8108	0.8994	496.45	32.39	0.055046	20.51	10.635	72.790	0.00076	150215	0.147573	1.453329	0.962797	0.688075	79.12	6.8447
0.8052	0.9002	533.92	37.47	0.055629	23.97	11.363	84.244	0.00066	174349	0.160668	1.438097	0.956025	0.695363	91.57	7.4137
0.7991	0.9011	577.55	43.63	0.056218	28.20	12.223	98.147	0.00057	204884	0.175137	1.423025	0.950084	0.702728	106.68	8.0300
0.7926	0.9019	628.71	51.16	0.056814	33.43	13.242	115.171	0.00049	244050	0.191161	1.408111	0.944998	0.710171	125.19	8.6975
0.7854	0.9028	689.18	60.48	0.057415	39.93	14.459	136.214	0.00042	295045	0.208950	1.393353	0.940789	0.717693	148.06	9.4204
0.7777	0.9036	761.28	72.10	0.058024	48.11	15.925	162.492	0.00036	362536	0.228750	1.378749	0.937471	0.725295	176.62	10.2035
0.7693	0.9044	848.05	86.77	0.058638	58.51	17.705	195.667	0.00030	453478	0.250848	1.364299	0.935048	0.732977	212.68	11.0517
0.7603	0.9051	953.55	105.50	0.059259	71.90	19.886	238.046	0.00025	578449	0.275583	1.350000	0.933519	0.740741	258.75	11.9704
0.7505	0.9059	1083.28	129.73	0.059887	89.34	22.589	292.878	0.00020	753926	0.303357	1.335851	0.932868	0.748586	318.35	12.9654
0.7400	0.9066	1244.77	161.49	0.060521	112.40	25.977	364.806	0.00017	1006224	0.334646	1.321850	0.933069	0.756515	396.53	14.0432
0.7286	0.9073	1448.53	203.77	0.061162	143.32	30.280	460.581	0.00013	1378551	0.370024	1.307996	0.934080	0.764528	500.63	15.2105
0.7163	0.9081	1709.49	260.96	0.061810	185.49	35.824	590.200	0.00010	1944005	0.410180	1.294288	0.935848	0.772626	641.52	16.4749
0.7031	0.9087	2049.20	339.71	0.062465	244.03	43.081	768.752	0.00008	2830378	0.455952	1.280722	0.938300	0.780809	835.60	17.8444
0.6889	0.9094	2499.46	450.25	0.063126	326.86	52.749	1019.508	0.00006	4269249	0.508367	1.267300	0.941352	0.789079	1108.16	19.3277
0.6735	0.9100	3108.20	608.74	0.063795	446.60	65.882	1379.186	0.00005	6697147	0.568694	1.254017	0.944905	0.797437	1499.12	20.9343

KMpercapita s0p<sp & s0<s(A6-3)

A6-3-2 (5)	$\Delta(r/w)(2)=((r/w)(2)(1+g_{WK}(2)-(r/w)(1))/g_{WK}(2)$	Elasticity of substitution, $\sigma(t)$	$\sigma_{C/Y}^*(t)=\sigma_{C/L}^*(t)/\sigma_y^*(t)$	$\sigma_\Omega^*(t)=\sigma_k^*(t)/\sigma_y^*(t)$	$\sigma r^*(t)=\Delta r^*(t)/r^*(t)$	$\sigma_\alpha^*(t)=\sigma_\Omega^*(t)*\sigma_r^*(t)$
'n	where, $g_{WK}(2)=((W*K)(2)-(W*K)(1))/(W*K)(1)$	$\sigma(t)=(\Delta k/k)/(\Delta(r/w)(t)/(r/w)(t))$	1.000000	1.000000	1.000000	1.000000

(A):	Marginal rate	$(r/w)^0$	(B): $\sigma(r/w)(t)=\Delta(r/w)(t)/(r/w)(t)$													
$\sigma_k=\sigma_\Omega*\sigma_y$	$=\Delta K/\Delta L$	0.007905				Y=wL+rK is confirmed.	$p_w^*(t)=1/\sigma y^*(t)$	$p_r^*(t)=\sigma_\Omega^*(t)$		$\sigma^*\gamma(t)=\Delta\gamma^*(t)/\gamma^*(t)$		$\sigma\theta^*(t)=\Delta\theta^*(t)/\theta^*(t)$				$\sigma\zeta^*(t)=\Delta\zeta^*(t)/\zeta^*(t)$
$=\Delta k/k$	Δk	$\Delta(r/w)(t)$	$r/w(t)$	$\Delta(r/w)(t)/(r/w)(t)$	$\sigma(t)=(A)/(B)$	Y=wL+rK	$p_w=(w/MPL)/(1-\alpha)$	$p_r=(r/MPK)/\alpha$	$\Delta\gamma^*(t)$		$\Delta\theta^*(t)$		$\zeta^*=C_p^*/S^*=\gamma^*/\theta^*$	$\Delta\zeta^*(t)$	
5.3867	61.9718	0.004565	0.007558	0.603977	8.918657	193.662	0.18564	1.00000	0	#DIV/0!	1.5	1	0.000000	0.000000	#DIV/0!
5.3867	64.8151	0.004365	0.007227	0.603977	8.918657	204.573	0.18564	1.00000	0	#DIV/0!	1.5	1	0.000000	0.000000	#DIV/0!
5.3867	67.7887	0.004173	0.006910	0.603977	8.918657	216.098	0.18564	1.00000	0	#DIV/0!	1.5	1	0.000000	0.000000	#DIV/0!

(A):	Marginal rate	$(r/w)^0$	(B): $\sigma(r/w)(t)=\Delta(r/w)(t)/(r/w)(t)$				$p_w(t)=1/\sigma y(t)$	$p_r(t)=\sigma_\Omega(t)$								
$\sigma_k=\sigma_\Omega*\sigma_y$	$=\Delta K/\Delta L$	0.007905				Y=wL+rK is confirmed.	$p_w=(w/MPL)/(1-\alpha)$			$\sigma\gamma(t)=\Delta\gamma(t)/\gamma(t)$		$\sigma\theta(t)=\Delta\theta(t)/\theta(t)$				$\sigma\zeta(t)=\Delta\zeta(t)/\zeta(t)$
$=\Delta k/k$	Δk	$\Delta(r/w)(t)$	$r/w(t)$	$\Delta(r/w)(t)/(r/w)(t)$	$\sigma(t)=(A)/(B)$	Y=wL+rK		$p_r=(r/MPK)/\alpha$	$\Delta\gamma(t)$		$\Delta\theta(t)$		$\zeta=C_p/S=\gamma/\theta$	$\Delta\zeta(t)$	
2.8792	32.28	0.005142	0.007757	0.662910	4.343273	188.226	0.38088	1.09663	-1.550536	-0.985321	1.439060	0.872581	0.866066	-0.468233	-0.540644
3.0785	35.24	0.004966	0.007595	0.653854	4.708193	193.679	0.35165	1.08254	-1.550851	-1.162693	1.423977	0.872581	0.741101	-0.474222	-0.639888
3.2923	38.58	0.004792	0.007421	0.645668	5.099016	199.772	0.32466	1.06888	-1.550132	-1.393363	1.409053	0.872581	0.624505	-0.480813	-0.769910
3.5219	42.33	0.004617	0.007234	0.638287	5.517681	206.596	0.29975	1.05566	-1.548257	-1.704551	1.394285	0.872581	0.515717	-0.488005	-0.946265
3.7686	46.59	0.004443	0.007034	0.631645	5.966366	214.262	0.27674	1.04293	-1.545103	-2.145922	1.379672	0.872581	0.414214	-0.495791	-1.196946
4.0341	51.43	0.004267	0.006820	0.625684	6.447517	222.899	0.25550	1.03072	-1.540547	-2.818783	1.365212	0.872581	0.319508	-0.504162	-1.577932
4.3200	56.97	0.004091	0.006594	0.620348	6.963893	232.665	0.23589	1.01907	-1.534468	-3.966865	1.350903	0.872581	0.231144	-0.513100	-2.219826
4.6283	63.33	0.003912	0.006355	0.615585	7.518599	243.746	0.21779	1.00800	-1.526748	-6.362440	1.336745	0.872581	0.148698	-0.522587	-3.514411
4.9612	70.69	0.003731	0.006103	0.611346	8.115136	256.369	0.20108	0.99757	-1.517282	-14.43636	1.322735	0.872581	0.071773	-0.532597	-7.420528
5.3209	**79.24**	**0.003548**	**0.005839**	**0.607585**	**8.757444**	**270.813**	**0.18564**	**0.98779**	**-1.505975**	**81.219267**	**1.308872**	**0.872581**	**0.000000**	**-0.543100**	**#########**
5.7102	89.24	0.003362	0.005564	0.604261	9.449951	287.416	0.17140	0.97871	-1.492752	11.336068	1.295154	0.872581	-0.066967	-0.554063	8.273678
6.1322	101.02	0.003174	0.005279	0.601334	10.197625	306.599	0.15824	0.97037	-1.477560	6.288231	1.281580	0.872581	-0.129449	-0.565448	4.368103
6.5901	114.99	0.002984	0.004984	0.598771	11.006019	328.888	0.14610	0.96280	-1.460375	4.438602	1.268148	0.872581	-0.187748	-0.577214	3.074414
7.0877	131.69	0.002792	0.004680	0.596540	11.881324	354.942	0.13489	0.95602	-1.441207	3.478043	1.254856	0.872581	-0.242142	-0.589315	2.433762
7.6291	151.81	0.002598	0.004370	0.594614	12.830405	385.598	0.12453	0.95008	-1.420105	2.888984	1.241705	0.872581	-0.292893	-0.601705	2.054351
8.2191	176.27	0.002404	0.004054	0.592972	13.860838	421.932	0.11498	0.94500	-1.397164	2.490222	1.228691	0.872581	-0.340246	-0.614335	1.805562
8.8627	206.30	0.002210	0.003736	0.591596	14.980925	465.335	0.10615	0.94079	-1.372527	2.201902	1.215813	0.872581	-0.384428	-0.627154	1.631397
9.5655	243.52	0.002017	0.003416	0.590474	16.199692	517.628	0.09801	0.93747	-1.346387	1.983399	1.203070	0.872581	-0.425651	-0.640112	1.503842
10.3339	290.16	0.001826	0.003097	0.589602	17.526857	581.228	0.09048	0.93505	-1.318991	1.811905	1.190461	0.872581	-0.464113	-0.653156	1.407320
11.1746	349.31	0.001638	0.002782	0.588979	18.972763	659.376	0.08354	0.93352	-1.290635	1.673669	1.177984	0.872581	-0.500000	-0.666237	1.332473
12.0950	425.26	0.001456	0.002473	0.588615	20.548256	756.487	0.07713	0.93287	-1.261662	1.559945	1.165638	0.872581	-0.533484	-0.679305	1.273338
13.1032	524.15	0.001279	0.002174	0.588526	22.264516	878.656	0.07121	0.93307	-1.232454	1.464938	1.153422	0.872581	-0.564725	-0.692313	1.225929
14.2078	654.82	0.001111	0.001887	0.588735	24.132814	1034.442	0.06574	0.93408	-1.203419	1.384684	1.141333	0.872581	-0.593874	-0.705215	1.187483
15.4180	830.31	0.000951	0.001615	0.589278	26.164202	1236.067	0.06070	0.93585	-1.174974	1.316398	1.129371	0.872581	-0.621071	-0.717970	1.156019
16.7434	1070.17	0.000803	0.001360	0.590197	28.369125	1501.315	0.05604	0.93830	-1.147533	1.258073	1.117534	0.872581	-0.646447	-0.730538	1.130082
18.1942	1404.37	0.000666	0.001127	0.591546	30.756976	1856.600	0.05174	0.94135	-1.121479	1.208228	1.105822	0.872581	-0.670123	-0.742882	1.108576
19.7809	1879.92	0.000543	0.000915	0.593388	33.335590	2342.034	0.04777	0.94490	-1.097147	1.165730	1.094232	0.872581	-0.692214	-0.754971	1.090662

KMpercapita s0p<sp & s0<s(A6-3)

Appendix 6-3-3 Case study of the Kamiryo Model by gamma, $Y=S_P+S_D+S_W+C_D+C_W$: both $s_{S/Y}$ and $s_{SP/Y}$ are variables **(1)** $g_Y(t)=s_{SP/Y}(t)/(1-s_{SP/Y}(t))$ $I/Y^0(t)=s_{S/Y}(t)(1+g_Y(t))$ $g_K(t)=(I/Y^0)(t)/\Omega(t-1)$

1 Balanced growth-state: $g^*_Y=g^*_{KP}=g_Y=g_{KP}$ Ω is constant and $s^*_{SP/Y}$ is not equal to n under $\lambda=0$

gamma	$L^0=$	n	Ω^0	α	k^0	$s^*_{SP/P}$	$s^*_{SP/Y}$	$s^*_{SWD/WD}$	$s^*_{SWD/Y}$	$s^*_{S/Y}=s^*_{SP/Y}\,\Omega^0$		variables	y^0	r^0
0.5	25	0.01	1.5	0.08	11	0.50000	0.04000	0.02083	0.02000	0.06			7.333333	0.053333

$\theta=S/S_P=\Omega=K/Y$	time	$g^*_Y(t)$	$g^*_K(t)$	$g^*_k(t)$	$g^*_y(t)$	$g^*_\Omega(t)$	$\Omega^*(t)$	$c^*_{D/Y}=\alpha-s^*_{S/Y}$	$r^*(t)$	$k^*(t)$	$y^*(t)$	$I/Y^{0*}(t)$	$A^*(t)$	$\lambda^*(t)$
1.5	1	0.041667	0.041667	0.031353	0.031353	0.000000	1.500000	0.020000	0.053333	11.344884	7.563256	0.062500	0.501650	-----
	2	0.041667	0.041667	0.031353	0.031353	0.000000	1.500000	0.020000	0.053333	11.700582	7.800388	0.062500	0.501650	0.000000
	3	0.041667	0.041667	0.031353	0.031353	0.000000	1.500000	0.020000	0.053333	12.067432	8.044955	0.062500	0.501650	0.000000

from DRC to IRC

$a=s^*_{S/Y}/s^0_{S/Y}$	$g_{s/Y}=a^{\wedge}(1/10)-1$	$\theta^*=s^*_{S/Y}/s^*_{SP/Y}$	$\Psi^*=\Omega^0/\theta^*$	$A(t)=g_y(t)/(I/Y^0)$
1.5	0.041380	1.500000	1.000000	$\lambda=(A(t)-A(t-1))/A(t-1)$

2 Unbalanced growth-state Ω, $s_{SP/Y}$, and $s_{S/Y}$ are variables, where saving differs from profit

$b=s^*_{SP/Y}/s^0_{SP/Y}$	$g_{s/Y}=b^{\wedge}(1/10)-1$	$L^0=$	n	Ω^0	α	k^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	$s^0_{SWD/WD}$	$s^0_{SWD/Y}$	$s^0_{S/Y}$	$\theta^0=s^0_{S/Y}/s^0_{SP/Y}$	$\Psi^0=\Omega^0/\theta^0$	y^0	r^0
1.666667	0.052410	25	0.01	1.5	0.08	11	**0.3**	0.024000	0.016393	0.016000	**0.04**	1.666667	0.900000	7.333333	0.053333

$\theta(t)=s_{S/Y}(t)/s_{SP/Y}(t)$	$\Psi(t)=\Omega^0/\theta(t)$	time	$g_Y(t)=s_{SP/Y}(t)/(1-s_{SP/}$	$g_K(t)$	$g_k(t)$	$g_y(t)$	$g_\Omega(t)$	$\Omega(t)$	$s_{S/Y}(t)$	$r(t)$	$k(t)$	$y(t)$	$I/Y^0(t)$	$A(t)$	$\lambda(t)$
1.649199	0.909533	1	0.025912	0.028490	0.018307	0.015755	0.002512	1.503768	0.041655	0.053200	11.2014	7.4489	0.042735	0.368666	-----
1.631914	0.919166	2	0.027307	0.029635	0.019440	0.017136	0.002265	1.507175	0.043379	0.053079	11.4191	7.5765	0.044563	0.384533	0.043039
1.614810	0.928902	3	0.028780	0.030835	0.020629	0.018594	0.001998	1.510186	0.045174	0.052974	11.6547	7.7174	0.046474	0.400093	0.040464
1.597886	0.938740	4	0.030334	0.032095	0.021877	0.020133	0.001710	1.512768	0.047043	0.052883	11.9097	7.8728	0.048470	0.415361	0.038162
1.581139	0.948683	5	0.031975	0.033420	0.023188	0.021757	0.001400	1.514886	0.048990	0.052809	12.1858	8.0440	0.050556	0.430352	0.036093
1.564567	0.958732	6	0.033707	0.034812	0.024567	0.023472	0.001069	1.516506	0.051017	0.052753	12.4852	8.2329	0.052737	0.445082	0.034227
1.548169	0.968886	7	0.035536	0.036278	0.026018	0.025283	0.000717	1.517593	0.053128	0.052715	12.8100	8.4410	0.055016	0.459563	0.032536
1.531944	0.979148	8	0.037468	0.037823	0.027547	0.027196	0.000342	1.518111	0.055326	0.052697	13.1629	8.6706	0.057399	0.473810	0.031000
1.515888	0.989519	9	0.039510	0.039452	0.029160	0.029218	-0.000056	1.518027	0.057616	0.052700	13.5467	8.9239	0.059892	0.487835	0.029600
1.500000	**1.000000**	**10**	**0.041667**	**0.041172**	**0.030863**	**0.031353**	**-0.000475**	**1.517305**	**0.060000**	**0.052725**	**13.9648**	**9.2037**	**0.062500**	**0.501650**	**0.028320**
1.484279	1.010592	11	0.043946	0.042990	0.032663	0.033610	-0.000916	1.515915	0.062483	0.052773	14.4210	9.5130	0.065229	0.515268	0.027147
1.468723	1.021296	12	0.046356	0.044913	0.034568	0.035996	-0.001379	1.513824	0.065068	0.052846	14.9195	9.8555	0.068085	0.528701	0.026069
1.453329	1.032113	13	0.048905	0.046950	0.036585	0.038520	-0.001863	1.511004	0.067761	0.052945	15.4653	10.2351	0.071075	0.541959	0.025076
1.438097	1.043045	14	0.051600	0.049110	0.038723	0.041188	-0.002368	1.507426	0.070565	0.053071	16.0641	10.6567	0.074206	0.555053	0.024160
1.423025	1.054093	15	0.054452	0.051403	0.040993	0.044012	-0.002891	1.503068	0.073485	0.053224	16.7227	11.1257	0.077486	0.567993	0.023314
1.408111	1.065257	16	0.057469	0.053839	0.043405	0.046999	-0.003433	1.497907	0.076525	0.053408	17.4485	11.6486	0.080923	0.580790	0.022530
1.393353	1.076540	17	0.060664	0.056430	0.045970	0.050163	-0.003992	1.491927	0.079692	0.053622	18.2506	12.2329	0.084527	0.593453	0.021803
1.378749	1.087943	18	0.064047	0.059189	0.048701	0.053512	-0.004566	1.485115	0.082990	0.053868	19.1395	12.8875	0.088305	0.605991	0.021128
1.364299	1.099466	19	0.067631	0.062129	0.051613	0.057060	-0.005153	1.477462	0.086424	0.054147	20.1273	13.6229	0.092269	0.618414	0.020500
1.350000	1.111111	20	0.071429	0.065266	0.054719	0.060820	-0.005751	1.468964	0.090000	0.054460	21.2286	14.4514	0.096429	0.630730	0.019915
1.335851	1.122880	21	0.075455	0.068617	0.058037	0.064807	-0.006358	1.459625	0.093724	0.054809	22.4607	15.3880	0.100796	0.642947	0.019370
1.321850	1.134773	22	0.079724	0.072199	0.061583	0.069034	-0.006970	1.449452	0.097602	0.055193	23.8439	16.4503	0.105384	0.655073	0.018861
1.307996	1.146792	23	0.084255	0.076032	0.065378	0.073520	-0.007584	1.438460	0.101641	0.055615	25.4028	17.6597	0.110205	0.667117	0.018385
1.294288	1.158939	24	0.089064	0.080137	0.069443	0.078281	-0.008197	1.426669	0.105847	0.056075	27.1668	19.0421	0.115274	0.679085	0.017940
1.280722	1.171214	25	0.094171	0.084538	0.073800	0.083338	-0.008805	1.414108	0.110227	0.056573	29.1717	20.6290	0.120607	0.690986	0.017524
1.267300	1.183619	26	0.099598	0.089258	0.078474	0.088711	-0.009403	1.400811	0.114788	0.057110	31.4609	22.4591	0.126221	0.702825	0.017134
1.254017	1.196156	27	0.105368	0.094327	0.083492	0.094424	-0.009989	1.386818	0.119538	0.057686	34.0876	24.5797	0.132134	0.714610	0.016768

KMpercapita s0p<sp & s0<s(A6-3)

A6-3-3 (2) Relationships among saving, profit, undistributed profit, dividends, saved dividends, consumed dividends, saved wages, and consumed wages: using ratios

$\gamma(t)=(1/s_P)(t)-\Omega(t)$ $c_{D/Y}(t)=\gamma(t)*s_{SP/Y}(t)$ $s_{WD/WD}(t)=s_{WD/Y}(t)/(1-s_{SP/Y}(t))$

gamma given			s^0	c^0	Ω^0	θ^0				γ^0	$c_{D/Y}^{0}$	$c_{W/Y}^{0}$			
0.5			0.06	0.94000	1.50000	1.50000				0.5	0.02000	0.92000			
$s_{SP/Y}^{*}(t)$	$s^{*}_{P}(t)=s^{*}_{SP/P}(t$	$1-s^{*}_{P}(t)$	$s^{*}(t)=s^{*}_{S/Y}(t)$	$c^{*}(t)=1-s^{*}(t)$	$\Omega^{*}(t)$	$\theta^{*}(t)$	$\Psi^{*}(t)$	$\mu^{*}(t)=(S/P)^{*}(t)$	$(1/s_P)^{*}(t)=\Omega+\gamma$	$\gamma^{*}(t)=(1/s_P)(t)-\Omega(t)$	$c^{*}_{D/Y}(t)=\gamma(t)*s_S$	$c^{*}_{W/Y}(t)$	$s^{*}_{WD/Y}(t)$	$s^{*}_{WD/WD}(t)$	$(\Omega+\gamma)/\Omega$
0.04000	0.50000	0.50000	0.06000	0.94000	1.50000	1.50000	1.00000	0.75000	2.00000	0.50000	0.02000	0.92000	0.02000	0.02083	1.33333
0.04000	0.50000	0.50000	0.06000	0.94000	1.50000	1.50000	1.00000	0.75000	2.00000	0.50000	0.02000	0.92000	0.02000	0.02083	1.33333
0.04000	0.50000	0.50000	0.06000	0.94000	1.50000	1.50000	1.00000	0.75000	2.00000	0.50000	0.02000	0.92000	0.02000	0.02083	1.33333

$c^{*}_{D/D}=c^{*}_{D/Y}/(\alpha-s^{*}_{SP/Y})$

0.50000 : Dividends are not always saved.

$\gamma(t)=(1/s_P)(t)-\Omega(t)$ $c_{D/Y}(t)=\gamma(t)*s_{SP/Y}(t)$

0.50000	s_P^{0}		s^0	c^0	Ω^0	θ^0			$1/s_P^{0}$	γ^0	$c_{D/Y}^{0}$	$c_{W/Y}^{0}$		**from DRC to IRC**	
0.50000	0.30000		0.04	0.96000	1.50000	1.66667			3.33333	1.83333	0.044	0.91600			
$s_{SP/Y}(t)$	$s_P(t)=s_{SP/P}(t)$	$1-s_P(t)$	$s(t)=s_{S/Y}(t)$	$c(t)=1-s(t)$	$\Omega(t)$	$\theta(t)$	$\Psi(t)$	$\mu(t)=(S/P)(t)$	$(1/s_P)(t)=\Omega(t)+\gamma(t)$	**gamma (t)**	$c_{D/Y}(t)$	$c_{W/Y}(t)$	$s_{WD/Y}(t)$	$s_{WD/WD}(t)$	$(\Omega+\gamma)/\Omega$
0.02526	0.31572	0.68428	0.04166	0.95834	1.50377	1.64920	0.91182	0.52069	3.16733	1.66357	0.04202	0.91633	0.01640	0.01682	2.10626
0.02658	0.33227	0.66773	0.04338	0.95662	1.50717	1.63191	0.92356	0.54224	3.00960	1.50243	0.03994	0.91668	0.01680	0.01726	1.99685
0.02797	0.34968	0.65032	0.04517	0.95483	1.51019	1.61481	0.93521	0.56467	2.85972	1.34954	0.03775	0.91707	0.01720	0.01769	1.89362
0.02944	0.36801	0.63199	0.04704	0.95296	1.51277	1.59789	0.94673	0.58804	2.71731	1.20454	0.03546	0.91749	0.01760	0.01814	1.79625
0.03098	0.38730	0.61270	0.04899	0.95101	1.51489	1.58114	0.95810	0.61237	2.58199	1.06710	0.03306	0.91795	0.01801	0.01858	1.70441
0.03261	0.40760	0.59240	0.05102	0.94898	1.51651	1.56457	0.96928	0.63771	2.45341	0.93690	0.03055	0.91843	0.01841	0.01903	1.61780
0.03432	0.42896	0.57104	0.05313	0.94687	1.51759	1.54817	0.98025	0.66410	2.33123	0.81363	0.02792	0.91895	0.01881	0.01948	1.53613
0.03612	0.45144	0.54856	0.05533	0.94467	1.51811	1.53194	0.99097	0.69158	2.21513	0.69702	0.02517	0.91950	0.01921	0.01993	1.45914
0.03801	0.47510	0.52490	0.05762	0.94238	1.51803	1.51589	1.00141	0.72020	2.10482	0.58679	0.02230	0.92008	0.01961	0.02038	1.38655
0.04000	**0.50000**	**0.50000**	**0.06000**	**0.94000**	**1.51731**	**1.50000**	**1.01154**	**0.75000**	**2.00000**	**0.48269**	**0.01931**	**0.92069**	**0.02000**	**0.02083**	**1.31813**
0.04210	0.52620	0.47380	0.06248	0.93752	1.51592	1.48428	1.02131	0.78103	1.90040	0.38449	0.01619	0.92133	0.02039	0.02128	1.25363
0.04430	0.55378	0.44622	0.06507	0.93493	1.51382	1.46872	1.03071	0.81335	1.80576	0.29194	0.01293	0.92200	0.02077	0.02173	1.19285
0.04662	0.58281	0.41719	0.06776	0.93224	1.51100	1.45333	1.03968	0.84701	1.71583	0.20483	0.00955	0.92269	0.02114	0.02217	1.13556
0.04907	0.61335	0.38665	0.07056	0.92944	1.50743	1.43810	1.04821	0.88206	1.63039	0.12296	0.00603	0.92340	0.02150	0.02261	1.08157
0.05164	0.64550	0.35450	0.07348	0.92652	1.50307	1.42302	1.05625	0.91856	1.54919	0.04613	0.00238	0.92413	0.02184	0.02303	1.03069
0.05435	0.67933	0.32067	0.07653	0.92347	1.49791	1.40811	1.06377	0.95657	1.47204	-0.02586	-0.00141	0.92488	0.02218	0.02345	0.98273
0.05719	0.71493	0.28507	0.07969	0.92031	1.49193	1.39335	1.07075	0.99615	1.39874	-0.09319	-0.00533	0.92564	0.02250	0.02386	0.93754
0.06019	0.75240	0.24760	0.08299	0.91701	1.48512	1.37875	1.07715	1.03737	1.32908	-0.15604	-0.00939	0.92640	0.02280	0.02426	0.89493
0.06335	0.79183	0.20817	0.08642	0.91358	1.47746	1.36430	1.08295	1.08030	1.26289	-0.21457	-0.01359	0.92717	0.02308	0.02464	0.85477
0.06667	0.83333	0.16667	0.09000	0.91000	1.46896	1.35000	1.08812	1.12500	1.20000	-0.26896	-0.01793	0.92793	0.02333	0.02500	0.81690
0.07016	0.87701	0.12299	0.09372	0.90628	1.45962	1.33585	1.09266	1.17155	1.14024	-0.31938	-0.02241	0.92868	0.02356	0.02534	0.78119
0.07384	0.92297	0.07703	0.09760	0.90240	1.44945	1.32185	1.09653	1.22003	1.08346	-0.36600	-0.02702	0.92942	0.02376	0.02566	0.74749
0.07771	0.97134	0.02866	0.10164	0.89836	1.43846	1.30800	1.09974	1.27052	1.02950	-0.40896	-0.03178	0.93014	0.02393	0.02595	0.71570
0.08178	1.02225	-0.02225	0.10585	0.89415	1.42667	1.29429	1.10228	1.32309	0.97823	-0.44844	-0.03667	0.93083	0.02407	0.02621	0.68568
0.08607	1.07583	-0.07583	0.11023	0.88977	1.41411	1.28072	1.10415	1.37784	0.92952	-0.48459	-0.04171	0.93148	0.02416	0.02644	0.65732
0.09058	1.13221	-0.13221	0.11479	0.88521	1.40081	1.26730	1.10535	1.43485	0.88323	-0.51758	-0.04688	0.93209	0.02421	0.02662	0.63051
0.09532	1.19155	-0.19155	0.11954	0.88046	1.38682	1.25402	1.10590	1.49423	0.83924	-0.54758	-0.05220	0.93266	0.02421	0.02677	0.60516

KMpercapita s0p<sp & s0<s(A6-3)

A6-3-3 (3) Structure of the elasticity of substitution

$S_D^{*0}=D^{*0}-C_D^{*0}$	$S_W^{*0}=S_{WD}^{*0}-S_D$	$S_W^{*0}=W^{*0}-C_W^{*0}$	$A^{*0}=C_D^{*0}+S_{WD}$	$S_W^{*0}=A^{*0}-D^{*0}$
3.66667	0.0000	0.00000	7.33333	0.00000

L^0	Y^0	W^0	S^0	S_{WD}^0	P^0	S_P^0	D^0	C_D^0	$C_D^0+S_{WD}^0$	$C_W^0=C^0-C_D^0$	C^0	$c_{C/L}^0=C^0/L^0$	$\Delta c_{C/L}^0$	$\sigma c_{C/L}^0=\Delta c_{C/L}^0/c_{C/L}^0$	$c_{C/Y}^0=C^0/Y^0$
25	183.3333	168.6667	11.0000	3.6667	14.6667	7.3333	7.3333	3.6667	7.3333	168.6667	172.3333	6.8933	-----	-----	0.9400
$L^*(t)$	$Y^*(t)$	$W^*(t)$	$S^*(t)$	$S^*_{WD}(t)$	$P^*(t)$	$S_P^*(t)$	$D^*(t)$	$C_D^*(t)$	$C_{D(t)}+S_{WD(t)}$	$C_W(t)=C(t)-C_D$	$C^*(t)=c^*(t)*Y^*(t)$	$c_{C/L}^*(t)=C^*(t)/L^*(t)$	$\Delta c_{C/L}^*(t)$	$\sigma c_{C/L}^*(t)=\Delta c^*(t)/c^*$	$c_{C/Y}^*(t)=C^*(t)/Y^*(t)$
25.2500	190.9722	175.6944	11.4583	3.8194	15.2778	7.6389	7.6389	3.8194	7.6389	175.6944	179.5139	7.1095	28.7222	4.0400	0.9400
25.5025	198.9294	183.0150	11.9358	3.9786	15.9144	7.9572	7.9572	3.9786	7.9572	183.0150	186.9936	7.3324	29.6228	4.0400	0.9400
25.7575	207.2181	190.6407	12.4331	4.1444	16.5774	8.2887	8.2887	4.1444	8.2887	190.6407	194.7850	7.5623	30.5515	4.0400	0.9400

$S_D^0=D^0-C_D^0$	$S_W^0=S_{WD}^0-S_D^0$	$S_W^0=W^0-C_W^0$	$A=C_D^0+S_{WD}^0$	$S_W^0=A^0-D^0$
2.9333	0.0000	0.00000	10.26667	0.00000

Marginal rate of per capita consumption: $\Delta c_{C/L}(2)=((c_{C/L}(2)(1+n)-c_{C/L}(1))/n$

$c_{C/L}(t)=C(t)/L(t)=c_{C/Y}(t)*y(t)$ $\sigma c_{C/L}^0=\Delta c_{C/L}^0/c_{C/L}^0$

L^0	Y^0	W^0	S^0	S_{WD}^0	P^0	S_P^0	D^0	C_D^0	$\gamma=C_D^0/S_P^0$	$C_W^0=C^0-C_D^0$	$C^0=c_{C/D}^0*Y^0$	$c_{C/L}^0=C^0/L^0$	$\Delta c_{C/L}^0$		$c_{C/Y}^0=C^0/Y^0$
25	183.3333	168.6667	7.3333	2.9333	14.6667	4.4000	10.2667	7.3333	10.2667	168.6667	176.0000	7.0400	-----	-----	0.9600
$L(t)$	$Y(t)$	$W(t)$	$S(t)=s_{S/Y}(t)*Y(t)$	$S_{WD}(t)=S(t)-S_P(t)$	$P(t)$	$S_P(t)$	$D(t)$	$C_D(t)=S_P(t)*\gamma$	$\gamma(t)$	$C_W(t)=C(t)-C_D$	$C(t)=c(t)*Y(t)$	$c_{C/L}(t)=C(t)/L(t)$	$\Delta c_{C/L}(t)$	$\sigma c_{C/L}(t)=\Delta c(t)/c(t)$	$c_{C/Y}(t)=C(t)/Y(t)$
25.2500	188.08	173.04	7.83	3.08	15.05	4.75	10.30	7.2120	10.2961	173.04	180.25	7.1386	17.00	2.3810	0.9583
25.5025	193.22	177.76	8.38	3.25	15.46	5.14	10.32	7.0759	10.3215	177.76	184.84	7.2479	18.17	2.5076	0.9566
25.7575	198.78	182.88	8.98	3.42	15.90	5.56	10.34	6.9228	10.3416	182.88	189.80	7.3688	19.46	2.6409	0.9548
26.0151	204.81	188.43	9.63	3.61	16.38	6.03	10.36	6.7499	10.3550	188.43	195.18	7.5024	20.87	2.7812	0.9530
26.2753	211.36	194.45	10.35	3.81	16.91	6.55	10.36	6.5543	10.3600	194.45	201.00	7.6500	22.41	2.9290	0.9510
26.5380	218.48	201.00	11.15	4.02	17.48	7.12	10.35	6.3323	10.3544	201.00	207.34	7.8128	24.10	3.0847	0.9490
26.8034	226.25	208.15	12.02	4.26	18.10	7.76	10.34	6.0797	10.3357	208.15	214.23	7.9926	25.96	3.2485	0.9469
27.0714	234.72	215.95	12.99	4.51	18.78	8.48	10.30	5.7915	10.3008	215.95	221.74	8.1909	28.02	3.4211	0.9447
27.3421	244.00	224.48	14.06	4.78	19.52	9.27	10.25	5.4617	10.2460	224.48	229.94	8.4098	30.30	3.6028	0.9424
27.6156	**254.17**	**233.83**	**15.25**	**5.08**	**20.33**	**10.17**	**10.17**	**5.0833**	**10.1666**	**233.83**	**238.92**	**8.6515**	**32.82**	**3.7941**	**0.9400**
27.8917	265.34	244.11	16.58	5.41	21.23	11.17	10.06	4.6479	10.0572	244.11	248.76	8.9186	35.63	3.9955	0.9375
28.1706	277.64	255.42	18.07	5.77	22.21	12.30	9.91	4.1456	9.9108	255.42	259.57	9.2142	38.77	4.2076	0.9349
28.4523	291.21	267.92	19.73	6.16	23.30	13.58	9.72	3.5642	9.7194	267.92	271.48	9.5416	42.28	4.4310	0.9322
28.7369	306.24	281.74	21.61	6.58	24.50	15.03	9.47	2.8894	9.4726	281.74	284.63	9.9047	46.22	4.6661	0.9294
29.0242	322.91	297.08	23.73	7.05	25.83	16.68	9.16	2.1039	9.1579	297.08	299.19	10.3081	50.65	4.9137	0.9265
29.3145	341.47	314.15	26.13	7.57	27.32	18.56	8.76	1.1865	8.7601	314.15	315.34	10.7572	55.66	5.1745	0.9235
29.6076	362.19	333.21	28.86	8.15	28.97	20.72	8.26	0.1115	8.2599	333.21	333.32	11.2580	61.35	5.4490	0.9203
29.9037	385.38	354.55	31.98	8.79	30.83	23.20	7.63	-1.1522	7.6337	354.55	353.40	11.8180	67.81	5.7381	0.9170
30.2027	411.45	378.53	35.56	9.50	32.92	26.06	6.85	-2.6431	6.8520	378.53	375.89	12.4455	75.20	6.0424	0.9136
30.5048	440.84	405.57	39.68	10.29	35.27	29.39	5.88	-4.4084	5.8778	405.57	401.16	13.1508	83.68	6.3629	0.9100
30.8098	474.10	436.17	44.43	11.17	37.93	33.26	4.66	-6.5066	4.6648	436.17	429.67	13.9458	93.44	6.7003	0.9063
31.1179	511.90	470.95	49.96	12.17	40.95	37.80	3.15	-9.0107	3.1544	470.95	461.94	14.8447	104.74	7.0556	0.9024
31.4291	555.03	510.63	56.41	13.28	44.40	43.13	1.27	-12.0115	1.2724	510.63	498.61	15.8647	117.87	7.4297	0.8984
31.7434	604.46	556.10	63.98	14.55	48.36	49.43	-1.08	-15.6236	-1.0761	556.10	540.48	17.0266	133.21	7.8236	0.8942
32.0608	661.38	608.47	72.90	15.98	52.91	56.92	-4.01	-19.9917	-4.0121	608.47	588.48	18.3552	151.22	8.2383	0.8898
32.3814	727.26	669.08	83.48	17.61	58.18	65.87	-7.69	-25.2999	-7.6922	669.08	643.78	19.8810	172.47	8.6750	0.8852
32.7052	803.89	739.58	96.10	19.47	64.31	76.63	-12.32	-31.7841	-12.3189	739.58	707.79	21.6415	197.69	9.1348	0.8805

KMpercapita s0p<sp & s0<s(A6-3)

A6-3-3 (4) Marginal rate is measured using the growth rate of the denominator

$\Delta\Omega(2)=((\Omega(2)(1+g_Y(2)-\Omega(1))/g_Y(2)$

$\Delta y(2)=((y(2)(1+n)-y(1))/$

$\Delta k(2)=((k(2)(1+n)-k(1))/$

Marginal rate of profit to capital: $\Delta r(2)=((r(2)(1+g_K(2)-r(1))/g_K(2)$

$\Delta c_{C/Y}{}^0$	$\sigma c_{C/Y}{}^0=\Delta c_{C/Y}{}^0/c_{C/Y}{}^0$	K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$	$(W*K)^0$		1/MPK		MPK	MPL	
-----	-----	275.000	-----	=ΔP/ΔK	-----	6.7467	=ΔW/ΔL	-----	46383		**=ΔK/ΔY**		**=ΔY/ΔK**	**=ΔY/ΔL**	
$\Delta c_{C/Y}(t)$	$\sigma c_{C/Y}(t)=\Delta c(t)/c(t)$	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$	(W*K)(t)	$g_{WK}(t)$	ΔΩ(t)	$\sigma_\Omega=\Delta\Omega/\Omega$	=1/ΔΩ(t)	Δy	$\sigma_y=\Delta y/y$
0.9400	1.0000	286.458	11.4583	0.053333	7.0278	6.9582	28.1111	0.00190	50329	0.085069	1.500000	1.000000	0.666667	30.55556	4.0400
0.9400	1.0000	298.394	11.9358	0.053333	7.3206	7.1764	28.9925	0.00184	54611	0.085069	1.500000	1.000000	0.666667	31.51357	4.0400
0.9400	1.0000	310.827	12.4331	0.053333	7.6256	7.4014	29.9015	0.00178	59256	0.085069	1.500000	1.000000	0.666667	32.50162	4.0400

$\sigma c_{C/L}(t)=\sigma c_{C/Y}(t)*\sigma_y(t)$

$\sigma c_{C/Y}{}^0=\Delta c_{C/Y}{}^0/c_{C/Y}{}^0$

$\Delta c_{C/Y}{}^0$		K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$	$(W*K)^0$		1/MPK		MPK	MPL	
-----	-----	275.000	-----	=ΔP/ΔK	-----	6.7467	=ΔW/ΔL	-----	46383		**=ΔK/ΔY**		**=ΔY/ΔK**	**=ΔY/ΔL**	
$\Delta c_{C/Y}(t)$	$\sigma c_{C/Y}(t)=\Delta c(t)/c(t)$	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$	(W*K)(t)	$g_{WK}(t)$	ΔΩ(t)	$\sigma_\Omega=\Delta\Omega/\Omega$	=1/ΔΩ(t)	Δy	$\sigma_y=\Delta y/y$
0.8945	0.9333	282.83	7.83	0.048508	4.37	6.853	17.482	0.00277	48941	0.055140	1.649199	1.096711	0.606355	19.00	2.5510
0.8935	0.9340	291.22	8.38	0.049022	4.73	6.970	18.714	0.00262	51767	0.057751	1.631914	1.082764	0.612777	20.34	2.6847
0.8925	0.9347	300.20	8.98	0.049541	5.12	7.100	20.061	0.00247	54899	0.060502	1.614810	1.069279	0.619268	21.81	2.8254
0.8913	0.9353	309.83	9.63	0.050066	5.55	7.243	21.537	0.00232	58380	0.063403	1.597886	1.056266	0.625827	23.41	2.9735
0.8901	0.9360	320.19	10.35	0.050596	6.02	7.401	23.159	0.00218	62260	0.066463	1.581139	1.043734	0.632456	25.17	3.1294
0.8888	0.9366	331.33	11.15	0.051132	6.55	7.574	24.945	0.00205	66599	0.069692	1.564567	1.031692	0.639154	27.11	3.2934
0.8875	0.9373	343.35	12.02	0.051674	7.14	7.766	26.916	0.00192	71468	0.073103	1.548169	1.020148	0.645924	29.26	3.4660
0.8860	0.9379	356.34	12.99	0.052221	7.80	7.977	29.097	0.00179	76950	0.076708	1.531944	1.009112	0.652766	31.63	3.6476
0.8844	0.9385	370.40	14.06	0.052774	8.53	8.210	31.517	0.00167	83146	0.080520	1.515888	0.998591	0.659680	34.26	3.8388
0.8828	**0.9391**	**385.65**	**15.25**	**0.053333**	**9.35**	**8.467**	**34.208**	**0.00156**	**90177**	**0.084554**	**1.500000**	**0.988595**	**0.666667**	**37.18**	**4.0400**
0.8810	0.9397	402.23	16.58	0.053898	10.28	8.752	37.211	0.00145	98187	0.088825	1.484279	0.979131	0.673728	40.45	4.2517
0.8792	0.9403	420.29	18.07	0.054469	11.32	9.067	40.571	0.00134	107352	0.093352	1.468723	0.970207	0.680864	44.10	4.4746
0.8772	0.9409	440.02	19.73	0.055046	12.49	9.416	44.342	0.00124	117889	0.098151	1.453329	0.961830	0.688075	48.20	4.7091
0.8751	0.9415	461.63	21.61	0.055629	13.82	9.804	48.588	0.00114	130061	0.103244	1.438097	0.954008	0.695363	52.81	4.9559
0.8729	0.9421	485.36	23.73	0.056218	15.34	10.236	53.385	0.00105	144192	0.108653	1.423025	0.946747	0.702728	58.03	5.2156
0.8706	0.9427	511.49	26.13	0.056814	17.07	10.717	58.824	0.00097	160688	0.114402	1.408111	0.940052	0.710171	63.94	5.4890
0.8681	0.9433	540.36	28.86	0.057415	19.06	11.254	65.012	0.00088	180054	0.120517	1.393353	0.933928	0.717693	70.67	5.7766
0.8655	0.9439	572.34	31.98	0.058024	21.34	11.857	72.080	0.00080	202925	0.127027	1.378749	0.928379	0.725295	78.35	6.0794
0.8628	0.9444	607.90	35.56	0.058638	23.98	12.533	80.187	0.00073	230109	0.133962	1.364299	0.923407	0.732977	87.16	6.3980
0.8599	0.9450	647.57	39.68	0.059259	27.04	13.295	89.522	0.00066	262637	0.141357	1.350000	0.919015	0.740741	97.31	6.7333
0.8569	0.9455	692.01	44.43	0.059887	30.60	14.157	100.319	0.00060	301835	0.149249	1.335851	0.915202	0.748586	109.04	7.0862
0.8538	0.9461	741.97	49.96	0.060521	34.77	15.134	112.865	0.00054	349429	0.157680	1.321850	0.911966	0.756515	122.68	7.4576
0.8504	0.9466	798.39	56.41	0.061162	39.68	16.247	127.513	0.00048	407676	0.166693	1.307996	0.909303	0.764528	138.60	7.8485
0.8469	0.9472	862.37	63.98	0.061810	45.48	17.519	144.701	0.00043	479565	0.176339	1.294288	0.907209	0.772626	157.28	8.2598
0.8433	0.9477	935.27	72.90	0.062465	52.37	18.979	164.976	0.00038	569085	0.186670	1.280722	0.905675	0.780809	179.32	8.6927
0.8394	0.9483	1018.75	83.48	0.063126	60.60	20.662	189.025	0.00033	681620	0.197747	1.267300	0.904690	0.789079	205.46	9.1483
0.8354	0.9488	1114.84	96.10	0.063795	70.50	22.613	217.716	0.00029	824511	0.209634	1.254017	0.904241	0.797437	236.65	9.6277

KMpercapita s0p<sp & s0<s(A6-3)

A6-3-3 (5)	$\Delta(r/w)(2)=((r/w)(2)(1+g_{WK}(2)-(r/w)(1))/g_{WK}(2)$	Elasticity of substitution, $\sigma(t)$	$\sigma_{C/Y}^*(t)=\sigma_{C/L}^*(t)/\sigma_y^*(t)$	$\sigma_\Omega^*(t)=\sigma_k^*(t)/\sigma_y^*(t)$	$\sigma r^*(t)=\Delta r^*(t)/r^*(t)$	$\sigma_\alpha^*(t)=\sigma_\Omega^*(t)*\sigma_r^*(t)$
'n	where, $g_{WK}(2)=((W*K)(2)-(W*K)(1))/(W*K)(1)$	$\sigma(t)=(\Delta k/k)/(\Delta(r/w)(t)/(r/w)(t))$	1.000000	1.000000	1.000000	1.000000

(A): $\sigma_k=\sigma_\Omega*\sigma_y$ =ΔK/ΔL			$(r/w)^0$ 0.007905	(B): $\sigma(r/w)(t)=\Delta(r/w)(t)/(r/w)(t)$ Y=wL+rK is confirmed.			$p_w^*(t)=1/\sigma y^*(t)$	$p_r^*(t)=\sigma_\Omega^*(t)$	$\sigma^*\gamma(t)=\Delta\gamma^*(t)/\gamma^*(t)$		$\sigma\theta^*(t)=\Delta\theta^*(t)/\theta^*(t)$		$\zeta^*=C_D^*/S^*=\gamma^*/\theta^*$		$\sigma\zeta^*(t)=\Delta\zeta^*(t)/\zeta^*(t)$
=Δk/k	Δk	Δ(r/w)(t)	r/w(t)	Δ(r/w)(t)/(r/w)(t)	σ(t)=(A)/(B)	Y=wL+rK	p_w=(w/MPL)/(1-α)	p_r=(r/MPK)/α	Δγ*(t)		Δθ*(t)			$\Delta\zeta^*(t)$	
4.0400	45.8333	0.004840	0.007665	0.631441	6.398067	190.972	0.24752	1.00000	0.5	1	1.5	1	0.333333	0.333333	1
4.0400	47.2704	0.004693	0.007432	0.631441	6.398067	198.929	0.24752	1.00000	0.5	1	1.5	1	0.333333	0.333333	1
4.0400	48.7524	0.004550	0.007206	0.631441	6.398067	207.218	0.24752	1.00000	0.5	1	1.5	1	0.333333	0.333333	1

(A): $\sigma_k=\sigma_\Omega*\sigma_y$ =ΔK/ΔL			$(r/w)^0$ 0.007905	(B): $\sigma(r/w)(t)=\Delta(r/w)(t)/(r/w)(t)$ Y=wL+rK is confirmed.			$p_w(t)=1/\sigma y(t)$ p_w=(w/MPL)/(1-α)	$p_r(t)=\sigma_\Omega(t)$ p_r=(r/MPK)/α	$\sigma\gamma(t)=\Delta\gamma(t)/\gamma(t)$		$\sigma\theta(t)=\Delta\theta(t)/\theta(t)$		$\zeta_s=C_D/S=\gamma/\theta$		$\sigma\zeta(t)=\Delta\zeta(t)/\zeta(t)$
=Δk/k	Δk	Δ(r/w)(t)	r/w(t)	Δ(r/w)(t)/(r/w)(t)	σ(t)=(A)/(B)	Y=wL+rK			Δγ(t)		Δθ(t)			$\Delta\zeta_s(t)$	
2.7978	31.34	0.005186	0.007763	0.667999	4.188263	188.084	0.39200	1.09671	-1.575672	-0.947165	1.315904	0.797905	0.920529	-0.241934	-0.262821
2.9069	33.19	0.005052	0.007615	0.663382	4.382000	193.220	0.37248	1.08276	-1.572169	-1.046419	1.302112	0.797905	0.844216	-0.248827	-0.294743
3.0212	35.21	0.004917	0.007461	0.659041	4.584228	198.781	0.35393	1.06928	-1.567638	-1.161611	1.288465	0.797905	0.770935	-0.256120	-0.332219
3.1408	37.41	0.004782	0.007301	0.654958	4.795484	204.811	0.33630	1.05627	-1.562033	-1.296785	1.274961	0.797905	0.700566	-0.263804	-0.376558
3.2662	39.80	0.004646	0.007136	0.651116	5.016358	211.359	0.31955	1.04373	-1.555306	-1.457504	1.261599	0.797905	0.632993	-0.271870	-0.429499
3.3978	42.42	0.004510	0.006965	0.647500	5.247495	218.484	0.30364	1.03169	-1.547416	-1.651634	1.248376	0.797905	0.568105	-0.280308	-0.493408
3.5358	45.29	0.004372	0.006788	0.644094	5.489599	226.248	0.28852	1.02015	-1.538325	-1.890683	1.235292	0.797905	0.505796	-0.289105	-0.571585
3.6809	48.45	0.004234	0.006606	0.640883	5.743439	234.725	0.27415	1.00911	-1.528000	-2.192185	1.222345	0.797905	0.445962	-0.298249	-0.668777
3.8334	51.93	0.004094	0.006419	0.637852	6.009855	243.999	0.26050	0.99859	-1.516414	-2.584240	1.209534	0.797905	0.388506	-0.307725	-0.792072
3.9939	**55.77**	**0.003954**	**0.006227**	**0.634988**	**6.289761**	**254.165**	**0.24752**	**0.98859**	**-1.503547**	**-3.114904**	**1.196858**	**0.797905**	**0.333333**	**-0.317517**	**-0.952552**
4.1630	60.03	0.003813	0.006030	0.632277	6.584149	265.335	0.23520	0.97913	-1.489388	-3.873719	1.184314	0.797905	0.280353	-0.327610	-1.168564
4.3413	64.77	0.003670	0.005828	0.629706	6.894101	277.635	0.22349	0.97021	-1.473932	-5.048810	1.171901	0.797905	0.229477	-0.337985	-1.472848
4.5293	70.05	0.003527	0.005623	0.627263	7.220786	291.213	0.21236	0.96183	-1.457186	-7.114107	1.159619	0.797905	0.180623	-0.348625	-1.930120
4.7280	75.95	0.003383	0.005413	0.624938	7.565474	306.239	0.20178	0.95401	-1.439168	-11.704386	1.147465	0.797905	0.133711	-0.359510	-2.688714
4.9379	82.57	0.003238	0.005200	0.622719	7.929537	322.914	0.19173	0.94675	-1.419906	-30.783646	1.135439	0.797905	0.088662	-0.370621	-4.180147
5.1599	90.03	0.003093	0.004984	0.620596	8.314452	341.472	0.18218	0.94005	-1.399442	54.108606	1.123539	0.797905	0.045404	-0.381937	-8.412050
5.3950	98.46	0.002947	0.004765	0.618560	8.721815	362.187	0.17311	0.93393	-1.377827	14.784972	1.111763	0.797905	0.003864	-0.393439	#########
5.6440	108.02	0.002801	0.004543	0.616604	9.153336	385.384	0.16449	0.92838	-1.355131	8.684766	1.100111	0.797905	-0.036025	-0.405104	11.245060
5.9080	118.91	0.002656	0.004320	0.614719	9.610849	411.448	0.15630	0.92341	-1.331434	6.205125	1.088581	0.797905	-0.074329	-0.416913	5.609014
6.1880	131.36	0.002511	0.004096	0.612900	10.096313	440.837	0.14851	0.91901	-1.306829	4.858748	1.077172	0.797905	-0.111111	-0.428844	3.859593
6.4853	145.66	0.002366	0.003871	0.611142	10.611814	474.101	0.14112	0.91520	-1.281427	4.012174	1.065882	0.797905	-0.146432	-0.440875	3.010792
6.8011	162.16	0.002223	0.003647	0.609440	11.159567	511.898	0.13409	0.91197	-1.255348	3.429954	1.054711	0.797905	-0.180349	-0.452986	2.511726
7.1366	181.29	0.002081	0.003423	0.607792	11.741909	555.028	0.12741	0.90930	-1.228725	3.004517	1.043657	0.797905	-0.212918	-0.465156	2.184675
7.4934	203.57	0.001940	0.003201	0.606196	12.361301	604.461	0.12107	0.90721	-1.201703	2.679755	1.032719	0.797905	-0.244193	-0.477365	1.954867
7.8728	229.66	0.001802	0.002981	0.604652	13.020318	661.384	0.11504	0.90567	-1.174437	2.423557	1.021895	0.797905	-0.274225	-0.489592	1.785363
8.2764	260.38	0.001667	0.002764	0.603161	13.721637	727.256	0.10931	0.90469	-1.147089	2.216236	1.011185	0.797905	-0.303064	-0.501818	1.655813
8.7058	296.76	0.001535	0.002551	0.601726	14.468027	803.886	0.10387	0.90424	-1.119826	2.045061	1.000587	0.797905	-0.330757	-0.514024	1.554082

KMpercapita s0p<sp & s0<s(A6-3)

Appendix 6-3-4 Case study of the Kamiryo Model by gamma, $Y=S_P+S_D+S_W+C_D+C_W$: both $s_{S/Y}$ and $s_{SP/Y}$ are variables (1) $g_Y(t)=s_{SP/Y}(t)/(1-s_{SP/Y}(t))$ $I/Y^0(t)=s_{S/Y}(t)(1+g_Y(t))$ $g_K(t)=(I/Y^0)(t)/\Omega(t-1)$

1 Balanced growth-state: $g^*_Y=g^*_{KP}=g_Y=g_{KP}$ Ω is constant and $s^*_{SP/Y}$ is not equal to n under $\lambda=0$

gamma	$L^0=$	n	Ω^0	α	k^0	$s^*_{SP/P}$	$s^*_{SP/Y}$	$s^*_{SWD/WD}$	$s^*_{SWD/Y}$	$s^*_{S/Y}=s^*_{SP/Y}\Omega^0$	variables	y^0	r^0
1	25	0.01	1.5	0.08	11	0.40000	0.03200	0.01653	0.01600	0.048		7.333333	0.053333

$\theta=S/S_p=\Omega=K/Y$	time	$g^*_Y(t)$	$g^*_K(t)$	$g^*_k(t)$	$g^*_y(t)$	$g^*_\Omega(t)$	$\Omega^*(t)$	$c^*_{D/Y}=\alpha-s^*_{S/Y}$	$r^*(t)$	$k^*(t)$	$y^*(t)$	$I/Y^{0*}(t)$	$A^*(t)$	$\lambda^*(t)$
1.5	1	0.033058	0.033058	0.022830	0.022830	0.000000	1.500000	0.032000	0.053333	11.251125	7.500750	0.049587	0.460396	-----
	2	0.033058	0.033058	0.022830	0.022830	0.000000	1.500000	0.032000	0.053333	11.507983	7.671989	0.049587	0.460396	0.000000
	3	0.033058	0.033058	0.022830	0.022830	0.000000	1.500000	0.032000	0.053333	11.770705	7.847137	0.049587	0.460396	0.000000

from DRC to IRC

2 Unbalanced growth-state Ω, $s_{SP/Y}$, and $s_{S/Y}$ are variables, where saving differs from profit

$a=s^*_{S/Y}/s^0_{S/Y}$	$g_{S/Y}=a^{\wedge}(1/10)-1$	$\theta^*=s^*_{S/Y}/s^*_{SP/Y}$	$\Psi^*=\Omega^0/\theta^*$	$A(t)=g_y(t)/(I/Y^0)$
1.2	0.018399	1.500000	1.000000	$\lambda=(A(t)-A(t-1))/A(t-1)$

$b=s^*_{SP/Y}/s^0_{SP/Y}$	$g_{SP/Y}=b^{\wedge}(1/10)-1$	$L^0=$	n	Ω^0	α	k^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	$s^0_{SWD/WD}$	$s^0_{SWD/Y}$	$s^0_{S/Y}$	$\theta^0=s^0_{S/Y}/s^0_{SP/Y}$	$\Psi^0=\Omega^0/\theta^0$	y^0	r^0
1.333333	0.029186	25	0.01	1.5	0.08	11	**0.30**	0.024000	0.016393	0.016000	**0.04**	1.666667	0.900000	7.333333	0.053333

$\theta(t)=s_{S/Y}(t)/s_{SP/Y}(t)$	$\Psi(t)=\Omega^0/\theta(t)$	time	$g_Y(t)=s_{SP/Y}(t)/(1-s_{SP/}$	$g_K(t)$	$g_k(t)$	$g_y(t)$	$g_\Omega(t)$	$\Omega(t)$	$s_{S/Y}(t)$	$r(t)$	$k(t)$	$y(t)$	$I/Y^0(t)$	$A(t)$	$\lambda(t)$
1.649199	0.909533	1	0.025326	0.027845	0.017668	0.015174	0.002457	1.503685	0.040736	0.053203	11.1944	7.4446	0.041768	0.363302	-----
1.631914	0.919166	2	0.026084	0.028309	0.018128	0.015925	0.002168	1.506945	0.041485	0.053088	11.3973	7.5632	0.042568	0.374116	0.029765
1.614810	0.928902	3	0.026866	0.028789	0.018603	0.016699	0.001873	1.509767	0.042249	0.052988	11.6093	7.6895	0.043384	0.384918	0.028874
1.597886	0.938740	4	0.027672	0.029287	0.019096	0.017497	0.001572	1.512140	0.043026	0.052905	11.8310	7.8240	0.044217	0.395711	0.028040
1.581139	0.948683	5	0.028503	0.029803	0.019607	0.018320	0.001265	1.514052	0.043818	0.052838	12.0630	7.9673	0.045067	0.406497	0.027257
1.564567	0.958732	6	0.029359	0.030339	0.020137	0.019167	0.000952	1.515493	0.044624	0.052788	12.3059	8.1201	0.045934	0.417279	0.026522
1.548169	0.968886	7	0.030242	0.030894	0.020687	0.020041	0.000633	1.516452	0.045445	0.052755	12.5605	8.2828	0.046819	0.428057	0.025830
1.531944	0.979148	8	0.031152	0.031470	0.021258	0.020942	0.000309	1.516920	0.046281	0.052738	12.8275	8.4563	0.047723	0.438835	0.025178
1.515888	0.989519	9	0.032090	0.032068	0.021850	0.021872	-0.000021	1.516888	0.047133	0.052740	13.1077	8.6412	0.048645	0.449614	0.024563
1.500000	**1.000000**	**10**	**0.033058**	**0.032690**	**0.022465**	**0.022830**	**-0.000356**	**1.516348**	**0.048000**	**0.052758**	**13.4022**	**8.8385**	**0.049587**	**0.460396**	**0.023982**
1.484279	1.010592	11	0.034056	0.033335	0.023104	0.023817	-0.000697	1.515291	0.048883	0.052795	13.7119	9.0490	0.050548	0.471184	0.023432
1.468723	1.021296	12	0.035084	0.034006	0.023768	0.024836	-0.001042	1.513713	0.049783	0.052850	14.0378	9.2737	0.051529	0.481979	0.022911
1.453329	1.032113	13	0.036145	0.034703	0.024459	0.025886	-0.001392	1.511606	0.050699	0.052924	14.3811	9.5138	0.052531	0.492784	0.022418
1.438097	1.043045	14	0.037240	0.035429	0.025177	0.026970	-0.001746	1.508967	0.051631	0.053016	14.7432	9.7704	0.053554	0.503600	0.021949
1.423025	1.054093	15	0.038368	0.036183	0.025924	0.028087	-0.002104	1.505792	0.052581	0.053128	15.1254	10.0448	0.054599	0.514430	0.021505
1.408111	1.065257	16	0.039532	0.036968	0.026701	0.029240	-0.002467	1.502077	0.053549	0.053260	15.5292	10.3385	0.055666	0.525275	0.021082
1.393353	1.076540	17	0.040733	0.037785	0.027510	0.030429	-0.002833	1.497822	0.054534	0.053411	15.9564	10.6531	0.056755	0.536137	0.020680
1.378749	1.087943	18	0.041972	0.038635	0.028352	0.031655	-0.003202	1.493025	0.055537	0.053582	16.4088	10.9903	0.057868	0.547019	0.020297
1.364299	1.099466	19	0.043250	0.039521	0.029228	0.032920	-0.003574	1.487689	0.056559	0.053775	16.8884	11.3521	0.059006	0.557922	0.019932
1.350000	1.111111	20	0.044568	0.040443	0.030142	0.034226	-0.003949	1.481814	0.057600	0.053988	17.3975	11.7407	0.060167	0.568849	0.019584
1.335851	1.122880	21	0.045929	0.041405	0.031094	0.035573	-0.004325	1.475404	0.058660	0.054222	17.9384	12.1583	0.061354	0.579800	0.019252
1.321850	1.134773	22	0.047333	0.042406	0.032086	0.036963	-0.004704	1.468465	0.059739	0.054479	18.5140	12.6077	0.062567	0.590778	0.018935
1.307996	1.146792	23	0.048782	0.043451	0.033120	0.038398	-0.005083	1.461001	0.060838	0.054757	19.1272	13.0918	0.063806	0.601785	0.018632
1.294288	1.158939	24	0.050277	0.044540	0.034198	0.039878	-0.005462	1.453020	0.061958	0.055058	19.7813	13.6139	0.065073	0.612823	0.018342
1.280722	1.171214	25	0.051820	0.045675	0.035322	0.041406	-0.005842	1.444532	0.063098	0.055381	20.48	14.18	0.066367	0.623894	0.018065
1.267300	1.183619	26	0.053413	0.046860	0.036495	0.042984	-0.006221	1.435545	0.064259	0.055728	21.23	14.79	0.067691	0.634999	0.017800
1.254017	1.196156	27	0.055058	0.048096	0.037719	0.044612	-0.006599	1.426072	0.065441	0.056098	22.03	15.45	0.069044	0.646141	0.017546

KMpercapita s0p<sp & s0<s(A6-3)

A6-3-4 (2) Relationships among saving, profit, undistributed profit, dividends, saved dividends, consumed dividends, saved wages, and consumed wages: using ratios

$\gamma(t)=(1/s_P)(t)-\Omega(t)$ $c_{D/Y}(t)=\gamma(t)*s_{SP/Y}(t)$ $s_{WD/WD}(t)=s_{WD/Y}(t)/(1-s_{SP/Y}(t))$

gamma given	s^0	c^0	Ω^0	θ^0	γ^0	$c_{D/Y}{}^0$	$c_{W/Y}{}^0$
1	0.05	0.95200	1.50000	1.50000	1	0.03200	0.92000

$s_{SP/Y}{}^*(t)$	$s^*_P(t)=s^*_{SP/P}(t)$	$1-s^*_P(t)$	$s^*(t)=s^*_{S/Y}(t)$	$c^*(t)=1-s^*(t)$	$\Omega^*(t)$	$\theta^*(t)$	$\Psi^*(t)$	$\mu^*(t)=(S/P)^*(t)$	$(1/s_P)^*(t)=\Omega+\gamma$	$\gamma^*(t)=(1/s_P)(t)-\Omega(t)$	$c^*_{D/Y}(t)=\gamma(t)*s_S$	$c^*_{W/Y}(t)$	$s^*_{WD/Y}(t)$	$s^*_{WD/WD}(t)$	$(\Omega+\gamma)/\Omega$
0.03200	0.40000	0.60000	0.04800	0.95200	1.50000	1.50000	1.00000	0.60000	2.50000	1.00000	0.03200	0.92000	0.01600	0.01653	1.66667
0.03200	0.40000	0.60000	0.04800	0.95200	1.50000	1.50000	1.00000	0.60000	2.50000	1.00000	0.03200	0.92000	0.01600	0.01653	1.66667
0.03200	0.40000	0.60000	0.04800	0.95200	1.50000	1.50000	1.00000	0.60000	2.50000	1.00000	0.03200	0.92000	0.01600	0.01653	1.66667

$c^*_{D/D}=c^*_{D/Y}/(\alpha-s^*_{SP/Y})$

0.66667 : Dividends are not always saved.

$\gamma(t)=(1/s_P)(t)-\Omega(t)$ $c_{D/Y}(t)=\gamma(t)*s_{SP/Y}(t)$

from DRC to IRC

	$s_P{}^0$	s^0	c^0	Ω^0	θ^0	$1/s_P{}^0$	γ^0	$c_{D/Y}{}^0$	$c_{W/Y}{}^0$
0.66667									
0.66667	0.30000	0.04	0.96000	1.50000	1.66667	3.33333	1.83333	0.044	0.91600

$s_{SP/Y}(t)$	$s_P(t)=s_{SP/P}(t)$	$1-s_P(t)$	$s(t)=s_{S/Y}(t)$	$c(t)=1-s(t)$	$\Omega(t)$	$\theta(t)$	$\Psi(t)$	$\mu(t)=(S/P)(t)$	$(1/s_P)(t)=\Omega(t)+\gamma(t)$	**gamma (t)**	$c_{D/Y}(t)$	$c_{W/Y}(t)$	$s_{WD/Y}(t)$	$s_{WD/WD}(t)$	$(\Omega+\gamma)/\Omega$
0.02470	0.30876	0.69124	0.04074	0.95926	1.50369	1.64920	0.91177	0.50920	3.23881	1.73512	0.04286	0.91641	0.01604	0.01644	2.15391
0.02542	0.31777	0.68223	0.04149	0.95851	1.50695	1.63191	0.92342	0.51857	3.14696	1.64001	0.04169	0.91682	0.01606	0.01648	2.08830
0.02616	0.32704	0.67296	0.04225	0.95775	1.50977	1.61481	0.93495	0.52811	3.05772	1.54795	0.04050	0.91725	0.01609	0.01652	2.02529
0.02693	0.33659	0.66341	0.04303	0.95697	1.51214	1.59789	0.94634	0.53783	2.97100	1.45886	0.03928	0.91769	0.01610	0.01654	1.96477
0.02771	0.34641	0.65359	0.04382	0.95618	1.51405	1.58114	0.95757	0.54772	2.88675	1.37270	0.03804	0.91814	0.01610	0.01656	1.90664
0.02852	0.35652	0.64348	0.04462	0.95538	1.51549	1.56457	0.96863	0.55780	2.80489	1.28940	0.03678	0.91860	0.01610	0.01658	1.85081
0.02935	0.36693	0.63307	0.04545	0.95455	1.51645	1.54817	0.97951	0.56806	2.72535	1.20889	0.03549	0.91907	0.01609	0.01658	1.79719
0.03021	0.37764	0.62236	0.04628	0.95372	1.51692	1.53194	0.99019	0.57852	2.64806	1.13114	0.03417	0.91955	0.01607	0.01657	1.74568
0.03109	0.38866	0.61134	0.04713	0.95287	1.51689	1.51589	1.00066	0.58916	2.57297	1.05608	0.03284	0.92003	0.01604	0.01655	1.69621
0.03200	**0.40000**	**0.60000**	**0.04800**	**0.95200**	**1.51635**	**1.50000**	**1.01090**	**0.60000**	**2.50000**	**0.98365**	**0.03148**	**0.92052**	**0.01600**	**0.01653**	**1.64870**
0.03293	0.41167	0.58833	0.04888	0.95112	1.51529	1.48428	1.02089	0.61104	2.42910	0.91381	0.03010	0.92102	0.01595	0.01649	1.60306
0.03390	0.42369	0.57631	0.04978	0.95022	1.51371	1.46872	1.03063	0.62228	2.36022	0.84651	0.02869	0.92152	0.01589	0.01644	1.55922
0.03488	0.43606	0.56394	0.05070	0.94930	1.51161	1.45333	1.04010	0.63373	2.29329	0.78168	0.02727	0.92203	0.01581	0.01639	1.51712
0.03590	0.44878	0.55122	0.05163	0.94837	1.50897	1.43810	1.04928	0.64539	2.22825	0.71929	0.02582	0.92254	0.01573	0.01631	1.47667
0.03695	0.46188	0.53812	0.05258	0.94742	1.50579	1.42302	1.05816	0.65727	2.16506	0.65927	0.02436	0.92306	0.01563	0.01623	1.43782
0.03803	0.47536	0.52464	0.05355	0.94645	1.50208	1.40811	1.06673	0.66936	2.10367	0.60159	0.02288	0.92357	0.01552	0.01613	1.40050
0.03914	0.48923	0.51077	0.05453	0.94547	1.49782	1.39335	1.07498	0.68168	2.04401	0.54619	0.02138	0.92409	0.01540	0.01602	1.36465
0.04028	0.50351	0.49649	0.05554	0.94446	1.49303	1.37875	1.08288	0.69422	1.98604	0.49302	0.01986	0.92460	0.01526	0.01590	1.33022
0.04146	0.51821	0.48179	0.05656	0.94344	1.48769	1.36430	1.09044	0.70699	1.92972	0.44204	0.01833	0.92512	0.01510	0.01576	1.29713
0.04267	0.53333	0.46667	0.05760	0.94240	1.48181	1.35000	1.09764	0.72000	1.87500	0.39319	0.01678	0.92562	0.01493	0.01560	1.26534
0.04391	0.54890	0.45110	0.05866	0.94134	1.47540	1.33585	1.10447	0.73325	1.82183	0.34642	0.01521	0.92613	0.01475	0.01543	1.23480
0.04519	0.56492	0.43508	0.05974	0.94026	1.46846	1.32185	1.11092	0.74674	1.77016	0.30170	0.01363	0.92663	0.01455	0.01523	1.20545
0.04651	0.58141	0.41859	0.06084	0.93916	1.46100	1.30800	1.11698	0.76048	1.71997	0.25896	0.01205	0.92712	0.01433	0.01502	1.17725
0.04787	0.59838	0.40162	0.06196	0.93804	1.45302	1.29429	1.12264	0.77447	1.67119	0.21817	0.01044	0.92760	0.01409	0.01480	1.15015
0.04927	0.61584	0.38416	0.06310	0.93690	1.44453	1.28072	1.12790	0.78872	1.62380	0.17927	0.00883	0.92807	0.01383	0.01455	1.12410
0.05071	0.63381	0.36619	0.06426	0.93574	1.43555	1.26730	1.13276	0.80323	1.57775	0.14220	0.00721	0.92853	0.01355	0.01428	1.09906
0.05219	0.65231	0.34769	0.06544	0.93456	1.42607	1.25402	1.13720	0.81801	1.53301	0.10693	0.00558	0.92898	0.01326	0.01399	1.07499

KMpercapita s0p<sp & s0<s(A6-3)

A6-3-4 (3) Structure of the elasticity of substitution

$S_D^{*0}=D^{*0}-C_D^{*0}$	$S_W^{*0}=S_{WD}^{*0}-S_D$	$S_W^{*0}=W^{*0}-C_W^{*0}$	$A^{*0}=C_D^{*0}+S_{WD}$	$S_W^{*0}=A^{*0}-D^{*0}$
2.93333	0.0000	0.00000	8.80000	0.00000

L^0	Y^0	W^0	S^0	S_{WD}^0	P^0	S_P^0	D^0	C_D^0	$C_D^0+S_{WD}^0$	$C_W^0=C^0-C_D^0$	C^0	$c_{C/L}^0=C^0/L^0$	$\Delta c_{C/L}^0$	$\sigma c_{C/L}^0=\Delta c_{C/L}^0/c_{C/L}^0$	$c_{C/Y}^0=C^0/Y^0$
25	183.3333	168.6667	8.8000	2.9333	14.6667	5.8667	8.8000	5.8667	8.8000	168.6667	174.5333	6.9813	-----	-----	0.9520
$L^*(t)$	$Y^*(t)$	$W^*(t)$	$S^*(t)$	$S^*_{WD}(t)$	$P^*(t)$	$S_P^*(t)$	$D^*(t)$	$C_D^*(t)$	$C_{D(t)}+S_{WD(t)}$	$C_W(t)=C(t)-C_D$	$C^*(t)=c^*(t)*Y^*(t)$	$c_{C/L}^*(t)=C^*(t)/L^*(t)$	$\Delta c_{C/L}^*(t)$	$\sigma c_{C/L}^*(t)=\Delta c^*(t)/c^*$	$c_{C/Y}^*(t)=C^*(t)/Y^*(t)$
25.2500	189.3939	174.2424	9.0909	3.0303	15.1515	6.0606	9.0909	6.0606	9.0909	174.2424	180.3030	7.1407	23.0788	3.2320	0.9520
25.5025	195.6549	180.0025	9.3914	3.1305	15.6524	6.2610	9.3914	6.2610	9.3914	180.0025	186.2635	7.3037	23.6057	3.2320	0.9520
25.7575	202.1228	185.9530	9.7019	3.2340	16.1698	6.4679	9.7019	6.4679	9.7019	185.9530	192.4209	7.4705	24.1446	3.2320	0.9520

$S_D^0=D^0-C_D^0$	$S_W^0=S_{WD}^0-S_D^0$	$S_W^0=W^0-C_W^0$	$A=C_D^0+S_{WD}^0$	$S_W^0=A^0-D^0$
2.9333	0.0000	0.00000	10.26667	0.00000

Marginal rate of per capita consumption: $\Delta c_{C/L}(2)=((c_{C/L}(2)(1+n)-c_{C/L}(1))/n$

L^0	Y^0	W^0	S^0	S_{WD}^0	P^0	S_P^0	D^0	C_D^0	$\gamma=C_D^0/S_P^0$	$C_W^0=C^0-C_D^0$	$C^0=c_{C/D}^0*Y^0$	$c_{C/L}(t)=C(t)/L(t)=c_{C/Y}(t)*y(t)$ $c_{C/L}^0=C^0/L^0$	$\Delta c_{C/L}^0$	$\sigma c_{C/L}^0=\Delta c_{C/L}^0/c_{C/L}^0$	$c_{C/Y}^0=C^0/Y^0$
25	183.3333	168.6667	7.3333	2.9333	14.6667	4.4000	10.2667	7.3333	10.2667	168.6667	176.0000	7.0400	-----	-----	0.9600
$L(t)$	$Y(t)$	$W(t)$	$S(t)=s_{S/Y}(t)*Y(t)$	$S_{WD}(t)=S(t)-S_P(t)$	$P(t)$	$S_P(t)$	$D(t)$	$C_D(t)=S_P(t)*\gamma$	$\gamma(t)$	$C_W(t)=C(t)-C_D$	$C(t)=c(t)*Y(t)$	$c_{C/L}(t)=C(t)/L(t)$	$\Delta c_{C/L}(t)$	$\sigma c_{C/L}(t)=\Delta c(t)/c(t)$	$c_{C/Y}(t)=C(t)/Y(t)$
25.2500	187.98	172.94	7.66	3.01	15.04	4.64	10.40	7.3807	10.3950	172.94	180.32	7.1413	17.28	2.4192	0.9593
25.5025	192.88	177.45	8.00	3.10	15.43	4.90	10.53	7.4287	10.5271	177.45	184.88	7.2494	18.06	2.4906	0.9585
25.7575	198.06	182.22	8.37	3.19	15.84	5.18	10.66	7.4771	10.6630	182.22	189.69	7.3646	18.88	2.5641	0.9578
26.0151	203.54	187.26	8.76	3.28	16.28	5.48	10.80	7.5257	10.8026	187.26	194.78	7.4874	19.77	2.6398	0.9570
26.2753	209.34	192.60	9.17	3.37	16.75	5.80	10.95	7.5745	10.9460	192.60	200.17	7.6182	20.70	2.7177	0.9562
26.5380	215.49	198.25	9.62	3.47	17.24	6.15	11.09	7.6232	11.0931	198.25	205.87	7.7577	21.71	2.7979	0.9554
26.8034	222.01	204.25	10.09	3.57	17.76	6.52	11.24	7.6714	11.2437	204.25	211.92	7.9064	22.77	2.8804	0.9546
27.0714	228.92	210.61	10.59	3.68	18.31	6.92	11.40	7.7190	11.3979	210.61	218.33	8.0649	23.92	2.9654	0.9537
27.3421	236.27	217.37	11.14	3.79	18.90	7.35	11.56	7.7655	11.5553	217.37	225.13	8.2339	25.14	3.0529	0.9529
27.6156	**244.08**	**224.55**	**11.72**	**3.91**	**19.53**	**7.81**	**11.72**	**7.8105**	**11.7158**	**224.55**	**232.36**	**8.4142**	**26.45**	**3.1429**	**0.9520**
27.8917	252.39	232.20	12.34	4.03	20.19	8.31	11.88	7.8536	11.8791	232.20	240.05	8.6066	27.85	3.2356	0.9511
28.1706	261.25	240.35	13.01	4.15	20.90	8.86	12.04	7.8942	12.0447	240.35	248.24	8.8121	29.35	3.3311	0.9502
28.4523	270.69	249.03	13.72	4.28	21.66	9.44	12.21	7.9316	12.2123	249.03	256.97	9.0315	30.97	3.4293	0.9493
28.7369	280.77	258.31	14.50	4.42	22.46	10.08	12.38	7.9651	12.3812	258.31	266.27	9.2659	32.71	3.5304	0.9484
29.0242	291.54	268.22	15.33	4.56	23.32	10.77	12.55	7.9937	12.5508	268.22	276.21	9.5166	34.59	3.6345	0.9474
29.3145	303.07	278.82	16.23	4.70	24.25	11.53	12.72	8.0165	12.7201	278.82	286.84	9.7849	36.61	3.7416	0.9465
29.6076	315.41	290.18	17.20	4.86	25.23	12.34	12.89	8.0323	12.8882	290.18	298.21	10.0721	38.80	3.8519	0.9455
29.9037	328.65	302.36	18.25	5.01	26.29	13.24	13.05	8.0396	13.0537	302.36	310.40	10.3800	41.16	3.9654	0.9445
30.2027	342.87	315.44	19.39	5.18	27.43	14.21	13.22	8.0370	13.2152	315.44	323.47	10.7101	43.72	4.0823	0.9434
30.5048	358.15	329.49	20.63	5.35	28.65	15.28	13.37	8.0225	13.3708	329.49	337.52	11.0644	46.50	4.2026	0.9424
30.8098	374.60	344.63	21.97	5.52	29.97	16.45	13.52	7.9939	13.5184	344.63	352.62	11.4451	49.52	4.3264	0.9413
31.1179	392.33	360.94	23.44	5.71	31.39	17.73	13.66	7.9489	13.6555	360.94	368.89	11.8546	52.80	4.4539	0.9403
31.4291	411.46	378.55	25.03	5.89	32.92	19.14	13.78	7.8844	13.7789	378.55	386.43	12.2954	56.37	4.5851	0.9392
31.7434	432.15	397.58	26.78	6.09	34.57	20.69	13.88	7.7970	13.8850	397.58	405.38	12.7704	60.28	4.7201	0.9380
32.0608	454.55	418.18	28.68	6.29	36.36	22.39	13.97	7.6829	13.9695	418.18	425.86	13.2830	64.54	4.8592	0.9369
32.3814	478.82	440.52	30.77	6.49	38.31	24.28	14.03	7.5374	14.0271	440.52	448.06	13.8368	69.22	5.0023	0.9357
32.7052	505.19	464.77	33.06	6.70	40.42	26.36	14.05	7.3551	14.0518	464.77	472.13	14.4359	74.34	5.1496	0.9346

KMpercapita s0p<sp & s0<s(A6-3)

A6-3-4 (4) Marginal rate is measured using the growth rate of the denominator

$\Delta\Omega(2)=((\Omega(2)(1+g_Y(2)-\Omega(1))/g_Y(2)$ $\Delta y(2)=((y(2)(1+n)-y(1))/$

Marginal rate of profit to capital: $\Delta r(2)=((r(2)(1+g_K(2)-r(1))/g_K(2)$ $\Delta k(2)=((k(2)(1+n)-k(1))/$

$\Delta c_{C/Y}^0$	$\sigma c_{C/Y}^0=\Delta c_{C/Y}^0/c_{C/Y}^0$	K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$	$(W*K)^0$		1/MPK		MPK	MPL	
-----	-----	275.000	-----	=ΔP/ΔK	-----	6.7467	=ΔW/ΔL	-----	46383		**=ΔK/ΔY**		**=ΔY/ΔK**	**=ΔY/ΔL**	
$\Delta c_{C/Y}(t)$	$\sigma c_{C/Y}(t)=\Delta c(t)/c(t)$	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$	(W*K)(t)	$g_{WK}(t)$	ΔΩ(t)	$\sigma_\Omega=\Delta\Omega/\Omega$	=1/ΔΩ(t)	Δy	$\sigma_y=\Delta y/y$
0.9520	1.0000	284.091	9.0909	0.053333	5.5758	6.9007	22.3030	0.00239	49501	0.067209	1.500000	1.000000	0.666667	24.24242	3.2320
0.9520	1.0000	293.482	9.3914	0.053333	5.7601	7.0582	22.8122	0.00234	52828	0.067209	1.500000	1.000000	0.666667	24.79587	3.2320
0.9520	1.0000	303.184	9.7019	0.053333	5.9505	7.2194	23.3330	0.00229	56378	0.067209	1.500000	1.000000	0.666667	25.36195	3.2320

$\sigma c_{C/L}(t)=\sigma c_{C/Y}(t)*\sigma_y(t)$

$\sigma c_{C/Y}^0=\Delta c_{C/Y}^0/c_{C/Y}^0$

$\Delta c_{C/Y}^0$		K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$	$(W*K)^0$		1/MPK		MPK	MPL	
-----	-----	275.000	-----	=ΔP/ΔK	-----	6.7467	=ΔW/ΔL	-----	46383		**=ΔK/ΔY**		**=ΔY/ΔK**	**=ΔY/ΔL**	
$\Delta c_{C/Y}(t)$	$\sigma c_{C/Y}(t)=\Delta c(t)/c(t)$	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$	(W*K)(t)	$g_{WK}(t)$	ΔΩ(t)	$\sigma_\Omega=\Delta\Omega/\Omega$	=1/ΔΩ(t)	Δy	$\sigma_y=\Delta y/y$
0.9302	0.9697	282.66	7.66	0.048508	4.27	6.849	17.087	0.00284	48882	0.053876	1.649199	1.096771	0.606355	18.57	2.4947
0.9298	0.9700	290.66	8.00	0.049022	4.51	6.958	17.865	0.00274	51577	0.055132	1.631914	1.082929	0.612777	19.42	2.5676
0.9293	0.9703	299.03	8.37	0.049541	4.77	7.074	18.694	0.00265	54488	0.056429	1.614810	1.069576	0.619268	20.32	2.6425
0.9289	0.9706	307.78	8.76	0.050066	5.04	7.198	19.576	0.00256	57635	0.057770	1.597886	1.056705	0.625827	21.28	2.7196
0.9284	0.9710	316.96	9.17	0.050596	5.34	7.330	20.517	0.00247	61045	0.059155	1.581139	1.044309	0.632456	22.30	2.7990
0.9279	0.9713	326.57	9.62	0.051132	5.65	7.470	21.520	0.00238	64744	0.060588	1.564567	1.032382	0.639154	23.39	2.8807
0.9274	0.9716	336.66	10.09	0.051674	6.00	7.620	22.592	0.00229	68762	0.062070	1.548169	1.020916	0.645924	24.56	2.9648
0.9269	0.9719	347.26	10.59	0.052221	6.36	7.780	23.738	0.00220	73136	0.063602	1.531944	1.009904	0.652766	25.80	3.0513
0.9263	0.9722	358.39	11.14	0.052774	6.76	7.950	24.965	0.00211	77903	0.065188	1.515888	0.999341	0.659680	27.14	3.1403
0.9258	**0.9724**	**370.11**	**11.72**	**0.053333**	**7.19**	**8.131**	**26.281**	**0.00203**	**83109**	**0.066828**	**1.500000**	**0.989219**	**0.666667**	**28.57**	**3.2320**
0.9252	0.9727	382.45	12.34	0.053898	7.65	8.325	27.692	0.00195	88804	0.068526	1.484279	0.979534	0.673728	30.10	3.3263
0.9246	0.9730	395.45	13.01	0.054469	8.15	8.532	29.208	0.00186	95046	0.070284	1.468723	0.970278	0.680864	31.75	3.4234
0.9240	0.9733	409.18	13.72	0.055046	8.69	8.753	30.839	0.00178	101899	0.072103	1.453329	0.961447	0.688075	33.52	3.5233
0.9233	0.9736	423.67	14.50	0.055629	9.27	8.989	32.595	0.00171	109438	0.073988	1.438097	0.953034	0.695363	35.43	3.6262
0.9227	0.9739	439.00	15.33	0.056218	9.91	9.241	34.488	0.00163	117749	0.075939	1.423025	0.945034	0.702728	37.49	3.7320
0.9220	0.9741	455.23	16.23	0.056814	10.60	9.511	36.533	0.00156	126929	0.077961	1.408111	0.937442	0.710171	39.71	3.8409
0.9213	0.9744	472.43	17.20	0.057415	11.36	9.801	38.743	0.00148	137090	0.080057	1.393353	0.930253	0.717693	42.11	3.9530
0.9206	0.9747	490.68	18.25	0.058024	12.18	10.111	41.136	0.00141	148363	0.082228	1.378749	0.923460	0.725295	44.71	4.0684
0.9198	0.9750	510.08	19.39	0.058638	13.08	10.444	43.730	0.00134	160897	0.084480	1.364299	0.917059	0.732977	47.53	4.1871
0.9191	0.9752	530.71	20.63	0.059259	14.06	10.801	46.547	0.00127	174865	0.086814	1.350000	0.911046	0.740741	50.59	4.3093
0.9183	0.9755	552.68	21.97	0.059887	15.13	11.186	49.610	0.00121	190469	0.089235	1.335851	0.905413	0.748586	53.92	4.4351
0.9175	0.9757	576.12	23.44	0.060521	16.31	11.599	52.945	0.00114	207944	0.091746	1.321850	0.900158	0.756515	57.55	4.5645
0.9166	0.9760	601.15	25.03	0.061162	17.61	12.044	56.582	0.00108	227564	0.094352	1.307996	0.895274	0.764528	61.50	4.6978
0.9158	0.9763	627.92	26.78	0.061810	19.03	12.525	60.556	0.00102	249650	0.097056	1.294288	0.890757	0.772626	65.82	4.8349
0.9149	0.9765	656.61	28.68	0.062465	20.60	13.043	64.904	0.00096	274581	0.099863	1.280722	0.886600	0.780809	70.55	4.9760
0.9140	0.9768	687.37	30.77	0.063126	22.34	13.604	69.669	0.00091	302801	0.102777	1.267300	0.882800	0.789079	75.73	5.1212
0.9131	0.9770	720.43	33.06	0.063795	24.25	14.211	74.902	0.00085	334838	0.105802	1.254017	0.879351	0.797437	81.41	5.2707

KMpercapita s0p<sp & s0<s(A6-3)

A6-3-4 (5)	$\Delta(r/w)(2)=((r/w)(2)(1+g_{WK}(2)-(r/w)(1))/g_{WK}(2)$				Elasticity of substitution, $\sigma(t)$			$\sigma_{C/Y}^*(t)=\sigma_{C/L}^*(t)/\sigma_y^*(t)$		$\sigma_\Omega^*(t)=\sigma_k^*(t)/\sigma_y^*(t)$		$\sigma r^*(t)=\Delta r^*(t)/r^*(t)$		$\sigma_\alpha^*(t)=\sigma_\Omega^*(t)*\sigma_r^*(t)$	
'n	where, $g_{WK}(2)=((W*K)(2)-(W*K)(1))/(W*K)(1)$				$\sigma(t)=(\Delta k/k)/(\Delta(r/w)(t)/(r/w)(t))$			1.000000		1.000000		1.000000		1.000000	
(A):	Marginal rate		$(r/w)^0$	**(B): $\sigma(r/w)(t)=\Delta(r/w)(t)/(r/w)(t)$**											
$\sigma_k=\sigma_\Omega*\sigma_y$	$=\Delta K/\Delta L$		0.007905		Y=wL+rK is confirmed.		$p_w^*(t)=1/\sigma y^*(t)$	$p_r^*(t)=\sigma_\Omega^*(t)$		$\sigma^*\gamma(t)=\Delta\gamma^*(t)/\gamma^*(t)$		$\sigma\theta^*(t)=\Delta\theta^*(t)/\theta^*(t)$			$\sigma\zeta^*(t)=\Delta\zeta^*(t)/\zeta^*(t)$
$=\Delta k/k$	Δk	$\Delta(r/w)(t)$	$r/w(t)$	$\Delta(r/w)(t)/(r/w)(t)$	$\sigma(t)=(A)/(B)$	Y=wL+rK	$p_w=(w/MPL)/(1-\alpha)$	$p_r=(r/MPK)/\alpha$	$\Delta\gamma^*(t)$		$\Delta\theta^*(t)$		$\zeta^*=C_D^*/S^*=\gamma^*/\theta^*$	$\Delta\zeta^*(t)$	
3.2320	36.3636	0.005103	0.007729	0.660318	4.894615	189.394	0.30941	1.00000	1	1	1.5	1	0.666667	0.666667	1
3.2320	37.1938	0.004989	0.007556	0.660318	4.894615	195.655	0.30941	1.00000	1	1	1.5	1	0.666667	0.666667	1
3.2320	38.0429	0.004878	0.007388	0.660318	4.894615	202.123	0.30941	1.00000	1	1	1.5	1	0.666667	0.666667	1

(A):	Marginal rate		$(r/w)^0$	**(B): $\sigma(r/w)(t)=\Delta(r/w)(t)/(r/w)(t)$**			$p_w(t)=1/\sigma y(t)$	$p_r(t)=\sigma_\Omega(t)$							
$\sigma_k=\sigma_\Omega*\sigma_y$	$=\Delta K/\Delta L$		0.007905		Y=wL+rK is confirmed.		$p_w=(w/MPL)/(1-\alpha)$			$\sigma\gamma(t)=\Delta\gamma(t)/\gamma(t)$		$\sigma\theta(t)=\Delta\theta(t)/\theta(t)$			$\sigma\zeta(t)=\Delta\zeta(t)/\zeta(t)$
$=\Delta k/k$	Δk	$\Delta(r/w)(t)$	$r/w(t)$	$\Delta(r/w)(t)/(r/w)(t)$	$\sigma(t)=(A)/(B)$	Y=wL+rK		$p_r=(r/MPK)/\alpha$	$\Delta\gamma(t)$		$\Delta\theta(t)$		$\zeta=C_D/S=\gamma/\theta$	$\Delta\zeta(t)$	
2.7362	30.63	0.005220	0.007768	0.672056	4.071337	187.976	0.40084	1.09677	-1.629954	-0.939390	1.050696	0.637095	0.963866	0.146197	0.151678
2.7805	31.69	0.005121	0.007630	0.671195	4.142584	192.880	0.38948	1.08293	-1.618634	-0.986964	1.039684	0.637095	0.928385	0.139282	0.150026
2.8263	32.81	0.005021	0.007490	0.670325	4.216389	198.062	0.37843	1.06958	-1.606461	-1.037800	1.028787	0.637095	0.893545	0.132179	0.147927
2.8738	34.00	0.004920	0.007350	0.669442	4.292879	203.542	0.36770	1.05671	-1.593438	-1.092246	1.018005	0.637095	0.859334	0.124895	0.145340
2.9230	35.26	0.004819	0.007209	0.668548	4.372187	209.344	0.35727	1.04431	-1.579568	-1.150702	1.007336	0.637095	0.825742	0.117435	0.142218
2.9740	36.60	0.004718	0.007066	0.667639	4.454455	215.490	0.34714	1.03238	-1.564858	-1.213638	0.996778	0.637095	0.792756	0.109804	0.138510
3.0268	38.02	0.004616	0.006923	0.666715	4.539828	222.007	0.33730	1.02092	-1.549317	-1.281599	0.986331	0.637095	0.760367	0.102008	0.134157
3.0815	39.53	0.004513	0.006779	0.665774	4.628463	228.923	0.32773	1.00990	-1.532955	-1.355231	0.975993	0.637095	0.728562	0.094052	0.129093
3.1383	41.14	0.004410	0.006634	0.664815	4.720521	236.269	0.31844	0.99934	-1.515788	-1.435301	0.965764	0.637095	0.697332	0.085943	0.123245
3.1972	**42.85**	**0.004307**	**0.006488**	**0.663838**	**4.816171**	**244.080**	**0.30941**	**0.98922**	**-1.497831**	**-1.522724**	**0.955642**	**0.637095**	**0.666667**	**0.077685**	**0.116527**
3.2583	44.68	0.004204	0.006342	0.662840	4.915593	252.392	0.30063	0.97953	-1.479105	-1.618608	0.945627	0.637095	0.636555	0.069284	0.108843
3.3217	46.63	0.004100	0.006194	0.661821	5.018974	261.247	0.29211	0.97028	-1.459630	-1.724300	0.935716	0.637095	0.606988	0.060747	0.100080
3.3875	48.72	0.003995	0.006047	0.660780	5.126508	270.690	0.28382	0.96145	-1.439433	-1.841460	0.925909	0.637095	0.577954	0.052080	0.090111
3.4559	50.95	0.003891	0.005898	0.659715	5.238403	280.770	0.27577	0.95303	-1.418541	-1.972153	0.916204	0.637095	0.549445	0.043289	0.078786
3.5269	53.35	0.003786	0.005749	0.658627	5.354872	291.543	0.26795	0.94503	-1.396986	-2.118983	0.906602	0.637095	0.521452	0.034379	0.065929
3.6006	55.92	0.003682	0.005600	0.657513	5.476142	303.068	0.26035	0.93744	-1.374800	-2.285282	0.897100	0.637095	0.493964	0.025357	0.051333
3.6773	58.68	0.003577	0.005450	0.656374	5.602447	315.413	0.25297	0.93025	-1.352021	-2.475378	0.887698	0.637095	0.466972	0.016228	0.034752
3.7570	61.65	0.003472	0.005299	0.655209	5.734035	328.651	0.24580	0.92346	-1.328687	-2.695000	0.878394	0.637095	0.440468	0.007000	0.015892
3.8398	64.85	0.003367	0.005149	0.654018	5.871163	342.865	0.23883	0.91706	-1.304842	-2.951896	0.869188	0.637095	0.414444	-0.002322	-0.005603
3.9260	68.30	0.003263	0.004998	0.652799	6.014101	358.146	0.23205	0.91105	-1.280529	-3.256801	0.860078	0.637095	0.388889	-0.011732	-0.030169
4.0156	72.03	0.003158	0.004847	0.651553	6.163129	374.595	0.22547	0.90541	-1.255795	-3.625028	0.851064	0.637095	0.363796	-0.021224	-0.058341
4.1088	76.07	0.003054	0.004697	0.650279	6.318541	392.326	0.21908	0.90016	-1.230691	-4.079199	0.842144	0.637095	0.339156	-0.030792	-0.090790
4.2058	80.44	0.002950	0.004546	0.648978	6.480642	411.464	0.21287	0.89527	-1.205269	-4.654192	0.833318	0.637095	0.314962	-0.040429	-0.128363
4.3067	85.19	0.002847	0.004396	0.647648	6.649750	432.151	0.20683	0.89076	-1.179582	-5.406724	0.824584	0.637095	0.291204	-0.050131	-0.172149
4.4117	90.35	0.002744	0.004246	0.646292	6.826196	454.546	0.20097	0.88660	-1.153685	-6.435612	0.815942	0.637095	0.267876	-0.059890	-0.223573
4.5210	95.97	0.002642	0.004096	0.644908	7.010323	478.825	0.19527	0.88280	-1.127638	-7.929707	0.807390	0.637095	0.244970	-0.069701	-0.284530
4.6348	102.10	0.002540	0.003948	0.643497	7.202487	505.188	0.18973	0.87935	-1.101498	-10.300637	0.798928	0.637095	0.222477	-0.079559	-0.357606

KMpercapita s0p>sp & s0>s(A6-4)

Appendix 6-4-1 Case study of the Kamiryo Model by gamma, $Y=S_P+S_D+S_W+C_D+C_W$: both $s_{S/Y}$ and $s_{SP/Y}$ are variables (1) $g_Y(t)=s_{SP/Y}(t)/(1-s_{SP/Y}(t))$ $I/Y^0(t)=s_{S/Y}(t)(1+g_Y(t))$ $g_K(t)=(I/Y^0)(t)/\Omega(t-1)$

1 Balanced growth-state: $g^*_Y=g^*_{KP}=g_Y=g_{KP}$ Ω is constant and $s^*_{SP/Y}$ is not equal to n under $\lambda=0$ **Starting with a given capital-output ratio Ω^0: $s_P=s_{SP/P}$ is derived using Ω^0**

gamma	L^0=	n	Ω^0	α	k^0	$s^*_{SP/P}$	$s^*_{SP/Y}$	$s^*_{SWD/WD}$	$s^*_{SWD/Y}$	$s^*_{S/Y}=s^*_{SP/Y}\,\Omega^0$		variables	y^0	r^0
-0.5	25	0.01	2	0.08	11	0.66667	0.05333	0.05634	0.05333	0.106667			5.500000	0.040000

$\theta=S/S_P=\Omega=K/Y$	time	$g^*_Y(t)$	$g^*_K(t)$	$g^*_k(t)$	$g^*_y(t)$	$g^*_\Omega(t)$	$\Omega^*(t)$	$c^*_{D/Y}=\alpha-s^*_{S/Y}$	$r^*(t)$	$k^*(t)$	$y^*(t)$	$I/Y^{0*}(t)$	$A^*(t)$	$\lambda^*(t)$
2	1	0.056338	0.056338	0.045879	0.045879	0.000000	2.000000	-0.026667	0.040000	11.504672	5.752336	0.112676	0.407178	-----
	2	0.056338	0.056338	0.045879	0.045879	0.000000	2.000000	-0.026667	0.040000	12.032497	6.016249	0.112676	0.407178	0.000000
	3	0.056338	0.056338	0.045879	0.045879	0.000000	2.000000	-0.026667	0.040000	12.584539	6.292269	0.112676	0.407178	0.000000

from IRC to DRC

$a=s^*_{S/Y}/s^0_{S/Y}$	$g_{s/Y}=a^{\wedge}(1/10)-1$	$\theta^*=s^*_{S/Y}/s^*_{SP/Y}$	$\Psi^*=\Omega^0/\theta^*$	$A(t)=g_y(t)/(I/Y^0)$
0.969697	-0.003072	2.000000	1.000000	$\lambda=(A(t)-A(t-1))/A(t-1)$

2 Unbalanced growth-state Ω, $s_{SP/Y}$, and $s_{S/Y}$ are variables, where saving differs from profit

$b=s^*_{SP/Y}/s^0_{SP/Y}$	$g_{s/Y}=b^{\wedge}(1/10)-1$	L^0=	n	Ω^0	α	k^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	$s^0_{SWD/WD}$	$s^0_{SWD/Y}$	$s^0_{S/Y}$	$\theta^0=s^0_{S/Y}/s^0_{SP/Y}$	$\Psi^0=\Omega^0/\theta^0$	y^0	r^0
0.952381	-0.004867	25	0.01	2	0.08	11	**0.7**	0.056000	0.057203	0.054000	**0.11**	1.964286	1.018182	5.500000	0.040000

$\theta(t)=s_{S/Y}(t)/s_{SP/Y}(t)$	$\Psi(t)=\Omega^0/\theta(t)$	time	$g_Y(t)=s_{SP/Y}(t)/(1-s_{SP/}$	$g_K(t)$	$g_k(t)$	$g_y(t)$	$g_\Omega(t)$	$\Omega(t)$	$s_{S/Y}(t)$	$r(t)$	$k(t)$	$y(t)$	$I/Y^0(t)$	$A(t)$	$\lambda(t)$
1.967828	1.016349	1	0.059016	0.058067	0.047591	0.048531	-0.000896	1.998207	0.109662	0.040036	11.5235	5.7669	0.116134	0.417888	-----
1.971377	1.014519	2	0.058712	0.057924	0.047449	0.048230	-0.000745	1.996719	0.109325	0.040066	12.0703	6.0451	0.115744	0.416695	-0.002855
1.974933	1.012693	3	0.058410	0.057772	0.047299	0.047930	-0.000602	1.995517	0.108989	0.040090	12.6412	6.3348	0.115355	0.415503	-0.002861
1.978494	1.010870	4	0.058109	0.057613	0.047142	0.047633	-0.000468	1.994582	0.108654	0.040109	13.2371	6.6365	0.114968	0.414311	-0.002868
1.982062	1.009050	5	0.057810	0.057447	0.046977	0.047336	-0.000343	1.993898	0.108321	0.040122	13.8590	6.9507	0.114582	0.413120	-0.002874
1.985637	1.007233	6	0.057512	0.057274	0.046806	0.047042	-0.000225	1.993449	0.107988	0.040131	14.5077	7.2777	0.114198	0.411930	-0.002880
1.989218	1.005420	7	0.057216	0.057095	0.046629	0.046749	-0.000115	1.993220	0.107656	0.040136	15.1841	7.6179	0.113816	0.410741	-0.002887
1.992806	1.003610	8	0.056922	0.056910	0.046446	0.046457	-0.000011	1.993197	0.107325	0.040137	15.8894	7.9718	0.113434	0.409553	-0.002893
1.996400	1.001803	9	0.056629	0.056720	0.046258	0.046168	0.000086	1.993369	0.106995	0.040133	16.6244	8.3398	0.113054	0.408365	-0.002900
2.000000	**1.000000**	**10**	**0.056338**	**0.056525**	**0.046065**	**0.045879**	**0.000177**	**1.993723**	**0.106667**	**0.040126**	**17.3902**	**8.7225**	**0.112676**	**0.407178**	**-0.002907**
2.003607	0.998200	11	0.056048	0.056326	0.045868	0.045593	0.000263	1.994247	0.106339	0.040115	18.1878	9.1201	0.112299	0.405992	-0.002913
2.007220	0.996403	12	0.055760	0.056123	0.045667	0.045307	0.000344	1.994932	0.106012	0.040102	19.0184	9.5333	0.111924	0.404807	-0.002920
2.010840	0.994609	13	0.055474	0.055916	0.045462	0.045024	0.000419	1.995769	0.105687	0.040085	19.8830	9.9626	0.111549	0.403622	-0.002927
2.014467	0.992819	14	0.055189	0.055706	0.045254	0.044742	0.000490	1.996746	0.105362	0.040065	20.7828	10.4083	0.111177	0.402438	-0.002933
2.018100	0.991031	15	0.054906	0.055493	0.045042	0.044461	0.000557	1.997858	0.105038	0.040043	21.7189	10.8711	0.110805	0.401255	-0.002940
2.021740	0.989247	16	0.054624	0.055277	0.044829	0.044182	0.000619	1.999095	0.104715	0.040018	22.6925	11.3514	0.110435	0.400072	-0.002947
2.025386	0.987466	17	0.054344	0.055058	0.044612	0.043905	0.000678	2.000450	0.104394	0.039991	23.7049	11.8498	0.110067	0.398890	-0.002954
2.029038	0.985689	18	0.054065	0.054837	0.044394	0.043629	0.000733	2.001916	0.104073	0.039962	24.7572	12.3668	0.109700	0.397709	-0.002961
2.032698	0.983914	19	0.053788	0.054615	0.044173	0.043354	0.000785	2.003487	0.103753	0.039930	25.8508	12.9029	0.109334	0.396529	-0.002968
2.036364	0.982143	20	0.053512	0.054390	0.043950	0.043081	0.000833	2.005157	0.103434	0.039897	26.9869	13.4588	0.108969	0.395349	-0.002975
2.040036	0.980375	21	0.053237	0.054163	0.043726	0.042809	0.000879	2.006920	0.103117	0.039862	28.1670	14.0349	0.108606	0.394170	-0.002982
2.043715	0.978610	22	0.052965	0.053936	0.043501	0.042539	0.000922	2.008771	0.102800	0.039825	29.3923	14.6320	0.108244	0.392992	-0.002989
2.047401	0.976848	23	0.052693	0.053707	0.043274	0.042270	0.000963	2.010705	0.102484	0.039787	30.6642	15.2505	0.107884	0.391814	-0.002997
2.051094	0.975090	24	0.052423	0.053476	0.043046	0.042003	0.001001	2.012717	0.102169	0.039747	31.9841	15.8910	0.107525	0.390637	-0.003004
2.054793	0.973334	25	0.052155	0.053245	0.042817	0.041737	0.001036	2.014802	0.101855	0.039706	33.3536	16.5543	0.107167	0.389460	-0.003011
2.058498	0.971582	26	0.051888	0.053013	0.042587	0.041473	0.001070	2.016958	0.101542	0.039664	34.7740	17.2408	0.106811	0.388285	-0.003019
2.062211	0.969833	27	0.051622	0.052780	0.042357	0.041210	0.001101	2.019179	0.101230	0.039620	36.2470	17.9513	0.106456	0.387110	-0.003026

KMpercapita s0p>sp & s0>s(A6-4)

A6-4-1 (2) Relationships among saving, profit, undistributed profit, dividends, saved dividends, consumed dividends, saved wages, and consumed wages: using ratios

Starting with a given retention ratio: $s_P=s_{SP/P}$ $\gamma(t)=(1/s_P)(t)-\Omega(t)$ $c_{D/Y}(t)=\gamma(t)*s_{SP/Y}(t)$ $s_{WD/WD}(t)=s_{WD/Y}(t)/(1-s_{SP/Y}(t))$

gamma given	s^0	c^0	Ω^0	θ^0	γ^0	$c_{D/Y}{}^0$	$c_{W/Y}{}^0$
-0.5	0.11	0.89333	2.00000	2.00000	-0.5	-0.02667	0.92000

$s_{SP/Y}{}^*(t)$	$s^*{}_P(t)=s^*{}_{SP/P}(t)$	$1-s^*{}_P(t)$	$s^*(t)=s^*{}_{S/Y}(t)$	$c^*(t)=1-s^*(t)$	$\Omega^*(t)$	$\theta^*(t)$	$\Psi^*(t)$	$\mu^*(t)=(S/P)^*(t)$	$(1/s_P)^*(t)=\Omega+\gamma$	$\gamma^*(t)=(1/s_P)(t)-\Omega(t)$	$c^*{}_{D/Y}(t)=\gamma(t)*s_S$	$c^*{}_{W/Y}(t)$	$s^*{}_{WD/Y}(t)$	$s^*{}_{WD/WD}(t)$	$(\Omega+\gamma)/\Omega$
0.05333	0.66667	0.33333	0.10667	0.89333	2.00000	2.00000	1.00000	1.33333	1.50000	-0.50000	-0.02667	0.92000	0.05333	0.05634	0.75000
0.05333	0.66667	0.33333	0.10667	0.89333	2.00000	2.00000	1.00000	1.33333	1.50000	-0.50000	-0.02667	0.92000	0.05333	0.05634	0.75000
0.05333	0.66667	0.33333	0.10667	0.89333	2.00000	2.00000	1.00000	1.33333	1.50000	-0.50000	-0.02667	0.92000	0.05333	0.05634	0.75000

$c^*{}_{D/D}=c^*{}_{D/Y}/(\alpha-s^*{}_{SP/Y})$

-1.00000 : Dividends are not always saved.

$\gamma(t)=(1/s_P)(t)-\Omega(t)$ $c_{D/Y}(t)=\gamma(t)*s_{SP/Y}(t)$

from IRC to DRC

-1.00000	$s_P{}^0$	s^0	c^0	Ω^0	θ^0	$1/s_P{}^0$	γ^0	$c_{D/Y}{}^0$	$c_{W/Y}{}^0$
-1.00000	0.70000	0.11	0.89000	2.00000	1.96429	1.42857	-0.57143	-0.032	0.92200

$s_{SP/Y}(t)$	$s_P(t)=s_{SP/P}(t)$	$1-s_P(t)$	$s(t)=s_{S/Y}(t)$	$c(t)=1-s(t)$	$\Omega(t)$	$\theta(t)$	$\Psi(t)$	$\mu(t)=(S/P)(t)$	$(1/s_P)(t)=\Omega(t)+\gamma(t)$	**gamma (t)**	$c_{D/Y}(t)$	$c_{W/Y}(t)$	$s_{WD/Y}(t)$	$s_{WD/WD}(t)$	$(\Omega+\gamma)/\Omega$
0.05573	0.69659	0.30341	0.10966	0.89034	1.99821	1.96783	1.01544	1.37078	1.43556	-0.56265	-0.03135	0.92169	0.05393	0.05712	0.71842
0.05546	0.69320	0.30680	0.10933	0.89067	1.99672	1.97138	1.01286	1.36656	1.44258	-0.55414	-0.03073	0.92141	0.05387	0.05703	0.72247
0.05519	0.68983	0.31017	0.10899	0.89101	1.99552	1.97493	1.01042	1.36237	1.44964	-0.54588	-0.03013	0.92114	0.05380	0.05695	0.72645
0.05492	0.68647	0.31353	0.10865	0.89135	1.99458	1.97849	1.00813	1.35818	1.45673	-0.53786	-0.02954	0.92088	0.05374	0.05686	0.73034
0.05465	0.68313	0.31687	0.10832	0.89168	1.99390	1.98206	1.00597	1.35401	1.46385	-0.53005	-0.02897	0.92065	0.05367	0.05677	0.73417
0.05438	0.67981	0.32019	0.10799	0.89201	1.99345	1.98564	1.00393	1.34985	1.47101	-0.52244	-0.02841	0.92042	0.05360	0.05669	0.73792
0.05412	0.67650	0.32350	0.10766	0.89234	1.99322	1.98922	1.00201	1.34570	1.47820	-0.51502	-0.02787	0.92022	0.05354	0.05660	0.74162
0.05386	0.67320	0.32680	0.10733	0.89267	1.99320	1.99281	1.00020	1.34156	1.48543	-0.50776	-0.02735	0.92002	0.05347	0.05651	0.74525
0.05359	0.66993	0.33007	0.10700	0.89300	1.99337	1.99640	0.99848	1.33744	1.49270	-0.50067	-0.02683	0.91984	0.05340	0.05643	0.74883
0.05333	**0.66667**	**0.33333**	**0.10667**	**0.89333**	**1.99372**	**2.00000**	**0.99686**	**1.33333**	**1.50000**	**-0.49372**	**-0.02633**	**0.91967**	**0.05333**	**0.05634**	**0.75236**
0.05307	0.66342	0.33658	0.10634	0.89366	1.99425	2.00361	0.99533	1.32924	1.50734	-0.48691	-0.02584	0.91950	0.05327	0.05625	0.75584
0.05282	0.66019	0.33981	0.10601	0.89399	1.99493	2.00722	0.99388	1.32515	1.51471	-0.48022	-0.02536	0.91935	0.05320	0.05616	0.75928
0.05256	0.65698	0.34302	0.10569	0.89431	1.99577	2.01084	0.99250	1.32108	1.52212	-0.47365	-0.02489	0.91921	0.05313	0.05608	0.76267
0.05230	0.65378	0.34622	0.10536	0.89464	1.99675	2.01447	0.99120	1.31702	1.52956	-0.46718	-0.02443	0.91907	0.05306	0.05599	0.76603
0.05205	0.65060	0.34940	0.10504	0.89496	1.99786	2.01810	0.98997	1.31298	1.53704	-0.46082	-0.02398	0.91895	0.05299	0.05590	0.76935
0.05179	0.64743	0.35257	0.10472	0.89528	1.99909	2.02174	0.98880	1.30894	1.54456	-0.45453	-0.02354	0.91883	0.05292	0.05581	0.77263
0.05154	0.64428	0.35572	0.10439	0.89561	2.00045	2.02539	0.98769	1.30492	1.55211	-0.44834	-0.02311	0.91871	0.05285	0.05572	0.77588
0.05129	0.64115	0.35885	0.10407	0.89593	2.00192	2.02904	0.98663	1.30091	1.55971	-0.44221	-0.02268	0.91861	0.05278	0.05563	0.77911
0.05104	0.63803	0.36197	0.10375	0.89625	2.00349	2.03270	0.98563	1.29691	1.56733	-0.43615	-0.02226	0.91851	0.05271	0.05555	0.78230
0.05079	0.63492	0.36508	0.10343	0.89657	2.00516	2.03636	0.98468	1.29293	1.57500	-0.43016	-0.02185	0.91841	0.05264	0.05546	0.78547
0.05055	0.63183	0.36817	0.10312	0.89688	2.00692	2.04004	0.98377	1.28896	1.58270	-0.42422	-0.02144	0.91833	0.05257	0.05537	0.78862
0.05030	0.62876	0.37124	0.10280	0.89720	2.00877	2.04372	0.98290	1.28500	1.59044	-0.41833	-0.02104	0.91824	0.05250	0.05528	0.79175
0.05006	0.62569	0.37431	0.10248	0.89752	2.01070	2.04740	0.98208	1.28105	1.59822	-0.41248	-0.02065	0.91816	0.05243	0.05519	0.79486
0.04981	0.62265	0.37735	0.10217	0.89783	2.01272	2.05109	0.98129	1.27711	1.60604	-0.40668	-0.02026	0.91809	0.05236	0.05510	0.79795
0.04957	0.61962	0.38038	0.10186	0.89814	2.01480	2.05479	0.98054	1.27319	1.61389	-0.40091	-0.01987	0.91802	0.05229	0.05501	0.80102
0.04933	0.61660	0.38340	0.10154	0.89846	2.01696	2.05850	0.97982	1.26928	1.62179	-0.39517	-0.01949	0.91795	0.05221	0.05492	0.80408
0.04909	0.61360	0.38640	0.10123	0.89877	2.01918	2.06221	0.97913	1.26538	1.62972	-0.38946	-0.01912	0.91789	0.05214	0.05483	0.80712

KMpercapita s0p>sp & s0>s(A6-4)

A6-4-1(3) Structure of the elasticity of substitution

					$S_D^{*0}=D^{*0}-C_D^{*0}$	$S_W^{*0}=S_{WD}^{*0}-S_D$	$S_W^{*0}=W^{*0}-C_W^{*0}$	$A^{*0}=C_D^{*0}+S_{WD}$	$S_W^{*0}=A^{*0}-D^{*0}$					
					7.33333	0.0000	0.00000	3.66667	0.00000					
L^0	Y^0	W^0	S^0	S_{WD}^0	P^0	S_P^0	D^0	C_D^0	$C_D^0+S_{WD}^0$	$C_W^0=C^0-C_D^0$	C^0	$c_{C/L}^0=C^0/L^0$	$\Delta c_{C/L}^0$	$\sigma c_{C/L}^0=\Delta c_{C/L}^0/c_{C/L}^0$	$c_{C/Y}^0=C^0/Y^0$
25	137.5000	126.5000	14.6667	7.3333	11.0000	7.3333	3.6667	-3.6667	3.6667	126.5000	122.8333	4.9133	-----	-----	0.8933
$L^*(t)$	$Y^*(t)$	$W^*(t)$	$S^*(t)$	$S^*_{WD}(t)$	$P^*(t)$	$S_P^*(t)$	$D^*(t)$	$C_D^*(t)$	$C_{D(t)}+S_{WD(t)}$	$C_W(t)=C(t)-C_D$	$C^*(t)=c^*(t)*Y^*(t)$	$c_{C/L}^*(t)=C^*(t)/L^*(t)$	$\Delta c_{C/L}^*(t)$	$\sigma c_{C/L}^*(t)=\Delta c^*(t)/c^*$	$c_{C/Y}^*(t)=C^*(t)/Y^*(t)$
25.2500	145.2465	133.6268	15.4930	7.7465	11.6197	7.7465	3.8732	-3.8732	3.8732	133.6268	129.7535	5.1388	27.6808	5.3867	0.8933
25.5025	153.4294	141.1550	16.3658	8.1829	12.2744	8.1829	4.0915	-4.0915	4.0915	141.1550	137.0636	5.3745	28.9507	5.3867	0.8933
25.7575	162.0733	149.1074	17.2878	8.6439	12.9659	8.6439	4.3220	-4.3220	4.3220	149.1074	144.7855	5.6211	30.2790	5.3867	0.8933

Marginal rate of per capita consumption: $\Delta c_{C/L}(2)=((c_{C/L}(2)(1+n)-c_{C/L}(1))/n$

					$S_D^0=D^0-C_D^0$	$S_W^0=S_{WD}^0-S_D^0$	$S_W^0=W^0-C_W^0$	$A=C_D^0+S_{WD}^0$	$S_W^0=A^0-D^0$						
					7.4250	0.0000	0.00000	3.30000	0.00000						
												$c_{C/L}(t)=C(t)/L(t)=c_{C/Y}(t)*y(t)$		$\sigma c_{C/L}^0=\Delta c_{C/L}^0/c_{C/L}^0$	
L^0	Y^0	W^0	S^0	S_{WD}^0	P^0	S_P^0	D^0	C_D^0	$\gamma=C_D^0/S_P^0$	$C_W^0=C^0-C_D^0$	$C^0=c_{C/D}^0*Y^0$	$c_{C/L}^0=C^0/L^0$	$\Delta c_{C/L}^0$		$c_{C/Y}^0=C^0/Y^0$
25	137.5000	126.5000	15.1250	7.4250	11.0000	7.7000	3.3000	-4.1250	3.3000	126.5000	122.3750	4.8950	-----	-----	0.8900
L(t)	Y(t)	W(t)	$S(t)=s_{S/Y}(t)*Y(t)$	$S_{WD}(t)=S(t)-S_P($	P(t)	$S_P(t)$	D(t)	$C_D(t)=S_P(t)*\gamma$	$\gamma(t)$	$C_W(t)=C(t)-C_D$	$C(t)=c(t)*Y(t)$	$c_{C/L}(t)=C(t)/L(t)$	$\Delta c_{C/L}(t)$	$\sigma c_{C/L}(t)=\Delta c(t)/c(t)$	$c_{C/Y}(t)=C(t)/Y(t)$
25.2500	145.61	133.97	15.97	7.85	11.65	8.11	3.53	-4.3192	3.5344	133.97	129.65	5.1345	29.09	5.6647	0.8903
25.5025	154.16	141.83	16.85	8.30	12.33	8.55	3.78	-4.5209	3.7838	141.83	137.31	5.3842	30.35	5.6372	0.8907
25.7575	163.17	150.12	17.78	8.78	13.05	9.00	4.05	-4.7301	4.0488	150.12	145.39	5.6444	31.66	5.6098	0.8910
26.0151	172.65	158.84	18.76	9.28	13.81	9.48	4.33	-4.9472	4.3305	158.84	153.89	5.9155	33.02	5.5825	0.8913
26.2753	182.63	168.02	19.78	9.80	14.61	9.98	4.63	-5.1722	4.6296	168.02	162.85	6.1978	34.43	5.5554	0.8917
26.5380	193.13	177.68	20.86	10.35	15.45	10.50	4.95	-5.4054	4.9473	177.68	172.28	6.4918	35.89	5.5285	0.8920
26.8034	204.19	187.85	21.98	10.93	16.33	11.05	5.28	-5.6469	5.2844	187.85	182.20	6.7978	37.40	5.5016	0.8923
27.0714	215.81	198.54	23.16	11.54	17.26	11.62	5.64	-5.8970	5.6420	198.54	192.65	7.1162	38.96	5.4749	0.8927
27.3421	228.03	209.79	24.40	12.18	18.24	12.22	6.02	-6.1557	6.0213	209.79	203.63	7.4475	40.58	5.4483	0.8930
27.6156	**240.88**	**221.61**	**25.69**	**12.85**	**19.27**	**12.85**	**6.42**	**-6.4233**	**6.4233**	**221.61**	**215.18**	**7.7921**	**42.25**	**5.4219**	**0.8933**
27.8917	254.38	234.03	27.05	13.55	20.35	13.50	6.85	-6.7000	6.8494	234.03	227.33	8.1503	43.98	5.3955	0.8937
28.1706	268.56	247.08	28.47	14.29	21.48	14.18	7.30	-6.9858	7.3007	247.08	240.09	8.5227	45.76	5.3693	0.8940
28.4523	283.46	260.78	29.96	15.06	22.68	14.90	7.78	-7.2811	7.7786	260.78	253.50	8.9097	47.61	5.3432	0.8943
28.7369	299.10	275.17	31.51	15.87	23.93	15.64	8.28	-7.5858	8.2844	275.17	267.59	9.3117	49.51	5.3173	0.8946
29.0242	315.52	290.28	33.14	16.72	25.24	16.42	8.82	-7.9001	8.8195	290.28	282.38	9.7292	51.48	5.2915	0.8950
29.3145	332.76	306.14	34.85	17.61	26.62	17.24	9.39	-8.2243	9.3856	306.14	297.91	10.1627	53.51	5.2658	0.8953
29.6076	350.84	322.78	36.63	18.54	28.07	18.08	9.98	-8.5583	9.9841	322.78	314.22	10.6127	55.61	5.2402	0.8956
29.9037	369.81	340.23	38.49	19.52	29.58	18.97	10.62	-8.9024	10.6167	340.23	331.32	11.0797	57.78	5.2148	0.8959
30.2027	389.70	358.53	40.43	20.54	31.18	19.89	11.28	-9.2567	11.2850	358.53	349.27	11.5642	60.01	5.1894	0.8962
30.5048	410.56	377.71	42.47	21.61	32.84	20.85	11.99	-9.6211	11.9909	377.71	368.09	12.0667	62.32	5.1642	0.8966
30.8098	432.41	397.82	44.59	22.73	34.59	21.86	12.74	-9.9959	12.7361	397.82	387.82	12.5877	64.69	5.1392	0.8969
31.1179	455.32	418.89	46.81	23.90	36.43	22.90	13.52	-10.3811	13.5227	418.89	408.51	13.1278	67.14	5.1142	0.8972
31.4291	479.31	440.96	49.12	25.13	38.34	23.99	14.35	-10.7767	14.3526	440.96	430.19	13.6875	69.66	5.0894	0.8975
31.7434	504.43	464.08	51.54	26.41	40.35	25.13	15.23	-11.1828	15.2279	464.08	452.90	14.2675	72.26	5.0647	0.8978
32.0608	530.74	488.28	54.06	27.75	42.46	26.31	16.15	-11.5995	16.1508	488.28	476.68	14.8681	74.94	5.0401	0.8981
32.3814	558.28	513.62	56.69	29.15	44.66	27.54	17.12	-12.0266	17.1235	513.62	501.59	15.4902	77.69	5.0156	0.8985
32.7052	587.10	540.13	59.43	30.61	46.97	28.82	18.15	-12.4643	18.1484	540.13	527.67	16.1341	80.53	4.9912	0.8988

KMpercapita s0p>sp & s0>s(A6-4)

A6-4-1(4) Marginal rate is measured using the growth rate of the denominator

$\Delta\Omega(2)=((\Omega(2)(1+g_Y(2)-\Omega(1))/g_Y(2)$

$\Delta y(2)=((y(2)(1+n)-y(1))/$
$\Delta k(2)=((k(2)(1+n)-k(1))/$

Marginal rate of profit to capital: $\Delta r(2)=((r(2)(1+g_K(2)-r(1))/g_K(2)$

$\Delta c_{C/Y}{}^0$	$\sigma c_{C/Y}{}^0=\Delta c_{C/Y}{}^0/c_{C/Y}{}^0$	K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$	$(W*K)^0$		1/MPK		MPK	MPL	
-----	-----	275.000	-----	=ΔP/ΔK	-----	5.0600	=ΔW/ΔL	-----	34788		=ΔK/ΔY		=ΔY/ΔK	=ΔY/ΔL	
$\Delta c_{C/Y}(t)$	$\sigma c_{C/Y}(t)=\Delta c(t)/c(t)$	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$	(W*K)(t)	$g_{WK}(t)$	ΔΩ(t)	$\sigma_\Omega=\Delta\Omega/\Omega$	=1/ΔΩ(t)	Δy	$\sigma_y=\Delta y/y$
0.8933	1.0000	290.493	15.4930	0.040000	7.1268	5.2921	28.5070	0.00140	38818	0.115850	2.000000	1.000000	0.500000	30.98592	5.3867
0.8933	1.0000	306.859	16.3658	0.040000	7.5283	5.5349	29.8149	0.00134	43315	0.115850	2.000000	1.000000	0.500000	32.40753	5.3867
0.8933	1.0000	324.147	17.2878	0.040000	7.9524	5.7889	31.1828	0.00128	48333	0.115850	2.000000	1.000000	0.500000	33.89436	5.3867

$\sigma c_{C/L}(t)=\sigma c_{C/Y}(t)*\sigma_y(t)$

$\sigma c_{C/Y}{}^0=\Delta c_{C/Y}{}^0/c_{C/Y}{}^0$

$\Delta c_{C/Y}{}^0$		K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$	$(W*K)^0$		1/MPK		MPK	MPL	
-----	-----	275.000	-----	=ΔP/ΔK	-----	5.0600	=ΔW/ΔL	-----	34788		=ΔK/ΔY		=ΔY/ΔK	=ΔY/ΔL	
$\Delta c_{C/Y}(t)$	$\sigma c_{C/Y}(t)=\Delta c(t)/c(t)$	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$	(W*K)(t)	$g_{WK}(t)$	ΔΩ(t)	$\sigma_\Omega=\Delta\Omega/\Omega$	=1/ΔΩ(t)	Δy	$\sigma_y=\Delta y/y$
0.8961	1.0064	290.97	15.97	0.040654	7.47	5.306	29.862	0.00136	38980	0.120510	1.967828	0.984797	0.508174	32.46	5.6285
0.8964	1.0064	307.82	16.85	0.040581	7.87	5.561	31.150	0.00130	43659	0.120037	1.971377	0.987308	0.507260	33.86	5.6011
0.8968	1.0065	325.61	17.78	0.040508	8.28	5.828	32.484	0.00125	48878	0.119557	1.974933	0.989685	0.506346	35.31	5.5738
0.8971	1.0065	344.37	18.76	0.040435	8.72	6.106	33.866	0.00119	54698	0.119070	1.978494	0.991934	0.505435	36.81	5.5467
0.8975	1.0065	364.15	19.78	0.040362	9.18	6.395	35.296	0.00114	61184	0.118578	1.982062	0.994064	0.504525	38.37	5.5197
0.8978	1.0065	385.00	20.86	0.040289	9.66	6.695	36.777	0.00110	68409	0.118080	1.985637	0.996081	0.503617	39.97	5.4928
0.8981	1.0065	406.99	21.98	0.040217	10.17	7.008	38.309	0.00105	76452	0.117578	1.989218	0.997992	0.502710	41.64	5.4661
0.8985	1.0065	430.15	23.16	0.040144	10.69	7.334	39.893	0.00101	85403	0.117071	1.992806	0.999803	0.501805	43.36	5.4395
0.8988	1.0065	454.55	24.40	0.040072	11.24	7.673	41.532	0.00096	95358	0.116561	1.996400	1.001520	0.500902	45.14	5.4130
0.8992	**1.0065**	**480.24**	**25.69**	**0.040000**	**11.82**	**8.025**	**43.226**	**0.00093**	**106424**	**0.116048**	**2.000000**	**1.003149**	**0.500000**	**46.98**	**5.3867**
0.8995	1.0065	507.29	27.05	0.039928	12.42	8.391	44.977	0.00089	118719	0.115532	2.003607	1.004693	0.499100	48.89	5.3604
0.8998	1.0066	535.76	28.47	0.039856	13.05	8.771	46.786	0.00085	132373	0.115013	2.007220	1.006160	0.498201	50.85	5.3344
0.9002	1.0066	565.72	29.96	0.039784	13.71	9.166	48.654	0.00082	147529	0.114492	2.010840	1.007552	0.497305	52.89	5.3084
0.9005	1.0066	597.23	31.51	0.039713	14.39	9.576	50.584	0.00079	164343	0.113970	2.014467	1.008875	0.496409	54.98	5.2826
0.9009	1.0066	630.37	33.14	0.039641	15.11	10.001	52.576	0.00075	182987	0.113446	2.018100	1.010132	0.495516	57.15	5.2568
0.9012	1.0066	665.22	34.85	0.039570	15.86	10.443	54.632	0.00072	203649	0.112920	2.021740	1.011327	0.494624	59.38	5.2313
0.9015	1.0066	701.84	36.63	0.039499	16.64	10.902	56.753	0.00070	226538	0.112394	2.025386	1.012465	0.493733	61.69	5.2058
0.9019	1.0066	740.33	38.49	0.039428	17.45	11.377	58.940	0.00067	251881	0.111867	2.029038	1.013548	0.492844	64.07	5.1805
0.9022	1.0066	780.76	40.43	0.039357	18.30	11.871	61.196	0.00064	279925	0.111340	2.032698	1.014580	0.491957	66.52	5.1553
0.9025	1.0066	823.23	42.47	0.039286	19.19	12.382	63.522	0.00062	310944	0.110812	2.036364	1.015563	0.491071	69.05	5.1302
0.9029	1.0067	867.82	44.59	0.039215	20.11	12.912	65.919	0.00059	345236	0.110284	2.040036	1.016501	0.490187	71.65	5.1052
0.9032	1.0067	914.63	46.81	0.039144	21.07	13.461	68.389	0.00057	383128	0.109757	2.043715	1.017396	0.489305	74.34	5.0803
0.9035	1.0067	963.75	49.12	0.039074	22.07	14.030	70.932	0.00055	424977	0.109230	2.047401	1.018250	0.488424	77.10	5.0556
0.9038	1.0067	1015.28	51.54	0.039004	23.12	14.620	73.552	0.00053	471173	0.108703	2.051094	1.019067	0.487545	79.95	5.0310
0.9042	1.0067	1069.34	54.06	0.038933	24.20	15.230	76.249	0.00051	522143	0.108177	2.054793	1.019848	0.486667	82.88	5.0065
0.9045	1.0067	1126.03	56.69	0.038863	25.34	15.862	79.025	0.00049	578353	0.107652	2.058498	1.020596	0.485791	85.90	4.9822
0.9048	1.0067	1185.47	59.43	0.038793	26.51	16.515	81.881	0.00047	640310	0.107127	2.062211	1.021311	0.484916	89.00	4.9579

KMpercapita s0p>sp & s0>s(A6-4)

A6-4-1(5)	$\Delta(r/w)(2)=((r/w)(2)(1+g_{WK}(2)-(r/w)(1))/g_{WK}(2)$				Elasticity of substitution, $\sigma(t)$			$\sigma_{C/Y}^*(t)=\sigma_{C/L}^*(t)/\sigma_y^*(t)$		$\sigma_\Omega^*(t)=\sigma_k^*(t)/\sigma_y^*(t)$		$\sigma r^*(t)=\Delta r^*(t)/r^*(t)$		$\sigma_\alpha^*(t)=\sigma_\Omega^*(t)*\sigma_r^*(t)$	
'n	where, $g_{WK}(2)=((W*K)(2)-(W*K)(1))/(W*K)(1)$				$\sigma(t)=(\Delta k/k)/(\Delta(r/w)(t)/(r/w)(t))$			1.000000		1.000000		1.000000		1.000000	
(A):	Marginal rate		$(r/w)^0$	(B): $\sigma(r/w)(t)=\Delta(r/w)(t)/(r/w)(t)$											
$\sigma_k=\sigma_\Omega*\sigma_y$	$=\Delta K/\Delta L$		0.007905		Y=wL+rK is confirmed.		$p_w^*(t)=1/\sigma y^*(t)$	$p_r^*(t)=\sigma_\Omega^*(t)$		$\sigma^*\gamma(t)=\Delta\gamma^*(t)/\gamma^*(t)$		$\sigma\theta^*(t)=\Delta\theta^*(t)/\theta^*(t)$			$\sigma\zeta^*(t)=\Delta\zeta^*(t)/\zeta^*(t)$
$=\Delta k/k$	Δk	$\Delta(r/w)(t)$	$r/w(t)$	$\Delta(r/w)(t)/(r/w)(t)$	$\sigma(t)=(A)/(B)$	Y=wL+rK	$p_w=(w/MPL)/(1-\alpha)$	$p_r=(r/MPK)/\alpha$	$\Delta\gamma^*(t)$		$\Delta\theta^*(t)$		$\zeta^*=C_D^*/S^*=\gamma^*/\theta^*$	$\Delta\zeta^*(t)$	
5.3867	61.9718	0.004565	0.007558	0.603977	8.918657	145.246	0.18564	1.00000	-0.5	1	2	1	-0.250000	-0.250000	1
5.3867	64.8151	0.004365	0.007227	0.603977	8.918657	153.429	0.18564	1.00000	-0.5	1	2	1	-0.250000	-0.250000	1
5.3867	67.7887	0.004173	0.006910	0.603977	8.918657	162.073	0.18564	1.00000	-0.5	1	2	1	-0.250000	-0.250000	1

(A):	Marginal rate		$(r/w)^0$	(B): $\sigma(r/w)(t)=\Delta(r/w)(t)/(r/w)(t)$			$p_w(t)=1/\sigma y(t)$	$p_r(t)=\sigma_\Omega(t)$							
$\sigma_k=\sigma_\Omega*\sigma_y$	$=\Delta K/\Delta L$		0.007905		Y=wL+rK is confirmed.		$p_w=(w/MPL)/(1-\alpha)$			$\sigma\gamma(t)=\Delta\gamma(t)/\gamma(t)$		$\sigma\theta(t)=\Delta\theta(t)/\theta(t)$			$\sigma\zeta(t)=\Delta\zeta(t)/\zeta(t)$
$=\Delta k/k$	Δk	$\Delta(r/w)(t)$	$r/w(t)$	$\Delta(r/w)(t)/(r/w)(t)$	$\sigma(t)=(A)/(B)$	Y=wL+rK		$p_r=(r/MPK)/\alpha$	$\Delta\gamma(t)$		$\Delta\theta(t)$		$\zeta=C_D/S=\gamma/\theta$	$\Delta\zeta(t)$	
5.5429	63.87	0.004566	0.007546	0.605087	9.160506	145.615	0.17767	0.98480	-2.366565	4.206116	1.239979	0.630126	-0.270486	-0.230291	0.851396
5.5300	66.75	0.004356	0.007204	0.604710	9.144859	154.164	0.17854	0.98731	-2.302420	4.154947	1.242215	0.630126	-0.268238	-0.227698	0.848867
5.5163	69.73	0.004157	0.006879	0.604376	9.127291	163.169	0.17941	0.98968	-2.242547	4.108120	1.244455	0.630126	-0.265982	-0.225096	0.846280
5.5019	72.83	0.003968	0.006569	0.604083	9.107932	172.650	0.18029	0.99193	-2.186655	4.065498	1.246700	0.630126	-0.263720	-0.222483	0.843634
5.4869	76.04	0.003789	0.006274	0.603828	9.086901	182.631	0.18117	0.99406	-2.134474	4.026947	1.248948	0.630126	-0.261451	-0.219861	0.840926
5.4713	79.38	0.003618	0.005994	0.603609	9.064312	193.135	0.18206	0.99608	-2.085754	3.992340	1.251201	0.630126	-0.259175	-0.217229	0.838154
5.4551	82.83	0.003456	0.005727	0.603424	9.040272	204.185	0.18295	0.99799	-2.040261	3.961554	1.253457	0.630126	-0.256892	-0.214586	0.835317
5.4384	86.41	0.003301	0.005473	0.603271	9.014884	215.808	0.18384	0.99980	-1.997779	3.934470	1.255718	0.630126	-0.254602	-0.211934	0.832413
5.4212	90.12	0.003155	0.005231	0.603148	8.988242	228.029	0.18474	1.00152	-1.958108	3.910978	1.257982	0.630126	-0.252304	-0.209271	0.829438
5.4036	**93.97**	**0.003015**	**0.005000**	**0.603054**	**8.960437**	**240.875**	**0.18564**	**1.00315**	**-1.921061**	**3.890972**	**1.260251**	**0.630126**	**-0.250000**	**-0.206598**	**0.826392**
5.3856	97.95	0.002883	0.004781	0.602987	8.931552	254.376	0.18655	1.00469	-1.886464	3.874351	1.262524	0.630126	-0.247689	-0.203915	0.823270
5.3672	102.08	0.002757	0.004572	0.602945	8.901668	268.560	0.18746	1.00616	-1.854155	3.861023	1.264801	0.630126	-0.245370	-0.201221	0.820072
5.3485	106.34	0.002637	0.004373	0.602927	8.870860	283.458	0.18838	1.00755	-1.823984	3.850900	1.267082	0.630126	-0.243044	-0.198517	0.816795
5.3294	110.76	0.002523	0.004184	0.602933	8.839197	299.102	0.18930	1.00887	-1.795813	3.843901	1.269367	0.630126	-0.240711	-0.195803	0.813434
5.3101	115.33	0.002414	0.004004	0.602959	8.806746	315.525	0.19023	1.01013	-1.769509	3.839953	1.271656	0.630126	-0.238371	-0.193078	0.809989
5.2905	120.06	0.002311	0.003832	0.603007	8.773568	332.760	0.19116	1.01133	-1.744953	3.838989	1.273950	0.630126	-0.236024	-0.190343	0.806455
5.2707	124.94	0.002212	0.003668	0.603073	8.739721	350.843	0.19209	1.01247	-1.722032	3.840946	1.276247	0.630126	-0.233670	-0.187597	0.802830
5.2506	129.99	0.002119	0.003512	0.603158	8.705260	369.811	0.19303	1.01355	-1.700640	3.845771	1.278549	0.630126	-0.231308	-0.184841	0.799111
5.2304	135.21	0.002029	0.003364	0.603261	8.670236	389.703	0.19398	1.01458	-1.680680	3.853416	1.280855	0.630126	-0.228939	-0.182073	0.795293
5.2100	140.60	0.001944	0.003222	0.603380	8.634696	410.556	0.19493	1.01556	-1.662060	3.863841	1.283165	0.630126	-0.226563	-0.179296	0.791374
5.1894	146.17	0.001863	0.003087	0.603514	8.598686	432.413	0.19588	1.01650	-1.644695	3.877012	1.285479	0.630126	-0.224179	-0.176507	0.787349
5.1687	151.92	0.001786	0.002958	0.603664	8.562246	455.316	0.19684	1.01740	-1.628506	3.892901	1.287797	0.630126	-0.221788	-0.173707	0.783215
5.1479	157.86	0.001712	0.002836	0.603828	8.525417	479.308	0.19780	1.01825	-1.613418	3.911489	1.290120	0.630126	-0.219389	-0.170897	0.778967
5.1269	163.98	0.001642	0.002719	0.604005	8.488235	504.435	0.19877	1.01907	-1.599364	3.932762	1.292446	0.630126	-0.216984	-0.168076	0.774601
5.1059	170.30	0.001575	0.002607	0.604195	8.450735	530.744	0.19974	1.01985	-1.586277	3.956716	1.294777	0.630126	-0.214571	-0.165244	0.770113
5.0848	176.82	0.001511	0.002501	0.604398	8.412948	558.283	0.20072	1.02060	-1.574099	3.983351	1.297112	0.630126	-0.212150	-0.162400	0.765497
5.0636	183.54	0.001450	0.002399	0.604612	8.374904	587.102	0.20170	1.02131	-1.562773	4.012677	1.299452	0.630126	-0.209722	-0.159546	0.760749

KMpercapita s0p>sp & s0>s(A6-4)

Appendix 6-4-2 Case study of the Kamiryo Model by gamma, $Y=S_P+S_D+S_W+C_D+C_W$: both $s_{S/Y}$ and $s_{SP/Y}$ are variables (1) $g_Y(t)=s_{SP/Y}(t)/(1-s_{SP/Y}(t))$ $I/Y^0(t)=s_{S/Y}(t)(1+g_Y(t))$ $g_K(t)=(I/Y^0)(t)/\Omega(t-1)$

1 Balanced growth-state: $g^*_Y=g^*_{KP}=g_Y=g_{KP}$ Ω is constant and $s^*_{SP/Y}$ is not equal to n under $\lambda=0$

gamma	$L^0=$	n	Ω^0	α	k^0	$s^*_{SP/P}$	$s^*_{SP/Y}$	$s^*_{SWD/WD}$	$s^*_{SWD/Y}$	$s^*_{S/Y}=s^*_{SP/Y}\,\Omega^0$		variables	y^0	r^0
0	25	0.01	2	0.08	11	0.50000	0.04000	0.04167	0.04000	0.08			5.500000	0.040000

$\theta=S/S_P=\Omega=K/Y$	time	$g^*_Y(t)$	$g^*_K(t)$	$g^*_k(t)$	$g^*_y(t)$	$g^*_\Omega(t)$	$\Omega^*(t)$	$c^*_{D/Y}=\alpha-s^*_{S/Y}$	$r^*(t)$	$k^*(t)$	$y^*(t)$	**$I/Y^{0*}(t)$**	$A^*(t)$	$\lambda^*(t)$
2	1	0.041667	0.041667	0.031353	0.031353	0.000000	2.000000	0.000000	0.040000	11.344884	5.672442	0.083333	0.376238	-----
	2	0.041667	0.041667	0.031353	0.031353	0.000000	2.000000	0.000000	0.040000	11.700582	5.850291	0.083333	0.376238	0.000000
	3	0.041667	0.041667	0.031353	0.031353	0.000000	2.000000	0.000000	0.040000	12.067432	6.033716	0.083333	0.376238	0.000000

from IRC to DRC

2 Unbalanced growth-state Ω, $s_{SP/Y}$, and $s_{S/Y}$ are variables, where saving differs from profit

$b=s^*_{SP/Y}/s^0_{SP/Y}$	$g_{s:SP/Y}=b\text{^}(1/10)-1$	$L^0=$	n	Ω^0	α	k^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	$s^0_{SWD/WD}$	$s^0_{SWD/Y}$	$s^0_{S/Y}$	$\theta^0=s^0_{S/Y}/s^0_{SP/Y}$	$\Psi^0=\Omega^0/\theta^0$	y^0	r^0
0.714286	-0.033087	25	0.01	2	0.08	11	**0.7**	0.056000	0.057203	0.054000	**0.11**	1.964286	1.018182	5.500000	0.040000

$a=s^*_{S/Y}/s^0_{S/Y}$	$g_{s:S/Y}=a\text{^}(1/10)-1$	$\theta^*=s^*_{S/Y}/s^*_{SP/Y}$	$\Psi^*=\Omega^0/\theta^*$	$A(t)=g_y(t)/(I/Y^0)$										
0.7272727	-0.031344	2.000000	1.000000	$\lambda=(A(t)-A(t-1))/A(t-1)$										

$\theta(t)=s_{S/Y}(t)/s_{SP/Y}(t)$	$\Psi(t)=\Omega^0/\theta(t)$	time	$g_Y(t)=s_{SP/Y}(t)/(1-s_{SP/Y}$	$g_K(t)$	$g_k(t)$	$g_y(t)$	$g_\Omega(t)$	$\Omega(t)$	$s_{S/Y}(t)$	$r(t)$	$k(t)$	$y(t)$	$I/Y^0(t)$	$A(t)$	$\lambda(t)$
1.967828	1.016349	1	0.057247	0.056326	0.045867	0.046779	-0.000871	1.998258	0.106552	0.040035	11.5045	5.7573	0.112652	0.415253	-----
1.971377	1.014519	2	0.055248	0.054505	0.044064	0.044800	-0.000704	1.996851	0.103212	0.040063	12.0115	6.0152	0.108915	0.411331	-0.009444
1.974933	1.012693	3	0.053323	0.052737	0.042314	0.042894	-0.000556	1.995741	0.099977	0.040085	12.5197	6.2732	0.105308	0.407314	-0.009766
1.978494	1.010870	4	0.051467	0.051023	0.040617	0.041057	-0.000423	1.994897	0.096844	0.040102	13.0282	6.5308	0.101828	0.403198	-0.010105
1.982062	1.009050	5	0.049680	0.049360	0.038971	0.039287	-0.000304	1.994289	0.093808	0.040115	13.5360	6.7874	0.098469	0.398980	-0.010462
1.985637	1.007233	6	0.047957	0.047749	0.037375	0.037581	-0.000199	1.993893	0.090868	0.040123	14.0419	7.0424	0.095226	0.394657	-0.010836
1.989218	1.005420	7	0.046297	0.046188	0.035830	0.035938	-0.000104	1.993687	0.088020	0.040127	14.5450	7.2955	0.092095	0.390224	-0.011231
1.992806	1.003610	8	0.044697	0.044677	0.034334	0.034353	-0.000019	1.993649	0.085261	0.040127	15.0444	7.5462	0.089072	0.385679	-0.011647
1.996400	1.001803	9	0.043154	0.043214	0.032885	0.032826	0.000057	1.993763	0.082589	0.040125	15.5391	7.7939	0.086153	0.381019	-0.012085
2.000000	**1.000000**	**10**	**0.041667**	**0.041797**	**0.031482**	**0.031353**	**0.000125**	**1.994012**	**0.080000**	**0.040120**	**16.0283**	**8.0382**	**0.083333**	**0.376238**	**-0.012548**
2.003607	0.998200	11	0.040233	0.040426	0.030125	0.029933	0.000186	1.994383	0.077493	0.040113	16.5112	8.2788	0.080610	0.371333	-0.013036
2.007220	0.996403	12	0.038850	0.039100	0.028812	0.028564	0.000241	1.994863	0.075064	0.040103	16.9869	8.5153	0.077980	0.366300	-0.013553
2.010840	0.994609	13	0.037516	0.037816	0.027541	0.027244	0.000290	1.995441	0.072711	0.040091	17.4547	8.7473	0.075439	0.361135	-0.014100
2.014467	0.992819	14	0.036230	0.036575	0.026312	0.025970	0.000333	1.996106	0.070432	0.040078	17.9140	8.9745	0.072984	0.355834	-0.014680
2.018100	0.991031	15	0.034989	0.035375	0.025123	0.024742	0.000372	1.996850	0.068224	0.040063	18.3640	9.1965	0.070611	0.350391	-0.015295
2.021740	0.989247	16	0.033792	0.034213	0.023974	0.023557	0.000407	1.997663	0.066086	0.040047	18.8043	9.4131	0.068319	0.344803	-0.015948
2.025386	0.987466	17	0.032638	0.033091	0.022862	0.022413	0.000439	1.998540	0.064014	0.040029	19.2342	9.6241	0.066104	0.339065	-0.016642
2.029038	0.985689	18	0.031524	0.032005	0.021787	0.021311	0.000466	1.999472	0.062008	0.040011	19.6533	9.8292	0.063963	0.333172	-0.017382
2.032698	0.983914	19	0.030449	0.030955	0.020747	0.020246	0.000491	2.000453	0.060064	0.039991	20.0610	10.0282	0.061893	0.327118	-0.018171
2.036364	0.982143	20	0.029412	0.029940	0.019742	0.019220	0.000513	2.001479	0.058182	0.039970	20.4571	10.2210	0.059893	0.320898	-0.019013
2.040036	0.980375	21	0.028411	0.028958	0.018771	0.018229	0.000532	2.002545	0.056358	0.039949	20.8410	10.4073	0.057959	0.314508	-0.019914
2.043715	0.978610	22	0.027445	0.028009	0.017831	0.017272	0.000549	2.003644	0.054592	0.039927	21.2127	10.5870	0.056090	0.307941	-0.020880
2.047401	0.976848	23	0.026513	0.027092	0.016923	0.016349	0.000564	2.004775	0.052881	0.039905	21.5716	10.7601	0.054283	0.301191	-0.021918
2.051094	0.975090	24	0.025613	0.026205	0.016045	0.015459	0.000577	2.005931	0.051223	0.039882	21.9177	10.9265	0.052535	0.294253	-0.023034
2.054793	0.973334	25	0.024745	0.025348	0.015196	0.014599	0.000588	2.007111	0.049618	0.039858	22.2508	11.0860	0.050845	0.287121	-0.024238
2.058498	0.971582	26	0.023906	0.024519	0.014375	0.013769	0.000598	2.008311	0.048062	0.039834	22.5707	11.2386	0.049211	0.279788	-0.025540
2.062211	0.969833	27	0.023097	0.023717	0.013581	0.012968	0.000606	2.009528	0.046556	0.039810	22.8772	11.3844	0.047631	0.272248	-0.026950

KMpercapita s0p>sp & s0>s(A6-4)

A6-4-2 (2) Relationships among saving, profit, undistributed profit, dividends, saved dividends, consumed dividends, saved wages, and consumed wages: using ratios

$\gamma(t)=(1/s_P)(t)-\Omega(t)$ $c_{D/Y}(t)=\gamma(t)*s_{SP/Y}(t)$ $s_{WD/WD}(t)=s_{WD/Y}(t)/(1-s_{SP/Y}(t))$

gamma given	s^0	c^0	Ω^0	θ^0	γ^0	$c_{D/Y}{}^0$	$c_{W/Y}{}^0$
0	0.08	0.92000	2.00000	2.00000	0	0.00000	0.92000

$s_{SP/Y}{}^*(t)$	$s^*_P(t)=s^*_{SP/P}(t$	$1-s^*_P(t)$	$s^*(t)=s^*_{S/Y}(t)$	$c^*(t)=1-s^*(t)$	$\Omega^*(t)$	$\theta^*(t)$	$\Psi^*(t)$	$\mu^*(t)=(S/P)^*(t)$	$(1/s_P)^*(t)=\Omega+\gamma$	$\gamma^*(t)=(1/s_P)(t)-\Omega(t)$	$c^*_{D/Y}(t)=\gamma(t)*s_S$	$c^*_{W/Y}(t)$	$s^*_{WD/Y}(t)$	$s^*_{WD/WD}(t)$	$(\Omega+\gamma)/\Omega$
0.04000	0.50000	0.50000	0.08000	0.92000	2.00000	2.00000	1.00000	1.00000	2.00000	0.00000	0.00000	0.92000	0.04000	0.04167	1.00000
0.04000	0.50000	0.50000	0.08000	0.92000	2.00000	2.00000	1.00000	1.00000	2.00000	0.00000	0.00000	0.92000	0.04000	0.04167	1.00000
0.04000	0.50000	0.50000	0.08000	0.92000	2.00000	2.00000	1.00000	1.00000	2.00000	0.00000	0.00000	0.92000	0.04000	0.04167	1.00000

$c^*_{D/D}=c^*_{D/Y}/(\alpha-s^*_{SP/Y})$

0.00000 : Dividends are not always saved.

$\gamma(t)=(1/s_P)(t)-\Omega(t)$ $c_{D/Y}(t)=\gamma(t)*s_{SP/Y}(t)$

from IRC to DRC

	$s_P{}^0$	s^0	c^0	Ω^0	θ^0	$1/s_P{}^0$	γ^0	$c_{D/Y}{}^0$	$c_{W/Y}{}^0$
0.00000									
0.00000	0.70000	0.11	0.89000	2.00000	1.96429	1.42857	-0.57143	-0.032	0.92200

$s_{SP/Y}(t)$	$s_P(t)=s_{SP/P}(t)$	$1-s_P(t)$	$s(t)=s_{S/Y}(t)$	$c(t)=1-s(t)$	$\Omega(t)$	$\theta(t)$	$\Psi(t)$	$\mu(t)=(S/P)(t)$	$(1/s_P)(t)=\Omega(t)+\gamma(t)$	**gamma (t)**	$c_{D/Y}(t)$	$c_{W/Y}(t)$	$s_{WD/Y}(t)$	$s_{WD/WD}(t)$	$(\Omega+\gamma)/\Omega$
0.05415	0.67684	0.32316	0.10655	0.89345	1.99826	1.96783	1.01546	1.33190	1.47746	-0.52080	-0.02820	0.92165	0.05241	0.05541	0.73937
0.05236	0.65444	0.34556	0.10321	0.89679	1.99685	1.97138	1.01292	1.29016	1.52801	-0.46884	-0.02455	0.92133	0.05086	0.05367	0.76521
0.05062	0.63279	0.36721	0.09998	0.90002	1.99574	1.97493	1.01054	1.24972	1.58030	-0.41544	-0.02103	0.92105	0.04935	0.05199	0.79184
0.04895	0.61185	0.38815	0.09684	0.90316	1.99490	1.97849	1.00829	1.21055	1.63438	-0.36052	-0.01765	0.92080	0.04790	0.05036	0.81928
0.04733	0.59161	0.40839	0.09381	0.90619	1.99429	1.98206	1.00617	1.17260	1.69031	-0.30398	-0.01439	0.92058	0.04648	0.04879	0.84757
0.04576	0.57203	0.42797	0.09087	0.90913	1.99389	1.98564	1.00416	1.13585	1.74815	-0.24574	-0.01125	0.92038	0.04511	0.04727	0.87675
0.04425	0.55311	0.44689	0.08802	0.91198	1.99369	1.98922	1.00225	1.10025	1.80797	-0.18572	-0.00822	0.92020	0.04377	0.04580	0.90685
0.04278	0.53481	0.46519	0.08526	0.91474	1.99365	1.99281	1.00042	1.06576	1.86984	-0.12381	-0.00530	0.92004	0.04248	0.04438	0.93790
0.04137	0.51711	0.48289	0.08259	0.91741	1.99376	1.99640	0.99868	1.03236	1.93383	-0.05994	-0.00248	0.91989	0.04122	0.04300	0.96994
0.04000	**0.50000**	**0.50000**	**0.08000**	**0.92000**	**1.99401**	**2.00000**	**0.99701**	**1.00000**	**2.00000**	**0.00599**	**0.00024**	**0.91976**	**0.04000**	**0.04167**	**1.00300**
0.03868	0.48346	0.51654	0.07749	0.92251	1.99438	2.00361	0.99540	0.96866	2.06844	0.07406	0.00286	0.91964	0.03882	0.04038	1.03713
0.03740	0.46746	0.53254	0.07506	0.92494	1.99486	2.00722	0.99384	0.93830	2.13922	0.14436	0.00540	0.91954	0.03767	0.03913	1.07236
0.03616	0.45199	0.54801	0.07271	0.92729	1.99544	2.01084	0.99234	0.90889	2.21242	0.21698	0.00785	0.91944	0.03655	0.03792	1.10874
0.03496	0.43704	0.56296	0.07043	0.92957	1.99611	2.01447	0.99089	0.88040	2.28813	0.29203	0.01021	0.91936	0.03547	0.03675	1.14630
0.03381	0.42258	0.57742	0.06822	0.93178	1.99685	2.01810	0.98947	0.85280	2.36643	0.36958	0.01249	0.91928	0.03442	0.03562	1.18508
0.03269	0.40860	0.59140	0.06609	0.93391	1.99766	2.02174	0.98809	0.82607	2.44741	0.44975	0.01470	0.91921	0.03340	0.03453	1.22514
0.03161	0.39508	0.60492	0.06401	0.93599	1.99854	2.02539	0.98675	0.80018	2.53116	0.53262	0.01683	0.91915	0.03241	0.03347	1.26650
0.03056	0.38200	0.61800	0.06201	0.93799	1.99947	2.02904	0.98543	0.77510	2.61778	0.61830	0.01890	0.91910	0.03145	0.03244	1.30923
0.02955	0.36936	0.63064	0.06006	0.93994	2.00045	2.03270	0.98414	0.75081	2.70736	0.70690	0.02089	0.91905	0.03052	0.03144	1.35337
0.02857	0.35714	0.64286	0.05818	0.94182	2.00148	2.03636	0.98287	0.72727	2.80000	0.79852	0.02281	0.91900	0.02961	0.03048	1.39897
0.02763	0.34533	0.65467	0.05636	0.94364	2.00254	2.04004	0.98162	0.70448	2.89582	0.89327	0.02468	0.91896	0.02873	0.02955	1.44607
0.02671	0.33390	0.66610	0.05459	0.94541	2.00364	2.04372	0.98039	0.68240	2.99491	0.99126	0.02648	0.91893	0.02788	0.02864	1.49473
0.02583	0.32285	0.67715	0.05288	0.94712	2.00477	2.04740	0.97918	0.66101	3.09739	1.09262	0.02822	0.91890	0.02705	0.02777	1.54501
0.02497	0.31217	0.68783	0.05122	0.94878	2.00593	2.05109	0.97798	0.64029	3.20339	1.19745	0.02990	0.91887	0.02625	0.02692	1.59696
0.02415	0.30184	0.69816	0.04962	0.95038	2.00711	2.05479	0.97679	0.62022	3.31300	1.30589	0.03153	0.91885	0.02547	0.02610	1.65063
0.02335	0.29185	0.70815	0.04806	0.95194	2.00831	2.05850	0.97562	0.60078	3.42637	1.41806	0.03311	0.91883	0.02471	0.02530	1.70610
0.02258	0.28220	0.71780	0.04656	0.95344	2.00953	2.06221	0.97445	0.58195	3.54362	1.53410	0.03463	0.91881	0.02398	0.02453	1.76341

KMpercapita s0p>sp & s0>s(A6-4)

A6-4-2 (3) Structure of the elasticity of substitution

L^0	Y^0	W^0	S^0	S_{WD}^0	P^0	S_P^0	D^0	C_D^0	$C_D^0+S_{WD}^0$	$C_W^0=C^0-C_D^0$	C^0	$c_{C/L}^0=C^0/L^0$	$\Delta c_{C/L}^0$	$\sigma c_{C/L}^0=\Delta c_{C/L}^0/c_{C/L}^0$	$c_{C/Y}^0=C^0/Y^0$
					$S_D^{*0}=D^{*0}-C_D^{*0}$	$S_W^{*0}=S_{WD}^{*0}-S_D$	$S_W^{*0}=W^{*0}-C_W^{*0}$	$A^{*0}=C_D^{*0}+S_{WD}$	$S_W^{*0}=A^{*0}-D^{*0}$						
					5.50000	0.0000	0.00000	5.50000	0.00000						
25	137.5000	126.5000	11.0000	5.5000	11.0000	5.5000	5.5000	0.0000	5.5000	126.5000	126.5000	5.0600	-----	-----	0.9200
$L^*(t)$	$Y^*(t)$	$W^*(t)$	$S^*(t)$	$S^*_{WD}(t)$	$P^*(t)$	$S_P^*(t)$	$D^*(t)$	$C_D^*(t)$	$C_{D(t)}+S_{WD(t)}$	$C_W(t)=C(t)-C_D$	$C^*(t)=c^*(t)*Y^*(t)$	$c_{C/L}^*(t)=C^*(t)/L^*(t)$	$\Delta c_{C/L}^*(t)$	$\sigma c_{C/L}^*(t)=\Delta c^*(t)/c^*$	$c_{C/Y}^*(t)=C^*(t)/Y^*(t)$
25.2500	143.2292	131.7708	11.4583	5.7292	11.4583	5.7292	5.7292	0.0000	5.7292	131.7708	131.7708	5.2186	21.0833	4.0400	0.9200
25.5025	149.1970	137.2613	11.9358	5.9679	11.9358	5.9679	5.9679	0.0000	5.9679	137.2613	137.2613	5.3823	21.7444	4.0400	0.9200
25.7575	155.4136	142.9805	12.4331	6.2165	12.4331	6.2165	6.2165	0.0000	6.2165	142.9805	142.9805	5.5510	22.4261	4.0400	0.9200
					$S_D^0=D^0-C_D^0$	$S_W^0=S_{WD}^0-S_D^0$	$S_W^0=W^0-C_W^0$	$A=C_D^0+S_{WD}^0$	$S_W^0=A^0-D^0$	Marginal rate of per capita consumption: $\Delta c_{C/L}(2)=((c_{C/L}(2)(1+n)-c_{C/L}(1))/n$					
					7.4250	0.0000	0.00000	3.30000	0.00000						
L^0	Y^0	W^0	S^0	S_{WD}^0	P^0	S_P^0	D^0	C_D^0	$\gamma=C_D^0/S_P^0$	$C_W^0=C^0-C_D^0$	$C^0=c_{C/D}^0*Y^0$	$c_{C/L}(t)=C(t)/L(t)=c_{C/Y}(t)*y(t)$ $c_{C/L}^0=C^0/L^0$	$\Delta c_{C/L}^0$	$\sigma c_{C/L}^0=\Delta c_{C/L}^0/c_{C/L}^0$	$c_{C/Y}^0=C^0/Y^0$
25	137.5000	126.5000	15.1250	7.4250	11.0000	7.7000	3.3000	-4.1250	3.3000	126.5000	122.3750	4.8950	-----	-----	0.8900
L(t)	Y(t)	W(t)	$S(t)=s_{S/Y}(t)*Y(t)$	$S_{WD}(t)=S(t)-S_P$	P(t)	$S_P(t)$	D(t)	$C_D(t)=S_P(t)*\gamma$	$\gamma(t)$	$C_W(t)=C(t)-C_D$	$C(t)=c(t)*Y(t)$	$c_{C/L}(t)=C(t)/L(t)$	$\Delta c_{C/L}(t)$	$\sigma c_{C/L}(t)=\Delta c(t)/c(t)$	$c_{C/Y}(t)=C(t)/Y(t)$
25.2500	145.37	133.74	15.49	7.62	11.63	7.87	3.76	-3.8599	3.7583	133.74	129.88	5.1438	30.03	5.8375	0.8934
25.5025	153.40	141.13	15.83	7.80	12.27	8.03	4.24	-3.5609	4.2407	141.13	137.57	5.3944	30.45	5.6443	0.8968
25.7575	161.58	148.66	16.15	7.97	12.93	8.18	4.75	-3.2280	4.7468	148.66	145.43	5.6460	30.81	5.4576	0.9000
26.0151	169.90	156.31	16.45	8.14	13.59	8.32	5.28	-2.8617	5.2757	156.31	153.45	5.8983	31.13	5.2771	0.9032
26.2753	178.34	164.07	16.73	8.29	14.27	8.44	5.83	-2.4626	5.8266	164.07	161.61	6.1506	31.38	5.1025	0.9062
26.5380	186.89	171.94	16.98	8.43	14.95	8.55	6.40	-2.0311	6.3987	171.94	169.91	6.4025	31.59	4.9337	0.9091
26.8034	195.54	179.90	17.21	8.56	15.64	8.65	6.99	-1.5682	6.9910	179.90	178.33	6.6534	31.74	4.7706	0.9120
27.0714	204.29	187.94	17.42	8.68	16.34	8.74	7.60	-1.0747	7.6026	187.94	186.87	6.9028	31.84	4.6128	0.9147
27.3421	213.10	196.05	17.60	8.78	17.05	8.82	8.23	-0.5516	8.2323	196.05	195.50	7.1502	31.89	4.4603	0.9174
27.6156	**221.98**	**204.22**	**17.76**	**8.88**	**17.76**	**8.88**	**8.88**	**0.0000**	**8.8792**	**204.22**	**204.22**	**7.3952**	**31.89**	**4.3128**	**0.9200**
27.8917	230.91	212.44	17.89	8.96	18.47	8.93	9.54	0.5790	9.5420	212.44	213.02	7.6373	31.85	4.1702	0.9225
28.1706	239.88	220.69	18.01	9.04	19.19	8.97	10.22	1.1841	10.2197	220.69	221.88	7.8761	31.76	4.0324	0.9249
28.4523	248.88	228.97	18.10	9.10	19.91	9.00	10.91	1.8141	10.9111	228.97	230.78	8.1113	31.63	3.8991	0.9273
28.7369	257.90	237.27	18.16	9.15	20.63	9.02	11.61	2.4676	11.6149	237.27	239.73	8.3424	31.45	3.7702	0.9296
29.0242	266.92	245.57	18.21	9.19	21.35	9.02	12.33	3.1432	12.3301	245.57	248.71	8.5691	31.24	3.6456	0.9318
29.3145	275.94	253.87	18.24	9.22	22.08	9.02	13.06	3.8395	13.0554	253.87	257.71	8.7911	30.99	3.5252	0.9339
29.6076	284.95	262.15	18.24	9.23	22.80	9.01	13.79	4.5550	13.7897	262.15	266.71	9.0080	30.71	3.4087	0.9360
29.9037	293.93	270.42	18.23	9.24	23.51	8.98	14.53	5.2884	14.5318	270.42	275.70	9.2197	30.39	3.2960	0.9380
30.2027	302.88	278.65	18.19	9.24	24.23	8.95	15.28	6.0381	15.2805	278.65	284.69	9.4259	30.04	3.1871	0.9399
30.5048	311.79	286.85	18.14	9.23	24.94	8.91	16.03	6.8026	16.0348	286.85	293.65	9.6263	29.67	3.0818	0.9418
30.8098	320.65	294.99	18.07	9.21	25.65	8.86	16.79	7.5807	16.7935	294.99	302.58	9.8207	29.27	2.9800	0.9436
31.1179	329.45	303.09	17.99	9.18	26.36	8.80	17.56	8.3707	17.5555	303.09	311.46	10.0091	28.84	2.8816	0.9454
31.4291	338.18	311.13	17.88	9.15	27.05	8.73	18.32	9.1713	18.3199	311.13	320.30	10.1911	28.40	2.7864	0.9471
31.7434	346.84	319.10	17.77	9.10	27.75	8.66	19.09	9.9810	19.0855	319.10	329.08	10.3668	27.93	2.6944	0.9488
32.0608	355.43	326.99	17.64	9.05	28.43	8.58	19.85	10.7987	19.8515	326.99	337.79	10.5359	27.45	2.6054	0.9504
32.3814	363.92	334.81	17.49	8.99	29.11	8.50	20.62	11.6228	20.6168	334.81	346.43	10.6985	26.95	2.5193	0.9519
32.7052	372.33	342.54	17.33	8.93	29.79	8.41	21.38	12.4521	21.3807	342.54	354.99	10.8544	26.44	2.4361	0.9534

KMpercapita s0p>sp & s0>s(A6-4)

A6-4-2 (4) Marginal rate is measured using the growth rate of the denominator

$\Delta\Omega(2)=((\Omega(2)(1+g_Y(2)-\Omega(1))/g_Y(2)$

$\Delta y(2)=((y(2)(1+n)-y(1))/$

$\Delta k(2)=((k(2)(1+n)-k(1))/$

Marginal rate of profit to capital: $\Delta r(2)=((r(2)(1+g_K(2)-r(1))/g_K(2)$

$\Delta c_{C/Y}^0$	$\sigma c_{C/Y}^0=\Delta c_{C/Y}^0/c_{C/Y}^0$	K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$	$(W*K)^0$		1/MPK =ΔK/ΔY		MPK =ΔY/ΔK	MPL =ΔY/ΔL	
-----	-----	275.000	-----	=ΔP/ΔK	-----	5.0600	=ΔW/ΔL	-----	34788						
$\Delta c_{C/Y}(t)$	$\sigma c_{C/Y}(t)=\Delta c(t)/c(t)$	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$	(W*K)(t)	$g_{WK}(t)$	ΔΩ(t)	$\sigma_\Omega=\Delta\Omega/\Omega$	=1/ΔΩ(t)	Δy	$\sigma_y=\Delta y/y$
0.9200	1.0000	286.458	11.4583	0.040000	5.2708	5.2186	21.0833	0.00190	37747	0.085069	2.000000	1.000000	0.500000	22.91667	4.0400
0.9200	1.0000	298.394	11.9358	0.040000	5.4905	5.3823	21.7444	0.00184	40958	0.085069	2.000000	1.000000	0.500000	23.63518	4.0400
0.9200	1.0000	310.827	12.4331	0.040000	5.7192	5.5510	22.4261	0.00178	44442	0.085069	2.000000	1.000000	0.500000	24.37621	4.0400

$\sigma c_{C/L}(t)=\sigma c_{C/Y}(t)*\sigma_y(t)$

$\sigma c_{C/Y}^0=\Delta c_{C/Y}^0/c_{C/Y}^0$

$\Delta c_{C/Y}^0$		K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$	$(W*K)^0$		1/MPK =ΔK/ΔY		MPK =ΔY/ΔK	MPL =ΔY/ΔL	
-----	-----	275.000	-----	=ΔP/ΔK	-----	5.0600	=ΔW/ΔL	-----	34788						
$\Delta c_{C/Y}(t)$	$\sigma c_{C/Y}(t)=\Delta c(t)/c(t)$	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$	(W*K)(t)	$g_{WK}(t)$	ΔΩ(t)	$\sigma_\Omega=\Delta\Omega/\Omega$	=1/ΔΩ(t)	Δy	$\sigma_y=\Delta y/y$
0.9537	1.0674	290.49	15.49	0.040654	7.24	5.297	28.967	0.00140	38851	0.116797	1.967828	0.984772	0.508174	31.49	5.4689
0.9572	1.0674	306.32	15.83	0.040581	7.39	5.534	29.263	0.00139	43232	0.112764	1.971377	0.987243	0.507260	31.81	5.2879
0.9607	1.0674	322.48	16.15	0.040508	7.53	5.771	29.509	0.00137	47938	0.108872	1.974933	0.989574	0.506346	32.07	5.1129
0.9640	1.0674	338.93	16.45	0.040435	7.65	6.008	29.704	0.00136	52977	0.105116	1.978494	0.991778	0.505435	32.29	4.9438
0.9673	1.0674	355.66	16.73	0.040362	7.77	6.244	29.849	0.00135	58354	0.101492	1.982062	0.993869	0.504525	32.44	4.7802
0.9704	1.0674	372.64	16.98	0.040289	7.87	6.479	29.946	0.00135	64073	0.097996	1.985637	0.995859	0.503617	32.55	4.6220
0.9735	1.0675	389.86	17.21	0.040217	7.96	6.712	29.996	0.00134	70135	0.094624	1.989218	0.997759	0.502710	32.60	4.4691
0.9765	1.0675	407.27	17.42	0.040144	8.04	6.942	30.000	0.00134	76544	0.091371	1.992806	0.999577	0.501805	32.61	4.3212
0.9793	1.0675	424.87	17.60	0.040072	8.11	7.170	29.960	0.00134	83297	0.088232	1.996400	1.001323	0.500902	32.56	4.1782
0.9821	**1.0675**	**442.63**	**17.76**	**0.040000**	**8.17**	**7.395**	**29.876**	**0.00134**	**90395**	**0.085205**	**2.000000**	**1.003003**	**0.500000**	**32.47**	**4.0400**
0.9848	1.0676	460.52	17.89	0.039928	8.22	7.617	29.753	0.00134	97833	0.082285	2.003607	1.004625	0.499100	32.34	3.9063
0.9875	1.0676	478.53	18.01	0.039856	8.25	7.834	29.590	0.00135	105608	0.079468	2.007220	1.006194	0.498201	32.16	3.7771
0.9900	1.0676	496.63	18.10	0.039784	8.28	8.048	29.390	0.00135	113713	0.076751	2.010840	1.007717	0.497305	31.95	3.6521
0.9925	1.0677	514.79	18.16	0.039713	8.30	8.257	29.156	0.00136	122143	0.074130	2.014467	1.009198	0.496409	31.69	3.5313
0.9949	1.0677	533.00	18.21	0.039641	8.30	8.461	28.889	0.00137	130888	0.071601	2.018100	1.010642	0.495516	31.40	3.4144
0.9972	1.0678	551.24	18.24	0.039570	8.30	8.660	28.591	0.00138	139941	0.069162	2.021740	1.012052	0.494624	31.08	3.3014
0.9995	1.0678	569.48	18.24	0.039499	8.29	8.854	28.264	0.00140	149290	0.066808	2.025386	1.013433	0.493733	30.72	3.1922
1.0016	1.0679	587.70	18.23	0.039428	8.26	9.043	27.912	0.00141	158925	0.064537	2.029038	1.014787	0.492844	30.34	3.0866
1.0038	1.0679	605.90	18.19	0.039357	8.23	9.226	27.535	0.00143	168833	0.062346	2.032698	1.016118	0.491957	29.93	2.9845
1.0058	1.0680	624.04	18.14	0.039286	8.20	9.403	27.135	0.00145	179002	0.060232	2.036364	1.017429	0.491071	29.49	2.8857
1.0078	1.0680	642.11	18.07	0.039215	8.15	9.575	26.716	0.00147	189418	0.058192	2.040036	1.018722	0.490187	29.04	2.7902
1.0098	1.0681	660.09	17.99	0.039144	8.10	9.740	26.278	0.00149	200068	0.056223	2.043715	1.019999	0.489305	28.56	2.6979
1.0117	1.0681	677.98	17.88	0.039074	8.04	9.899	25.824	0.00151	210937	0.054323	2.047401	1.021263	0.488424	28.07	2.6086
1.0135	1.0682	695.74	17.77	0.039004	7.97	10.052	25.355	0.00154	222008	0.052489	2.051094	1.022514	0.487545	27.56	2.5223
1.0153	1.0683	713.38	17.64	0.038933	7.90	10.199	24.874	0.00157	233269	0.050720	2.054793	1.023756	0.486667	27.04	2.4389
1.0170	1.0683	730.87	17.49	0.038863	7.82	10.340	24.382	0.00159	244701	0.049011	2.058498	1.024990	0.485791	26.50	2.3582
1.0187	1.0684	748.20	17.33	0.038793	7.73	10.474	23.881	0.00162	256291	0.047362	2.062211	1.026217	0.484916	25.96	2.2802

KMpercapita s0p>sp & s0>s(A6-4)

A6-4-2 (5) $\Delta(r/w)(2)=((r/w)(2)(1+g_{WK}(2)-(r/w)(1))/g_{WK}(2)$ Elasticity of substitution, $\sigma(t)$ $\sigma_{C/Y}^*(t)=\sigma_{C/L}^*(t)/\sigma_y^*(t)$ $\sigma_\Omega^*(t)=\sigma_k^*(t)/\sigma_y^*(t)$ $\sigma r^*(t)=\Delta r^*(t)/r^*(t)$ $\sigma_\alpha^*(t)=\sigma_\Omega^*(t)*\sigma_r^*(t)$

'n where, $g_{WK}(2)=((W*K)(2)-(W*K)(1))/(W*K)(1)$ $\sigma(t)=(\Delta k/k)/(\Delta(r/w)(t)/(r/w)(t))$ 1.000000 1.000000 1.000000 1.000000

(A): Marginal rate $(r/w)^0$ **(B): $\sigma(r/w)(t)=\Delta(r/w)(t)/(r/w)(t)$**

$\sigma_k=\sigma_\Omega*\sigma_y$ $=\Delta K/\Delta L$ 0.007905 Y=wL+rK is confirmed.

=Δk/k	Δk	Δ(r/w)(t)	r/w(t)	Δ(r/w)(t)/(r/w)(t)	σ(t)=(A)/(B)	Y=wL+rK	$p_w^*(t)=1/\sigma y^*(t)$ $p_w=(w/MPL)/(1-\alpha)$	$p_r^*(t)=\sigma_\Omega^*(t)$ $p_r=(r/MPK)/\alpha$	$\Delta\gamma^*(t)$	$\sigma^*\gamma(t)=\Delta\gamma^*(t)/\gamma^*(t)$	$\Delta\theta^*(t)$	$\sigma\theta^*(t)=\Delta\theta^*(t)/\theta^*(t)$	$\zeta^*=C_D^*/S^*=\gamma^*/\theta^*$	$\Delta\zeta^*(t)$	$\sigma\zeta^*(t)=\Delta\zeta^*(t)/\zeta^*(t)$
4.0400	45.8333	0.004840	0.007665	0.631441	6.398067	143.229	0.24752	1.00000	0	#DIV/0!	2	1	0.000000	0.000000	#DIV/0!
4.0400	47.2704	0.004693	0.007432	0.631441	6.398067	149.197	0.24752	1.00000	0	#DIV/0!	2	1	0.000000	0.000000	#DIV/0!
4.0400	48.7524	0.004550	0.007206	0.631441	6.398067	155.414	0.24752	1.00000	0	#DIV/0!	2	1	0.000000	0.000000	#DIV/0!

(A): Marginal rate $(r/w)^0$ **(B): $\sigma(r/w)(t)=\Delta(r/w)(t)/(r/w)(t)$** $p_w(t)=1/\sigma y(t)$ $p_r(t)=\sigma_\Omega(t)$

$\sigma_k=\sigma_\Omega*\sigma_y$ $=\Delta K/\Delta L$ 0.007905 Y=wL+rK is confirmed. $p_w=(w/MPL)/(1-\alpha)$

=Δk/k	Δk	Δ(r/w)(t)	r/w(t)	Δ(r/w)(t)/(r/w)(t)	σ(t)=(A)/(B)	Y=wL+rK		$p_r=(r/MPK)/\alpha$	$\Delta\gamma(t)$	$\sigma\gamma(t)=\Delta\gamma(t)/\gamma(t)$	$\Delta\theta(t)$	$\sigma\theta(t)=\Delta\theta(t)/\theta(t)$	$\zeta=C_D/S=\gamma/\theta$	$\Delta\zeta(t)$	$\sigma\zeta(t)=\Delta\zeta(t)/\zeta(t)$
5.3856	61.96	0.004590	0.007558	0.607291	8.868192	145.371	0.18285	0.98477	-2.050907	3.937983	1.860762	0.945592	-0.249194	0.726919	-2.917076
5.2204	62.71	0.004411	0.007239	0.609236	8.568850	153.403	0.18911	0.98724	-2.039385	4.349892	1.864118	0.945592	-0.224900	0.870792	-3.871909
5.0596	63.35	0.004246	0.006946	0.611340	8.276297	161.583	0.19558	0.98957	-2.029275	4.884664	1.867480	0.945592	-0.199819	1.035216	-5.180762
4.9031	63.88	0.004095	0.006674	0.613603	7.990698	169.899	0.20227	0.99178	-2.020411	5.604215	1.870848	0.945592	-0.173927	1.224845	-7.042289
4.7509	64.31	0.003957	0.006424	0.616025	7.712167	178.340	0.20920	0.99387	-2.012648	6.620968	1.874222	0.945592	-0.147197	1.445851	-9.823
4.6029	64.63	0.003831	0.006193	0.618604	7.440771	186.892	0.21636	0.99586	-2.005860	8.162428	1.877602	0.945592	-0.119602	1.706603	-14.269
4.4591	64.86	0.003715	0.005978	0.621341	7.176541	195.545	0.22376	0.99776	-1.999939	10.768857	1.880988	0.945592	-0.091114	2.018734	-22.156
4.3194	64.98	0.003608	0.005780	0.624238	6.919477	204.285	0.23142	0.99958	-1.994788	16.111799	1.884381	0.945592	-0.061705	2.398910	-38.877
4.1838	65.01	0.003510	0.005596	0.627294	6.669553	213.101	0.23933	1.00132	-1.990324	33.206598	1.887779	0.945592	-0.031344	2.871880	-91.626
4.0521	**64.95**	**0.003421**	**0.005425**	**0.630513**	**6.426719**	**221.980**	**0.24752**	**1.00300**	**-1.986472**	**-331.75**	**1.891184**	**0.945592**	**0.000000**	**3.476049**	**#DIV/0!**
3.9244	64.80	0.003338	0.005267	0.633896	6.190907	230.911	0.25599	1.00462	-1.983168	-26.77926	1.894594	0.945592	0.032358	4.274414	132.098
3.8005	64.56	0.003263	0.005119	0.637446	5.962034	239.882	0.26476	1.00619	-1.980354	-13.71841	1.898011	0.945592	0.065763	5.377985	81.779
3.6803	64.24	0.003194	0.004982	0.641164	5.740004	248.881	0.27381	1.00772	-1.977981	-9.115825	1.901434	0.945592	0.100249	7.002310	69.849
3.5637	63.84	0.003131	0.004854	0.645055	5.524711	257.898	0.28318	1.00920	-1.976002	-6.766517	1.904863	0.945592	0.135850	9.62840	70.875
3.4508	63.37	0.003074	0.004735	0.649122	5.316040	266.921	0.29288	1.01064	-1.974378	-5.342191	1.908299	0.945592	0.172604	14.59327	84.548
3.3412	62.83	0.003021	0.004624	0.653368	5.113868	275.941	0.30290	1.01205	-1.973074	-4.387075	1.911740	0.945592	0.210547	27.51989	130.707
3.2351	62.22	0.002974	0.004521	0.657797	4.918068	284.947	0.31326	1.01343	-1.972058	-3.702558	1.915188	0.945592	0.249718	144.8040	579.871
3.1322	61.56	0.002931	0.004425	0.662414	4.728509	293.930	0.32398	1.01479	-1.971302	-3.188241	1.918642	0.945592	0.290156	-49.7542	-171.474
3.0326	60.84	0.002892	0.004335	0.667223	4.545056	302.880	0.33507	1.01612	-1.970780	-2.787913	1.922102	0.945592	0.331902	-22.2442	-67.020
2.9360	60.06	0.002857	0.004251	0.672229	4.367572	311.788	0.34653	1.01743	-1.970471	-2.467652	1.925569	0.945592	0.375000	-14.7270	-39.272
2.8425	59.24	0.002827	0.004172	0.677437	4.195920	320.646	0.35839	1.01872	-1.970352	-2.205773	1.929042	0.945592	0.419492	-11.2179	-26.742
2.7519	58.37	0.002799	0.004099	0.682852	4.029959	329.446	0.37066	1.02000	-1.970407	-1.987770	1.932520	0.945592	0.465424	-9.186595	-19.738
2.6641	57.47	0.002775	0.004031	0.688481	3.869551	338.181	0.38334	1.02126	-1.970618	-1.803572	1.936006	0.945592	0.512842	-7.862354	-15.331
2.5791	56.53	0.002755	0.003967	0.694328	3.714557	346.843	0.39646	1.02251	-1.970971	-1.645967	1.939497	0.945592	0.561794	-6.931026	-12.337
2.4968	55.56	0.002737	0.003908	0.700400	3.564838	355.425	0.41003	1.02376	-1.971452	-1.509658	1.942995	0.945592	0.612330	-6.240556	-10.191
2.4171	54.56	0.002723	0.003853	0.706704	3.420257	363.922	0.42406	1.02499	-1.972049	-1.390663	1.946499	0.945592	0.664502	-5.708378	-8.590
2.3399	53.53	0.002711	0.003801	0.713246	3.280677	372.328	0.43857	1.02622	-1.972752	-1.285937	1.950010	0.945592	0.718362	-5.285796	-7.358

KMpercapita s0p>sp & s0>s(A6-4)

Appendix 6-4-3 Case study of the Kamiryo Model by gamma, $Y=S_P+S_D+S_W+C_D+C_W$: both $s_{S/Y}$ and $s_{SP/Y}$ are variables (1) $g_Y(t)=s_{SP/Y}(t)/(1-s_{SP/Y}(t))$ $I/Y^0(t)=s_{S/Y}(t)(1+g_Y(t))$ $g_K(t)=(I/Y^0)(t)/\Omega(t-1)$

1 Balanced growth-state: $g^*_Y=g^*_{KP}=g_Y=g_{KP}$ Ω is constant and $s^*_{SP/Y}$ is not equal to n under $\lambda=0$

gamma	$L^0=$	n	Ω^0	α	k^0	$s^*_{SP/P}$	$s^*_{SP/Y}$	$s^*_{SWD/WD}$	$s^*_{SWD/Y}$	$s^*_{S/Y}=s^*_{SP/Y}\,\Omega^0$		variables	y^0	r^0
0.5	25	0.01	2	0.08	11	0.40000	0.03200	0.03306	0.03200	0.064			5.500000	0.040000

$\theta=S/S_P=\Omega=K/Y$	time	$g^*_Y(t)$	$g^*_K(t)$	$g^*_k(t)$	$g^*_y(t)$	$g^*_\Omega(t)$	$\Omega^*(t)$	$c^*_{D/Y}=\alpha-s^*_{S/Y}$	$r^*(t)$	$k^*(t)$	$y^*(t)$	$I/Y^{0*}(t)$	$A^*(t)$	$\lambda^*(t)$
2	1	0.033058	0.033058	0.022830	0.022830	0.000000	2.000000	0.016000	0.040000	11.251125	5.625563	0.066116	0.345297	-----
	2	0.033058	0.033058	0.022830	0.022830	0.000000	2.000000	0.016000	0.040000	11.507983	5.753992	0.066116	0.345297	0.000000
	3	0.033058	0.033058	0.022830	0.022830	0.000000	2.000000	0.016000	0.040000	11.770705	5.885353	0.066116	0.345297	0.000000

from IRC to DRC

$a=s^*_{S/Y}/s^0_{S/Y}$	$g_{s/Y}=a^{\wedge}(1/10)-1$	$\theta^*=s^*_{S/Y}/s^*_{SP/Y}$	$\Psi^*=\Omega^0/\theta^*$	$A(t)=g_y(t)/(I/Y^0)$
0.5818182	-0.052719	2.000000	1.000000	$\lambda=(A(t)-A(t-1))/A(t-1)$

2 Unbalanced growth-state Ω, $s_{SP/Y}$, and $s_{S/Y}$ are variables, where saving differs from profit

$b=s^*_{SP/Y}/s^0_{SP/Y}$	$g_{s/Y}=b^{\wedge}(1/10)-1$	$L^0=$	n	Ω^0	α	k^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	$s^0_{SWD/WD}$	$s^0_{SWD/Y}$	$s^0_{S/Y}$	$\theta^0=s^0_{S/Y}/s^0_{SP/}$	$\Psi^0=\Omega^0/\theta^0$	y^0	r^0
0.571429	-0.054425	25	0.01	2	0.08	11	**0.7**	0.056000	0.057203	0.054000	**0.11**	1.964286	1.018182	5.500000	0.040000

$\theta(t)=s_{S/Y}(t)/s_{SP/Y}(t)$	$\Psi(t)=\Omega^0/\theta(t)$	time	$g_Y(t)=s_{SP/Y}(t)/(1-s_{SP/}$	$g_K(t)$	$g_k(t)$	$g_y(t)$	$g_\Omega(t)$	$\Omega(t)$	$s_{S/Y}(t)$	$r(t)$	$k(t)$	$y(t)$	$I/Y^0(t)$	$A(t)$	$\lambda(t)$
1.967828	1.016349	1	0.055913	0.055014	0.044568	0.045458	-0.000852	1.998296	0.104201	0.040034	11.4902	5.7500	0.110027	0.413156	-----
1.971377	1.014519	2	0.052710	0.051999	0.041584	0.042287	-0.000675	1.996949	0.098707	0.040061	11.9681	5.9932	0.103910	0.406953	-0.015013
1.974933	1.012693	3	0.049698	0.049150	0.038763	0.039305	-0.000522	1.995906	0.093504	0.040082	12.4320	6.2287	0.098151	0.400458	-0.015961
1.978494	1.010870	4	0.046867	0.046458	0.036097	0.036502	-0.000391	1.995127	0.088574	0.040098	12.8807	6.4561	0.092725	0.393653	-0.016992
1.982062	1.009050	5	0.044203	0.043914	0.033578	0.033865	-0.000277	1.994574	0.083905	0.040109	13.3132	6.6747	0.087614	0.386522	-0.018115
1.985637	1.007233	6	0.041697	0.041510	0.031198	0.031383	-0.000179	1.994216	0.079481	0.040116	13.7286	6.8842	0.082795	0.379047	-0.019340
1.989218	1.005420	7	0.039339	0.039240	0.028950	0.029048	-0.000095	1.994027	0.075291	0.040120	14.1260	7.0842	0.078253	0.371207	-0.020682
1.992806	1.003610	8	0.037118	0.037095	0.026827	0.026850	-0.000022	1.993983	0.071322	0.040121	14.5050	7.2744	0.073969	0.362984	-0.022154
1.996400	1.001803	9	0.035027	0.035070	0.024821	0.024779	0.000041	1.994065	0.067562	0.040119	14.8650	7.4546	0.069928	0.354355	-0.023773
2.000000	**1.000000**	**10**	**0.033058**	**0.033156**	**0.022927**	**0.022830**	**0.000095**	**1.994255**	**0.064000**	**0.040115**	**15.2058**	**7.6248**	**0.066116**	**0.345297**	**-0.025561**
2.003607	0.998200	11	0.031203	0.031349	0.021138	0.020993	0.000142	1.994538	0.060626	0.040110	15.5272	7.7849	0.062518	0.335787	-0.027541
2.007220	0.996403	12	0.029454	0.029642	0.019447	0.019262	0.000182	1.994901	0.057430	0.040102	15.8292	7.9348	0.059121	0.325800	-0.029743
2.010840	0.994609	13	0.027807	0.028029	0.017850	0.017630	0.000216	1.995332	0.054402	0.040094	16.1118	8.0747	0.055915	0.315308	-0.032203
2.014467	0.992819	14	0.026254	0.026505	0.016342	0.016093	0.000245	1.995821	0.051534	0.040084	16.3751	8.2047	0.052887	0.304284	-0.034962
2.018100	0.991031	15	0.024789	0.025066	0.014917	0.014643	0.000270	1.996360	0.048817	0.040073	16.6193	8.3248	0.050027	0.292698	-0.038076
2.021740	0.989247	16	0.023409	0.023706	0.013571	0.013276	0.000291	1.996941	0.046244	0.040061	16.8449	8.4353	0.047326	0.280519	-0.041611
2.025386	0.987466	17	0.022106	0.022421	0.012298	0.011987	0.000308	1.997556	0.043806	0.040049	17.0520	8.5364	0.044774	0.267713	-0.045651
2.029038	0.985689	18	0.020878	0.021207	0.011096	0.010771	0.000322	1.998200	0.041496	0.040036	17.2412	8.6284	0.042363	0.254245	-0.050306
2.032698	0.983914	19	0.019720	0.020060	0.009960	0.009623	0.000334	1.998867	0.039309	0.040023	17.4130	8.7114	0.040084	0.240079	-0.055718
2.036364	0.982143	20	0.018626	0.018976	0.008887	0.008541	0.000343	1.999553	0.037236	0.040009	17.5677	8.7858	0.037930	0.225176	-0.062077
2.040036	0.980375	21	0.017595	0.017951	0.007872	0.007520	0.000350	2.000253	0.035273	0.039995	17.7060	8.8519	0.035894	0.209494	-0.069643
2.043715	0.978610	22	0.016621	0.016982	0.006913	0.006556	0.000355	2.000963	0.033414	0.039981	17.8284	8.9099	0.033969	0.192990	-0.078780
2.047401	0.976848	23	0.015702	0.016067	0.006007	0.005646	0.000359	2.001681	0.031652	0.039966	17.9355	8.9602	0.032149	0.175618	-0.090014
2.051094	0.975090	24	0.014835	0.015201	0.005150	0.004787	0.000361	2.002403	0.029983	0.039952	18.0279	9.0031	0.030428	0.157330	-0.104135
2.054793	0.973334	25	0.014016	0.014383	0.004340	0.003977	0.000362	2.003128	0.028403	0.039938	18.1061	9.0389	0.028801	0.138075	-0.122387
2.058498	0.971582	26	0.013244	0.013610	0.003574	0.003211	0.000361	2.003851	0.026905	0.039923	18.1708	9.0680	0.027262	0.117798	-0.146851
2.062211	0.969833	27	0.012514	0.012878	0.002850	0.002489	0.000360	2.004573	0.025487	0.039909	18.2226	9.0905	0.025806	0.096444	-0.181280

KMpercapita s0p>sp & s0>s(A6-4)

A6-4-3 (2) Relationships among saving, profit, undistributed profit, dividends, saved dividends, consumed dividends, saved wages, and consumed wages: using ratios

									$\gamma(t)=(1/s_P)(t)-\Omega(t)$		$c_{D/Y}(t)=\gamma(t)*s_{SP/Y}(t)$		$s_{WD/WD}(t)=s_{WD/Y}(t)/(1-s_{SP/Y}(t))$		
gamma given			s^0	c^0	Ω^0	θ^0				γ^0	$c_{D/Y}{}^0$	$c_{W/Y}{}^0$			
0.5			0.06	0.93600	2.00000	2.00000				0.5	0.01600	0.92000			
$s_{SP/Y}{}^*(t)$	$s^*{}_P(t)=s^*{}_{SP/P}(t)$	$1-s^*{}_P(t)$	$s^*(t)=s^*{}_{S/Y}(t)$	$c^*(t)=1-s^*(t)$	$\Omega^*(t)$	$\theta^*(t)$	$\Psi^*(t)$	$\mu^*(t)=(S/P)^*(t)$	$(1/s_P)^*(t)=\Omega+\gamma$	$\gamma^*(t)=(1/s_P)(t)-\Omega(t)$	$c^*{}_{D/Y}(t)=\gamma(t)*s_S$	$c^*{}_{W/Y}(t)$	$s^*{}_{WD/Y}(t)$	$s^*{}_{WD/WD}(t)$	$(\Omega+\gamma)/\Omega$
0.03200	0.40000	0.60000	0.06400	0.93600	2.00000	2.00000	1.00000	0.80000	2.50000	0.50000	0.01600	0.92000	0.03200	0.03306	1.25000
0.03200	0.40000	0.60000	0.06400	0.93600	2.00000	2.00000	1.00000	0.80000	2.50000	0.50000	0.01600	0.92000	0.03200	0.03306	1.25000
0.03200	0.40000	0.60000	0.06400	0.93600	2.00000	2.00000	1.00000	0.80000	2.50000	0.50000	0.01600	0.92000	0.03200	0.03306	1.25000
$c^*{}_{D/D}=c^*{}_{D/Y}/(\alpha-s^*{}_{SP/Y})$															
0.33333	: Dividends are not always saved.														
									$\gamma(t)=(1/s_P)(t)-\Omega(t)$		$c_{D/Y}(t)=\gamma(t)*s_{SP/Y}(t)$				
0.33333	$s_P{}^0$		s^0	c^0	Ω^0	θ^0			$1/s_P{}^0$	γ^0	$c_{D/Y}{}^0$	$c_{W/Y}{}^0$			**from IRC to DRC**
0.33333	0.70000		0.11	0.89000	2.00000	1.96429			1.42857	-0.57143	-0.032	0.92200			
$s_{SP/Y}(t)$	$s_P(t)=s_{SP/P}(t)$	$1-s_P(t)$	$s(t)=s_{S/Y}(t)$	$c(t)=1-s(t)$	$\Omega(t)$	$\theta(t)$	$\Psi(t)$	$\mu(t)=(S/P)(t)$	$(1/s_P)(t)=\Omega(t)+\gamma(t)$	**gamma (t)**	$c_{D/Y}(t)$	$c_{W/Y}(t)$	$s_{WD/Y}(t)$	$s_{WD/WD}(t)$	$(\Omega+\gamma)/\Omega$
0.05295	0.66190	0.33810	0.10420	0.89580	1.99830	1.96783	1.01548	1.30251	1.51080	-0.48750	-0.02581	0.92161	0.05125	0.05411	0.75604
0.05007	0.62588	0.37412	0.09871	0.90129	1.99695	1.97138	1.01297	1.23384	1.59775	-0.39920	-0.01999	0.92128	0.04864	0.05120	0.80010
0.04735	0.59182	0.40818	0.09350	0.90650	1.99591	1.97493	1.01062	1.16880	1.68971	-0.30619	-0.01450	0.92099	0.04616	0.04845	0.84659
0.04477	0.55961	0.44039	0.08857	0.91143	1.99513	1.97849	1.00841	1.10718	1.78697	-0.20816	-0.00932	0.92074	0.04381	0.04586	0.89567
0.04233	0.52915	0.47085	0.08390	0.91610	1.99457	1.98206	1.00631	1.04881	1.88982	-0.10475	-0.00443	0.92053	0.04157	0.04341	0.94748
0.04003	0.50035	0.49965	0.07948	0.92052	1.99422	1.98564	1.00432	0.99352	1.99859	0.00438	0.00018	0.92034	0.03945	0.04110	1.00220
0.03785	0.47312	0.52688	0.07529	0.92471	1.99403	1.98922	1.00242	0.94114	2.11363	0.11960	0.00453	0.92018	0.03744	0.03891	1.05998
0.03579	0.44737	0.55263	0.07132	0.92868	1.99398	1.99281	1.00059	0.89152	2.23528	0.24130	0.00864	0.92004	0.03553	0.03685	1.12101
0.03384	0.42302	0.57698	0.06756	0.93244	1.99406	1.99640	0.99883	0.84452	2.36394	0.36987	0.01252	0.91992	0.03372	0.03490	1.18549
0.03200	**0.40000**	**0.60000**	**0.06400**	**0.93600**	**1.99425**	**2.00000**	**0.99713**	**0.80000**	**2.50000**	**0.50575**	**0.01618**	**0.91982**	**0.03200**	**0.03306**	**1.25360**
0.03026	0.37823	0.62177	0.06063	0.93937	1.99454	2.00361	0.99547	0.75782	2.64389	0.64935	0.01965	0.91973	0.03037	0.03132	1.32557
0.02861	0.35765	0.64235	0.05743	0.94257	1.99490	2.00722	0.99386	0.71787	2.79607	0.80117	0.02292	0.91965	0.02882	0.02967	1.40161
0.02705	0.33818	0.66182	0.05440	0.94560	1.99533	2.01084	0.99229	0.68003	2.95700	0.96167	0.02602	0.91958	0.02735	0.02811	1.48196
0.02558	0.31978	0.68022	0.05153	0.94847	1.99582	2.01447	0.99074	0.64418	3.12720	1.13138	0.02894	0.91952	0.02595	0.02663	1.56687
0.02419	0.30237	0.69763	0.04882	0.95118	1.99636	2.01810	0.98923	0.61022	3.30719	1.31083	0.03171	0.91947	0.02463	0.02524	1.65661
0.02287	0.28592	0.71408	0.04624	0.95376	1.99694	2.02174	0.98773	0.57805	3.49754	1.50060	0.03432	0.91943	0.02337	0.02392	1.75145
0.02163	0.27035	0.72965	0.04381	0.95619	1.99756	2.02539	0.98626	0.54757	3.69885	1.70129	0.03680	0.91940	0.02218	0.02267	1.85169
0.02045	0.25564	0.74436	0.04150	0.95850	1.99820	2.02904	0.98480	0.51870	3.91174	1.91354	0.03913	0.91937	0.02105	0.02148	1.95763
0.01934	0.24173	0.75827	0.03931	0.96069	1.99887	2.03270	0.98336	0.49136	4.13689	2.13803	0.04135	0.91935	0.01997	0.02036	2.06962
0.01829	0.22857	0.77143	0.03724	0.96276	1.99955	2.03636	0.98192	0.46545	4.37500	2.37545	0.04344	0.91933	0.01895	0.01930	2.18799
0.01729	0.21613	0.78387	0.03527	0.96473	2.00025	2.04004	0.98050	0.44092	4.62681	2.62656	0.04541	0.91931	0.01798	0.01830	2.31311
0.01635	0.20437	0.79563	0.03341	0.96659	2.00096	2.04372	0.97908	0.41767	4.89312	2.89215	0.04729	0.91930	0.01706	0.01735	2.44538
0.01546	0.19325	0.80675	0.03165	0.96835	2.00168	2.04740	0.97767	0.39565	5.17475	3.17307	0.04905	0.91929	0.01619	0.01645	2.58520
0.01462	0.18273	0.81727	0.02998	0.97002	2.00240	2.05109	0.97626	0.37479	5.47259	3.47019	0.05073	0.91929	0.01537	0.01559	2.73301
0.01382	0.17278	0.82722	0.02840	0.97160	2.00313	2.05479	0.97486	0.35503	5.78758	3.78445	0.05231	0.91929	0.01458	0.01478	2.88927
0.01307	0.16338	0.83662	0.02691	0.97309	2.00385	2.05850	0.97345	0.33632	6.12070	4.11685	0.05381	0.91929	0.01384	0.01402	3.05447
0.01236	0.15449	0.84551	0.02549	0.97451	2.00457	2.06221	0.97205	0.31859	6.47299	4.46841	0.05523	0.91929	0.01313	0.01329	3.22911

KMpercapita s0p>sp & s0>s(A6-4)

A6-4-3 (3) Structure of the elasticity of substitution

$S_D^{*0}=D^{*0}-C_D^{*0}$	$S_W^{*0}=S_{WD}^{*0}-S_D$	$S_W^{*0}=W^{*0}-C_W^{*0}$	$A^{*0}=C_D^{*0}+S_{WD}$	$S_W^{*0}=A^{*0}-D^{*0}$
4.40000	0.0000	0.00000	6.60000	0.00000

L^0	Y^0	W^0	S^0	S_{WD}^0	P^0	S_P^0	D^0	C_D^0	$C_D^0+S_{WD}^0$	$C_W^0=C^0-C_D^0$	C^0	$c_{C/L}^0=C^0/L^0$	$\Delta c_{C/L}^0$	$\sigma c_{C/L}^0=\Delta c_{C/L}^0/c_{C/L}^0$	$c_{C/Y}^0=C^0/Y^0$
25	137.5000	126.5000	8.8000	4.4000	11.0000	4.4000	6.6000	2.2000	6.6000	126.5000	128.7000	5.1480	-----	-----	0.9360
$L^*(t)$	$Y^*(t)$	$W^*(t)$	$S^*(t)$	$S^*_{WD}(t)$	$P^*(t)$	$S_P^*(t)$	$D^*(t)$	$C_D^*(t)$	$C_{D(t)}+S_{WD(t)}$	$C_W(t)=C(t)-C_D$	$C^*(t)=c^*(t)*Y^*(t)$	$c_{C/L}^*(t)=C^*(t)/L^*(t)$	$\Delta c_{C/L}^*(t)$	$\sigma c_{C/L}^*(t)=\Delta c^*(t)/c^*$	$c_{C/Y}^*(t)=C^*(t)/Y^*(t)$
25.2500	142.0455	130.6818	9.0909	4.5455	11.3636	4.5455	6.8182	2.2727	6.8182	130.6818	132.9545	5.2655	17.0182	3.2320	0.9360
25.5025	146.7412	135.0019	9.3914	4.6957	11.7393	4.6957	7.0436	2.3479	7.0436	135.0019	137.3497	5.3857	17.4067	3.2320	0.9360
25.7575	151.5921	139.4648	9.7019	4.8509	12.1274	4.8509	7.2764	2.4255	7.2764	139.4648	141.8902	5.5087	17.8041	3.2320	0.9360

$S_D^0=D^0-C_D^0$	$S_W^0=S_{WD}^0-S_D^0$	$S_W^0=W^0-C_W^0$	$A=C_D^0+S_{WD}^0$	$S_W^0=A^0-D^0$
7.4250	0.0000	0.00000	3.30000	0.00000

Marginal rate of per capita consumption: $\Delta c_{C/L}(2)=((c_{C/L}(2)(1+n)-c_{C/L}(1))/n$

L^0	Y^0	W^0	S^0	S_{WD}^0	P^0	S_P^0	D^0	C_D^0	$\gamma=C_D^0/S_P^0$	$C_W^0=C^0-C_D^0$	$C^0=c_{C/D}^0*Y^0$	$c_{C/L}(t)=C(t)/L(t)=c_{C/Y}(t)*y(t)$ $c_{C/L}^0=C^0/L^0$	$\Delta c_{C/L}^0$	$\sigma c_{C/L}^0=\Delta c_{C/L}^0/c_{C/L}^0$	$c_{C/Y}^0=C^0/Y^0$
25	137.5000	126.5000	15.1250	7.4250	11.0000	7.7000	3.3000	-4.1250	3.3000	126.5000	122.3750	4.8950	-----	-----	0.8900
L(t)	Y(t)	W(t)	$S(t)=s_{S/Y}(t)*Y(t)$	$S_{WD}(t)=S(t)-S_P$	P(t)	$S_P(t)$	D(t)	$C_D(t)=S_P(t)*\gamma$	$\gamma(t)$	$C_W(t)=C(t)-C_D$	$C(t)=c(t)*Y(t)$	$c_{C/L}(t)=C(t)/L(t)$	$\Delta c_{C/L}(t)$	$\sigma c_{C/L}(t)=\Delta c(t)/c(t)$	$c_{C/Y}(t)=C(t)/Y(t)$
25.2500	145.19	133.57	15.13	7.44	11.62	7.69	3.93	-3.5137	3.9270	133.57	130.06	5.1509	30.74	5.9674	0.8958
25.5025	152.84	140.61	15.09	7.43	12.23	7.65	4.57	-2.8593	4.5745	140.61	137.75	5.4016	30.48	5.6419	0.9013
25.7575	160.44	147.60	15.00	7.41	12.83	7.60	5.24	-2.1665	5.2390	147.60	145.44	5.6463	30.12	5.3342	0.9065
26.0151	167.96	154.52	14.88	7.36	13.44	7.52	5.92	-1.4401	5.9173	154.52	153.08	5.8842	29.68	5.0434	0.9114
26.2753	175.38	161.35	14.72	7.29	14.03	7.42	6.61	-0.6848	6.6062	161.35	160.66	6.1147	29.16	4.7686	0.9161
26.5380	182.69	168.08	14.52	7.21	14.62	7.31	7.30	0.0948	7.3026	168.08	168.17	6.3370	28.57	4.5088	0.9205
26.8034	189.88	174.69	14.30	7.11	15.19	7.19	8.00	0.8941	8.0035	174.69	175.58	6.5508	27.93	4.2632	0.9247
27.0714	196.93	181.17	14.05	7.00	15.75	7.05	8.71	1.7090	8.7062	181.17	182.88	6.7556	27.23	4.0310	0.9287
27.3421	203.83	187.52	13.77	6.87	16.31	6.90	9.41	2.5352	9.4082	187.52	190.05	6.9510	26.49	3.8115	0.9324
27.6156	**210.56**	**193.72**	**13.48**	**6.74**	**16.85**	**6.74**	**10.11**	**3.3690**	**10.1071**	**193.72**	**197.09**	**7.1368**	**25.72**	**3.6040**	**0.9360**
27.8917	217.13	199.76	13.16	6.59	17.37	6.57	10.80	4.2068	10.8006	199.76	203.97	7.3129	24.92	3.4079	0.9394
28.1706	223.53	205.65	12.84	6.44	17.88	6.40	11.49	5.0451	11.4868	205.65	210.69	7.4791	24.10	3.2225	0.9426
28.4523	229.74	211.37	12.50	6.28	18.38	6.22	12.16	5.8810	12.1640	211.37	217.25	7.6354	23.27	3.0471	0.9456
28.7369	235.78	216.91	12.15	6.12	18.86	6.03	12.83	6.7116	12.8305	216.91	223.63	7.7819	22.42	2.8814	0.9485
29.0242	241.62	222.29	11.80	5.95	19.33	5.84	13.48	7.5344	13.4850	222.29	229.83	7.9184	21.58	2.7247	0.9512
29.3145	247.28	227.50	11.44	5.78	19.78	5.66	14.13	8.3472	14.1262	227.50	235.84	8.0453	20.73	2.5765	0.9538
29.6076	252.74	232.52	11.07	5.61	20.22	5.47	14.75	9.1479	14.7531	232.52	241.67	8.1625	19.89	2.4364	0.9562
29.9037	258.02	237.38	10.71	5.43	20.64	5.28	15.36	9.9347	15.3648	237.38	247.31	8.2703	19.05	2.3039	0.9585
30.2027	263.11	242.06	10.34	5.25	21.05	5.09	15.96	10.7062	15.9606	242.06	252.77	8.3690	18.23	2.1787	0.9607
30.5048	268.01	246.57	9.98	5.08	21.44	4.90	16.54	11.4611	16.5400	246.57	258.03	8.4587	17.43	2.0603	0.9628
30.8098	272.72	250.91	9.62	4.90	21.82	4.72	17.10	12.1981	17.1024	250.91	263.11	8.5397	16.64	1.9483	0.9647
31.1179	277.26	255.08	9.26	4.73	22.18	4.53	17.65	12.9164	17.6476	255.08	267.99	8.6122	15.87	1.8424	0.9666
31.4291	281.61	259.08	8.91	4.56	22.53	4.35	18.18	13.6153	18.1753	259.08	272.70	8.6766	15.12	1.7423	0.9683
31.7434	285.79	262.93	8.57	4.39	22.86	4.18	18.69	14.2942	18.6854	262.93	277.22	8.7332	14.39	1.6477	0.9700
32.0608	289.80	266.61	8.23	4.23	23.18	4.01	19.18	14.9526	19.1779	266.61	281.56	8.7822	13.68	1.5581	0.9716
32.3814	293.63	270.14	7.90	4.06	23.49	3.84	19.65	15.5903	19.6527	270.14	285.73	8.8240	13.00	1.4735	0.9731
32.7052	297.31	273.52	7.58	3.90	23.78	3.67	20.11	16.2071	20.1102	273.52	289.73	8.8588	12.34	1.3935	0.9745

KMpercapita s0p>sp & s0>s(A6-4)

A6-4-3 (4) Marginal rate is measured using the growth rate of the denominator

$\Delta\Omega(2)=((\Omega(2)(1+g_Y(2)-\Omega(1))/g_Y(2)$

$\Delta y(2)=((y(2)(1+n)-y(1))/$

$\Delta k(2)=((k(2)(1+n)-k(1))/$

Marginal rate of profit to capital: $\Delta r(2)=((r(2)(1+g_K(2)-r(1))/g_K(2)$

$\Delta c_{C/Y}{}^0$	$\sigma c_{C/Y}{}^0=\Delta c_{C/Y}{}^0/c_{C/Y}{}^0$	K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$	$(W*K)^0$		1/MPK		MPK	MPL	
-----	-----	275.000	-----	=ΔP/ΔK	-----	5.0600	=ΔW/ΔL	-----	34788		**=ΔK/ΔY**		**=ΔY/ΔK**	**=ΔY/ΔL**	
$\Delta c_{C/Y}(t)$	$\sigma c_{C/Y}(t)=\Delta c(t)/c(t)$	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$	(W*K)(t)	$g_{WK}(t)$	ΔΩ(t)	$\sigma_\Omega=\Delta\Omega/\Omega$	=1/ΔΩ(t)	Δy	$\sigma_y=\Delta y/y$
0.9360	1.0000	284.091	9.0909	0.040000	4.1818	5.1755	16.7273	0.00239	37126	0.067209	2.000000	1.000000	0.500000	18.18182	3.2320
0.9360	1.0000	293.482	9.3914	0.040000	4.3201	5.2937	17.1091	0.00234	39621	0.067209	2.000000	1.000000	0.500000	18.59690	3.2320
0.9360	1.0000	303.184	9.7019	0.040000	4.4629	5.4145	17.4997	0.00229	42284	0.067209	2.000000	1.000000	0.500000	19.02146	3.2320

$\sigma c_{C/L}(t)=\sigma c_{C/Y}(t)*\sigma_y(t)$

$\sigma c_{C/Y}{}^0=\Delta c_{C/Y}{}^0/c_{C/Y}{}^0$

$\Delta c_{C/Y}{}^0$		K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$	$(W*K)^0$		1/MPK		MPK	MPL	
-----	-----	275.000	-----	=ΔP/ΔK	-----	5.0600	=ΔW/ΔL	-----	34788		**=ΔK/ΔY**		**=ΔY/ΔK**	**=ΔY/ΔL**	
$\Delta c_{C/Y}(t)$	$\sigma c_{C/Y}(t)=\Delta c(t)/c(t)$	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$	(W*K)(t)	$g_{WK}(t)$	ΔΩ(t)	$\sigma_\Omega=\Delta\Omega/\Omega$	=1/ΔΩ(t)	Δy	$\sigma_y=\Delta y/y$
0.9995	1.1158	290.13	15.13	0.040654	7.07	5.290	28.292	0.00144	38753	0.114002	1.967828	0.984753	0.508174	30.75	5.3482
1.0055	1.1156	305.22	15.09	0.040581	7.04	5.514	27.883	0.00146	42917	0.107450	1.971377	0.987195	0.507260	30.31	5.0571
1.0112	1.1155	320.22	15.00	0.040508	6.99	5.730	27.402	0.00148	47265	0.101291	1.974933	0.989492	0.506346	29.79	4.7819
1.0166	1.1154	335.09	14.88	0.040435	6.92	5.940	26.857	0.00151	51778	0.095502	1.978494	0.991663	0.505435	29.19	4.5216
1.0217	1.1153	349.81	14.72	0.040362	6.83	6.141	26.255	0.00154	56441	0.090058	1.982062	0.993727	0.504525	28.54	4.2755
1.0266	1.1152	364.33	14.52	0.040289	6.73	6.333	25.605	0.00157	61236	0.084938	1.985637	0.995698	0.503617	27.83	4.0428
1.0312	1.1152	378.63	14.30	0.040217	6.61	6.517	24.915	0.00161	66142	0.080122	1.989218	0.997588	0.502710	27.08	3.8228
1.0356	1.1151	392.67	14.05	0.040144	6.48	6.692	24.191	0.00166	71142	0.075590	1.992806	0.999409	0.501805	26.30	3.6148
1.0398	1.1151	406.44	13.77	0.040072	6.35	6.858	23.442	0.00171	76216	0.071325	1.996400	1.001171	0.500902	25.48	3.4180
1.0437	**1.1151**	**419.92**	**13.48**	**0.040000**	**6.20**	**7.015**	**22.672**	**0.00176**	**81346**	**0.067310**	**2.000000**	**1.002881**	**0.500000**	**24.64**	**3.2320**
1.0475	1.1151	433.08	13.16	0.039928	6.04	7.162	21.888	0.00182	86514	0.063530	2.003607	1.004547	0.499100	23.79	3.0561
1.0511	1.1151	445.92	12.84	0.039856	5.88	7.300	21.095	0.00189	91702	0.059969	2.007220	1.006176	0.498201	22.93	2.8898
1.0545	1.1151	458.42	12.50	0.039784	5.72	7.429	20.299	0.00196	96894	0.056615	2.010840	1.007772	0.497305	22.06	2.7325
1.0577	1.1152	470.57	12.15	0.039713	5.55	7.548	19.503	0.00204	102073	0.053455	2.014467	1.009342	0.496409	21.20	2.5838
1.0608	1.1152	482.36	11.80	0.039641	5.38	7.659	18.712	0.00212	107225	0.050477	2.018100	1.010890	0.495516	20.34	2.4432
1.0637	1.1153	493.80	11.44	0.039570	5.20	7.761	17.928	0.00221	112337	0.047670	2.021740	1.012418	0.494624	19.49	2.3102
1.0665	1.1153	504.87	11.07	0.039499	5.03	7.854	17.156	0.00230	117394	0.045023	2.025386	1.013932	0.493733	18.65	2.1845
1.0691	1.1154	515.58	10.71	0.039428	4.85	7.938	16.397	0.00240	122387	0.042528	2.029038	1.015433	0.492844	17.82	2.0656
1.0716	1.1155	525.92	10.34	0.039357	4.68	8.015	15.654	0.00251	127304	0.040175	2.032698	1.016925	0.491957	17.01	1.9532
1.0740	1.1156	535.90	9.98	0.039286	4.51	8.083	14.928	0.00263	132136	0.037955	2.036364	1.018410	0.491071	16.23	1.8469
1.0763	1.1157	545.52	9.62	0.039215	4.34	8.144	14.222	0.00276	136874	0.035862	2.040036	1.019889	0.490187	15.46	1.7463
1.0785	1.1157	554.78	9.26	0.039144	4.17	8.197	13.536	0.00289	141513	0.033886	2.043715	1.021366	0.489305	14.71	1.6513
1.0805	1.1158	563.70	8.91	0.039074	4.01	8.243	12.871	0.00304	146044	0.032022	2.047401	1.022841	0.488424	13.99	1.5614
1.0825	1.1160	572.27	8.57	0.039004	3.84	8.283	12.229	0.00319	150464	0.030262	2.051094	1.024316	0.487545	13.29	1.4764
1.0844	1.1161	580.50	8.23	0.038933	3.69	8.316	11.610	0.00335	154767	0.028601	2.054793	1.025792	0.486667	12.62	1.3961
1.0862	1.1162	588.40	7.90	0.038863	3.53	8.343	11.013	0.00353	158951	0.027033	2.058498	1.027271	0.485791	11.97	1.3201
1.0879	1.1163	595.97	7.58	0.038793	3.38	8.363	10.440	0.00372	163013	0.025553	2.062211	1.028753	0.484916	11.35	1.2483

KMpercapita s0p>sp & s0>s(A6-4)

A6-4-3 (5)	$\Delta(r/w)(2)=((r/w)(2)(1+g_{WK}(2)-(r/w)(1))/g_{WK}(2)$	Elasticity of substitution, $\sigma(t)$	$\sigma_{C/Y}^*(t)=\sigma_{C/L}^*(t)/\sigma_y^*(t)$	$\sigma_\Omega^*(t)=\sigma_k^*(t)/\sigma_y^*(t)$	$\sigma r^*(t)=\Delta r^*(t)/r^*(t)$	$\sigma_\alpha^*(t)=\sigma_\Omega^*(t)*\sigma_r^*(t)$
'n	where, $g_{WK}(2)=((W*K)(2)-(W*K)(1))/(W*K)(1)$	$\sigma(t)=(\Delta k/k)/(\Delta(r/w)(t)/(r/w)(t))$	1.000000	1.000000	1.000000	1.000000

(A):	Marginal rate	$(r/w)^0$	(B): $\sigma(r/w)(t)=\Delta(r/w)(t)/(r/w)(t)$													
$\sigma_k=\sigma_\Omega*\sigma_y$	$=\Delta K/\Delta L$	0.007905			Y=wL+rK is confirmed.		$p_w^*(t)=1/\sigma y^*(t)$	$p_r^*(t)=\sigma_\Omega^*(t)$		$\sigma^*\gamma(t)=\Delta\gamma^*(t)/\gamma^*(t)$		$\sigma\theta^*(t)=\Delta\theta^*(t)/\theta^*(t)$				$\sigma\zeta^*(t)=\Delta\zeta^*(t)/\zeta^*(t)$
$=\Delta k/k$	Δk	$\Delta(r/w)(t)$	$r/w(t)$	$\Delta(r/w)(t)/(r/w)(t)$	$\sigma(t)=(A)/(B)$	Y=wL+rK	$p_w=(w/MPL)/(1-\alpha)$	$p_r=(r/MPK)/\alpha$	$\Delta\gamma^*(t)$		$\Delta\theta^*(t)$		$\zeta^*=C_D^*/S^*=\gamma^*/\theta^*$	$\Delta\zeta^*(t)$		
3.2320	36.3636	0.005103	0.007729	0.660318	4.894615	142.045	0.30941	1.00000	0.5	1	2	1	0.250000	0.250000	1	
3.2320	37.1938	0.004989	0.007556	0.660318	4.894615	146.741	0.30941	1.00000	0.5	1	2	1	0.250000	0.250000	1	
3.2320	38.0429	0.004878	0.007388	0.660318	4.894615	151.592	0.30941	1.00000	0.5	1	2	1	0.250000	0.250000	1	

(A):	Marginal rate	$(r/w)^0$	(B): $\sigma(r/w)(t)=\Delta(r/w)(t)/(r/w)(t)$				$p_w(t)=1/\sigma y(t)$	$p_r(t)=\sigma_\Omega(t)$								
$\sigma_k=\sigma_\Omega*\sigma_y$	$=\Delta K/\Delta L$	0.007905			Y=wL+rK is confirmed.		$p_w=(w/MPL)/(1-\alpha)$			$\sigma\gamma(t)=\Delta\gamma(t)/\gamma(t)$		$\sigma\theta(t)=\Delta\theta(t)/\theta(t)$				$\sigma\zeta(t)=\Delta\zeta(t)/\zeta(t)$
$=\Delta k/k$	Δk	$\Delta(r/w)(t)$	$r/w(t)$	$\Delta(r/w)(t)/(r/w)(t)$	$\sigma(t)=(A)/(B)$	Y=wL+rK		$p_r=(r/MPK)/\alpha$	$\Delta\gamma(t)$		$\Delta\theta(t)$		$\zeta=C_D/S=\gamma/\theta$	$\Delta\zeta(t)$	
5.2666	60.51	0.004609	0.007568	0.609062	8.647114	145.188	0.18698	0.98475	-2.029598	4.163272	1.902737	0.966922	-0.232252	164.273	-707.304
4.9923	59.75	0.004454	0.007266	0.612995	8.144186	152.841	0.19774	0.98719	-2.021714	5.064467	1.906169	0.966922	-0.189525	-15.5123	81.848353
4.7316	58.82	0.004318	0.006995	0.617314	7.664850	160.437	0.20912	0.98949	-2.015059	6.581039	1.909607	0.966922	-0.144419	-8.140416	56.366644
4.4839	57.76	0.004199	0.006751	0.622030	7.208541	167.956	0.22116	0.99166	-2.009449	9.653526	1.913051	0.966922	-0.096803	-5.817584	60.097020
4.2487	56.56	0.004096	0.006532	0.627152	6.774618	175.380	0.23389	0.99373	-2.004735	19.138	1.916501	0.966922	-0.046537	-4.680893	#########
4.0254	55.26	0.004007	0.006334	0.632694	6.362392	182.693	0.24735	0.99570	-2.000789	-456.905	1.919957	0.966922	0.006526	-4.007252	-614.0593
3.8136	53.87	0.003932	0.006156	0.638671	5.971136	189.880	0.26159	0.99759	-1.997503	-16.701	1.923420	0.966922	0.062542	-3.562046	-56.9543
3.6126	52.40	0.003867	0.005995	0.645099	5.600103	196.928	0.27664	0.99941	-1.994786	-8.266854	1.926889	0.966922	0.121676	-3.246251	-26.6794
3.4220	50.87	0.003814	0.005850	0.651996	5.248535	203.826	0.29257	1.00117	-1.992562	-5.387141	1.930364	0.966922	0.184101	-3.010849	-16.3543
3.2413	**49.29**	**0.003771**	**0.005719**	**0.659383**	**4.915671**	**210.564**	**0.30941**	**1.00288**	**-1.990765**	**-3.936300**	**1.933845**	**0.966922**	**0.250000**	**-2.828797**	**-11.3152**
3.0700	47.67	0.003737	0.005600	0.667281	4.600754	217.134	0.32721	1.00455	-1.989338	-3.063561	1.937333	0.966922	0.319567	-2.683957	-8.398743
2.9076	46.03	0.003712	0.005493	0.675713	4.303037	223.529	0.34605	1.00618	-1.988233	-2.481672	1.940827	0.966922	0.393005	-2.566101	-6.529442
2.7537	44.37	0.003695	0.005397	0.684705	4.021783	229.745	0.36597	1.00777	-1.987408	-2.066624	1.944327	0.966922	0.470530	-2.468432	-5.246069
2.6079	42.70	0.003687	0.005310	0.694285	3.756272	235.777	0.38703	1.00934	-1.986827	-1.756116	1.947833	0.966922	0.552369	-2.386256	-4.320037
2.4698	41.05	0.003686	0.005232	0.704480	3.505803	241.621	0.40931	1.01089	-1.986458	-1.515422	1.951346	0.966922	0.638764	-2.316231	-3.626115
2.3389	39.40	0.003693	0.005162	0.715322	3.269691	247.277	0.43286	1.01242	-1.986275	-1.323653	1.954865	0.966922	0.729966	-2.255907	-3.090426
2.2149	37.77	0.003707	0.005099	0.726845	3.047274	252.744	0.45778	1.01393	-1.986252	-1.167495	1.958391	0.966922	0.826244	-2.203450	-2.666826
2.0975	36.16	0.003728	0.005044	0.739084	2.837909	258.021	0.48413	1.01543	-1.986370	-1.038058	1.961923	0.966922	0.927881	-2.157462	-2.325150
1.9862	34.59	0.003756	0.004994	0.752076	2.640975	263.109	0.51199	1.01692	-1.986609	-0.929179	1.965461	0.966922	1.035174	-2.116854	-2.044926
1.8809	33.04	0.003791	0.004950	0.765861	2.455872	268.009	0.54146	1.01841	-1.986954	-0.836455	1.969006	0.966922	1.148438	-2.080767	-1.811825
1.7811	31.54	0.003833	0.004911	0.780482	2.282020	272.725	0.57263	1.01989	-1.987391	-0.756652	1.972557	0.966922	1.268005	-2.048518	-1.615544
1.6866	30.07	0.003882	0.004877	0.795984	2.118862	277.258	0.60558	1.02137	-1.987907	-0.687345	1.976114	0.966922	1.394227	-2.019550	-1.448509
1.5971	28.64	0.003939	0.004848	0.812414	1.965859	281.612	0.64044	1.02284	-1.988490	-0.626677	1.979678	0.966922	1.527473	-1.993410	-1.305038
1.5123	27.26	0.004003	0.004823	0.829824	1.822493	285.789	0.67730	1.02432	-1.989131	-0.573205	1.983248	0.966922	1.668135	-1.969723	-1.180794
1.4321	25.93	0.004074	0.004803	0.848266	1.688268	289.795	0.71628	1.02579	-1.989822	-0.525788	1.986825	0.966922	1.816625	-1.948178	-1.072416
1.3561	24.64	0.004153	0.004786	0.867799	1.562704	293.633	0.75751	1.02727	-1.990554	-0.483514	1.990408	0.966922	1.973380	-1.928513	-0.977264
1.2842	23.40	0.004240	0.004772	0.888480	1.445340	297.307	0.80111	1.02875	-1.991320	-0.445644	1.993998	0.966922	2.138858	-1.910506	-0.893237

KMpercapita s0p>sp & s0>s(A6-4)

Appendix 6-4-4 Case study of the Kamiryo Model by gamma, $Y=S_P+S_D+S_W+C_D+C_W$: both $s_{S/Y}$ and $s_{SP/Y}$ are variables (1) $g_Y(t)=s_{SP/Y}(t)/(1-s_{SP/Y}(t))$ $I/Y^0(t)=s_{S/Y}(t)(1+g_Y(t))$ $g_K(t)=(I/Y^0)(t)/\Omega(t-1)$

1 Balanced growth-state: $g^*_Y=g^*_{KP}=g_Y=g_{KP}$ Ω is constant and $s^*_{SP/Y}$ is not equal to n under $\lambda=0$

gamma	L^0=	n	Ω^0	α	k^0	$s^*_{SP/P}$	$s^*_{SP/Y}$	$s^*_{SWD/WD}$	$s^*_{SWD/Y}$	$s^*_{S/Y}=s^*_{SP/Y}\,\Omega^0$		variables	y^0	r^0
1	25	0.01	2	0.08	11	0.33333	0.02667	0.02740	0.02667	0.0533333			5.500000	0.040000

$\theta=S/S_P=\Omega=K/Y$	time	$g^*_Y(t)$	$g^*_K(t)$	$g^*_k(t)$	$g^*_y(t)$	$g^*_\Omega(t)$	$\Omega^*(t)$	$c^*_{D/Y}=\alpha-s^*_{S/Y}$	$r^*(t)$	$k^*(t)$	$y^*(t)$	$I/Y^{0*}(t)$	$A^*(t)$	$\lambda^*(t)$
2	1	0.027397	0.027397	0.017225	0.017225	0.000000	2.000000	0.026667	0.040000	11.189475	5.594738	0.054795	0.314356	-----
	2	0.027397	0.027397	0.017225	0.017225	0.000000	2.000000	0.026667	0.040000	11.382214	5.691107	0.054795	0.314356	0.000000
	3	0.027397	0.027397	0.017225	0.017225	0.000000	2.000000	0.026667	0.040000	11.578273	5.789136	0.054795	0.314356	0.000000

from IRC to DRC

2 Unbalanced growth-state Ω, $s_{SP/Y}$, and $s_{S/Y}$ are variables, where saving differs from profit

										$a=s^*_{S/Y}/s^0_{S/Y}$	$g_{s/Y}=a^{\wedge}(1/10)-1$	$\theta^*=s^*_{S/Y}/s^*_{SP/Y}$	$\Psi^*=\Omega^0/\theta^*$	$A(t)=g_y(t)/(I/Y^0)$	
										0.4848485	-0.069834	2.000000	1.000000	$\lambda=(A(t)-A(t-1))/A(t-1)$	
$b=s^*_{SP/Y}/s^0_{SP/Y}$	$g_{SP/Y}=b^{\wedge}(1/10)-1$	L^0=	n	Ω^0	α	k^0	$s^0_{SP/P}$	$s^0_{SP/Y}$	$s^0_{SWD/WD}$	$s^0_{SWD/Y}$	$s^0_{S/Y}$	$\theta^0=s^0_{S/Y}/s^0_{SP/Y}$	$\Psi^0=\Omega^0/\theta^0$	y^0	r^0
0.476190	-0.071508	25	0.01	2	0.08	11	**0.70**	0.056000	0.057203	0.054000	**0.11**	1.964286	1.018182	5.500000	0.040000

$\theta(t)=s_{S/Y}(t)/s_{SP/Y}(t)$	$\Psi(t)=\Omega^0/\theta(t)$	time	$g_Y(t)=s_{SP/Y}(t)/(1-s_{SP/Y}$	$g_K(t)$	$g_k(t)$	$g_y(t)$	$g_\Omega(t)$	$\Omega(t)$	$s_{S/Y}(t)$	$r(t)$	$k(t)$	$y(t)$	$I/Y^0(t)$	$A(t)$	$\lambda(t)$
1.967828	1.016349	1	0.054847	0.053965	0.043530	0.044403	-0.000836	1.998327	0.102318	0.040033	11.4788	5.7442	0.107930	0.411408	-----
1.971377	1.014519	2	0.050726	0.050042	0.039646	0.040323	-0.000651	1.997026	0.095173	0.040060	11.9339	5.9758	0.100001	0.403228	-0.019882
1.974933	1.012693	3	0.046929	0.046410	0.036049	0.036563	-0.000496	1.996036	0.088527	0.040079	12.3641	6.1943	0.092681	0.394505	-0.021634
1.978494	1.010870	4	0.043427	0.043046	0.032718	0.033096	-0.000366	1.995306	0.082345	0.040094	12.7687	6.3993	0.085921	0.385196	-0.023595
1.982062	1.009050	5	0.040197	0.039930	0.029634	0.029898	-0.000256	1.994794	0.076594	0.040104	13.1470	6.5907	0.079673	0.375259	-0.025797
1.985637	1.007233	6	0.037216	0.037045	0.026777	0.026946	-0.000165	1.994465	0.071245	0.040111	13.4991	6.7683	0.073897	0.364646	-0.028282
1.989218	1.005420	7	0.034463	0.034372	0.024131	0.024220	-0.000088	1.994291	0.066270	0.040115	13.8248	6.9322	0.068554	0.353306	-0.031099
1.992806	1.003610	8	0.031920	0.031896	0.021679	0.021703	-0.000023	1.994245	0.061642	0.040115	14.1245	7.0826	0.063610	0.341185	-0.034309
1.996400	1.001803	9	0.029570	0.029602	0.019408	0.019376	0.000031	1.994307	0.057337	0.040114	14.3987	7.2199	0.059033	0.328222	-0.037992
2.000000	**1.000000**	**10**	**0.027397**	**0.027475**	**0.017302**	**0.017225**	**0.000076**	**1.994458**	**0.053333**	**0.040111**	**14.6478**	**7.3442**	**0.054795**	**0.314356**	**-0.042245**
2.003607	0.998200	11	0.025388	0.025505	0.015351	0.015236	0.000114	1.994685	0.049609	0.040107	14.8727	7.4561	0.050868	0.299519	-0.047200
2.007220	0.996403	12	0.023530	0.023678	0.013543	0.013396	0.000144	1.994973	0.046144	0.040101	15.0741	7.5560	0.047230	0.283636	-0.053026
2.010840	0.994609	13	0.021811	0.021984	0.011866	0.011694	0.000170	1.995312	0.042922	0.040094	15.2529	7.6444	0.043858	0.266631	-0.059956
2.014467	0.992819	14	0.020220	0.020414	0.010311	0.010119	0.000190	1.995691	0.039925	0.040086	15.4102	7.7217	0.040732	0.248417	-0.068310
2.018100	0.991031	15	0.018747	0.018957	0.008869	0.008660	0.000207	1.996104	0.037137	0.040078	15.5469	7.7886	0.037833	0.228905	-0.078545
2.021740	0.989247	16	0.017383	0.017606	0.007531	0.007310	0.000219	1.996542	0.034543	0.040069	15.6639	7.8455	0.035144	0.207997	-0.091340
2.025386	0.987466	17	0.016120	0.016353	0.006290	0.006059	0.000229	1.996999	0.032131	0.040060	15.7625	7.8931	0.032649	0.185588	-0.107739
2.029038	0.985689	18	0.014950	0.015190	0.005138	0.004901	0.000236	1.997471	0.029887	0.040051	15.8435	7.9318	0.030334	0.161564	-0.129445
2.032698	0.983914	19	0.013866	0.014111	0.004070	0.003828	0.000241	1.997953	0.027800	0.040041	15.9079	7.9621	0.028185	0.135806	-0.159432
2.036364	0.982143	20	0.012862	0.013109	0.003078	0.002833	0.000244	1.998441	0.025859	0.040031	15.9569	7.9847	0.026191	0.108182	-0.203410
2.040036	0.980375	21	0.011931	0.012179	0.002158	0.001912	0.000245	1.998931	0.024053	0.040021	15.9913	7.9999	0.024340	0.078551	-0.273892
2.043715	0.978610	22	0.011068	0.011316	0.001303	0.001058	0.000245	1.999421	0.022373	0.040012	16.0122	8.0084	0.022621	0.046765	-0.404660
2.047401	0.976848	23	0.010269	0.010515	0.000510	0.000266	0.000244	1.999909	0.020811	0.040002	16.0204	8.0105	0.021024	0.012660	-0.729293
2.051094	0.975090	24	0.009528	0.009771	-0.000226	-0.000468	0.000242	2.000392	0.019357	0.039992	16.0167	8.0068	0.019542	-0.023938	-2.890939
2.054793	0.973334	25	0.008840	0.009081	-0.000910	-0.001148	0.000238	2.000869	0.018006	0.039983	16.00	8.00	0.018165	-0.063217	1.640794
2.058498	0.971582	26	0.008203	0.008439	-0.001545	-0.001779	0.000234	2.001338	0.016748	0.039973	15.98	7.98	0.016886	-0.105376	0.666906
2.062211	0.969833	27	0.007612	0.007843	-0.002135	-0.002365	0.000230	2.001798	0.015579	0.039964	15.94	7.96	0.015697	-0.150633	0.429484

KMpercapita s0p>sp & s0>s(A6-4)

A6-4-4 (2) Relationships among saving, profit, undistributed profit, dividends, saved dividends, consumed dividends, saved wages, and consumed wages: using ratios

$\gamma(t)=(1/s_P)(t)-\Omega(t)$ $c_{D/Y}(t)=\gamma(t)*s_{SP/Y}(t)$ $s_{WD/WD}(t)=s_{WD/Y}(t)/(1-s_{SP/Y}(t))$

gamma given			s^0	c^0	Ω^0	θ^0				γ^0	$c_{D/Y}^0$	$c_{W/Y}^0$			
1			0.05	0.94667	2.00000	2.00000				1	0.02667	0.92000			
$s_{SP/Y}^*(t)$	$s^*_P(t)=s^*_{SP/P}(t$	$1-s^*_P(t)$	$s^*(t)=s^*_{S/Y}(t)$	$c^*(t)=1-s^*(t)$	$\Omega^*(t)$	$\theta^*(t)$	$\Psi^*(t)$	$\mu^*(t)=(S/P)^*(t)$	$(1/s_P)^*(t)=\Omega+\gamma$	$\gamma^*(t)=(1/s_P)(t)-\Omega(t)$	$c^*_{D/Y}(t)=\gamma(t)*s_S$	$c^*_{W/Y}(t)$	$s^*_{WD/Y}(t)$	$s^*_{WD/WD}(t)$	$(\Omega+\gamma)/\Omega$
0.02667	0.33333	0.66667	0.05333	0.94667	2.00000	2.00000	1.00000	0.66667	3.00000	1.00000	0.02667	0.92000	0.02667	0.02740	1.50000
0.02667	0.33333	0.66667	0.05333	0.94667	2.00000	2.00000	1.00000	0.66667	3.00000	1.00000	0.02667	0.92000	0.02667	0.02740	1.50000
0.02667	0.33333	0.66667	0.05333	0.94667	2.00000	2.00000	1.00000	0.66667	3.00000	1.00000	0.02667	0.92000	0.02667	0.02740	1.50000

$c^*_{D/D}=c^*_{D/Y}/(\alpha-s^*_{SP/Y})$

0.50000 : Dividends are not always saved.

$\gamma(t)=(1/s_P)(t)-\Omega(t)$ $c_{D/Y}(t)=\gamma(t)*s_{SP/Y}(t)$

0.50000	s_P^0		s^0	c^0	Ω^0	θ^0			$1/s_P^0$	γ^0	$c_{D/Y}^0$	$c_{W/Y}^0$		**from IRC to DRC**	
0.50000	0.70000		0.11	0.89000	2.00000	1.96429			1.42857	-0.57143	-0.032	0.92200			
$s_{SP/Y}(t)$	$s_P(t)=s_{SP/P}(t)$	$1-s_P(t)$	$s(t)=s_{S/Y}(t)$	$c(t)=1-s(t)$	$\Omega(t)$	$\theta(t)$	$\Psi(t)$	$\mu(t)=(S/P)(t)$	$(1/s_P)(t)=\Omega(t)+\gamma(t)$	**gamma (t)**	**$c_{D/Y}(t)$**	$c_{W/Y}(t)$	$s_{WD/Y}(t)$	$s_{WD/WD}(t)$	$(\Omega+\gamma)/\Omega$
0.05200	0.64994	0.35006	0.10232	0.89768	1.99833	1.96783	1.01550	1.27898	1.53859	-0.45973	-0.02390	0.92159	0.05032	0.05308	0.76994
0.04828	0.60347	0.39653	0.09517	0.90483	1.99703	1.97138	1.01301	1.18966	1.65709	-0.33994	-0.01641	0.92124	0.04690	0.04927	0.82978
0.04483	0.56032	0.43968	0.08853	0.91147	1.99604	1.97493	1.01069	1.10658	1.78471	-0.21133	-0.00947	0.92095	0.04370	0.04575	0.89413
0.04162	0.52025	0.47975	0.08234	0.91766	1.99531	1.97849	1.00850	1.02931	1.92216	-0.07315	-0.00304	0.92070	0.04072	0.04249	0.96334
0.03864	0.48305	0.51695	0.07659	0.92341	1.99479	1.98206	1.00642	0.95743	2.07020	0.07540	0.00291	0.92049	0.03795	0.03948	1.03780
0.03588	0.44850	0.55150	0.07125	0.92875	1.99447	1.98564	1.00445	0.89057	2.22963	0.23517	0.00844	0.92032	0.03536	0.03668	1.11791
0.03331	0.41643	0.58357	0.06627	0.93373	1.99429	1.98922	1.00255	0.82837	2.40135	0.40706	0.01356	0.92017	0.03296	0.03409	1.20411
0.03093	0.38665	0.61335	0.06164	0.93836	1.99424	1.99281	1.00072	0.77053	2.58629	0.59205	0.01831	0.92004	0.03071	0.03169	1.29688
0.02872	0.35901	0.64099	0.05734	0.94266	1.99431	1.99640	0.99895	0.71672	2.78548	0.79117	0.02272	0.91994	0.02862	0.02946	1.39671
0.02667	**0.33333**	**0.66667**	**0.05333**	**0.94667**	**1.99446**	**2.00000**	**0.99723**	**0.66667**	**3.00000**	**1.00554**	**0.02681**	**0.91985**	**0.02667**	**0.02740**	**1.50417**
0.02476	0.30950	0.69050	0.04961	0.95039	1.99468	2.00361	0.99555	0.62011	3.23105	1.23636	0.03061	0.91978	0.02485	0.02548	1.61983
0.02299	0.28737	0.71263	0.04614	0.95386	1.99497	2.00722	0.99390	0.57681	3.47989	1.48491	0.03414	0.91972	0.02316	0.02370	1.74433
0.02135	0.26682	0.73318	0.04292	0.95708	1.99531	2.01084	0.99228	0.53653	3.74789	1.75258	0.03741	0.91967	0.02158	0.02205	1.87835
0.01982	0.24774	0.75226	0.03992	0.96008	1.99569	2.01447	0.99068	0.49906	4.03654	2.04085	0.04045	0.91963	0.02011	0.02051	2.02263
0.01840	0.23002	0.76998	0.03714	0.96286	1.99610	2.01810	0.98910	0.46421	4.34741	2.35131	0.04327	0.91960	0.01873	0.01909	2.17795
0.01709	0.21357	0.78643	0.03454	0.96546	1.99654	2.02174	0.98754	0.43179	4.68223	2.68569	0.04589	0.91957	0.01746	0.01776	2.34517
0.01586	0.19830	0.80170	0.03213	0.96787	1.99700	2.02539	0.98598	0.40164	5.04284	3.04584	0.04832	0.91955	0.01627	0.01653	2.52521
0.01473	0.18412	0.81588	0.02989	0.97011	1.99747	2.02904	0.98444	0.37359	5.43121	3.43374	0.05058	0.91954	0.01516	0.01538	2.71904
0.01368	0.17095	0.82905	0.02780	0.97220	1.99795	2.03270	0.98291	0.34750	5.84950	3.85155	0.05268	0.91952	0.01412	0.01432	2.92775
0.01270	0.15873	0.84127	0.02586	0.97414	1.99844	2.03636	0.98138	0.32323	6.30000	4.30156	0.05462	0.91952	0.01316	0.01333	3.15246
0.01179	0.14738	0.85262	0.02405	0.97595	1.99893	2.04004	0.97985	0.30066	6.78520	4.78627	0.05643	0.91952	0.01226	0.01241	3.39441
0.01095	0.13684	0.86316	0.02237	0.97763	1.99942	2.04372	0.97833	0.27966	7.30776	5.30834	0.05811	0.91952	0.01143	0.01155	3.65494
0.01016	0.12706	0.87294	0.02081	0.97919	1.99991	2.04740	0.97680	0.26013	7.87057	5.87066	0.05967	0.91952	0.01065	0.01076	3.93547
0.00944	0.11797	0.88203	0.01936	0.98064	2.00039	2.05109	0.97528	0.24197	8.47673	6.47634	0.06112	0.91952	0.00992	0.01001	4.23753
0.00876	0.10953	0.89047	0.01801	0.98199	2.00087	2.05479	0.97376	0.22507	9.12957	7.12870	0.06247	0.91953	0.00924	0.00932	4.56280
0.00814	0.10170	0.89830	0.01675	0.98325	2.00134	2.05850	0.97223	0.20935	9.83268	7.83135	0.06372	0.91953	0.00861	0.00868	4.91306
0.00755	0.09443	0.90557	0.01558	0.98442	2.00180	2.06221	0.97070	0.19473	10.58995	8.58816	0.06488	0.91954	0.00802	0.00809	5.29022

KMpercapita s0p>sp & s0>s(A6-4)

A6-4-4 (3) Structure of the elasticity of substitution

					$S_D^{*0}=D^{*0}-C_D^{*0}$	$S_W^{*0}=S_{WD}^{*0}-S_D$	$S_W^{*0}=W^{*0}-C_W^{*0}$	$A^{*0}=C_D^{*0}+S_{WD}$	$S_W^{*0}=A^{*0}-D^{*0}$						
					3.66667	0.0000	0.00000	7.33333	0.00000						
L^0	Y^0	W^0	S^0	S_{WD}^0	P^0	S_P^0	D^0	C_D^0	$C_D^0+S_{WD}^0$	$C_W^0=C^0-C_D^0$	C^0	$c_{C/L}^0=C^0/L^0$	$\Delta c_{C/L}^0$	$\sigma c_{C/L}^0=\Delta c_{C/L}^0/c_{C/L}^0$	$c_{C/Y}^0=C^0/Y^0$
25	137.5000	126.5000	7.3333	3.6667	11.0000	3.6667	7.3333	3.6667	7.3333	126.5000	130.1667	5.2067	-----	-----	0.9467
$L^*(t)$	$Y^*(t)$	$W^*(t)$	$S^*(t)$	$S^*_{WD}(t)$	$P^*(t)$	$S_P^*(t)$	$D^*(t)$	$C_D^*(t)$	$C_{D(t)}+S_{WD(t)}$	$C_W(t)=C(t)-C_D$	$C^*(t)=c^*(t)*Y^*(t)$	$c_{C/L}^*(t)=C^*(t)/L^*(t)$	$\Delta c_{C/L}^*(t)$	$\sigma c_{C/L}^*(t)=\Delta c^*(t)/c^*$	$c_{C/Y}^*(t)=C^*(t)/Y^*(t)$
25.2500	141.2671	129.9658	7.5342	3.7671	11.3014	3.7671	7.5342	3.7671	7.5342	129.9658	133.7329	5.2964	14.2648	2.6933	0.9467
25.5025	145.1375	133.5265	7.7407	3.8703	11.6110	3.8703	7.7407	3.8703	7.7407	133.5265	137.3968	5.3876	14.5106	2.6933	0.9467
25.7575	149.1138	137.1847	7.9527	3.9764	11.9291	3.9764	7.9527	3.9764	7.9527	137.1847	141.1611	5.4804	14.7605	2.6933	0.9467

					$S_D^0=D^0-C_D^0$	$S_W^0=S_{WD}^0-S_D^0$	$S_W^0=W^0-C_W^0$	$A=C_D^0+S_{WD}^0$	$S_W^0=A^0-D^0$	Marginal rate of per capita consumption: $\Delta c_{C/L}(2)=((c_{C/L}(2)(1+n)-c_{C/L}(1))/n$					
					7.4250	0.0000	0.00000	3.30000	0.00000						
L^0	Y^0	W^0	S^0	S_{WD}^0	P^0	S_P^0	D^0	C_D^0	$\gamma=C_D^0/S_P^0$	$C_W^0=C^0-C_D^0$	$C^0=c_{C/D}^0*Y^0$	$c_{C/L}(t)=C(t)/L(t)=c_{C/Y}(t)*y(t)$ $c_{C/L}^0=C^0/L^0$	$\Delta c_{C/L}^0$	$\sigma c_{C/L}^0=\Delta c_{C/L}^0/c_{C/L}^0$	$c_{C/Y}^0=C^0/Y^0$
25	137.5000	126.5000	15.1250	7.4250	11.0000	7.7000	3.3000	-4.1250	3.3000	126.5000	122.3750	4.8950	-----	-----	0.8900
L(t)	Y(t)	W(t)	$S(t)=s_{S/Y}(t)*Y(t)$	$S_{WD}(t)=S(t)-S_P(t)$	P(t)	$S_P(t)$	D(t)	$C_D(t)=S_P(t)*\gamma$	$\gamma(t)$	$C_W(t)=C(t)-C_D$	$C(t)=c(t)*Y(t)$	$c_{C/L}(t)=C(t)/L(t)$	$\Delta c_{C/L}(t)$	$\sigma c_{C/L}(t)=\Delta c(t)/c(t)$	$c_{C/Y}(t)=C(t)/Y(t)$
25.2500	145.04	133.44	14.84	7.30	11.60	7.54	4.06	-3.2371	4.0618	133.44	130.20	5.1565	31.30	6.0709	0.8977
25.5025	152.40	140.21	14.50	7.15	12.19	7.36	4.83	-2.3124	4.8345	140.21	137.89	5.4071	30.47	5.6351	0.9048
25.7575	159.55	146.79	14.12	6.97	12.76	7.15	5.61	-1.3604	5.6122	146.79	145.43	5.6460	29.53	5.2308	0.9115
26.0151	166.48	153.16	13.71	6.78	13.32	6.93	6.39	-0.3903	6.3895	153.16	152.77	5.8724	28.51	4.8557	0.9177
26.2753	173.17	159.32	13.26	6.57	13.85	6.69	7.16	0.5898	7.1617	159.32	159.91	6.0859	27.43	4.5077	0.9234
26.5380	179.62	165.25	12.80	6.35	14.37	6.44	7.92	1.5725	7.9246	165.25	166.82	6.2861	26.31	4.1847	0.9288
26.8034	185.81	170.94	12.31	6.12	14.86	6.19	8.67	2.5511	8.6744	170.94	173.49	6.4728	25.15	3.8850	0.9337
27.0714	191.74	176.40	11.82	5.89	15.34	5.93	9.41	3.5199	9.4081	176.40	179.92	6.6461	23.97	3.6069	0.9384
27.3421	197.41	181.61	11.32	5.65	15.79	5.67	10.12	4.4738	10.1229	181.61	186.09	6.8059	22.79	3.3487	0.9427
27.6156	**202.82**	**186.59**	**10.82**	**5.41**	**16.23**	**5.41**	**10.82**	**5.4084**	**10.8168**	**186.59**	**192.00**	**6.9526**	**21.62**	**3.1091**	**0.9467**
27.8917	207.96	191.33	10.32	5.17	16.64	5.15	11.49	6.3203	11.4880	191.33	197.65	7.0862	20.46	2.8867	0.9504
28.1706	212.86	195.83	9.82	4.93	17.03	4.89	12.14	7.2064	12.1352	195.83	203.04	7.2074	19.32	2.6803	0.9539
28.4523	217.50	200.10	9.34	4.69	17.40	4.64	12.76	8.0645	12.7574	200.10	208.16	7.3163	18.21	2.4887	0.9571
28.7369	221.90	204.15	8.86	4.46	17.75	4.40	13.35	8.8927	13.3541	204.15	213.04	7.4134	17.13	2.3108	0.9601
29.0242	226.06	207.97	8.40	4.24	18.08	4.16	13.92	9.6896	13.9248	207.97	217.66	7.4994	16.09	2.1457	0.9629
29.3145	229.99	211.59	7.94	4.01	18.40	3.93	14.47	10.4545	14.4695	211.59	222.04	7.5745	15.09	1.9923	0.9655
29.6076	233.70	215.00	7.51	3.80	18.70	3.71	14.99	11.1868	14.9882	215.00	226.19	7.6395	14.13	1.8500	0.9679
29.9037	237.19	218.21	7.09	3.60	18.98	3.49	15.48	11.8862	15.4814	218.21	230.10	7.6947	13.22	1.7179	0.9701
30.2027	240.48	221.24	6.69	3.40	19.24	3.29	15.95	12.5529	15.9494	221.24	233.79	7.7408	12.35	1.5952	0.9722
30.5048	243.57	224.09	6.30	3.21	19.49	3.09	16.39	13.1873	16.3927	224.09	237.27	7.7782	11.52	1.4813	0.9741
30.8098	246.48	226.76	5.93	3.02	19.72	2.91	16.81	13.7897	16.8121	226.76	240.55	7.8075	10.74	1.3755	0.9759
31.1179	249.20	229.27	5.58	2.85	19.94	2.73	17.21	14.3609	17.2083	229.27	243.63	7.8292	10.00	1.2773	0.9776
31.4291	251.76	231.62	5.24	2.68	20.14	2.56	17.58	14.9017	17.5821	231.62	246.52	7.8438	9.30	1.1861	0.9792
31.7434	254.16	233.83	4.92	2.52	20.33	2.40	17.93	15.4131	17.9343	233.83	249.24	7.8518	8.65	1.1015	0.9806
32.0608	256.41	235.90	4.62	2.37	20.51	2.25	18.27	15.8959	18.2659	235.90	251.79	7.8536	8.03	1.0229	0.9820
32.3814	258.51	237.83	4.33	2.23	20.68	2.10	18.58	16.3514	18.5777	237.83	254.18	7.8497	7.46	0.9499	0.9833
32.7052	260.48	239.64	4.06	2.09	20.84	1.97	18.87	16.7805	18.8707	239.64	256.42	7.8404	6.92	0.8821	0.9844

KMpercapita s0p>sp & s0>s(A6-4)

A6-4-4 (4) Marginal rate is measured using the growth rate of the denominator

$\Delta\Omega(2)=((\Omega(2)(1+g_Y(2)-\Omega(1))/g_Y(2)$

$\Delta y(2)=((y(2)(1+n)-y(1))/$

Marginal rate of profit to capital: $\Delta r(2)=((r(2)(1+g_K(2)-r(1))/g_K(2)$

$\Delta k(2)=((k(2)(1+n)-k(1))/$

$\Delta c_{C/Y}^0$	$\sigma c_{C/Y}^0=\Delta c_{C/Y}^0/c_{C/Y}^0$	K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$	$(W*K)^0$		1/MPK		MPK	MPL	
-----	-----	275.000	-----	=ΔP/ΔK	-----	5.0600	=ΔW/ΔL	-----	34788		**=ΔK/ΔY**		**=ΔY/ΔK**	**=ΔY/ΔL**	
$\Delta c_{C/Y}(t)$	$\sigma c_{C/Y}(t)=\Delta c(t)/c(t)$	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$	(W*K)(t)	$g_{WK}(t)$	Ω(t)	$\sigma_\Omega=\Delta\Omega/\Omega$	=1/Ω(t)	Δy	$\sigma_y=\Delta y/y$
0.9467	1.0000	282.534	7.5342	0.040000	3.4658	5.1472	13.8630	0.00289	36720	0.055545	2.000000	1.000000	0.500000	15.06849	2.6933
0.9467	1.0000	290.275	7.7407	0.040000	3.5607	5.2358	14.1018	0.00284	38759	0.055545	2.000000	1.000000	0.500000	15.32805	2.6933
0.9467	1.0000	298.228	7.9527	0.040000	3.6583	5.3260	14.3447	0.00279	40912	0.055545	2.000000	1.000000	0.500000	15.59207	2.6933

$\sigma c_{C/L}(t)=\sigma c_{C/Y}(t)*\sigma_y(t)$

$\sigma c_{C/Y}^0=\Delta c_{C/Y}^0/c_{C/Y}^0$

$\Delta c_{C/Y}^0$		K^0	ΔK^0	Δr^0	ΔW^0	w^0	Δw^0	$\Delta r^0/\Delta w^0$	$(W*K)^0$		1/MPK		MPK	MPL	
-----	-----	275.000	-----	=ΔP/ΔK	-----	5.0600	=ΔW/ΔL	-----	34788		**=ΔK/ΔY**		**=ΔY/ΔK**	**=ΔY/ΔL**	
$\Delta c_{C/Y}(t)$	$\sigma c_{C/Y}(t)=\Delta c(t)/c(t)$	K(t)	ΔK(t)	Δr(t)	ΔW(t)	w(t)	Δw(t)	$(\Delta r^0/\Delta w^0)(t)$	(W*K)(t)	$g_{WK}(t)$	Ω(t)	$\sigma_\Omega=\Delta\Omega/\Omega$	=1/Ω(t)	Δy	$\sigma_y=\Delta y/y$
1.0377	1.1560	289.84	14.84	0.040654	6.94	5.285	27.753	0.00146	38676	0.111772	1.967828	0.984738	0.508174	30.17	5.2515
1.0457	1.1557	304.34	14.50	0.040581	6.77	5.498	26.807	0.00151	42671	0.103307	1.971377	0.987156	0.507260	29.14	4.8760
1.0531	1.1554	318.47	14.12	0.040508	6.58	5.699	25.800	0.00157	46747	0.095516	1.974933	0.989427	0.506346	28.04	4.5273
1.0600	1.1551	332.18	13.71	0.040435	6.37	5.887	24.748	0.00163	50877	0.088342	1.978494	0.991574	0.505435	26.90	4.2036
1.0665	1.1549	345.44	13.26	0.040362	6.16	6.063	23.666	0.00171	55035	0.081732	1.982062	0.993618	0.504525	25.72	3.9030
1.0725	1.1548	358.24	12.80	0.040289	5.93	6.227	22.565	0.00179	59198	0.075639	1.985637	0.995574	0.503617	24.53	3.6239
1.0781	1.1546	370.55	12.31	0.040217	5.69	6.378	21.459	0.00187	63343	0.070019	1.989218	0.997456	0.502710	23.33	3.3648
1.0833	1.1545	382.37	11.82	0.040144	5.46	6.516	20.357	0.00197	67450	0.064834	1.992806	0.999278	0.501805	22.13	3.1242
1.0882	1.1544	393.69	11.32	0.040072	5.22	6.642	19.268	0.00208	71500	0.060047	1.996400	1.001049	0.500902	20.94	2.9008
1.0928	**1.1544**	**404.51**	**10.82**	**0.040000**	**4.98**	**6.757**	**18.198**	**0.00220**	**75477**	**0.055625**	**2.000000**	**1.002779**	**0.500000**	**19.78**	**2.6933**
1.0971	1.1544	414.82	10.32	0.039928	4.74	6.860	17.154	0.00233	79367	0.051541	2.003607	1.004473	0.499100	18.65	2.5007
1.1011	1.1544	424.65	9.82	0.039856	4.50	6.952	16.141	0.00247	83158	0.047765	2.007220	1.006139	0.498201	17.54	2.3219
1.1048	1.1544	433.98	9.34	0.039784	4.27	7.033	15.162	0.00262	86840	0.044275	2.010840	1.007783	0.497305	16.48	2.1559
1.1083	1.1544	442.84	8.86	0.039713	4.05	7.104	14.220	0.00279	90404	0.041046	2.014467	1.009408	0.496409	15.46	2.0017
1.1116	1.1545	451.24	8.40	0.039641	3.83	7.166	13.318	0.00298	93845	0.038059	2.018100	1.011020	0.495516	14.48	1.8586
1.1146	1.1545	459.18	7.94	0.039570	3.62	7.218	12.456	0.00318	97157	0.035295	2.021740	1.012621	0.494624	13.54	1.7257
1.1175	1.1546	466.69	7.51	0.039499	3.41	7.262	11.635	0.00339	100338	0.032736	2.025386	1.014214	0.493733	12.65	1.6023
1.1202	1.1547	473.78	7.09	0.039428	3.21	7.297	10.856	0.00363	103385	0.030367	2.029038	1.015804	0.492844	11.80	1.4877
1.1227	1.1548	480.46	6.69	0.039357	3.03	7.325	10.118	0.00389	106297	0.028172	2.032698	1.017390	0.491957	11.00	1.3813
1.1251	1.1549	486.76	6.30	0.039286	2.85	7.346	9.421	0.00417	109076	0.026139	2.036364	1.018976	0.491071	10.24	1.2825
1.1273	1.1551	492.69	5.93	0.039215	2.67	7.360	8.764	0.00447	111722	0.024256	2.040036	1.020563	0.490187	9.53	1.1908
1.1294	1.1552	498.27	5.58	0.039144	2.51	7.368	8.146	0.00481	114237	0.022510	2.043715	1.022153	0.489305	8.85	1.1057
1.1313	1.1554	503.50	5.24	0.039074	2.35	7.370	7.566	0.00516	116623	0.020892	2.047401	1.023747	0.488424	8.22	1.0266
1.1332	1.1555	508.42	4.92	0.039004	2.21	7.366	7.021	0.00555	118885	0.019392	2.051094	1.025346	0.487545	7.63	0.9532
1.1349	1.1557	513.04	4.62	0.038933	2.07	7.358	6.512	0.00598	121025	0.018001	2.054793	1.026950	0.486667	7.08	0.8850
1.1365	1.1559	517.37	4.33	0.038863	1.94	7.345	6.035	0.00644	123047	0.016711	2.058498	1.028561	0.485791	6.56	0.8217
1.1381	1.1561	521.43	4.06	0.038793	1.81	7.327	5.591	0.00694	124956	0.015515	2.062211	1.030179	0.484916	6.08	0.7630

KMpercapita s0p>sp & s0>s(A6-4)

A6-4-4 (5)	$\Delta(r/w)(2)=((r/w)(2)(1+g_{WK}(2)-(r/w)(1))/g_{WK}(2)$				Elasticity of substitution, $\sigma(t)$			$\sigma_{C/Y}^*(t)=\sigma_{C/L}^*(t)/\sigma_y^*(t)$		$\sigma_\Omega^*(t)=\sigma_k^*(t)/\sigma_y^*(t)$		$\sigma r^*(t)=\Delta r^*(t)/r^*(t)$		$\sigma_\alpha^*(t)=\sigma_\Omega^*(t)*\sigma_r^*(t)$		
'n	where, $g_{WK}(2)=((W*K)(2)-(W*K)(1))/(W*K)(1)$				$\sigma(t)=(\Delta k/k)/(\Delta(r/w)(t)/(r/w)(t))$			1.000000		1.000000		1.000000		1.000000		
(A):	Marginal rate		$(r/w)^0$	**(B): $\sigma(r/w)(t)=\Delta(r/w)(t)/(r/w)(t)$**												
$\sigma_k=\sigma_\Omega*\sigma_y$	$=\Delta K/\Delta L$		0.007905		Y=wL+rK is confirmed.		$p_w^*(t)=1/\sigma y^*(t)$	$p_r^*(t)=\sigma_\Omega^*(t)$		$\sigma^*\gamma(t)=\Delta\gamma^*(t)/\gamma^*(t)$		$\sigma\theta^*(t)=\Delta\theta^*(t)/\theta^*(t)$				$\sigma\zeta^*(t)=\Delta\zeta^*(t)/\zeta^*(t)$
$=\Delta k/k$	Δk	$\Delta(r/w)(t)$	$r/w(t)$	$\Delta(r/w)(t)/(r/w)(t)$	$\sigma(t)=(A)/(B)$	Y=wL+rK	$p_w=(w/MPL)/(1-\alpha)$	$p_r=(r/MPK)/\alpha$	$\Delta\gamma^*(t)$		$\Delta\theta^*(t)$		$\zeta^*=C_D^*/S^*=\gamma^*/\theta^*$	$\Delta\zeta^*(t)$		
2.6933	30.1370	0.005361	0.007771	0.689892	3.903995	141.267	0.37129	1.00000	1	1	2	1	0.500000	0.500000	1	
2.6933	30.6561	0.005271	0.007640	0.689892	3.903995	145.137	0.37129	1.00000	1	1	2	1	0.500000	0.500000	1	
2.6933	31.1841	0.005181	0.007510	0.689892	3.903995	149.114	0.37129	1.00000	1	1	2	1	0.500000	0.500000	1	

(A):	Marginal rate		$(r/w)^0$	**(B): $\sigma(r/w)(t)=\Delta(r/w)(t)/(r/w)(t)$**			$p_w(t)=1/\sigma y(t)$	$p_r(t)=\sigma_\Omega(t)$							
$\sigma_k=\sigma_\Omega*\sigma_y$	$=\Delta K/\Delta L$		0.007905		Y=wL+rK is confirmed.		$p_w=(w/MPL)/(1-\alpha)$			$\sigma\gamma(t)=\Delta\gamma(t)/\gamma(t)$		$\sigma\theta(t)=\Delta\theta(t)/\theta(t)$			$\sigma\zeta(t)=\Delta\zeta(t)/\zeta(t)$
$=\Delta k/k$	Δk	$\Delta(r/w)(t)$	$r/w(t)$	$\Delta(r/w)(t)/(r/w)(t)$	$\sigma(t)=(A)/(B)$	Y=wL+rK		$p_r=(r/MPK)/\alpha$	$\Delta\gamma(t)$		$\Delta\theta(t)$		$\zeta=C_D/S=\gamma/\theta$	$\Delta\zeta(t)$	
5.1714	59.36	0.004625	0.007575	0.610549	8.470076	145.042	0.19042	0.98474	-2.021720	4.397589	1.918288	0.974825	-0.218126	-3.119891	14.303151
4.8134	57.44	0.004490	0.007287	0.616233	7.810992	152.399	0.20509	0.98716	-2.015221	5.928216	1.921748	0.974825	-0.159426	-2.751086	17.256223
4.4795	55.38	0.004379	0.007033	0.622587	7.194946	159.551	0.22088	0.98943	-2.009885	9.510855	1.925213	0.974825	-0.096318	-2.506645	26.024594
4.1682	53.22	0.004288	0.006810	0.629640	6.619951	166.480	0.23789	0.99157	-2.005515	27.4183	1.928685	0.974825	-0.028473	-2.333071	81.939829
3.8781	50.99	0.004216	0.006614	0.637428	6.083986	173.172	0.25621	0.99362	-2.001951	-26.5501	1.932164	0.974825	0.044466	-2.203698	-49.55924
3.6079	48.70	0.004161	0.006442	0.645989	5.585033	179.616	0.27594	0.99557	-1.999060	-8.500547	1.935648	0.974825	0.122881	-2.103743	-17.12019
3.3562	46.40	0.004122	0.006290	0.655370	5.121098	185.806	0.29720	0.99746	-1.996735	-4.905267	1.939139	0.974825	0.207183	-2.024349	-9.77083
3.1219	44.10	0.004098	0.006156	0.665620	4.690233	191.737	0.32009	0.99928	-1.994887	-3.369477	1.942636	0.974825	0.297814	-1.959889	-6.580914
2.9038	41.81	0.004087	0.006039	0.676792	4.290544	197.407	0.34474	1.00105	-1.993441	-2.519615	1.946140	0.974825	0.395249	-1.906611	-4.823817
2.7008	**39.56**	**0.004090**	**0.005936**	**0.688947**	**3.920207**	**202.815**	**0.37129**	**1.00278**	**-1.992335**	**-1.981355**	**1.949650**	**0.974825**	**0.500000**	**-1.861923**	**-3.723846**
2.5119	37.36	0.004105	0.005847	0.702152	3.577466	207.965	0.39988	1.00447	-1.991517	-1.610789	1.953166	0.974825	0.612615	-1.823973	-2.977356
2.3362	35.22	0.004133	0.005769	0.716476	3.260639	212.858	0.43068	1.00614	-1.990943	-1.340780	1.956688	0.974825	0.733684	-1.791403	-2.441653
2.1727	33.14	0.004173	0.005701	0.731998	2.968118	217.501	0.46385	1.00778	-1.990575	-1.135797	1.960217	0.974825	0.863844	-1.763195	-2.041105
2.0205	31.14	0.004225	0.005643	0.748803	2.698371	221.898	0.49957	1.00941	-1.990382	-0.975273	1.963752	0.974825	1.003774	-1.738572	-1.732034
1.8791	29.21	0.004290	0.005593	0.766981	2.449939	226.058	0.53805	1.01102	-1.990337	-0.846480	1.967294	0.974825	1.154211	-1.716927	-1.487533
1.7475	27.37	0.004367	0.005551	0.786633	2.221434	229.988	0.57948	1.01262	-1.990416	-0.741119	1.970842	0.974825	1.315942	-1.697784	-1.290166
1.6250	25.61	0.004457	0.005517	0.807864	2.011539	233.695	0.62411	1.01421	-1.990600	-0.653548	1.974396	0.974825	1.489815	-1.680759	-1.128167
1.5112	23.94	0.004560	0.005488	0.830790	1.819002	237.189	0.67218	1.01580	-1.990872	-0.579797	1.977957	0.974825	1.676741	-1.665544	-0.993322
1.4053	22.36	0.004677	0.005466	0.855537	1.642637	240.478	0.72395	1.01739	-1.991216	-0.516991	1.981524	0.974825	1.877702	-1.651886	-0.879738
1.3069	20.85	0.004808	0.005449	0.882238	1.481321	243.571	0.77970	1.01898	-1.991620	-0.463000	1.985098	0.974825	2.093750	-1.639574	-0.783080
1.2153	19.43	0.004954	0.005438	0.911040	1.333987	246.477	0.83975	1.02056	-1.992073	-0.416206	1.988678	0.974825	2.326018	-1.628435	-0.700096
1.1302	18.10	0.005116	0.005431	0.942098	1.199629	249.205	0.90443	1.02215	-1.992565	-0.375365	1.992265	0.974825	2.575724	-1.618322	-0.628298
1.0510	16.84	0.005295	0.005428	0.975582	1.077293	251.764	0.97408	1.02375	-1.993089	-0.339500	1.995858	0.974825	2.844177	-1.609112	-0.565757
0.9774	15.65	0.005492	0.005429	1.011674	0.966080	254.163	1.04910	1.02535	-1.993637	-0.307834	1.999457	0.974825	3.132785	-1.600698	-0.510951
0.9089	14.54	0.005709	0.005434	1.050568	0.865140	256.409	1.12990	1.02695	-1.994203	-0.279743	2.003063	0.974825	3.443060	-1.592991	-0.462667
0.8452	13.50	0.005946	0.005442	1.092478	0.773672	258.513	1.21692	1.02856	-1.994781	-0.254717	2.006675	0.974825	3.776630	-1.585912	-0.419928
0.7860	12.53	0.006205	0.005454	1.137629	0.690923	260.480	1.31064	1.03018	-1.995367	-0.232339	2.010294	0.974825	4.135243	-1.579393	-0.381935