«Note» Empirics of A Function of Consumption Consistent with A Technology-Golden Rule: Using Three Dimensional Graphs

Hideyuki Kamiryo¹⁾

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1. Introduction

This paper, first, intends to express the relationship between saving and consumption by connecting three kinds of ratios in saving with a utility function designed from the idea of Ramsey [1928] and second, to connect saving and consumption with wages and returns/rental by using the utility function of consumption. In the current statistics of national accounts, compensation of employees (hereafter wages) is included in GDP while final consumption is included in national disposable income. I indicate that there is no way to connect wages with consumption as far as I investigated.

Why do I need to search for an integrated relationship between saving or consumption and wages or rental? First, I am curious about confirming the relationship between the structure of saving (for the retention ratio, the ratio of saved dividends to dividends, and the saved wages to wages) and the utility function of consumption that uses a discount rate for consumers, where saving and consumption are dual to national disposable income, NDI. Second, I need new data for wages and returns/rental in my endogenous growth model, whose base is still "production" that guarantees an optimum/maximum rate of rental. I need new

I am much obliged to the advice of Dr. Toshimi Fujimoto for the understanding of the utility function using the calculus of variations. I am also thankful to Dr. Itsuo Sakuma (on 11 June 2005) for the discussion about the character of wages and rental in this paper.

Papers of the Research Society of Commerce and Economics, Vol. XXXXVI No. 1 definitions for wages and rental so that wages and rental in production are compatible with optimum consumption in income. Assume that NDI happens to be equal to GDP, and still NDI is for income and GDP is for production.

My previous model [PhD, 2003] is based on corporate profit. The model uses output as the sum of corporate profit (calculated as the sum of corporate saving and dividends) and total compensation or wages shown in GDP, where corporate profit is much less than the operating surplus as a residual of GDP. My current model (after 2004) researches optimum each for consumption and production.

In this paper, I started with the OECD National Accounts Statistics data that disclose both wages and consumption (see Appendix) to establish my own method to connect consumption with compensation. Then, I totally clarified the essence of my method by using Table 5-1. This table presents a basis for the ratio of a discount rate, *rho*, to the optimum rate of rental under convergence, *r*, (rho/r), by the level of a technology-golden rule/age, where the rate of saving, *s*, equals the relative share of rental, *alpha*: *s=alpha*. Any country has its own level of *s=alpha*, where *rho=r* holds. For empirical work, I use IMF data (available in IFSY and GFSY) and apply Table 5-1 to the data.

How can consumption be converted to wages or how can wages to consumption? Theoretically, if we assume that GDP is equal to NDI, we can directly use both consumption and wages in statistics. When I compare wages shown in GDP with estimated wages in production using my method, I use the word, "estimated" still based on production. For estimating wages, I need the help of the literature, in particular the utility function of consumption originated in Frank Plumpton Ramsey [1928]. In this case, first I need to clarify the contents of saving as a saving structure and then the dual relationship between saving and consumption in NDI, which should be consistent with the saving structure. Jan Tinbergen [1956] reviewed Ramsey and stated that the utility function should be

measurable more easily (without an assumption of "bliss" as maximum utility). Tinbergen uses the marginal capital-output ratio instead of Ramsey's direct relationship between consumption and wages each as flow. I find that both methods reach the same result. Note that Robert Solow [1992] (whose original exogenous growth model [1956] is based on a fixed rate of saving) only suggested a short version of using a discount rate and a taste parameter.

It is a main purpose of this paper to establish my method for estimating wages (modified wages; hereafter wages) and confirm its usefulness by showing empirical results using IMF data by country. In this case, I find, if I introduce technology that uses *beta*^{*} into a golden rule and accordingly, the utility function of consumption, the empirical results are well-fitted. I need to review the golden rule in the literature, using variables under convergence. By extending equations in Kamiryo [2004a], I will prove that the golden rule in the literature assumes no technology. I will also prove that the rate of technological progress is deeply involved in a new golden rule and accordingly, the utility function of consumption. Kamiryo [2005c] will separately extend equations under convergence in more detail.

In Appendix, I attach tables and figures for the characteristics between consumption and wages using three dimensional graphs. Also I attach results of (rho/r), comparing consumption with wages in OECD data by country.

2. The saving structure and the utility function

2.1 Relationship among saving ratios

In this section, I clarify that a compatible relationship between consumption in income and "estimated" wages in production, based on the saving structure (that is dual to the consumption structure) and the relative share of rental (that is dual to the ratio of wages to output). There is no literature to clarify the relationship between wages in GDP and "estimated" wages that satisfies optimum consump-

Papers of the Research Society of Commerce and Economics, Vol. XXXXVI No. 1 tion, as long as I have investigated.

I will start with the saving structure. I assume that dividends paid by corporations belong to household consumption and saving (since corporation do not consume), and saving is divided into corporate saving (before paying dividends) and household savings. An equal condition lying between the rate of saving and the relative share of rental, $s=\alpha$, presents the clue for setting up a saving structure. The condition of $s=\alpha$ is well known as the golden rule, where the rate of rental will be equal to the growth rate of output under convergence but without technology. Later I will discuss under what condition the golden rule holds in an endogenous growth.

In the saving structure, I distinguish three kinds of savings and each corresponding ratio in saving: (1) corporate saving and the retention ratio of corporations, s_{II} , (or the payout ratio), (2) saved dividends and the ratio of saved dividends to dividends, $s_{SD/D}$, and (3) saved wages and the ratio of saved wages to wages, s_W , and/or, household saving as the sum of saved wages and saved dividends by households and the ratio of household saving to the sum of wages and dividends, s_{H} , where I simply assume, as I mentioned above, that dividends are saved by households, neglecting the dividends received and saved by corporations since it is difficult to estimate the ratio of corporate-saved dividends to dividends decided by corporations. I will show, first of all, each saving as a ratio to national disposable income, NDI (hereafter, output), so that each saving ratio is connected with the relative share of rental estimated in NDI. Thus, I need to clarify the relationships between each of the above three savings and each ratio to output. Using symbols, the saving structure is shown in comparison with consumption as follows:

Output Y=NDI, estimated returns/rental Π , estimated wages/compensation W: $Y=\Pi+W$ (hereafter, I abbreviate "estimated").

Corporate saving S_{Π} , saved dividends S_D , saved wages S_W , total saving S: S=

 $S_{\Pi} + S_D + S_W$. Consumed dividends C_D , consumed wages C_W , total consumption $C: C = C_D + C_W$. And, Y = S + C, where $\Pi = S_{\Pi} + D$, $D = S_D + C_D$, $W = S_W + C_W$, and $Y = S + C = \Pi + W$.

I will show each saving or consumption divided by output, using small character:

 $1=s+c, \text{ where } s=s_{SP/Y}+s_{SD/Y}+s_{SW/Y}, c=c_{CD/Y}+c_{CW/Y}, \alpha=\alpha_{SII}+\alpha_D, d_{D/Y}=s_{SD/Y}+c_{CD/Y},$ $w_{W/Y}=s_{SW/Y}+c_{CW/Y}, \text{ and } y=s+c=\alpha+w_{W/Y}.^{2}$

As the results, the retention ratio of corporations $S_{\Pi}/\Pi = s_{S\Pi/\Pi} = s_{\Pi}$, the ratio of saved dividends to dividends $S_D/D = s_{SD/Y}/d_{D/Y}$, and the ratio of household saving to the sum of wages and dividends $S_H/(W+D) = (s_{SW/Y} + s_{SD/Y})/(w_{W/Y} + d_{D/Y}) \equiv s_H$. The literature often uses s_{Π} and s_H , but without clarifying saved and consumed dividends or the relationship between the ratio of consumed dividends to output and the ratio of saved wages to output (for a version towards these relationships, see Robinson [1962]). I will show the equations before introducing a utility function.

Before introducing a utility function:

$$\alpha_{S\Pi} = \frac{S_{\Pi}}{Y} = \frac{S_{\Pi}}{\Pi} \cdot \frac{\Pi}{Y} = \alpha \cdot s_{\Pi} = s_{S\Pi/Y}.$$
(1)

$$\alpha_{SD} = \frac{S_D}{Y} = \frac{S_D}{D} \cdot \frac{D}{Y} = \alpha (1 - s_{\Pi}) s_{SD/D} = s_{SD/Y}.$$
(2)

$$\alpha_{CD} = \frac{C_D}{Y} = \frac{\Pi - S_{\Pi} - S_D}{Y} = \alpha - s_{S\Pi/Y} - s_{SD/Y} = \alpha (1 - s_{S\Pi})(1 - s_{SD/D}),$$
(3)

where $\alpha_D = \alpha_{SD} + \alpha_{CD} = \alpha - s_{S\Pi/Y}$.

$$s_{SW/Y} = \frac{S_W}{Y} = \frac{S_W}{W} \cdot \frac{W}{Y} = s_W (1 - \alpha), \text{ where } s_W = S_W/W.$$
(4)

$$s_{SH/Y} \equiv \frac{S_H}{Y} = \frac{S_W}{Y} + \frac{S_D}{Y} = s_W (1 - \alpha) + s_{SD/Y} \text{ or,}$$
(5)

2) In symbols, I distinguish the wage rate, w, with the ratio of wages to output, $w_{W/Y}$, where w is used for estimating the capital-labor ratio, using r/w.

$$s_{SH/Y} \equiv \frac{S_H}{Y} = \frac{S_W + S_D}{W + D} \cdot \frac{W + D}{Y} = s_H (1 - s_{S\Pi/Y}), \text{ where } s_H = S_H / (W + D).$$

Therefore, paying attention to the dual relationship between saving and consumption.

$$\alpha = s_{S\Pi/Y} + \alpha_{SD} + \alpha_{CD} = s_{S\Pi/Y} + (\alpha - s_{S\Pi/Y}), \text{ where } \alpha_D = \alpha_{SD} + \alpha_{CD} = \alpha(1 - s_{\Pi}).$$

$$s = s_{S\Pi/Y} + s_{SD/Y} + s_{SW/Y} = s_{S\Pi/Y} + s_{SH/Y}.$$
(7)

$$c = c_{CD/Y} + c_{CW/Y} = 1 - (s_{S\Pi/Y} + s_{SD/Y} + s_{SW/Y}).$$
(8)

Thus,
$$s - \alpha = s_{SW/Y} - c_{CD/Y}$$
, or $s - \alpha = s_W (1 - \alpha) - ((1 - s_{\Pi})(1 - s_{SD/D})\alpha)$,³⁾

where
$$s_{SW/Y} = s_W (1 - \alpha)$$
 and $c_{CD/Y} = \alpha (1 - s_{\Pi})(1 - s_{SD/D})$. (9)

$$\frac{s}{\alpha} = \frac{s_W}{\alpha} + (s_{\Pi} + s_{SD/D}(1 - s_{\Pi}) - s_W)^{4}$$
(10)

Since c=1-s and $w_{W/Y}=1-\alpha$, Eq.9 is replaced by $c-w_{W/Y}$ and Eq.10 is replaced by $c/w_{W/Y}$.

- 3) Give the values of three saving ratios, $s \alpha$ is a negative function of α : $s \alpha = A B\alpha$, where *A* is the ratio of saved wages to wages and *B* is the value of the ratio of saved wages to wages minus the product of the dividend payout ratio and the ratio of consumed dividends to dividends. This implies that economic policy can address the changes in these three ratios.
- 4) My model uses a concept of net investment that corresponds with saving (for detail, see Kamiryo, Black box [hopefully, 2005]. The investment structure should be shown using net investment, appropriately to connect with the saving structure. The relationship between the depreciation rate and the growth rate of capital is essential to the understanding of the relationship between the investment and saving structures, even if it comes from accounting identity. The depreciation rate in my endogenous model, even if net investment after depreciation is used, corresponds with the depreciation rate explicitly required for an exogenous model.

Net investment is finally connected with the relative share of rental using the ratio of investment to the relative share of rental: $\frac{i}{\alpha} = \frac{s}{\alpha} \cdot \frac{i}{s}$.

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After introducing a utility function:

I distinguish the character of $s - \alpha$ with that of s/α (see Eqs. 9 and 10 above). I indicate that the character of s/α is much more fitted for the introduction of a utility function of consumption. Here I will conclusively use a key ratio derived from a utility function (for detail, see the next section). The key ratio is the ratio of the discount rate for consumption to the rate of rental under convergence: (rho/r), where a discount rate, rho, is used for the present values of saving and consumption each as flow, and r is the optimum rate of rental and used for the present values of rental and wages each as flow. As a result, $w_{W/Y}$ and c are each expressed as,

$$(1-\alpha) = c / (rho / r) \text{ and } c = (rho / r)(1-\alpha), \tag{11}$$

Or, $rho(1-\alpha) = r(1-s)$.

Note that in Eq.11, the ratio of wages to output, $1-\alpha$, cannot be replaced by the rate of rental, α , and the rate of consumption, *c*, cannot be replaced by the rate of saving, *s*,

$$\alpha \neq s / (rho / r)$$
 and $s \neq (rho / r)\alpha$.⁵⁾ (12)

Using Eq.11, the relationship between (rho/r) and s/α are derived as follows:

- 1. If *rho*=*r*, 1-*s*=1- α or *s*= α or, if (*rho*/*r*)=1, *s*/ α =1.
- 2. If *rho*<*r*, 1-*s*<1- α or *s*> α or, if (*rho*/*r*)<1, *s*/ α >1.
- 3. If *rho>r*, 1-*s*>1- α or *s*< α or, if (*rho/r*)>1, *s*/ α <1.

Recall Eqs.7 to 10 and express these equations in Eq.12, then,

1. If rho=r or $s=\alpha$, $s_{SW/Y} = c_{CD/Y}$ holds and thus, $s_W(1-\alpha) = \alpha(1-s_{\Pi})(1-s_{D/D})$,

Or,
$$\alpha = \frac{s_W}{1 - (s_{\Pi} + s_{SD/D}(1 - s_{\Pi}) - s_W)}$$
 holds.⁶ (13)

- 5) When we need to express the area of saving in three dimensional graphs, we calculate and express the area of consumption and then, by replacing this area with 1-c, the area of saving is expressed.
- 6) If $\alpha = s_W$, $s_W = s_{\Pi} + s_{S/D/D}(1-s_{\Pi})$ holds but the retention ratio must be extremely low even if dividends are all consumed.

2. If
$$rho < r$$
 or $s > \alpha$, $s_{SW/Y} > c_{CD/Y}$ holds (14)

3. If rho>r or $s<\alpha$, $s_{SW/Y} < c_{CD/Y}$ holds. (15)

When the three saving ratios on the RHS of Eq.13 are each fixed, the golden rule will be maintained.

2.2 From the saving structure to the utility function

Now I will connect the above saving structure with a utility function in this section. I find that the rate of saving is closely connected with the relative share of rental in case study and empirical work, as I will show below. I find that the above ratio of the discount rate *rho* to the rate of rental *r*, (rho/r), will control the above two ratios, *s* and *a*. This ratio, (rho/r), is supported by the idea of the utility function originated by Ramsey.

My framework for introducing a utility function into consumption will be justified by the following two assumptions: First, the marginal discount rate of consumption and the marginal rate of rental under convergence guarantee an optimum consumption as proved by Ramsey (apart from some restrictions below). Second, the marginal discount rate is equal to the discount rate on average. And also, the marginal rate of rental is equal to the rate of rental on average. The second assumption guarantees equilibrium under convergence. The above two assumptions present a base for a compatibility between optimum choice (lying between saving/investment and consumption) and equilibrium under convergence that uses real assets in national accounts. For the relationship between market equilibrium and equilibrium under convergence, I present a method for neutralizing of financial assets in Kamiryo [2004b].

Ramsey [1928, p.546] stresses the feeling of confrontation lying between the utility for consumption and the disutility for labor, where the production function is supported by using both labor and capital, and the rate of interest is applied to capital (see Eq.2). This is another expression of what I pursue—the relationship

between consumption and wages. Ramsey [ibid., p.547] shows an optimum path for a maximum consumption, using a calculus of variations based on $\int cdt$, where *c* is the ratio of consumption to output. Ramsey expresses the optimum consumption as a bliss, *B*, as a maximum value, but this *B* is difficult to measure as indicated by Tinbergen. However, Ramsey [ibid., p.556] states that the discount rate, ρ , is equal to $\partial f / \partial c$, where the maximum rate of consumption, labor, and capital are determined using the calculus of variations.⁷⁾

Tinbergen [1956, pp.604-605], instead of using Ramsey's *B*, intends to measure a corresponding rate of consumption by assuming that utility is measurable and using the marginal capital-output ratio as a capital coefficient and $m=\log(1+\text{the discount rate})$ as a "psychological discount rate" comparable to an interest rate, since $\log(1+m)=m$ holds if *m* is small. As a result, he showed the area of the rate of consumption, *c*, and for the region of c>1, he neglected each value using a dot: the higher the marginal capital-output ratio and *m*, the higher the rate of consumption: $c=m \times$ the marginal capital coefficient.

I interpret his approach as follows: In equilibrium under convergence the marginal capital-output ratio is equal to the capital-output ratio on average. I denote this ratio as Ω as in my papers⁸: $c = m \cdot \Omega$. The value of *m*, however, does not empirically correspond with the discount rate. Under *c*=0.9, for example, if Ω =2, *m*=0.45, and if Ω =4, *m*=0.225, which is still too high. If I introduce the above (*rho/r*) into Tinbergen's idea of the capital-output ratio, capital will be converted to rental as the product of capital and the rate of rental, *r*, and thus, $c = m \cdot \Omega$ is

⁷⁾ In a state of equilibrium, $\frac{dx}{dt} = \frac{dc}{dt} = 0$, $x = \overline{f(a,c)}$, $v(a) = \frac{\partial f}{\partial a}u(x)$, and $\frac{\partial f}{\partial c} = \rho$, where *a* is labor, *c* is capital, *x* is the rate of consumption. Also, u(x) is the marginal rate of utility of a rate of consumption, and v(a) is the marginal rate of disutility of a rate of labor. I pay attention to the treatment of the utility for consumption versus the disutility for labor.

I also stress the importance of the capital-output ratio. The range of this ratio should be carefully reviewed under convergence as shown in Kamiryo [2004c].

Papers of the Research Society of Commerce and Economics, Vol. XXXXVI No. 1 reduced to the above Eq.11 or 12. This is because for capital and labor, r is used and for saving and consumption rho is used when (rho/r) is introduced into the utility function.

In short, both Ramsey and Tinbergen show how to measure the utility function of consumption and I stress here that both different approaches for utility measurement will be reduced to Eq. 11 or 12 by using the ratio of *rho* to *r*, (*rho*/*r*). Note that this ratio was explained by Ramsey [ibid., p.558] using an individual or his heirs: if $r > \rho$, he will save when he is young and if $r > \rho$ it may be negative, he or the class of men of this sort may borrow when young and pay back when old.

2.3 Relationship between the utility function and technological progress

Assume that the utility function is expressed simply by using c(rho/r) as I discussed above. Now, I raise two questions: (1) Is the utility function independent of technological progress? (2) If it is not, what is the relationship between the utility function and technological progress? I find that the growth rate of output is equal to the rate of rental under $s=\alpha$ if and only if the rate of technological progress, but the optimum rate of rental under convergence, $r=r^*$, is influenced by technological progress. Therefore, I indicate that the utility function is inevitably related to technological progress. This is now discussed briefly in this section (for detail, see Kamiryo [2005c]).

For the above questions, I will prepare a few equations, starting with the following Eq.23 that holds under convergence in Kamiryo [2004a, p.60]:

$$\Omega^* = \frac{\beta_{\delta=0}^* \cdot i \ (1-\alpha)}{i \ (1-\beta_{\delta=0}^*)(1+n) + n(1-\alpha)}, \text{ where if } \Omega^* = \Omega(0), \text{ the capital-output ratio is}$$

minimized or set at optimum.

The rate of rental under convergence, r^* , is obtained by solving $r^* = \alpha / \Omega^*$ at

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optimum.

$$r^{*} \equiv \frac{\alpha}{\Omega^{*}} = \alpha \left(\frac{i(1 - \beta^{*}_{\delta=\alpha})(1 + n) + n(1 - \alpha)}{\beta^{*}_{\delta=\alpha} \cdot i(1 - \alpha)} \right).$$

Or,
$$\frac{r^{*}}{\alpha} = \frac{i(1 - \beta^{*}_{\delta=\alpha})(1 + n)}{\beta^{*}_{\delta=\alpha} \cdot i(1 - \alpha)} + \frac{n}{\beta^{*}_{\delta=\alpha} \cdot i}$$
(16)

The growth rate of output under convergence, g_Y^* , is, in the literature, shown as $g_Y^* = \frac{g_A^*(1+n)}{1-\alpha} + n$ (consistently with Solow [1956]). Since the rate of technological progress, g_A^* , is shown in my endogenous growth model as $g_A^* = i (1 - \beta_{\delta=\alpha}^*)$, the growth rate of output is formulated by inserting $g_A^* = i (1 - \beta_{\delta=\alpha}^*)$ into g_Y^* :

$$g_Y^* = \frac{g_A^*(1+n)}{1-\alpha} + n = \frac{i(1-\beta_{\delta=\alpha}^*)(1+n)}{1-\alpha} + n.$$
(17)

The relationship between the rate of rental and the growth rate of output under convergence is now derived by using $A = \frac{i(1 - \beta^*_{\delta = \alpha})(1 + n)}{1 - \alpha}$ for the above r^* in Eq.16 and $B = \frac{i(1 - \beta^*_{\delta = \alpha})}{1 - \alpha}$ for the above in Eq.17.

$$r^* = \left(\frac{\alpha}{\beta^*_{\delta=\alpha} \cdot i}\right) g^*_Y.$$
⁽¹⁸⁾

or
$$g_Y^* = \left(\frac{\beta_{\delta=\alpha}^* \cdot i}{\alpha}\right) r^*$$
. (19)

In Eqs.18 or Eq.19, the relationship between r^* and g_Y^* is reduced to:

When $r^* = g_Y^*$, $\alpha = \beta_{\delta=\alpha}^* \cdot i \ \alpha / (\beta_{\delta=\alpha}^* \cdot i) = 1$ holds since. (20)

Eq.20 is useful to understand the character of the golden rule that includes the rate of technological progress. Eq.20 suggests that the relative share of rental under convergence may differ from the current relative share of rental: $\alpha < \alpha^*$, where $\alpha^* \equiv \alpha/\beta^*$. This idea will present a useful device when we estimate *alpha* from consumption, by using (*rho/r*) (see empirical results in 3.3 below).

- 1. If the rate of technological progress is zero or the structural reform parameter, $\beta^*_{\delta=\alpha}$, is 1.0, the relative share of rental is equal to the rate of saving assuming that the rate of saving equals the rate of investment or exports equals imports.
- 2. The higher the rate of technological progress the lower the rate of saving and vice versa assuming that the relative share of rental is fixed.

Under the optimum convergence, $\Omega(0)=\Omega^*$ and $r(0)=r^*$ (see in Kamiryo [PhD 2003]). Therefore, the utility function of consumption is shown as $c(rho/r^*)$. In short, when my model is used, an endogenous rate of technological progress influences the relationship between the rate of consumption and the relative share of rental. Or, three fixed ratios in saving have already reflected technological progress.

3. Case study and empirical results using the utility function

3.1 Case study between saving and wages

In this section, I will explain the above saving structure and the relationship between the rate of saving and the relative share of rental, first using case study shown as Tables 1 and 2. Second, I will apply the above relationship to the Japanese national accounts in 1993 to 2002, by dividing total accounts into the government sector and the private sector. Third, I will apply the above relationship to fifteen countries whose data come from OECD national accounts statistics.

Before stating, I will explain the relationship between saving and returns/rental or between consumption and wages using the utility function of consumption, (rho/r). Saving is dual to consumption. When saving is determined by the retention ratio, the ratio of saved dividends to dividends, and the ratio of household saving to wages, the rate of saving is, at the same time, determined from the utility function of consumption, c(rho/r). In other words, when c(rho/r) is determined

mined, at the same time, the above three saving ratios are determined and balanced so that the sum of saving and consumption equals national disposable income. In these cases, when consumption is determined, at the same time, returns/rental and wages are newly determined, each value being different from that in GDP.

 Table 1
 Given $C/W=\rho/r$ in national disposable accounts, saving raios are determined with the relative share of rental

Case	s=S/Y	c = C/Y	$C/W = \rho/r$	$W/Y=(1-\alpha)$	$\Pi/Y = \alpha$	S_{II}/Y	S_H/Y	$S_H/(D+W)$
1	0	1	1.0500	0.9524	0.0476	0.0190	-0.0190	-0.0187
2	0.05	0.95	1.0250	0.9268	0.0732	0.0293	0.0207	0.0201
3	0.1	0.9	1.0	0.9000	0.1000	0.0400	0.0600	0.0576
4	0.15	0.85	0.9757	0.8712	0.1288	0.0515	0.0985	0.0934
5	0.2	0.8	0.9500	0.8421	0.1579	0.0632	0.1368	0.1282
6	0.25	0.75	0.9250	0.8108	0.1892	0.0757	0.1743	0.1611
7	0.3	0.7	0.9000	0.7778	0.2222	0.0889	0.2111	0.1923
8	0.35	0.65	0.8750	0.7429	0.2571	0.1029	0.2471	0.2217
9	0.4	0.6	0.8500	0.7059	0.2941	0.1176	0.2824	0.2491

Note: 1. $C/W = \rho/r$: This presents how to estimate wages, when *s* or *c* is given. Case 3, $s = \alpha = 0.1$, is a base. From *c* (ρ/r), consumption, *C*, is theroretically derived, but in statistics, given C. W should be estimated.

2. The table replaces Y-S+C by $Y-\Pi+W$ using rho/r=W/C, for $s < \alpha$ and $s > \alpha$.

3. The table assumes that the retention ratio S_{II}/Π (=1-payout ratio, D/Π) is 0.4.

4. As a result, S_{II}/Y and $S_{II}/(D+W)$ are calculated. The literature may show S_{II}/W .

First, Table 1 shows a case which starts with the rate of saving and Table 2 shows a case which starts with the rate of saving and the relative share of rental. Both in Tables 1 and 2, the utility function of consumption, c(rho/r), integrates consistently each value of saving, consumption, rental, and wages or interrelated ratios. Figure 1 shows each ratio in Table 1, where the above three

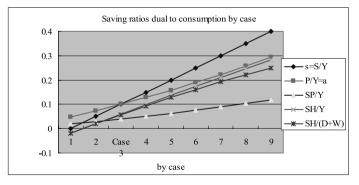


Figure 1 Given $C/W=\rho/r$ in national disposable accounts, saving raios are determined with the relative share of rental

Papers of the Research Society of Commerce and Economics, Vol. XXXXVI No. 1 saving ratios are fixed and suggest that if each ratio changes together with the change in (rho/r) each line will not be a linear.

In Tables 1 and 2, the ratio of consumption to wages is 1.0 when the rate of saving, s, is equal to the relative share of rental, α , where the golden rule/age is realized. And, if $s < \alpha$ this ratio gradually decreases below 1.0, and if $s > \alpha$ it gradually increases above 1.0.9)

given	\$	0	0.05	0.1	0.15	0.2	0.25	0.3
given	alpha	0.06	0.08	0.1	0.12	0.14	0.16	0.18
	s/alpha	0	0.625	1.0000	1.25	1.4286	1.5625	1.6667
\$ \$ 11 11	s-alpha	-0.06	-0.03	0	0.03	0.06	0.09	0.12
0.35	SSITY	0.021	0.028	0.035	0.042	0.049	0.056	0.063
S SD D	$\alpha_{D/Y}$	0.039	0.052	0.065	0.078	0.091	0.104	0.117
0.6	\$ SD.Y	0.0234	0.0312	0.0390	0.0468	0.0546	0.0624	0.0702
	C CD Y	0.0156	0.0208	0.0260	0.0312	0.0364	0.0416	0.0468
	S SICY	-0.0444	-0.0092	0.0260	0.0612	0.0964	0.1316	0.1668
S SH Y	SSUTE SSDT	-0.0210	0.0220	0.0650	0.1080	0.1510	0.1940	0.2370
	\$ SH W	-0.0472	-0.0100	0.0289	0.0695	0.1121	0.1567	0.2034
	\$ SH(D - R)	-0.0215	0.0226	0.0674	0.1127	0.1588	0.2055	0.2529
	C CB'Y	0.9844	0.9292	0.8740	0.8188	0.7636	0.7084	0.6532
c-c	CDY+CCWY	1.0000	0.9500	0.9000	0.8500	0.8000	0.7500	0.7000
	S SE Y-C CD Y	-0.06	-0.03	0.00	0.03	0.06	0.09	0.12
	C-W WY	0.06	0.03	0	-0.03	-0.06	-0.09	-0.12
	$\rho/r = c/w_{WY}$	1.0638	1.0326	1.0000	0.9659	0.9302	0.8929	0.8537

 Table 2
 Given three kinds of saving ratios with the relative share of rental.
 $\rho/\rho = C/W$ is determined

Note: 1. s-alpha =-(c- w_{BCT}): dual each other. And, s-alpha =s $_{SUT}$ - c_{CDT} if related parameters are given. 2. The literature often assumes that the above saved wages equal consumed dividends.

3. The ratio of houshold saving, in this table, is totally adjusted by fixing s S 1111 and SSD D.

It is suggested in Table 2 that the higher the rate of saving the higher the difference between s and α . Is it possible for policy-makers to realize the golden rule/age when the rate of saving is extremely high? How can consumption increase when the rate of saving is high? An only way is to spend all dividends for consumption, where the ratio of saved dividends to dividends is zero. In any case, it is shown that the rate of saving cannot separate from *alpha* beyond a

⁹⁾ Recall that Ramsey [1928, p.556] uses two kinds of the rate of rental: the demand curve for capital as $r = \partial f / \partial K$ and the discount rate, ρ , as the supply line. I find that this intersect corresponds with the point of the above C/W=1.0 and his demand rate of capital corresponds with the rate of rental under convergence in my model.

certain range.

3.2 Case study with three dimensional graphs

Let me now explain some cases using three dimensional graphs. This section first shows a basic case using Tables 3 and 4 together with Figures 2 and 3. Second, I will clarify the characteristics of (rho/r) using Table 5-1, where the golden rule/age is deeply involved. The process to calculate Table 5-1 will be shown by case in tables of Appendixes (Tables A1 to A3), starting with Table 4.

As shown in Figures 2 and 3 corresponding with Tables 3 and 4, the shape of the area of the ratio of consumption to output, c, is rather simple. The higher (rho/r) and "1-alpha," the higher the ratio of consumption to output is. Here, first of all, I pay attention to the upper limit of (rho/r), where if the value of (rho/r)r) is a little bit higher than 1.0 (e.g., 1.05 or 1.07), the ratio of consumption to output, c, becomes beyond 1.0:c>1. When (rho/r) is 1.0, by definition, it is under the golden age/rule, where s=alpha. The estimation of (rho/r) is closely related to the level of s=alpha. In other words, it is inevitable for the estimation of wages (or rental) using consumption (or saving) to know the relationship between (rho/r) and the level of the golden age. This is shown as Table 5-1, "Table of (rho/r) by the level of golden age," together with Figure 4.

Table 5-1 was calculated changing each or two of the three saving ratios, by the level of the golden age. Consumption is the current consumption and saving is future consumption as an alternative, yet, 1=c+s and c is dual to s and s is dual to c. Note that when I finalize the values of (rho/r) in Table 5-1, I use c (or 1-s) and 1-alpha. I raise here two questions for Table 5-1 (or Figure 4): (1) Why is (rho/r) higher when 1-*alpha* is lower (the rate of rental is higher)? How can I interpret this tendency? (2) Why is (rho/r) higher when the golden age is lower? How can I interpret this tendency? I conclude as follows:

1. The line of (rho/r)=1.0 constitutes a diagonal line downwards to the right in

		ρρ	is the discount ra	te of the utility fu	nction & r is the	rate of rental und	er convergence.	
Case 1		0.2	C	$=(\rho/r)(l-\alpha),$	where $\rho/r=0$	C/W.		$1-\alpha$
r	ρ/r	0.65	0.7	0.75	0.8	0.85	0.9	0.95
0.16	1.2500	0.8125	0.8750	0.9375	1.0000	1.0625	1.1250	1.1875
0.17	1.1765	0.7647	0.8235	0.8824	0.9412	1.0000	1.0588	1.1176
0.18	1.1111	0.7222	0.7778	0.8333	0.8889	0.9444	1.0000	1.0556
0.19	1.0526	0.6842	0.7368	0.7895	0.8421	0.8947	0.9474	1.0000
0.2	1	0.65	0.7	0.75	0.8	0.85	0.9	0.95
0.21	0.9524	0.6190	0.6667	0.7143	0.7619	0.8095	0.8571	0.9048
0.22	0.9091	0.5909	0.6364	0.6818	0.7273	0.7727	0.8182	0.8636
0.23	0.8696	0.5652	0.6087	0.6522	0.6957	0.7391	0.7826	0.8261
0.24	0.8333	0.5417	0.5833	0.6250	0.6667	0.7083	0.7500	0.7917
Th	e z axis: for <u>p</u> /	<u>r. T</u>	he above idea	comes from be	oth F.P. Rams	ey [1928] and	J Tinbergen [1	956].
		ρ						
Case 2		0.1	C .	$=(\rho/r)(1-\alpha),$	where $\rho/r=0$	C/W.		1-α
r	ρ/r	0.65	0.7	0.75	0.8	0.85	0.9	0.95
0.08	1.2500	0.8125	0.8750	0.9375	1.0000	1.0625	1.1250	1.1875
0.085	1.1765	0.7647	0.8235	0.8824	0.9412	1.0000	1.0588	1.1176
0.09	1.1111	0.7222	0.7778	0.8333	0.8889	0.9444	1.0000	1.0556
0.095	1.0526	0.6842	0.7368	0.7895	0.8421	0.8947	0.9474	1.0000
0.1	1	0.6500	0.7000	0.7500	0.8000	0.8500	0.9000	0.9500
0.105	0.9524	0.6190	0.6667	0.7143	0.7619	0.8095	0.8571	0.9048
0.11	0.9091	0.5909	0.6364	0.6818	0.7273	0.7727	0.8182	0.8636
0.115	0.8696	0.5652	0.6087	0.6522	0.6957	0.7391	0.7826	0.8261
0.12	0.8333	0.5417	0.5833	0.6250	0.6667	0.7083	0.7500	0.7917
Th	e z axis: for <u>p/</u>	r.						
		ρ						
Case 3		0.1	с	$=(\rho/r)(1-\alpha),$	where $\rho/r=C$			1-α
r	ρ/r	0.1 0.65	0.7	0.75	0.8	0.85	0.9	0.95
r 0.09	1.1111	0.1 0.65 0.7222	0.7 0.7778	0.75	0.8 0.8889	0.85 0.9444	1.0000	0.95 1.0556
r 0.09 0.095		0.1 0.65 0.7222 0.6842	0.7 0.7778 0.7368	0.75 0.8333 0.7895	0.8 0.8889 0.8421	0.85 0.9444 0.8947	1.0000 0.9474	0.95 1.0556 1.0000
r 0.09 0.095 0.1	<i>1.1111</i> 1.0526 1	0.1 0.65 0.7222 0.6842 0.6500	0.7 0.7778 0.7368 0.7000	0.75 0.8333 0.7895 0.7500	0.8 0.8889 0.8421 0.8000	0.85 0.9444 0.8947 0.8500	1.0000 0.9474 0.9000	0.95 1.0556 1.0000 0.9500
r 0.09 0.095 0.1 0.105	1.1111 1.0526 1 0.9524	0.1 0.65 0.7222 0.6842 0.6500 0.6190	0.7 0.7778 0.7368 0.7000 0.6667	0.75 0.8333 0.7895 0.7500 0.7143	0.8 0.8889 0.8421 0.8000 0.7619	0.85 0.9444 0.8947 0.8500 0.8095	1.0000 0.9474 0.9000 0.8571	0.95 1.0556 1.0000 0.9500 0.9048
r 0.09 0.095 0.1 0.105 0.11	1.1111 1.0526 1 0.9524 0.9091	0.1 0.65 0.7222 0.6842 0.6500 0.6190 0.5909	0.7 0.7778 0.7368 0.7000 0.6667 0.6364	0.75 0.8333 0.7895 0.7500 0.7143 0.6818	0.8 0.8889 0.8421 0.8000 0.7619 0.7273	0.85 0.9444 0.8947 0.8500 0.8095 0.7727	1.0000 0.9474 0.9000 0.8571 0.8182	0.95 1.0556 1.0000 0.9500 0.9048 0.8636
r 0.09 0.095 0.1 0.105 0.11 0.115	1.1111 1.0526 1 0.9524 0.9091 0.8696	0.1 0.65 0.7222 0.6842 0.6500 0.6190 0.5909 0.5652	0.7 0.7778 0.7368 0.7000 0.6667 0.6364 0.6087	0.75 0.8333 0.7895 0.7500 0.7143 0.6818 0.6522	0.8 0.8889 0.8421 0.8000 0.7619 0.7273 0.6957	0.85 0.9444 0.8947 0.8500 0.8095 0.7727 0.7391	1.0000 0.9474 0.9000 0.8571 0.8182 0.7826	0.95 1.0556 1.0000 0.9500 0.9048 0.8636 0.8261
r 0.09 0.095 0.1 0.105 0.11 0.115 0.125	1.1111 1.0526 1 0.9524 0.9091 0.8696 0.8000	0.1 0.65 0.7222 0.6842 0.6500 0.6190 0.5909 0.5652 0.5200	0.7 0.7778 0.7368 0.7000 0.6667 0.6364 0.6087 0.5600	0.75 0.8333 0.7895 0.7500 0.7143 0.6818 0.6522 0.6000	0.8 0.8889 0.8421 0.8000 0.7619 0.7273 0.6957 0.6400	0.85 0.9444 0.8947 0.8500 0.8095 0.7727 0.7391 0.6800	1.0000 0.9474 0.9000 0.8571 0.8182 0.7826 0.7200	0.95 1.0556 1.0000 0.9500 0.9048 0.8636 0.8261 0.7600
r 0.09 0.195 0.1 0.105 0.11 0.115 0.125 0.13	1.1111 1.0526 1 0.9524 0.9091 0.8696 0.8000 0.7692	0.1 0.65 0.7222 0.6842 0.6500 0.6190 0.5909 0.5652 0.5200 0.5000	0.7 0.7778 0.7368 0.7000 0.6667 0.6364 0.6087 0.5600 0.5385	0.75 0.8333 0.7895 0.7500 0.7143 0.6818 0.6522 0.6000 0.5769	0.8 0.8889 0.8421 0.8000 0.7619 0.7273 0.6957 0.6400 0.6154	0.85 0.9444 0.8947 0.8500 0.8095 0.7727 0.7391 0.6800 0.6538	1.0000 0.9474 0.9000 0.8571 0.8182 0.7826 0.7200 0.6923	0.95 1.0556 1.0000 0.9500 0.9048 0.8636 0.8261 0.7600 0.7308
r 0.09 0.095 0.1 0.105 0.11 0.125 0.13 0.135	1.1111 1.0526 1 0.9524 0.9091 0.8696 0.8000 0.7692 0.7407	0.1 0.65 0.7222 0.6842 0.6500 0.5909 0.5652 0.5200 0.5000 0.4815	0.7 0.7778 0.7368 0.7000 0.6667 0.6364 0.6087 0.5600	0.75 0.8333 0.7895 0.7500 0.7143 0.6818 0.6522 0.6000	0.8 0.8889 0.8421 0.8000 0.7619 0.7273 0.6957 0.6400	0.85 0.9444 0.8947 0.8500 0.8095 0.7727 0.7391 0.6800	1.0000 0.9474 0.9000 0.8571 0.8182 0.7826 0.7200	0.95 1.0556 1.0000 0.9500 0.9048 0.8636 0.8261 0.7600
r 0.09 0.095 0.1 0.105 0.11 0.125 0.13 0.135	1.1111 1.0526 1 0.9524 0.9091 0.8696 0.8000 0.7692	0.1 0.65 0.7222 0.6842 0.6500 0.5909 0.5652 0.5200 0.5000 0.4815	0.7 0.7778 0.7368 0.7000 0.6667 0.6364 0.6087 0.5600 0.5385	0.75 0.8333 0.7895 0.7500 0.7143 0.6818 0.6522 0.6000 0.5769	0.8 0.8889 0.8421 0.8000 0.7619 0.7273 0.6957 0.6400 0.6154	0.85 0.9444 0.8947 0.8500 0.8095 0.7727 0.7391 0.6800 0.6538	1.0000 0.9474 0.9000 0.8571 0.8182 0.7826 0.7200 0.6923	0.95 1.0556 1.0000 0.9500 0.9048 0.8636 0.8261 0.7600 0.7308
r 0.09 0.095 0.1 0.105 0.11 0.125 0.13 0.135	1.1111 1.0526 1 0.9524 0.9091 0.8696 0.8000 0.7692 0.7407	0.1 0.65 0.7222 0.6500 0.6190 0.5909 0.5652 0.5200 0.5000 0.4815 <i>r</i> . <i>ρ</i>	0.7 0.7778 0.7368 0.7000 0.66667 0.6364 0.6087 0.5600 0.5385 0.5185	0.75 0.8333 0.7895 0.7500 0.7143 0.6818 0.6522 0.6000 0.5769 0.5556	0.8 0.8889 0.8421 0.8000 0.7619 0.7273 0.6957 0.6400 0.6154 0.5926	0.85 0.9444 0.8947 0.8500 0.8095 0.7727 0.7391 0.6800 0.6538 0.6296	1.0000 0.9474 0.9000 0.8571 0.8182 0.7826 0.7200 0.6923	0.95 1.0556 1.0000 0.9500 0.9048 0.8636 0.8261 0.7600 0.7308
r 0.09 0.095 0.1 0.105 0.11 0.125 0.13 0.135	1.1111 1.0526 1 0.9524 0.9091 0.8696 0.8000 0.7692 0.7407 e z axis: for ρ/	0.1 0.65 0.7222 0.6842 0.6500 0.5000 0.5652 0.5200 0.5000 0.4815 <i>r</i> . <i>ρ</i> 0.1	0.7 0.7778 0.7368 0.7000 0.6667 0.6364 0.6087 0.5600 0.5385 0.5185	$\begin{array}{c} 0.75\\ 0.8333\\ 0.7895\\ 0.7500\\ 0.7143\\ 0.6818\\ 0.6522\\ 0.6000\\ 0.5769\\ 0.5556\end{array}$	0.8 0.8889 0.8421 0.8000 0.7619 0.7273 0.6957 0.6400 0.6154 0.5926 where p/r=C.	0.85 0.9444 0.8947 0.8500 0.8095 0.7727 0.7391 0.6800 0.6538 0.6296	1.0000 0.9474 0.9000 0.8571 0.8182 0.7826 0.7200 0.6923 0.6667	0.95 1.0556 1.0000 0.9500 0.9048 0.8636 0.8261 0.7600 0.7308 0.7037 1-α
r 0.09 0.095 0.1 0.105 0.115 0.125 0.13 0.135 Th Case 4 r	$\begin{array}{c} 1.1111\\ 1.0526\\ \hline \\ 1\\ 0.9524\\ 0.9091\\ \hline 0.8696\\ \hline 0.8696\\ \hline 0.7692\\ \hline 0.7407\\ e \ z \ axis: \ for \ \rho/r\\ \hline \end{array}$	0.1 0.65 0.7222 0.6842 0.6500 0.5909 0.5652 0.5200 0.5000 0.4815 γ. <i>ρ</i> 0.1 0.65	0.7 0.7778 0.7368 0.7000 0.6667 0.6364 0.6087 0.5600 0.5385 0.5185 0.5185	$\begin{array}{c} 0.75\\ 0.8333\\ 0.7895\\ 0.7500\\ 0.7143\\ 0.6818\\ 0.6522\\ 0.6000\\ 0.5756\\ 0.5556\\ \hline \end{array}$	0.8 0.8889 0.8421 0.8000 0.7619 0.7273 0.6957 0.6400 0.6154 0.5926 where p/r=C 0.8	0.85 0.9444 0.8947 0.8500 0.8095 0.7727 0.7391 0.6800 0.6538 0.6296	1.0000 0.9474 0.9000 0.8571 0.8182 0.7826 0.7200 0.6923 0.6667	$\begin{array}{c} 0.95\\ 0.95\\ 1.0556\\ \hline 1.0000\\ 0.9500\\ 0.9048\\ 0.8636\\ 0.8261\\ 0.7600\\ 0.7308\\ 0.7037\\ \hline 0.7037\\ \hline 1-\alpha\\ 0.95\\ \hline \end{array}$
r 0.09 0.095 0.1 0.105 0.11 0.115 0.125 0.13 0.135 Th Case 4 r 0.07	$\begin{array}{c} 1.1111\\ 1.0526\\ 1\\ 0.9524\\ 0.9091\\ 0.8696\\ 0.8000\\ 0.7692\\ 0.7407\\ e \ z \ axis: \ for \ \rho/r\\ 1.4286 \end{array}$	0.1 0.65 0.7222 0.6842 0.6500 0.5909 0.5652 0.5200 0.4815 r. <i>ρ</i> 0.1 0.65 0.9286	0.7 0.7778 0.7368 0.7000 0.6667 0.6364 0.6087 0.5600 0.5385 0.5185 	$= \frac{0.75}{0.833}$ 0.7895 0.7500 0.7143 0.6818 0.6522 0.6000 0.5769 0.5556 $= (\rho/r)(1-\alpha),$ 0.75 1.0714	0.8 0.8889 0.8421 0.8000 0.7619 0.7273 0.6957 0.6400 0.6154 0.5926 where ρ/r=C 0.8 1.1429	0.85 0.9444 0.8947 0.8500 0.8095 0.7727 0.7391 0.6800 0.6538 0.6296	1.0000 0.9474 0.9000 0.8571 0.8182 0.7826 0.7200 0.6923 0.6667 0.9 1.2857	$\begin{array}{c} 0.95\\ 1.0556\\ 1.0000\\ 0.9500\\ 0.9500\\ 0.9500\\ 0.9048\\ 0.8636\\ 0.8261\\ 0.7600\\ 0.7308\\ 0.7308\\ 0.7037\\ \hline 0.7037\\ \hline 0.7037\\ \hline 1-\alpha\\ 0.95\\ 1.3571\\ \end{array}$
r 0.09 0.095 0.1 0.105 0.11 0.115 0.125 0.13 0.135 Th Case 4 r 0.07 0.075	1.1111 1.0526 1 0.9524 0.9091 0.8696 0.8000 0.7692 0.7407 c z axis: for ρ/ <i>p/r</i> 1.4286 1.3333	0.1 0.65 0.7222 0.6842 0.6500 0.6190 0.5909 0.5652 0.5200 0.5000 0.4815 <i>r</i> . 0.1 0.65 0.9286 0.9286	0.7 0.7778 0.7368 0.7000 0.6667 0.6364 0.6087 0.5600 0.5385 0.5185 <i>c</i> : 0.7 1.0000 0.9333	$= \frac{0.75}{0.8333}$ 0.7895 0.7500 0.7143 0.6818 0.6522 0.6000 0.5769 0.5556 $= (\rho/r)(1-\alpha),$ 0.75 1.0714 1.0000	0.8 0.8889 0.8421 0.8000 0.7619 0.7273 0.6957 0.6400 0.6154 0.5926 where ρ/r=C 0.8 1.1429 1.0667	0.85 0.9444 0.8947 0.8500 0.8095 0.7727 0.7391 0.6800 0.6538 0.6296 ///////////////////////////////////	1.0000 0.9474 0.9000 0.8571 0.8182 0.7200 0.6923 0.6667 0.9 1.2857 1.2000	0.95 1.0556 1.0000 0.9500 0.9048 0.8636 0.8261 0.7600 0.7308 0.7037 1-α 0.955 1.3571 1.2667
r 0.09 0.095 0.1 0.105 0.115 0.125 0.13 0.135 Th Case 4 r 0.07 0.075 0.08	1.1111 1.0526 1 0.9524 0.9091 0.8696 0.8000 0.7692 0.7407 e z axis for pr p/r 1.4286 1.3333 1.2500	0.1 0.65 0.7222 0.6842 0.6500 0.5909 0.5652 0.5200 0.5000 0.4815 <i>ř.</i> <i>P</i> 0.1 0.65 0.9286 0.8667 0.8125	0.7 0.7778 0.7368 0.7000 0.6364 0.6364 0.6087 0.5385 0.5185 0.5185 0.7 1.0000 0.9333 0.8750	$= \frac{0.75}{0.833}$ 0.7895 0.7500 0.7143 0.6818 0.6522 0.6000 0.5769 0.5556 =($\rho/r)(l-\alpha)$, 0.75 1.0714 1.0000 0.9375	0.8 0.8889 0.8421 0.8000 0.7619 0.7273 0.6957 0.6400 0.6154 0.5926 0.8 1.1429 1.0667 1.0000	0.85 0.9444 0.8947 0.8500 0.8095 0.7727 0.7391 0.6800 0.6538 0.6296 ///////////////////////////////////	1.0000 0.9474 0.9000 0.8571 0.8182 0.7826 0.7200 0.6923 0.6667 1.2857 1.2000 1.1250	$\begin{array}{c} 0.95\\ 1.0556\\ 1.0000\\ 0.9500\\ 0.9500\\ 0.9048\\ 0.8636\\ 0.7600\\ 0.7308\\ 0.7037\\ 1.3571\\ 1.2667\\ 1.1875\\ \end{array}$
r 0.09 0.095 0.1 0.105 0.11 0.125 0.13 0.135 Th Case 4 r 0.07 0.075 0.08	1.1111 1.0526 1 0.9524 0.9091 0.8696 0.8000 0.7692 0.7407 e z axis: for ρ/r 1.4286 1.3333 1.2500 1.1765	0.1 0.65 0.7222 0.6842 0.6500 0.5909 0.5652 0.5200 0.5000 0.4815 r. - - - - - - - - - - - - - - - - - -	0.7 0.7778 0.7368 0.7000 0.6667 0.6667 0.5600 0.5385 0.5185 0.5185 0.5185 0.5185 0.5185 0.5185 0.5285	$= \frac{0.75}{0.833}$ 0.7895 0.7500 0.7143 0.6818 0.6522 0.6000 0.5769 0.5556 $= (\rho/r)(l - \alpha),$ 0.75 1.0714 1.0000 0.9375 0.8824	0.8 0.8889 0.8421 0.8000 0.7619 0.7273 0.6957 0.6400 0.6154 0.5926 0.8 1.1429 1.0667 1.0000 0.9412	0.85 0.9444 0.8947 0.8500 0.7095 0.7727 0.6800 0.6538 0.6296 W. 0.85 1.2143 1.1333 1.0625	1.0000 0.9474 0.9000 0.8571 0.8182 0.7826 0.7200 0.6923 0.6667 1.2857 1.2000 1.1250 1.0588	0.95 1.0556 1.0000 0.9500 0.9004 0.8261 0.7600 0.7308 0.7037 1.3571 1.2667 1.1375 1.1176
r 0.09 0.095 0.1 0.105 0.11 0.115 0.125 0.13 0.135 Th Case 4 r 0.07 0.075 0.085 0.09	1.1111 1.0526 1 0.9524 0.9091 0.8696 0.8696 0.7692 0.7407 0.7407 p/r 1.4286 1.3333 1.2500 1.1765 1.1111	0.1 0.65 0.7222 0.6842 0.6500 0.6190 0.5909 0.5652 0.5200 0.5000 0.4815 <i>r</i> . <i>P</i> 0.1 0.65 0.9286 0.8667 0.8125 0.7647 0.7222	0.7 0.7778 0.7368 0.7368 0.7000 0.6364 0.6364 0.6385 0.5185 0.5185 0.5185 0.7 1.0000 0.9333 0.8750 0.8235 0.7778	$\begin{array}{c} 0.75\\ 0.833\\ 0.7895\\ 0.7500\\ 0.7143\\ 0.6818\\ 0.6522\\ 0.6000\\ 0.5769\\ 0.5556\\ \hline\\ =(\rho/r)(l-\alpha),\\ 0.75\\ 1.0714\\ 1.0000\\ 0.9375\\ 0.8824\\ 0.8333\\ \hline\end{array}$	0.8 0.8889 0.8421 0.8000 0.7619 0.7273 0.6957 0.6400 0.6154 0.5926 where p/r=C 0.8 1.1429 1.0667 1.0000 0.9412 0.8889	0.85 0.9444 0.8947 0.8500 0.7727 0.7391 0.6800 0.6538 0.6296 W. W. W. 0.85 1.2143 1.1333 1.0625 1.0000 0.9444	1.0000 0.9474 0.9000 0.8571 0.8182 0.7200 0.6923 0.6667 1.2857 1.2000 1.1250 1.0588 1.0000	$\begin{array}{c} 0.95\\ 1.0556\\ 1.0000\\ 0.9500\\ 0.9500\\ 0.8636\\ 0.8261\\ 0.7600\\ 0.7303\\ 0.7037\\ 1.2667\\ 1.1875\\ 1.12667\\ 1.1875\\ 1.1556\end{array}$
r 0.09 0.095 0.1 0.105 0.11 0.115 0.125 0.13 0.135 Th Case 4 r 0.075 0.085 0.09 0.095	1.1111 1.0526 1 0.9524 0.9091 0.8696 0.8000 0.7692 0.7407 e z axis: for ρ/r 1.4286 1.3333 1.2500 1.1765	0.1 0.65 0.7222 0.6842 0.6500 0.6500 0.5909 0.5652 0.5200 0.4815 r. <i>ρ</i> 0.1 0.65 0.9286 0.8667 0.8125 0.7647 0.71222 0.6842	0.7 0.7778 0.7368 0.7368 0.7000 0.6364 0.6087 0.5600 0.5385 0.5185 0.5185 0.77 1.0000 0.9333 0.8750 0.8235 0.7778 0.7368	$= \frac{0.75}{0.833}$ 0.7895 0.7500 0.7143 0.6818 0.6522 0.6000 0.5769 0.5556 = (p/r)(1- \alpha), 0.75 1.0714 1.0000 0.9375 0.8824 0.8333 0.7895	0.8 0.8889 0.8421 0.8000 0.7619 0.7273 0.6957 0.6400 0.6154 0.5926 0.8 1.1429 1.0667 1.0667 1.0000 0.9412 0.8889 0.8421	0.85 0.9444 0.8947 0.8500 0.7727 0.730 0.7727 0.6800 0.6538 0.6538 0.6538 0.6256 W. W. 0.85 1.2143 1.1333 1.0625 1.0000 0.9444	1.0000 0.9474 0.9000 0.8571 0.8182 0.7826 0.7200 0.6923 0.6667 1.2507 1.2000 1.1250 1.0588 1.0000 0.9474	$\begin{array}{c} 0.95\\ 1.0556\\ 1.0000\\ 0.9500\\ 0.9500\\ 0.9048\\ 0.8261\\ 0.7600\\ 0.7308\\ 0.7037\\ 0.7037\\ 1.3571\\ 1.3571\\ 1.2667\\ 1.1875\\ 1.1176\\ 1.0556\\ 1.0006\end{array}$
r 0.09 0.095 0.1 0.105 0.115 0.125 0.13 0.135 Th Case 4 r 0.07 0.075 0.08 0.085 0.09 0.095 0.1	1.1111 1.0526 1 0.9524 0.9091 0.8696 0.8000 0.7692 0.7407 e z axis: for pp p/r 1.4286 1.3333 1.2500 1.1765 1.1111 1.0526 1.1111 1.0526 1.1526 1.1111 1.1526 1.52666 1.5	0.1 0.65 0.7222 0.6842 0.6500 0.5909 0.5652 0.5200 0.5000 0.4815 r. \$\rho\$ 0.65 0.9286 0.8667 0.8125 0.7647 0.7222 0.6842 0.6550	0.7 0.7778 0.7368 0.7368 0.7000 0.6364 0.6087 0.5600 0.5385 0.5185 0.5185 0.5185 0.7185 0.9333 0.8750 0.8235 0.7778 0.7368 0.7368 0.7000	$= \frac{0.75}{0.833}$ $= \frac{0.750}{0.7500}$ $= \frac{0.7143}{0.6818}$ $= \frac{0.6522}{0.6000}$ $= \frac{0.5769}{0.5556}$ $= \frac{0.750}{0.751}$ $= \frac{0.751}{0.8824}$ $= \frac{0.8333}{0.7895}$ $= \frac{0.750}{0.750}$	0.8 0.8889 0.8421 0.8000 0.7619 0.7273 0.6957 0.6400 0.6154 0.5926 0.8 1.1429 1.0667 1.0000 0.9412 0.8889 0.8421 0.8000	0.85 0.9444 0.8947 0.8500 0.7727 0.7391 0.6800 0.6538 0.6296 W. 0.85 1.2143 1.1333 1.0625 1.0000 0.9444 0.8947 0.8500	1.0000 0.9474 0.9000 0.8571 0.8182 0.7826 0.7200 0.6923 0.6667 1.2857 1.2000 1.1250 1.1250 1.0588 1.0000 0.9474	$\begin{array}{c} 0.95\\ 1.0556\\ 1.0000\\ 0.9500\\ 0.9004\\ 0.8261\\ 0.7600\\ 0.7308\\ 0.7037\\ 1.3571\\ 1.2667\\ 1.3571\\ 1.1176\\ 1.0556\\ 1.0000\\ 0.9500\\ \end{array}$
r 0.09 0.095 0.1 0.105 0.11 0.115 0.125 0.13 0.135 Th Case 4 r 0.07 0.075 0.085 0.085 0.09 0.095 0.105	1.1111 1.0526 1 0.9524 0.9091 0.8696 0.7692 0.7407 0.7407 0.7407 0.7407 1.4286 1.3333 1.2500 1.1765 1.1111 1.0526 1 0.9524	0.1 0.65 0.7222 0.6842 0.6500 0.5909 0.5652 0.5200 0.5000 0.4815 <i>γ</i> . <i>ρ</i> 0.1 0.65 0.9286 0.8667 0.8125 0.7647 0.7222 0.6842 0.6500 0.6500	0.7 0.7778 0.7368 0.7368 0.7000 0.6364 0.6364 0.6364 0.5385 0.5185 0.5185 0.5185 0.717 1.0000 0.9333 0.8750 0.8235 0.7778 0.7368 0.7368 0.7708	$\begin{array}{c} 0.75\\ 0.833\\ 0.7895\\ 0.7500\\ 0.7143\\ 0.6818\\ 0.6522\\ 0.6000\\ 0.5769\\ 0.5556\\ \hline\\ e(\rho/r)(l-\alpha),\\ 0.75\\ 1.0714\\ 1.0000\\ 0.9375\\ 0.8824\\ 0.8333\\ 0.7895\\ 0.7500\\ 0.7143\\ \hline\end{array}$	0.8 0.8889 0.8421 0.8000 0.7619 0.7273 0.6957 0.6400 0.6154 0.5926 where p/r=C 0.8 1.1429 1.0667 1.0000 0.9412 0.8889 0.8421 0.8000 0.7619	0.85 0.9444 0.8947 0.8500 0.7727 0.7391 0.6800 0.6538 0.6296 W. W. W. W. 0.85 1.2143 1.2143 1.1333 1.0625 1.0000 0.9444 0.8947 0.8505 0.6805	1.0000 0.9474 0.9000 0.8571 0.8182 0.7826 0.7200 0.6923 0.6667 1.2857 1.2000 1.1250 1.1250 1.0588 1.0000 0.9474 0.9000 0.8571	$\begin{array}{c} 0.95\\ 1.0556\\ 1.0000\\ 0.9500\\ 0.9500\\ 0.8636\\ 0.8261\\ 0.7600\\ 0.7007\\ 0.7037\\ 0.7037\\ 1.2667\\ 1.1875\\ 1.12667\\ 1.1875\\ 1.1556\\ 1.0556\\ $
r 0.09 0.095 0.1 0.105 0.11 0.125 0.13 0.135 Th Case 4 r 0.075 0.085 0.075 0.085 0.09 0.095 0.1 0.105 0.11	1.1111 1.0526 1 0.9524 0.9091 0.8696 0.8000 0.7692 0.7407 e z axis: for pp p/r 1.4286 1.3333 1.2500 1.1765 1.1111 1.0526 1.1111 1.0526 1.1526 1.1111 1.1526 1.52666 1.5	0.1 0.65 0.7222 0.6842 0.6500 0.6190 0.5909 0.5652 0.5200 0.5200 0.5200 0.4815 r. 0.1 0.65 0.9286 0.8667 0.8125 0.7647 0.7222 0.6842 0.6500 0.6190 0.5190	0.7 0.7778 0.7368 0.7368 0.7000 0.6364 0.6087 0.5600 0.5385 0.5185 0.5185 0.5185 0.7185 0.9333 0.8750 0.8235 0.7778 0.7368 0.7368 0.7000	$= \frac{0.75}{0.833}$ $= \frac{0.750}{0.7500}$ $= \frac{0.7143}{0.6818}$ $= \frac{0.6522}{0.6000}$ $= \frac{0.5769}{0.5556}$ $= \frac{0.750}{0.751}$ $= \frac{0.751}{0.8824}$ $= \frac{0.8333}{0.7895}$ $= \frac{0.750}{0.750}$	0.8 0.8889 0.8421 0.8000 0.7619 0.7273 0.6957 0.6400 0.6154 0.5926 0.8 1.1429 1.0667 1.0000 0.9412 0.8889 0.8421 0.8000	0.85 0.9444 0.8947 0.8500 0.7727 0.7391 0.6800 0.6538 0.6296 W. 0.85 1.2143 1.1333 1.0625 1.0000 0.9444 0.8947 0.8500	1.0000 0.9474 0.9000 0.8571 0.8182 0.7826 0.7200 0.6923 0.6667 1.2857 1.2000 1.1250 1.1250 1.0588 1.0000 0.9474	$\begin{array}{c} 0.95\\ 1.0556\\ 1.0000\\ 0.9500\\ 0.9004\\ 0.8261\\ 0.7600\\ 0.7308\\ 0.7037\\ 1.3571\\ 1.2667\\ 1.3571\\ 1.1176\\ 1.0556\\ 1.0000\\ 0.9500\\ \end{array}$

Table 3 The utility function of $c(\rho/r)$ by 1-*alpha*: as a base

Table 5-1. In the area above this line, (rho/r) is below 1.0, where the situation is more saving- oriented under r>rho. The lower the (rho/r) when (rho/r) is farther above from this line. In the area below this line, (rho/r) is above 1.0, where the situation is more consumption-oriented under rho>r. The higher the (rho/r) when (rho/r) is farther below from this

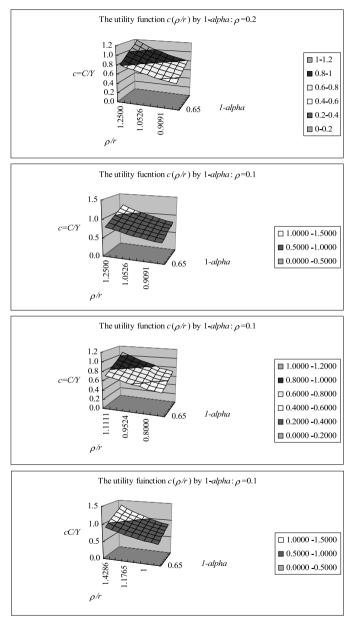


Figure 2 The utility function of $c(\rho/r)$ by 1-*alpha*: for Table 3

	,							
<u> </u>			o is the discount			e rate of rental un	der convergence.	
Case 1		0.2	0.7	$s=1-c=(\rho/r)$		<i>,</i>	0.0	$1-\alpha$
r 0.24	ρ/r	0.65	0.7	0.75	0.8	0.85	-0.1250	0.95
	0.8333		0.1250			-0.0625	-0.1250	
0.23	0.8696	0.2353 0.2778	0.1765 0.2222	0.1176 0.1667	0.0588 0.1111	0.0000	0.0000	-0.1176
0.22	0.9091	0.2778	0.2222	0.1007	0.1111	0.0338	0.0000	0.0000
0.21	0.9524	0.3138	0.2032	0.2103	0.1379	0.1033	0.0326	0.000
0.19	1.0526	0.3810	0.3333	0.2857	0.2381	0.1905	0.1429	0.0952
0.19	1.1111	0.3810	0.3636	0.2837	0.2381	0.1903	0.1429	0.1364
0.18	1.1765	0.4348	0.3913	0.3182	0.2727	0.2273	0.2174	0.1304
0.16	1.2500	0.4583	0.3913	0.3478	0.3043	0.2009	0.2174	0.2083
	ne z axis: for			or n , and the Y			0.2500	0.2085
11	IC Z axis. 101	ρ	1 ne 2x als is is	<i>si n</i> , and the 1	axis is ioi <i>b</i> e	ш.		
Case 2	·	<i>p</i>		$s=1-c=(\rho/r)$	(l, α) where	$\alpha/r = C/W$		$1-\alpha$
r r	ρ/r	0.65	0.7	0.75	0.8	0.85	0.9	0.95
0.12	0.8333	0.1875	0.1250	0.0625	0.0000	-0.0625	-0.1250	-0.1875
0.115	0.8696	0.2353	0.1765	0.1176	0.0588	0.0000	-0.0588	-0.1176
0.11	0.9091	0.2778	0.2222	0.1667	0.1111	0.0556	0.0000	-0.0556
0.105	0.9524	0.3158	0.2632	0.2105	0.1579	0.1053	0.0526	0.0000
0.1	1	0.35	0.3	0.25	0.2	0.15	0.1	0.05
0.095	1.0526	0.3810	0.3333	0.2857	0.2381	0.1905	0.1429	0.0952
0.09	1.1111	0.4091	0.3636	0.3182	0.2727	0.2273	0.1818	0.1364
0.085	1.1765	0.4348	0.3913	0.3478	0.3043	0.2609	0.2174	0.1739
0.08	1.2500	0.4583	0.4167	0.3750	0.3333	0.2917	0.2500	0.2083
Tł	ne z axis: for	: ρ/r.						
		ρ						
Case 3		0.1		$s=1-c=(\rho/r)$	$(1-\alpha)$, where	$\rho/r=C/W$.		1-α
r	ρ/r	0.65	0.7	0.75	0.8	0.85	0.9	0.95
0.099	1.0101	0.7222	0.7778	0.8333	0.8889	0.9444	1.0000	1.0556
0.105	0.9524	0.6842	0.7368	0.7895	0.8421	0.8947	0.9474	1.0000
0.1	1	0.6500	0.7000	0.7500	0.8000	0.8500	0.9000	0.9500
0.095	1.0526	0.6190	0.6667	0.7143	0.7619	0.8095	0.8571	0.9048
0.09	1.1111	0.5909	0.6364	0.6818	0.7273	0.7727	0.8182	0.8636
0.085	1.1765	0.5652	0.6087	0.6522	0.6957	0.7391	0.7826	0.8261
0.08	1.2500	0.5200	0.5600	0.6000	0.6400	0.6800	0.7200	0.7600
0.075	1.3333	0.5000	0.5385	0.5769	0.6154	0.6538	0.6923	0.7308
0.07	1.4286	0.4815	0.5185	0.5556	0.5926	0.6296	0.6667	0.7037
Th	ne z axis: for							
C 4		ρ 0.1			(1	- CIW		1
Case 4	o/r	0.1	0.7	$s=1-c=(\rho/r)$ 0.75	$1-\alpha$), where 0.8	p/r=C/W. 0.85	0.9	$\frac{1-\alpha}{0.95}$
0.13	0.7692	0.05	0.0000	-0.0714	-0.1429	-0.2143	-0.2857	-0.3571
0.13	0.8000	0.1333	0.0667	0.0000	-0.1429	-0.1333	-0.2000	-0.2667
0.123	0.8000	0.1333	0.0667	0.0625	-0.0667	-0.1555	-0.1250	-0.2667
0.12	0.8696	0.2353	0.1250	0.0025	0.0588	0.00023	-0.0588	-0.1176
0.113	0.8090	0.2333	0.1703	0.1170	0.0388	0.0000	0.0000	-0.0556
0.105	0.9524	0.2178	0.2632	0.1007	0.1579	0.1053	0.0526	0.0000
	0.9524							
	1	0.3500	0.3000	0.2500	0.2000			
0.1	1 0526	0.3500	0.3000	0.2500	0.2000	0.1500	0.1000	0.0500
	1 1.0526 1.1111	0.3500 0.3810 0.4091	0.3000 0.3333 0.3636	0.2500 0.2857 0.3182	0.2000 0.2381 0.2727	0.1500 0.1905 0.2273	0.1000	0.0500

Table 4 The rate of saving that is dual to the utility function of $c(\rho/r)$ by 1-alpha

The z axis: for ρ/r .

line. I understand these characteristics are reasonable.

 The lower the golden age, where *s=alpha*, the more consumption-oriented the area is. For example, in the case of *s=alpha=*0.05, the situation is completely consumption-oriented. Then, does this situation show the lowest

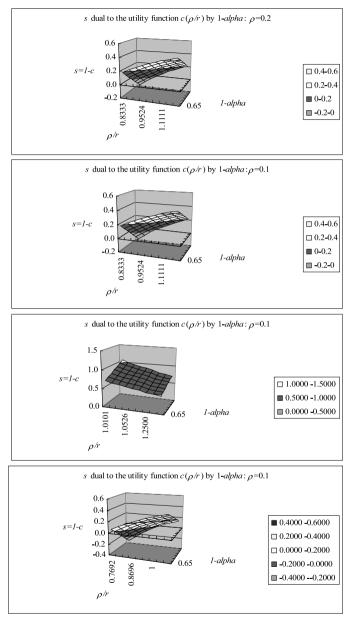


Figure 3 The rate of saving, s, dual to the utility function of $c(\rho/r)$ by 1-alpha: for Table 4

	Ι-α	0.65	0.7	0.75	0.8	0.85	0.9	0.95
	α	0.35	0.3	0.25	0.2	0.15	0.1	0.05
$s = \alpha = 0.35$	s	0.3500	0.3093	0.2686	0.2279	0.1871	0.1464	0.1057
	c=1-s	0.6500	0.6907	0.7314	0.7721	0.8129	0.8536	0.8943
	ρ/r	1.0000	0.9867	0.9752	0.9652	0.9563	0.9484	0.9414
$s = \alpha = 0.30$	s	0.3400	0.3000	0.2600	0.2200	0.1800	0.1400	0.1000
	c	0.6600	0.7000	0.7400	0.7800	0.8200	0.8600	0.9000
	ρ/r	1.0154	1.0000	0.9867	0.9750	0.9647	0.9556	0.9474
$s = \alpha = 0.25$	s	0.3260	0.2880	0.2500	0.2120	0.1740	0.1360	0.0980
	c	0.6740	0.7120	0.7500	0.7880	0.8260	0.8640	0.9020
	ρ/r	1.0370	1.0172	1.0000	0.9850	0.9718	0.9600	0.9495
$s = \alpha = 0.20$	s	0.3126	0.2750	0.2375	0.2000	0.1625	0.1250	0.0875
	с	0.6874	0.7250	0.7625	0.8000	0.8375	0.8750	0.9125
	ρ/r	1.0576	1.0357	1.0166	1.0000	0.9853	0.9722	0.9605
$s = \alpha = 0.15$	s	0.2968	0.2601	0.2234	0.1867	0.1500	0.1134	0.0767
	c	0.7032	0.7399	0.7766	0.8133	0.8500	0.8866	0.9233
	ρ/r	1.0819	1.0570	1.0355	1.0166	1.0000	0.9852	0.9719
$s = \alpha = 0.10$	s	0.2500	0.2200	0.1900	0.1600	0.1300	0.1000	0.0700
	с	0.7500	0.7800	0.8100	0.8400	0.8700	0.9000	0.9300
	ρ/r	1.1538	1.1143	1.0800	1.0500	1.0235	1.0000	0.9789
$s = \alpha = 0.05$	s	0.2001	0.1751	0.1501	0.1251	0.1001	0.0750	0.0500
	с	0.7999	0.8249	0.8499	0.8749	0.8999	0.9250	0.9500
	ρ/r	1.2306	1.1784	1.1332	1.0937	1.0588	1.0277	1.0000

Table 5-1 Table of (rho/r) by the level of golden age, $s=\alpha$, where beta *=1.0 and i/s=1.0

Note: saving maches rental by changing each of s STAT, S SD(D), and S SW(W) by the level of the golden age.

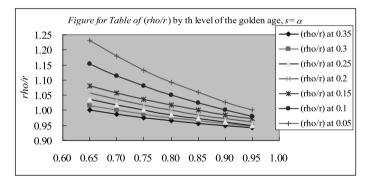


Figure 4 Figure for Table of (rho/r) by the level of the golden age, s=alpha: for Table 5-1

alpha? This differs from the real

 The lower the golden age, where *s=alpha*, the more consumption-oriented the area is. For example, in the case of *s=alpha=*0.05, the situation is completely consumption-oriented. Then, does this situation show the lowest

alpha? This differs from the real

world: does the US show a low *alpha*? No, it does not and we need a suitable interpretation.

If *alpha* is low, the rate of rental is also low and cannot absorb funds from the world assuming a fixed moderate capital-output ratio, $\Omega(0)$: if *alpha*=0.05 and $\Omega(0)=2.5$, then the rate of rental, r(0), will be 0.02, which is no attractive at all in the world money market. Recall the above Eq.20, $\alpha = \beta_{\delta=\alpha}^* \cdot i$ under the golden age, when technological progress is not zero. A modified *alpha* is set $\alpha^* \equiv \alpha / \beta_{\delta=\alpha}^*$. If $\beta_{\delta=\alpha}^*=0.7$ and *alpha*=0.1, then the modified *alpha* is 0.1÷0.7=0.1428. This implies that *alpha* is estimated at a higher value than that in Table 5-1. I will briefly discuss this problem in 3.3 soon below and also in Kamiryo [2005c] in more detail.¹⁰

Finally, I raise two propositions derived from Table 5-1 and Figure 4.

Proposition 1: The value of (rho/r) and the ratio of consumption to output will be hyperbolically higher if the relative share of rental increases.

Proposition 2: The higher the (rho/r), the more consumption-oriented the situation is, if the level of s=alpha at the golden age becomes lower, assuming no technological progress. On the other hand, the level of (rho/r) is more mitigated if the rate of technological progress is higher.

In short, in my endogenous growth model, the golden rule is modified and influenced by the level of *beta*^{*} and thus, the level of *s*=*alpha* will be higher than that with no technological progress. This corresponds with such that technology will induce investment as stressed by Schumpeter.

¹⁰⁾ When *alpha* is estimated at a higher value, usually the capital-labor will be estimated at a higher value. When capital is unknown, if I divide *alpha/(1-alpha)* by the ratio of the rate of rental to the wage rate, *r/w*, the capital-labor ratio, *k*(0), will be estimated: if the rate of rental is lower *r/w* will be lower and thus, the capital-labor ratio and capital will be higher, assuming that *alpha* is fixed. This idea comes from Kamiryo [2004c]. In this respect, *alpha* is indirectly related to capital.

3.3 Empirical results in the Japanese national accounts

This section, using (rho/r), shows estimated wages and rental based on national disposable income as the sum of saving and consumption, using the Japanese national accounts, 1993 to 2002. The results are more vividly shown when the total economy is divided into the government sector and the private sector (compare Tables 6-1 with Tables 6-2 and 6-3, together with Figure 5).

The Japanese economy has changed significantly last one decade in terms of the relationship between saving and *alpha*. This change is expressed by the transition of the ratio of *s* to *alpha*: *s/alpha*. When *s/alpha*=1.0, the situation is under the golden rule/age. The higher the value of *s/alpha* beyond 1.0, the more saving-oriented it is and vice versa. The value of *s/alpha* has declined from 1.25 in 1993 to 0.75 in 2002, slightly influenced by the value of (*rho/r*) as seen in Table 6-1 by case. Japan rapidly turned to consumption-oriented economy during this decade.

For tota	l econor	ny: Japa	anese cas	es							
	_	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Final consumpt	С	334189.1	344000.5	352096.3	362349.8	364961.7	367224.5	368276.1	370896	372136.2	371944.7
	Y=S+C	402296.5	407054.3	411920.9	423474.5	428522.4	396183.8	419292.3	419970.9	411570.5	406983.1
	c=C/Y	0.8307	0.8451	0.8548	0.8557	0.8517	0.9269	0.8783	0.8831	0.9042	0.9139
	s=S/Y	0.1693	0.1549	0.1452	0.1443	0.1483	0.0731	0.1217	0.1169	0.0958	0.0861
L _{EV} =(I-S	CORP)/SCORP	3.1710	2.1915	1.7713	1.1233	1.0937	0.8611	0.7296	0.2663	(0.0884)	(0.3712)
	(S-I)/Y	0.0354	0.0305	0.0230	0.0172	0.0309	(0.0277)	0.0316	0.0295	0.0289	0.0329
Case1	(rho/r)	0.960	0.960	0.960	0.960	0.960	1.020	0.980	0.990	1.015	1.030
as a base	W=C/(p/r)	348113.6	358333.9	366767.0	377447.7	380168.4	360024.0	375791.9	374642.4	366636.7	361111.4
W-W _G +W _{PRI}	1-α=W/Y	0.8653	0.8803	0.8904	0.8913	0.8872	0.9087	0.8963	0.8921	0.8908	0.8873
361111.4	alpha	0.1347	0.1197	0.1096	0.1087	0.1128	0.0913	0.1037	0.1079	0.1092	0.1127
361111.4	s/alpha	1.2570	1.2942	1.3249	1.3280	1.3145	0.8009	1.1728	1.0827	0.8776	0,7638
	Rental	54182.9	48720.4	45153.9	46026.8	48354.0	36159.8	43500.4	45328.5	44933.8	45871.7
Case 2	(rho/r)	0.960	0.960	0.964	0.964	0.964	0.984	0.975	0.975	0.979	0.984
	W=C/(p/r)	348113.6	358333.9	365416.5	376068.2	378745.5	373142.1	377827.1	380498.5	379964.5	377994.4
W=WG+WPRI	1-α=W/Y	0.8653	0.8803	0.8871	0.8881	0.8838	0.9418	0.9011	0.9060	0.9232	0.9288
377994.4	alpha	0.1347	0.1197	0.1129	0.1119	0.1162	0.0582	0.0989	0.0940	0.0768	0.0712
361111.4	s/alpha	1.2570	1.2942	1.2864	1.2894	1.2769	1.2568	1.2303	1.2433	1.2477	1.2087
,	Rental	54183	48720	46504	47406	49777	23042	41465	39472	31606	28989
Case 3	(rho/r)	0.960	0.960	0.960	0.960	0.960	1.012	1.025	1.014	1.014	1.020
	$W=C/(\rho/r)$	348113.6	358333.9	366767.0	377447.7	380168.4	362960.8	359352.1	365889.1	367160.0	364691.2
$W=W_G+W_{PR1}$	1-α=W/Y	0.8653	0.8803	0.8904	0.8913	0.8872	0.9161	0.8570	0.8712	0.8921	0.8961
364691.2	alpha	0.1347	0.1197	0.1096	0.1087	0.1128	0.0839	0.1430	0.1288	0.1079	0.1039
361111.4	s/alpha	1.2570	1.2942	1.3249	1.3280	1.3145	0.8717	0.8511	0.9074	0.8880	0.8285
	Rental	54183	48720	45154	46027	48354	33223	59940	54082	44410	42292
Case 4	(rho/r)	0.943	0.943	0.943	0.943	0.943	1.014	1.018	1.027	1.036	1.045
	$W=C/(\rho/r)$	354531.1	364937.3	373504.1	384389.2	387133.5	362317.7	361768.5	361170.1	359279.9	356066.9
$W=W_G+W_{PR1}$	1-α=W/Y	0.8813	0.8965	0.9067	0.9077	0.9034	0.9145	0.8628	0.8600	0.8729	0.8749
356066.9	alpha	0.1187	0.1035	0.0933	0.0923	0.0966	0.0855	0.1372	0.1400	0.1271	0.1251
361111.4	s/alpha	1.4259	1.4971	1.5573	1.5639	1.5357	0.8551	0.8869	0.8346	0.7541	0.6882
	Rental	47765	42117	38417	39085	41389	33866	57524	58801	52291	50916
Case 5	(rho/r)	0.962	0.963	0.964	0.964	0.964	1.021	1.007	1.012	1.017	1.022
www.w	W=C/(ρ/r) 1-α=W/Y	347474.5	357354.6	365255.2	375740.4	378407.4	359689.0 0.9079	365565.0	366512.9	365915.6	363925.6
W=WG+WPRI		0.8637	0.8779	0.8867	0.8873	0.8831		0.8719	0.8727	0.8891	0.8942
363925.6	alpha	0.1363	0.1221	0.1133	0.1127	0.1169	0.0921	0.1281	0.1273	0.1109	0.1058
361111.4	s/alpha	1.2423	1.2687	1.2820	1.2805	1.2683	0.7935	0.9495	0.9180	0.8637	0.8138
-	Rental	54822	49700	46666	47734	50115	36495	53727	53458	45655	43058

Table 6-1 Measurement of wages using the utility function: Cases of Japan (Open S-I Approach)

Table 6-2 Measurement of wages using the utility function: Cases of Japan (Open S-I Approach)

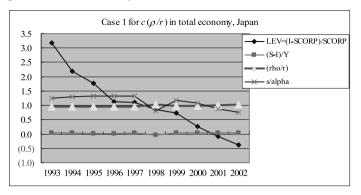
The government sector

The s	overmittin	sector									
		1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Excl.pens	ion C _G	30066.2	31023.3	32411.6	33108.1	34150.7	35197.9	36389.4	36974.3	37872.2	38511
	Y _G =S _G +C _G	39261.1	32428.9	31462.9	31803.2	33457.8	24592.4	19009.1	21221.1	17956	10019.5
	$c_G = C_G / Y_G$	0.7658	0.9567	1.0302	1.0410	1.0207	1.4313	1.9143	1.7423	2.1092	3.8436
	$s_G = S_G / Y_G$	0.2342	0.0433	(0.0302)	(0.0410)	(0.0207)	(0.4313)	(0.9143)	(0.7423)	(1.1092)	(2.8436)
LE	$V(G) = (I_G - S_G)/S_G$	0.4479	2.1296	3.4040	4.0836	3.8715	(4.2401)	(2.3008)	(2.1746)	(1.7172)	(1.3804)
	(S _G -I _G)/Y _G	(0.3399)	(0.6167)	(0.7517)	(0.6986)	(0.5698)	(1.1815)	(1.8078)	(1.3877)	(1.7586)	(3.8042)
Case1	(rho/r)	0.960	0.960	0.960	0.960	0.960	1.020	0.980	0.990	1.015	1.030
	$W_G = C_G / (\rho/r)$	31319.0	32315.9	33762.1	34487.6	35573.6	34507.7	37132.0	37347.8	37312.5	37389.3
	W_G/Y_G	0.7977	0.9965	1.0731	1.0844	1.0632	1.4032	1.9534	1.7599	2.0780	3.7317
	alpha _G	0.2023	0.0035	(0.0731)	(0.0844)	(0.0632)	(0.4032)	(0.9534)	(0.7599)	(1.0780)	(2.7317)
	s _G /alpha _G	1.1577	12.4431	0.4126	0.4861	0.3275	1.0696	0.9590	0.9768	1.0289	1.0410
	Rental	7942	113	(2299)	(2684)	(2116)	(9915)	(18123)	(16127)	(19357)	(27370)
Case 2	(rho/r)	0.960	0.960	1.000	1.000	1.000	1.025	1.020	1.020	1.020	1.020
-	$W_G = C_G / (\rho/r)$	31319.0	32315.9	32411.6	33108.1	34150.7	34339.4	35675.9	36249.3	37129.6	37755.9
W=W _G +W ₁		0.7977	0.9965	1.0302	1.0410	1.0207	1.3963	1.8768	1.7082	2.0678	3.7682
377994		0.2023	0.0035	(0.0302)	(0.0410)	(0.0207)	(0.3963)	(0.8768)	(0.7082)	(1.0678)	(2.7682)
361111.	.4 s _G /alpha _G	1.1577	12.4431	1.0000	1.0000	1.0000	1.0881	1.0428	1.0482	1.0387	1.0272
	Rental	7942	113	(949)	(1305)	(693)	(9747)	(16667)	(15028)	(19174)	(27736)
Case 3	(rho/r)	0.960	0.960	0.960	0.960	0.960	0.940	0.980	0.960	0.960	0.940
	$W_G = C_G/(\rho/r)$	31319.0	32315.9	33762.1	34487.6	35573.6	37444.6	37132.0	38514.9	39450.2	40969.1
W=W _G +W		0.7977	0.9965	1.0731	1.0844	1.0632	1.5226	1.9534	1.8149	2.1970	4.0889
364691		0.2023	0.0035	(0.0731)	(0.0844)	(0.0632)	(0.5226)	(0.9534)	(0.8149)	(1.1970)	(3.0889)
361111.		1.1577	12.4431	0.4126	0.4861	0.3275	0.8252	0.9590	0.9109	0.9266	0.9206
maximun		7942	113	(2299)	(2684)	(2116)	(12852)	(18123)	(17294)	(21494)	(30950)
Case 4	(rho/r)	0.970	0.970	0.970	0.970	0.970	1.000	1.000	1.000	1.000	1.000
	$W_G = C_G / (\rho/r)$	30996.1	31982.8	33414.0	34132.1	35206.9	35197.9	36389.4	36974.3	37872.2	38511.0
W=W _G +W		0.7895	0.9862	1.0620	1.0732	1.0523	1.4313	1.9143	1.7423	2.1092	3.8436
356066		0.2105	0.0138	(0.0620)	(0.0732)	(0.0523)	(0.4313)	(0.9143)	(0.7423)	(1.1092)	(2.8436)
361111		1.1125	3.1507	0.4862	0.5603	0.3961	1.0000	1.0000	1.0000	1.0000	1.0000
C	Rental	8265	446	(1951)	(2329)	(1749)	(10606)	(17380)	(15753)	(19916)	(28492)
Case 5	(rho/r) W _G =C _G /(p/r)	0.980 30679.8	0.990 31336.7	1.005 32250.3	1.010 32780.3	1.010 33812.6	1.030 34172.7	1.030 35329.5	1.030 35897.4	1.035 36591.5	1.040 37029.8
W=W _G +W		30679.8 0.7814	0.9663	32250.3	32/80.3	33812.6	341/2.7	35329.5 1.8586	35897.4	2.0378	37029.8 3.6958
363925		0.2186	0.0337	(0.0250)	(0.0307)	(0.0106)	(0.3896)	(0.8586)	(0.6916)	(1.0378)	(2.6958)
361111. minimum		1.0715 8581	1.2869 1092	1.2048	1.3355 (977)	1.9531 (355)	1.1070 (9580)	1.0649 (16320)	1.0734 (14676)	1.0687 (18635)	1.0548
minimun	i(-) Rental	8581	1092	(787)	(977)	(355)	(9580)	(10320)	(14676)	(18035)	(27010)

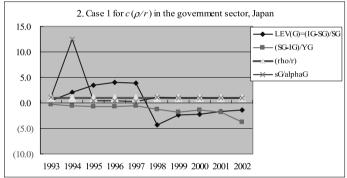
Table 6-3 Measurement of wages using the utility function: Cases of Japan (Open S-I Approach)

The private sector

•	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Incl.pension C _{PRI}	304122.9	312977.2	319684.7	329241.7	330811	332026.6	331886.7	333921.7	334264	333433.7
Y _{PRI} =S _{PRI} +C _{PRI}		374625.4	380458	391671.3	395064.6	371591.4	400283.2	398749.8	393614.5	396963.6
c _{PRI} =C _{PRI} /Y _{PRI}		0.8354	0.8403	0.8406	0.8374	0.8935	0.8291	0.8374	0.8492	0.8400
s _{PRI} =S _{PRI} /Y _{PRI}	0.1623	0.1646	0.1597	0.1594	0.1626	0.1065	0.1709	0.1626	0.1508	0.1600
L _{IV(PRD} =(I _{PRF} S _{CORP})/S _{CORP}	1.4264	0.8421	0.5216	0.2985	0.3294	0.0012	(0.0481)	(0.2065)	(0.4747)	(0.6507)
(S _{PRI} -I _{PRI})/Y _{PRI}	0.0759	0.0866	0.0871	0.0753	0.0818	0.0487	0.1189	0.1049	0.1105	0.1297
Case1 (rho/r)		0.960	0.960	0.960	0.960	1.020	0.980	0.990	1.015	1.030
W _{PRI} =C _{PRI} /(p/r)		326017.9	333004.9	342960.1	344594.8	325516.3	338659.9	337294.6	329324.1	323722.0
W _{PRI} /Y _{PRI}	0.8726	0.8703	0.8753	0.8756	0.8722	0.8760	0.8461	0.8459	0.8367	0.8155
alpha _{PRI}	0.1274	0.1297	0.1247	0.1244	0.1278	0.1240	0.1539	0.1541	0.1633	0.1845
s _{PRI} /alpha _{PR} Rental		1.2683 48607	1.2807 47453	1.2816 48711	1.2731 50470	0.8587 46075	1.1099 61623	1.0549 61455	0.9232 64290	0.8674
Case 2 (rho/r)		48607	4/453	48711	50470 0.960	46075	0.970	0.970	64290 0.975	73242
W _{PRI} =C _{PRI} /(p/r)		326017.9	333004.9	342960.1	344594.8	338802.7	342151.2	344249.2	342834.9	340238.5
W pri Cpri (p/1) Wpri Ypri	0.8726	0.8703	0.8753	0.8756	0.8722	0.9118	0.8548	0.8633	0.8710	0.8571
alpha _{PRI} alpha _{PRI}	0.8726	0.8703	0.8755	0.8756	0.8722	0.9118	0.8548	0.8633	0.8710	0.8571
spay/alphapa		1.2683	1.2807	1.2816	1.2731	1.2067	1.1766	1.1895	1.1688	0.1429
Rental		48607	47453	48711	50470	32789	58132	54501	50780	56725
Case 3 (rho/r)		0.960	0.960	0.960	0.960	1.020	1.030	1.020	1.020	1.030
W _{PRI} =C _{PRI} /(p/r)		326017.9	333004.9	342960.1	344594.8	325516.3	322220.1	327374.2	327709.8	323722.0
W _{PRI} /Y _{PRI}	0.8726	0.8703	0.8753	0.8756	0.8722	0.8760	0.8050	0.8210	0.8326	0.8155
alpha _{PRI}	0.1274	0.1297	0.1247	0.1244	0.1278	0.1240	0.1950	0.1790	0.1674	0.1845
spR/alphapR		1.2683	1.2807	1.2816	1.2731	0.8587	0.8762	0.9083	0,9006	0.8674
Rental		48607	47453	48711	50470	46075	78063	71376	65905	73242
Case 4 (rho/r)	0.940	0.940	0.940	0.940	0.940	1.015	1.020	1.030	1.040	1.050
$W_{PRI}=C_{PRI}/(\rho/r)$	323535.0	332954.5	340090.1	350257.1	351926.6	327119.8	325379.1	324195.8	321407.7	317555.9
W _{PRF} /Y _{PRI}	0.8912	0.8888	0.8939	0.8943	0.8908	0.8803	0.8129	0.8130	0.8166	0.8000
alpha _{PRI}	0.1088	0.1112	0.1061	0.1057	0.1092	0.1197	0.1871	0.1870	0.1834	0.2000
s _{PRF} /alpha _{PR}	1.4914	1.4794	1.5055	1.5074	1.4895	0.8897	0.9131	0.8695	0.8220	0.8000
Rental		41671	40368	41414	43138	44472	74904	74554	72207	79408
Case 5 (rho/r)		0.960	0.960	0.960	0.960	1.020	1.005	1.010	1.015	1.020
W _{PRI} =C _{PRI} /(p/r)		326017.9	333004.9	342960.1	344594.8	325516.3	330235.5	330615.5	329324.1	326895.8
W _{PRI} /Y _{PRI}	0.8726	0.8703	0.8753	0.8756	0.8722	0.8760	0.8250	0.8291	0.8367	0.8235
alpha _{PRI}	0.1274	0.1297	0.1247	0.1244	0.1278	0.1240	0.1750	0.1709	0.1633	0.1765
spRJ/alphapR		1.2683	1.2807	1.2816	1.2731	0.8587	0.9764	0.9515	0.9232	0.9067
Rental	46241	48607	47453	48711	50470	46075	70048	68134	64290	70068



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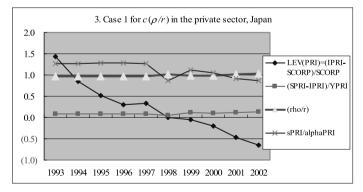


Figure 5 The relationship between saving and rental using the utility function: cases of Japan: for Table 6

The above tendency is significantly stronger in the government sector, but *alpha* becoming negative as seen in most EU countries. And, the above tendency should be weaker in the private sector, but note that the private sector has decreased borrowings without facing at "crowding out," as seen in Figure 5. In other words, the leverage defined as the ratio of net investment minus corporate saving to corporate saving has decreased continuously in the decade. This corresponds with the decrease in bad debts and also in the capital-output ratio. Under these circumstances, how can the value of (rho/r) be discriminated by sector? This will be discussed more in Kamiryo [2005c].

3.4 Empirical results in the OECD national accounts

Finally, in most countries in EU, the results derived using OECD National Accounts Statistics data in 1967 to 2003, show that in the long-term the value of *s/alpha* significantly has varied due to budget deficits but the value of (rho/r) has compulsively remained within some narrow ranges. This is because if (rho/r) increased continuously the value of *alpha* also increases, resulting in the increase in the capital-output ratio without limit,¹¹⁾ which destroys an economic system.

For my empirical analysis, I need four values¹²⁾ (which I call raw data in statistics) together with the determination of (rho/r): GDP, national disposable income, consumption, and actual compensation/wages in GDP. I investigated twenty five countries available in OECD Statistics, but finally I found that ten countries publish all of the above four values. Thus, I added five countries to my investigation, although national disposable income and/or actual wages are

I discussed this problem in Kamiryo [2004c], where the capital-output ratio has its upper limit by club, classified using many developing and advanced countries.

¹²⁾ In the neat future I intend to use together "employed persons" (available in OECD raw data) instead of population (available in IFS and GFS, IMF). In this case, I hope I can distinguish increasing returns to capital (IRC) with decreasing returns to capital (DRC) more accurately.

Papers of the Research Society of Commerce and Economics, Vol. XXXXVI No. 1 often not available after 1996. The results are shown in Appendix (Figures A4 with OECD data). Thus,

Proposition 3: If the value of (rho/r) is determined within a certain limit or within a range of Table 5-1, the ratio of consumption to output, *c*, and/or *alpha* may fluctuate significantly in a short term, but in the long-term, *c* and/or *alpha* will return back to a normal level by economic policies.

4. Conclusion

This paper discussed the relationship between consumption and compensation. I synthesize consumption and compensation with both optimum consumption in income and maximum rental in production. For consumption, I use the discount rate for consumers and the rate of rental for production and integrate the relationship between consumption and compensation by using (rho/r), maintaining each character of production and income.

I reviewed Ramsey [1928] and Tinbergen [1956] together with Sen Amarta Kumar [1957, 1961]. This is because Solow [1992] indicated the necessity of introducing the utility function of consumption and Tinbergen assumed and advocated that the utility function should be measurable. And, I found in this paper that both approaches finally are integrated to a simple utility function of consumption, c(rho/r). My approach differs from Tinbergen, yet I got a hint from him and expressed the area of c(rho/r), by using three dimensional graphs and presenting Table 5-1 (abbreviating 5-2 and 5-3 for calculation in this paper).

I showed the above results using cases together with three dimensional graphs, and also testing the Japanese national accounts in 1993 to 2002 and OECD National Statistics in 1967 to 2003. As the results, I found three propositions that were related to a golden rule/age consistent with technology. These propositions are useful when we estimate wages or rental by country and year, using the

values of (rho/r) as in Table 5-1.¹³⁾

Finally, I add that I am soon applying my method (that is uniquely related to a golden rule consistent with technology) to many countries "by sector," using the data of IFS and GFS of IMF, which covers many countries in the world. And also, I must justify how to apply a technology-golden rule to the private sector. If the private sector constitutes an economy, income must be equal to production/ output as "net product" stated by Bailey Martin, J. [1971, 33, 257–259].

References

- Arrow Kenneth J., and Mordecal Kurz, "Public Investment, the Rate of Return, and Optimal Fiscal Policy," The John Hopkins Unversity Press, Baltimore and London, 218pp., 1970.
- Bailey, Martin, J., "National Income and the Price Level: A study in Macro-Economic Theory," McGraw-Hill, 278pp., 1971.
- Holtz-Eakin, Douglas, "Public-Sector Capital and the Productivity Puzzle," *Review of Economics and Statistics* 76 (Feb, 1): 12–21, 1994.
- Horvat, Branko, "The Optimum Rate of Saving: A Note," The Economic Journal 68 (March, 1): 157–158, 1958.
- Kamiryo, Hideyuki, "Numerical Relationship between Technological Progress and Structural Reform: to save the unprecedented Difficulties in the Japanese Economy," *National Institute for Research Advancement* (NIRA), Tokyo, 75pp, July 2002.
- Kamiryo, Hideyuki, "Furthering the Role of Corporate Finance in Economic Growth," The University of Auckland (PhD thesis), 129pp., Nov 2003.

Kamiryo, Hideyuki, "Basics of An Endogenous Growth Model: the Optimum CRC* Situa-

13) A question may still remain: how can we determine the level of s=alpha by country? The higher the rate of saving the higher the alpha, but at what rate of saving alpha should be equal to the rate of saving? If I follow Solow [1958], the golden age by country may converge by club of convergence and the range of the golden age will be narrower than the range of rate of saving among countries. Two factors will reply to the above question: (1) the influence of technology by country as discussed in this paper and (2) the introduction of the differences between saving and net investment by sector (the balance of payment=budget deficit + the difference of saving and net investment in the private sector).

tion and Conditional Convergence," *Journal of Economic Sciences* 7 (2), 51-80, Feb 2004a.

- Kamiryo, Hideyuki, "Risk of Growth in My Endogenous Growth Model: Integrating the Penrose Curve with the Petersburg Paradox," *Modelling and Analysis of Safety and Risk in Complex Systems, International Scientific School Conference,* St. Petersburg, Russia (June/2004 procedures, ISSC, 16pp.), 2004b.
- Kamiryo, Hideyuki, "What Numerically Determines the Differences between Catching Up and Endless Poverty in African Countries?, Cork, Ireland (Aug/2004 procedures, IARIW, 22pp., International Association for Research in Income and Wealth, 2004c.
- Kamiryo, Hideyuki, "A Two region model Applied to China National Accounts: Towards Vital Policies for Sustainable Growth," Proceedings in the 8th China-Japan Symposium on Statistics, Guilin, China, 2004d.
- Kamiryo, Hideyuki, and Toshimi Fujimoto, "Characteristics of the Relationships between Parameters under Convergence," Monograph on the 21st Century COE Program, forthcoming 2005a.
- Kamiryo, Hideyuki, "Empirics of A Utility Function Consistent with A Technology-Golden Rule: using Three Dimensional Graphs," Papers of the Research Society of Commerce and Economics 46 (Sep, 1), (forthcoming), Sep 2005b.
- Kamiryo, Hideyuki, "Loci of Transitional Paths from Current to Optimum CRC situation: Extended Equations with empirical results," *Journal of Economic Sciences* 9 (1), (forthcoming), Sep 2005c.
- Phelps Edmund S, "Inflation Policy and Unemployment Theory: the Cost-Benefit Approach to Monetary Planning," Macmillan, 322pp.
- Ramsey Plumpton, "A Mathematical Theory of Saving," *The Economic Journal* 38 (Dec, 4): 543–559, 1928.
- Robinson, Joan, "A Neoclassical Theorem," *Review of Economic Studies* 29 (June): 219-226, 1962.
- Sen Amarta Kumar, "A Note on Tinbergen on the Optimum Rate of Saving," *The Economic Journal*, 67 (Dec, 4): 479–496, 1957.
- Sen Amarta Kumar, "On Optimising the Rate of Saving" *The Economic Journal*, 71 (Sep, 3): 479–496, 1961.
- Solow, Robert, M., "Note on Uzawa's Two-Sector Model of Economic Growth," *Review of Economic Studies* 29 (Oct, 4): 48–50, 1961.
- Solow, Robert, M., "Siena Lectures on Endogenous Growth Theory. Edited by Serena Sordi, Universita, Degli Studi Di Siena. 91pp., 1992.

- Hideyuki Kamiryo: Empirics of A Function of Consumption Consistent with A Technology-Golden Rule: Using Three Dimensional Graphs
- Tinbergen Jan, "The Optimum Rate of Saving," *The Economic Journal* 66 (Dec, 4): 603-609, 1956.
- Tinbergen Jan, "Optimum Saving and Utility Maximization over Time," *Econometrica* 28 (April, 2): 481-489, 1960.
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	utility ft						
Case 1	0.65	0.7	0.75	0.8	0.85	0.9	0.95 1-alpha
alpha	0.35	0.3	0.25	0.2	0.15	0.1	0.05 s _{SP/P} =
$\alpha_{\scriptscriptstyle SP/Y}$	0.2275	0.195	0.1625	0.13	0.0975	0.065	0.0325 0.65
$\alpha_{\scriptscriptstyle D/Y}$	0.1225	0.105	0.0875	0.07	0.0525	0.035	0.0175 s _{SD/D} =
S SD /Y	0.0526	0.0450	0.0375	0.0300	0.0225	0.0150	0.0075 0.429
с _с	0.0699	0.0600	0.0500	0.0400	0.0300	0.0200	0.0100
$w_{W/Y} = I - \alpha$	0.65	0.7	0.75	0.8	0.85	0.9	0.95 s _{sw/w} =
S SW/Y	0.0325	0.0350	0.0375	0.0400	0.0425	0.0450	0.0475 0.05
C _{CW/Y}	0.6175	0.6650	0.7125	0.7600	0.8075	0.8550	0.9025
S	0.3126	0.2750	0.24	0.2	0.1625	0.1250	0.0875
с	0.6874	0.7250	0.7625	0.8000	0.8375	0.8750	0.9125 c _{CW/Y} +c _{CD/Y}
$\rho/r=c/w_{W/Y}$	1.0576	1.0357	1.0166	1.0000	0.9853	0.9722	0.9605
Case 2	0.65	0.7	0.75	0.8	0.85	0.9	0.95 1-alpha
alpha	0.35	0.3	0.25	0.2	0.15	0.1	0.05 s _{SP/P} =
$\alpha_{SP/Y}$	0.1575	0.135	0.1125	0.09	0.0675	0.045	0.0225 0.45
$\alpha_{D/Y}$	0.1925	0.165	0.1375	0.11	0.0825	0.055	$0.0275 \text{ s}_{\text{SD/D}}=$
S SD /Y	0.1155	0.0990	0.0825	0.0660	0.0495	0.0330	0.0165 0.6
- зр/1 С _{СD/Y}	0.0770	0.0660	0.0550	0.0440	0.0330	0.0220	0.0110
$w_{WY} = 1 - \alpha$	0.65	0.7	0.75	0.8	0.85	0.9	0.95 s _{SW/W} =
S SW/Y	0.0358	0.0385	0.0413	0.0440	0.0468	0.0495	0.0523 0.055
C _{CW/Y}	0.6143	0.6615	0.7088	0.7560	0.8033	0.8505	0.8978
s	0.3088	0.2725	0.24	0.2	0.1638	0.1275	0.0913
с	0.6913	0.7275	0.7638	0.8000	0.8363	0.8725	0.9088 c _{CW/Y} +c _{CD/Y}
$\rho/r=c/w_{W/Y}$	1.0635	1.0393	1.0183	1.0000	0.9838	0.9694	0.9566
Case 3							
	0.65	0.7	0.75	0.8	0.85	0.0	0.95 1-alpha
	0.65	0.7	0.75	0.8	0.85	0.9	0.95 1-alpha
alpha	0.35	0.3	0.25	0.2	0.15	0.1	0.05 s _{SP/P} =
alpha $\alpha_{SP/Y}$	0.35 0.175	0.3 0.15	0.25	0.2	0.15	0.1	$\frac{0.05}{0.025}$ s _{SP/P} = 0.5
alpha $lpha_{SP/Y}$ $lpha_{D/Y}$	0.35 0.175 0.175	0.3 0.15 0.15	0.25 0.125 0.125	0.2 0.1 0.1	0.15 0.075 0.075	0.1 0.05 0.05	$\begin{array}{c} 0.05 \\ 0.025 \\ 0.025 \\ 0.025 \\ s_{SD/D} = \end{array}$
alpha α _{SP/Y} α _{D/Y} ^S SD/Y	0.35 0.175 0.175 0.1260	0.3 0.15 0.15 0.1080	0.25 0.125 0.125 0.0900	0.2 0.1 0.1 0.0720	0.15 0.075 0.075 0.0540	0.1 0.05 0.05 0.0360	$\begin{array}{c c} \hline 0.05 \\ s_{SP/P} = \\ \hline 0.025 & 0.5 \\ \hline 0.025 & s_{SD/D} = \\ \hline 0.0180 & 0.72 \end{array}$
alpha α _{SP/Y} α _{D/Y} s _{SD/Y} c _{CD/Y}	0.35 0.175 0.175 0.1260 0.0490	0.3 0.15 0.15 0.1080 0.0420	0.25 0.125 0.0900 0.0350	0.2 0.1 0.1 0.0720 0.0280	0.15 0.075 0.075 0.0540 0.0210	0.1 0.05 0.05 0.0360 0.0140	$\begin{array}{c c}\hline 0.05 \\ \hline 0.025 \\ \hline 0.025 \\ \hline 0.025 \\ s_{SD/D} = \\ \hline 0.0180 \\ \hline 0.072 \\ \hline 0.0070 \\ \end{array}$
$\begin{array}{c} alpha \\ \alpha_{SP/Y} \\ \alpha_{D/Y} \\ \overline{s}_{SD/Y} \\ \overline{c}_{CD/Y} \\ w_{W/Y} = l - \alpha \end{array}$	0.35 0.175 0.175 0.1260 0.0490 0.65	0.3 0.15 0.1080 0.0420 0.7	0.25 0.125 0.125 0.0900 0.0350 0.75	0.2 0.1 0.1 0.0720 0.0280 0.8	0.15 0.075 0.075 0.0540 0.0210 0.85	0.1 0.05 0.05 0.0360 0.0140 0.9	$\begin{array}{c} \hline 0.05 \\ 0.025 \\ 0.025 \\ 0.025 \\ s_{\text{SD/D}} = \\ \hline 0.0180 \\ 0.070 \\ 0.95 \\ s_{\text{SW/W}} = \end{array}$
$\begin{tabular}{c} \hline alpha \\ \hline \alpha_{SPY} \\ \hline \alpha_{DY} \\ \hline s_{SDY} \\ \hline c_{CDY} \\ \hline w_{WY} = l - \alpha \\ \hline s_{SWY} \\ \hline \end{tabular}$	0.35 0.175 0.1260 0.0490 0.65 0.0390	0.3 0.15 0.15 0.15 0.1080 0.0420 0.7 0.0420	0.25 0.125 0.125 0.0900 0.0350 0.75 0.0450	0.2 0.1 0.1 0.0720 0.0280 0.8 0.0480	0.15 0.075 0.075 0.0540 0.0210 0.85 0.0510	0.1 0.05 0.05 0.0360 0.0140 0.9 0.0540	$\begin{array}{c} \hline 0.05 \\ 0.025 \\ 0.025 \\ 0.025 \\ 0.025 \\ s_{SDD} = \\ \hline 0.0180 \\ 0.070 \\ 0.095 \\ s_{SW/W} = \\ 0.0570 \\ 0.06 \\ \end{array}$
$\begin{tabular}{lllllllllllllllllllllllllllllllllll$	0.35 0.175 0.175 0.1260 0.0490 0.65 0.0390 0.6110	0.3 0.15 0.15 0.1080 0.0420 0.7 0.0420 0.6580	0.25 0.125 0.0900 0.0350 0.75 0.0450 0.7050	0.2 0.1 0.1 0.0720 0.0280 0.8 0.0480 0.7520	0.15 0.075 0.075 0.0540 0.0210 0.85 0.0510 0.7990	0.1 0.05 0.05 0.0360 0.0140 0.9 0.0540 0.8460	$\begin{array}{c c} \hline 0.05 \\ s_{SPP} = \\ \hline 0.025 & 0.5 \\ 0.025 & s_{SDD} = \\ \hline 0.0180 & 0.72 \\ 0.0070 \\ \hline 0.95 & s_{SWW} = \\ 0.0570 & 0.06 \\ \hline 0.8930 \\ \hline \end{array}$
$\begin{tabular}{ c c c c c }\hline $alpha$ & $$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$	0.35 0.175 0.1260 0.0490 0.65 0.0390 0.6110 0.3400	0.3 0.15 0.15 0.1080 0.0420 0.7 0.0420 0.6580 0.3	0.25 0.125 0.0900 0.0350 0.75 0.0450 0.7050 0.26	0.2 0.1 0.1 0.0720 0.0280 0.8 0.0480 0.7520 0.2200	0.15 0.075 0.075 0.0540 0.0210 0.85 0.0510 0.7990 0.1800	0.1 0.05 0.0360 0.0140 0.9 0.0540 0.8460 0.1400	$\begin{array}{c} 0.05\\ 0.025\\ 0.025\\ 0.025\\ 0.0180\\ 0.72\\ 0.0070\\ 0.95\\ s_{SWW}^{=}\\ 0.0570\\ 0.065\\ 0.08930\\ \hline 0.1000\\ \end{array}$
$\begin{tabular}{c c c c c c c c c c c c c c c c c c c $	0.35 0.175 0.175 0.1260 0.0490 0.65 0.0390 0.6110	0.3 0.15 0.15 0.1080 0.0420 0.7 0.0420 0.6580	0.25 0.125 0.0900 0.0350 0.75 0.0450 0.7050	0.2 0.1 0.1 0.0720 0.0280 0.8 0.0480 0.7520	0.15 0.075 0.075 0.0540 0.0210 0.85 0.0510 0.7990	0.1 0.05 0.05 0.0360 0.0140 0.9 0.0540 0.8460	$\begin{array}{c} 0.05\\ 0.025\\ 0.025\\ 0.025\\ 0.0180\\ 0.72\\ 0.0070\\ 0.95\\ s_{SWW}^{=}\\ 0.0570\\ 0.065\\ 0.08930\\ \hline 0.1000\\ \end{array}$
	0.35 0.175 0.1260 0.0490 0.65 0.0390 0.6110 0.3400 0.6600 1.0154	0.3 0.15 0.1080 0.0420 0.7 0.0420 0.6580 0.3 0.7000 1.0000	0.25 0.125 0.125 0.0900 0.0350 0.75 0.0450 0.7050 0.26 0.7400 0.9867	0.2 0.1 0.0720 0.0280 0.8 0.0480 0.7520 0.7520 0.7800 0.7800	0.15 0.075 0.075 0.0540 0.0210 0.85 0.0510 0.7990 0.1800 0.8200 0.9647	0.1 0.05 0.0360 0.0140 0.9 0.0540 0.8460 0.8460 0.8600 0.8600 0.9556	$\begin{array}{c} \hline 0.05 \\ 0.025 \\ 0.025 \\ 0.025 \\ 0.025 \\ 0.0180 \\ 0.070 \\ 0.0970 \\ 0.0970 \\ 0.0570 \\ 0.0570 \\ 0.0570 \\ 0.0670 \\ 0.0000 \\ 0.0000 \\ c_{CWY}+c_{CDY} \\ 0.9474 \\ \hline \end{array}$
$alpha$ α_{SPY} α_{DY} s_{DY} σ_{DY} $w_{DY} = l - \alpha$ s_{SWY} c_{CWY} s_{c} $\rho/r = c/w_{WY}$ Case 4	0.35 0.175 0.175 0.1260 0.0490 0.65 0.0390 0.6110 0.3400 0.6600 1.0154	0.3 0.15 0.1080 0.0420 0.6580 0.3 0.7000 1.0000	0.25 0.125 0.125 0.0900 0.0350 0.75 0.0450 0.7050 0.26 0.7400 0.9867 0.75	0.2 0.1 0.720 0.0280 0.8 0.0480 0.7520 0.2200 0.7800 0.750 0.9750	0.15 0.075 0.075 0.0540 0.0210 0.85 0.0510 0.7990 0.1800 0.8200 0.9647 0.85	0.1 0.05 0.0360 0.0140 0.9 0.0540 0.8460 0.1400 0.8600 0.9556 0.9	$\begin{array}{c} 0.05\\ 0.025\\ 0.025\\ 0.025\\ 0.025\\ 0.025\\ 0.025\\ 0.025\\ 0.025\\ 0.025\\ 0.025\\ 0.0570\\ 0.0570\\ 0.0570\\ 0.06\\ 0.000\\ 0.000\\ 0.000\\ 0.9000\\ 0.9000\\ 0.9474\\ \hline \hline 0.951\\ 1-alpha \end{array}$
$\begin{array}{c} alpha \\ \alpha_{SPT} \\ \alpha_{DT} \\ s_{SDT} \\ c_{CDT} \\ w_{WT} = l - \alpha \\ s_{SWT} \\ c_{CWT} \\ s \\ c \\ c \\ p/r = c/w_{WT} \\ \end{array}$	0.35 0.175 0.1260 0.0490 0.65 0.0390 0.6110 0.3400 0.6600 1.0154 0.65 0.35	0.3 0.15 0.15 0.0420 0.6580 0.3 0.7000 1.0000 0.7 0.3	0.25 0.125 0.125 0.0900 0.0350 0.75 0.0450 0.7050 0.26 0.7400 0.9867 0.75 0.25	0.2 0.1 0.720 0.0280 0.8 0.0480 0.7520 0.2200 0.7800 0.7800 0.9750 0.9750	0.15 0.075 0.075 0.0540 0.0210 0.85 0.0510 0.7990 0.1800 0.8200 0.9647 0.85 0.15	0.1 0.05 0.0360 0.0140 0.0540 0.8460 0.1400 0.8600 0.9556 0.9 0.1	$\begin{array}{c c} \hline 0.05 \\ 0.025 \\ 0.025 \\ 0.025 \\ 0.0180 \\ 0.025 \\ 0.070 \\ 0.95 \\ 0.0570 \\ 0.095 \\ 0.0570 \\ 0.095 \\ 0.0570 \\ 0.096 \\ c_{cw\gamma} + c_{Cb\gamma} \\ \hline 0.9900 \\ c_{cw\gamma} + c_{cb\gamma} \\ \hline 0.9901 \\ 0.9900 \\ 0.990$
$\begin{array}{c} alpha \\ \alpha_{SPY} \\ \sigma_{DY} \\ s_{DY} \\ c_{CDY} \\ w_{WT} = l - \alpha \\ s_{SWY} \\ c_{CWY} \\ s \\ c \\ \rho/r = c/w_{WY} \\ \hline c \\ case 4 \\ alpha \\ \alpha_{SPY} \end{array}$	0.35 0.175 0.1260 0.0490 0.65 0.0390 0.6110 0.3400 0.6600 1.0154 0.65 0.35	0.3 0.15 0.1080 0.0420 0.7 0.0420 0.6580 0.3 0.700 1.0000 0.7 0.3 0.12	0.25 0.125 0.0900 0.0350 0.75 0.0450 0.7050 0.26 0.7400 0.9867 0.75 0.25 0.1	0.2 0.1 0.0720 0.0280 0.8 0.0480 0.7520 0.2200 0.7800 0.7800 0.9750 0.8 0.8 0.2 0.08	0.15 0.075 0.075 0.0540 0.0210 0.85 0.0510 0.7990 0.1800 0.8200 0.9647 0.85 0.15 0.06	0.1 0.05 0.05 0.0360 0.0140 0.9 0.0540 0.8460 0.8460 0.8460 0.8600 0.9556 0.9 0.1 0.04	$\begin{array}{c c} \hline 0.05 \\ \hline 0.025 \\ \hline 0.025 \\ \hline 0.025 \\ \hline 0.0180 \\ \hline 0.025 \\ \hline 0.025 \\ \hline 0.0180 \\ \hline 0.025 \\ \hline 0.025 \\ \hline 0.0570 \\ \hline 0.0570 \\ \hline 0.0570 \\ \hline 0.0570 \\ \hline 0.005 \\ \hline 0.000 \\ \hline 0.9000 \\ \hline $
$\begin{array}{c} alpha \\ \alpha_{SPY} \\ \alpha_{DY} \\ s_{SDY} \\ c_{CDY} \\ w_{WY} = l - \alpha \\ s_{SWY} \\ c_{CWY} \\ s \\ c \\ p/r = c/w_{WY} \\ \hline \\ case 4 \\ alpha \\ \alpha_{SPY} \\ \alpha_{DY} \end{array}$	0.35 0.175 0.175 0.1260 0.0490 0.65 0.0390 0.6110 0.3400 0.6600 1.0154 0.65 0.35 0.14 0.21	0.3 0.15 0.1080 0.0420 0.7 0.0420 0.6580 0.3 0.7000 1.0000 0.7 0.3 0.12 0.18	0.25 0.125 0.125 0.0900 0.0350 0.75 0.0450 0.7050 0.26 0.7400 0.9867 0.25 0.25 0.1 0.15	0.2 0.1 0.720 0.0720 0.080 0.7520 0.7520 0.7800 0.7800 0.9750 0.9750	0.15 0.075 0.075 0.0540 0.0210 0.85 0.0510 0.7990 0.1800 0.8200 0.9647 0.85 0.15 0.06 0.09	0.1 0.05 0.05 0.0360 0.0140 0.8460 0.8460 0.1400 0.8600 0.9556 0.9 0.1 0.04 0.04	$\begin{array}{c} \hline 0.05 \\ 0.025 \\ 0.025 \\ 0.025 \\ 0.025 \\ 0.0180 \\ 0.72 \\ 0.070 \\ 0.955 \\ 0.0570 \\ 0.06570 \\ 0.065 \\ 0.8930 \\ 0.1000 \\ 0.9000 \\ c_{\rm CWY}+c_{\rm CDY} \\ 0.9951 \\ 1-alpha \\ 0.05 \\ s_{\rm Spp}= \\ 0.02 \\ 0.4 \\ 0.03 \\ s_{\rm SDD}= \\ \end{array}$
$\begin{array}{c} alpha \\ \alpha_{SPY} \\ \alpha_{DY} \\ s_{SPY} \\ \alpha_{DY} \\ s_{SPY} \\ c_{CDY} \\ w_{WY} = l - \alpha \\ s_{SWY} \\ c_{CWY} \\ s \\ c \\ \rho/r = c/w_{WY} \\ \hline \begin{array}{c} c_{SWY} \\ c_{CWY} \\ s \\ c \\ \rho/r = c/w_{WY} \\ \hline \begin{array}{c} c_{SWY} \\ s \\ c \\ \rho/r = c/w_{WY} \\ \hline \begin{array}{c} s_{SPY} \\ \alpha_{DY} \\ s_{SPY} \\ \alpha_{DY} \\ \hline \end{array}$	0.35 0.175 0.175 0.1260 0.0490 0.65 0.0390 0.6110 0.3400 0.6600 1.0154 0.65 0.35 0.14 0.21 0.0840	0.3 0.15 0.1080 0.0420 0.7 0.0420 0.6580 0.3 0.7000 1.0000 0.7 0.3 0.7 0.3 0.12 0.18 0.0720	0.25 0.125 0.125 0.0900 0.0350 0.75 0.0450 0.750 0.7400 0.7400 0.9867 0.25 0.25 0.15 0.15	0.2 0.1 0.0720 0.0280 0.8 0.0480 0.7520 0.2200 0.7800 0.9750 0.9750 0.8 0.2 0.08 0.2 0.08 0.12 0.0480	0.15 0.075 0.075 0.0540 0.0210 0.85 0.0510 0.7990 0.1800 0.8200 0.9647 0.85 0.15 0.06 0.09 0.0360	0.1 0.05 0.05 0.0360 0.0140 0.9 0.0540 0.8460 0.1400 0.8600 0.9556 0.9 0.1 0.04 0.04 0.06	$\begin{array}{c c} \hline 0.05 \\ \hline 0.025 \\ \hline 0.025 \\ \hline 0.025 \\ \hline 0.0180 \\ \hline 0.72 \\ \hline 0.070 \\ \hline 0.095 \\ \hline 0.0570 \\ \hline 0.0570 \\ \hline 0.0570 \\ \hline 0.0670 \\ \hline 0.0900 \\ \hline e_{\rm CWV}^+ e_{\rm CDV} \\ \hline 0.9000 \\ \hline e_{\rm CWV}^+ e_{\rm CDV} \\ \hline 0.9100 \\ \hline 0.9000 \\ \hline 0.900 \\ \hline 0.9000 \\ \hline 0.$
$\begin{array}{c} alpha \\ \alpha_{SPT} \\ \alpha_{DT} \\ s_{SPT} \\ \alpha_{DT} \\ s_{SPT} \\ c_{CDT} \\ w_{WT} = l - \alpha \\ s_{SWT} \\ c_{CWY} \\ s \\ c \\ \rho/r = c/w_{WT} \\ \hline c_{CWY} \\ s \\ c \\ \rho/r = c/w_{WT} \\ \hline c_{SPT} \\ \alpha_{SPT} \\ \alpha_{SPT} \\ \alpha_{DT} \\ s_{SPT} \\ c_{CDT} \\ \end{array}$	0.35 0.175 0.175 0.1260 0.0490 0.65 0.0390 0.6110 0.3400 0.6600 1.0154 0.65 0.35 0.14 0.21 0.0840 0.1260	0.3 0.15 0.1080 0.0420 0.7 0.0420 0.6580 0.3 0.7000 1.0000 0.7 0.3 0.12 0.18 0.0720 0.1080	0.25 0.125 0.0900 0.0350 0.75 0.0450 0.7050 0.26 0.7400 0.9867 0.25 0.15 0.15 0.0600 0.0900	0.2 0.1 0.0720 0.0280 0.8 0.0480 0.7520 0.2200 0.7800 0.9750 0.8 0.9750 0.8 0.2 0.08 0.2 0.08 0.2 0.0480 0.12 0.0480 0.0720	0.15 0.075 0.075 0.0540 0.0210 0.85 0.0510 0.7990 0.1800 0.8200 0.9647 0.85 0.15 0.06 0.09 0.0360 0.0540	0.1 0.05 0.05 0.0360 0.0140 0.9 0.0540 0.8460 0.1400 0.8600 0.9556 0.9 0.1 0.04 0.04 0.04 0.0240 0.0240 0.0360	$\begin{array}{c} \hline 0.05 \\ 0.025 \\ 0.025 \\ 0.025 \\ 0.025 \\ 0.0180 \\ 0.72 \\ 0.070 \\ 0.955 \\ s_{SW} = \\ 0.0570 \\ 0.0570 \\ 0.0570 \\ 0.0670 \\ 0.9000 \\ c_{CWY} + c_{CWY} \\ \hline 0.0570 \\ 0.9000 \\ c_{CWY} + c_{CWY} \\ \hline 0.055 \\ 0.000 \\ s_{SPF} = \\ 0.02 \\ 0.4 \\ 0.03 \\ s_{SDD} = \\ 0.0120 \\ 0.4 \\ 0.0180 \\ \hline \end{array}$
$\begin{tabular}{ c c c c c }\hline alpha & & & & & & & & & & & & & & & & & & &$	0.35 0.175 0.126 0.0490 0.65 0.0390 0.6110 0.3400 0.6600 1.0154 0.65 0.35 0.14 0.21 0.0840 0.1260 0.65	0.3 0.15 0.15 0.1080 0.0420 0.7 0.0420 0.6580 0.7 0.3 0.7000 1.0000 0.7 0.3 0.12 0.18 0.0720 0.0720 0.7	0.25 0.125 0.0900 0.0350 0.75 0.0450 0.7050 0.26 0.7400 0.9867 0.25 0.1 0.25 0.1 0.15 0.0600 0.0900 0.75	0.2 0.1 0.0720 0.0280 0.8 0.0480 0.7520 0.2200 0.7800 0.9750 0.8 0.9750 0.8 0.02 0.08 0.02 0.0480 0.0720 0.8	0.15 0.075 0.0540 0.0210 0.85 0.0510 0.7990 0.1800 0.8200 0.8200 0.9647 0.85 0.15 0.06 0.09 0.0360 0.0540 0.85	0.1 0.05 0.0360 0.0140 0.9 0.0540 0.4400 0.8600 0.9556 0.9 0.1 0.04 0.04 0.0240 0.0240 0.0360 0.9	$\begin{array}{c c} \hline 0.05 \\ \hline 0.025 \\ \hline 0.025 \\ \hline 0.025 \\ \hline 0.0180 \\ \hline 0.025 \\ \hline 0.0180 \\ \hline 0.025 \\ \hline 0.0570 \\ \hline 0.095 \\ \hline 0.0570 \\ \hline 0.095 \\ \hline 0.000 \\ \hline 0.9000 \\ \hline c_{cw\gamma^+}c_{Cb\gamma} \\ \hline 0.0100 \\ \hline 0.0180 \\ \hline 0.0180 \\ \hline 0.0180 \\ \hline 0.0185 \\ \hline 0.0185 \\ \hline s_{SWF} = \end{array}$
$\begin{array}{c} alpha \\ \alpha_{SPY} \\ \alpha_{DY} \\ s_{SDY} \\ c_{CDY} \\ w_{WT} = l - \alpha \\ s_{SWY} \\ c_{CWY} \\ s \\ c \\ \rho/r = c/w_{WY} \\ \hline \\ Case 4 \\ \alpha_{SPY} \\ \alpha_{DY} \\ \alpha_{DY} \\ s_{SDY} \\ \alpha_{DY} \\ w_{WT} = l - \alpha \\ s_{SWY} \end{array}$	0.35 0.175 0.1260 0.0490 0.65 0.0390 0.6110 0.3400 0.6600 1.0154 0.65 0.35 0.14 0.21 0.0840 0.1260 0.65 0.0260	0.3 0.15 0.1080 0.0420 0.7 0.0420 0.6580 0.3 0.700 1.0000 0.7 0.3 0.12 0.18 0.0720 0.1080 0.7 0.0280	0.25 0.125 0.0900 0.0350 0.75 0.0450 0.7400 0.26 0.7400 0.9867 0.25 0.1 0.25 0.1 0.15 0.0600 0.0900 0.75 0.0300	0.2 0.1 0.0720 0.0280 0.8 0.0480 0.7520 0.2200 0.7800 0.7800 0.9750 0.8 0.9750 0.8 0.02 0.08 0.12 0.0480 0.0720 0.8 0.0480 0.0720	0.15 0.075 0.075 0.0540 0.0210 0.85 0.0510 0.7990 0.1800 0.8200 0.9647 0.85 0.15 0.06 0.09 0.0360 0.0540 0.85 0.0340	0.1 0.05 0.0360 0.0140 0.9 0.0540 0.8460 0.8460 0.8460 0.8600 0.9 0.9 0.1 0.04 0.04 0.0240 0.0240 0.0360 0.9 0.0360	$\begin{array}{c c} \hline 0.05 \\ \hline 0.025 \\ \hline 0.025 \\ \hline 0.025 \\ \hline 0.025 \\ \hline 0.0180 \\ \hline 0.025 \\ \hline 0.0570 \\ \hline 0.095 \\ \hline 0.0570 \\ \hline 0.000 \\ \hline 0.0000 \\ \hline 0.$
$\begin{array}{c} alpha \\ \alpha_{SPY} \\ \alpha_{DY} \\ \sigma_{SDY} \\ \alpha_{DY} \\ s_{SDY} \\ c_{CDY} \\ w_{WY} = l - \alpha \\ s_{SWY} \\ c_{CWY} \\ s \\ c \\ c \\ p/r = c/w_{WY} \\ c_{CWY} \\ \hline \\ c_{CDY} \\ \alpha_{DY} \\ s_{SDY} \\ \alpha_{DY} \\ s_{SDY} \\ \sigma_{SWY} \\ c_{CDY} \\ w_{WY} = l - \alpha \\ s_{SWY} \\ c_{CWY} \\ \end{array}$	0.35 0.175 0.1260 0.0490 0.65 0.0390 0.6110 0.3400 0.6600 1.0154 0.65 0.35 0.14 0.21 0.0840 0.1260 0.65 0.0260 0.6240	0.3 0.15 0.1080 0.0420 0.7 0.0420 0.6580 0.3 0.7 0.3 0.7 0.3 0.12 0.18 0.0720 0.1080 0.7 0.280 0.6720	0.25 0.125 0.125 0.0900 0.0350 0.75 0.0450 0.7050 0.26 0.7400 0.9867 0.25 0.1 0.15 0.0600 0.0900 0.75 0.0300 0.7200	0.2 0.1 0.720 0.0720 0.280 0.2200 0.7520 0.2200 0.7800 0.9750 0.9750 0.8 0.9750 0.8 0.2 0.08 0.12 0.0480 0.0720 0.8 0.0320 0.8	0.15 0.075 0.075 0.0540 0.0210 0.85 0.0510 0.7990 0.1800 0.8200 0.9647 0.85 0.15 0.06 0.09 0.0360 0.0540 0.85 0.0540 0.85	0.1 0.05 0.0360 0.0140 0.540 0.8460 0.8460 0.8600 0.9 0.9 0.9 0.1 0.04 0.0240 0.0240 0.0360 0.9 0.360	$\begin{array}{c} \hline 0.05 \\ 0.025 \\ 0.025 \\ 0.025 \\ 0.025 \\ 0.0180 \\ 0.070 \\ 0.0970 \\ 0.0970 \\ 0.0570 \\ 0.06570 \\ 0.06570 \\ 0.06570 \\ 0.06570 \\ 0.000 \\ c_{CWY}+c_{CDY} \\ \hline 0.0900 \\ c_{CWY}+c_{CDY} \\ \hline 0.0900 \\ c_{CWY}+c_{CDY} \\ \hline 0.0120 \\ 0.0120 \\ 0.0120 \\ 0.04 \\ 0.0180 \\ 0.995 \\ s_{SWW}= \\ 0.028 \\ 0.0120 \\ 0.04 \\ 0.0180 \\ 0.995 \\ s_{SWW}= \\ 0.028 \\ 0.0120 \\ 0.04 \\ 0.0180 \\ 0.04 \\ 0.0120 \\ 0.04 \\ 0.04 \\ 0.0120 \\ 0.04 \\ 0.04 \\ 0.058 \\ 0.04 \\ 0.04 \\ 0.058 \\ 0.04 \\ 0.058 \\ 0.04 \\ 0.058 \\ 0.04 \\ 0.058 \\ 0.04 \\ 0.058 \\ 0.04 \\ 0.058 \\ 0.04 \\ 0.058 \\ 0.04 \\ 0.058 \\ 0.04 \\ 0.058 \\ 0.04 \\ 0.058 \\ 0.04 \\ 0.058 \\ 0.04 \\ 0.04 \\ 0.058 \\ 0.04 \\ 0.04 \\ 0.058 \\ 0.04 \\ 0.04 \\ 0.058 \\ 0.04 \\ 0.0$
$\begin{array}{c} alpha \\ \alpha_{SPY} \\ \alpha_{DY} \\ s_{SDY} \\ c_{CDY} \\ w_{WT} = l - \alpha \\ s_{SWT} \\ c_{CWY} \\ s \\ c_{CWY} \\ s \\ c_{CWY} \\ s \\ c_{CDY} \\ c_{CDY} \\ s \\ c_{DT} \\ s_{SDY} \\ \alpha_{SPY} \\ \alpha_{DT} \\ s_{SDY} \\ c_{CDY} \\ s \\ $	0.35 0.175 0.175 0.1260 0.0490 0.65 0.0390 0.6110 0.3400 0.6600 1.0154 0.65 0.35 0.14 0.21 0.0840 0.1260 0.65 0.0260 0.6240 0.2500	0.3 0.15 0.1080 0.0420 0.7 0.0420 0.6580 0.3 0.7000 1.0000 0.7 0.3 0.12 0.18 0.0720 0.1080 0.7 0.280 0.6720 0.2	0.25 0.125 0.0900 0.0350 0.75 0.0450 0.7050 0.26 0.7400 0.9867 0.25 0.25 0.1 0.15 0.0600 0.0900 0.75 0.3000 0.7200 0.19	0.2 0.1 0.1 0.0720 0.0280 0.2200 0.7520 0.2200 0.7800 0.9750 0.9750 0.9750 0.8 0.2 0.08 0.12 0.0480 0.0720 0.8 0.0320 0.7800	0.15 0.075 0.075 0.0540 0.0210 0.85 0.0510 0.7990 0.1800 0.8200 0.9647 0.85 0.15 0.06 0.09 0.0360 0.0540 0.85 0.0340 0.85 0.0340 0.8160	0.1 0.05 0.05 0.0360 0.0140 0.9 0.0540 0.8460 0.1400 0.8600 0.9556 0.9 0.1 0.04 0.0556 0.0240 0.0240 0.0360 0.9 0.0360 0.9 0.0360 0.9	$\begin{array}{c c} \hline 0.05 \\ \hline 0.025 \\ \hline 0.025 \\ \hline 0.025 \\ \hline 0.0180 \\ \hline 0.72 \\ \hline 0.070 \\ \hline 0.0970 \\ \hline 0.095 \\ \hline 0.0570 \\ \hline 0.0570 \\ \hline 0.0670 \\ \hline 0.095 \\ \hline 0.0570 \\ \hline 0.0670 \\ \hline 0.095 \\ \hline 0.0900 \\ \hline c_{CWY}^+ c_{CWY} \\ \hline c_{CWY}^+ c_{CWY} \\ \hline 0.9900 \\ \hline 0.9900 \\ \hline 0.9900 \\ \hline 0.9901 \\ \hline 0.995 \\ \hline 0.025 \\ \hline 0.025 \\ \hline 0.0120 \\ \hline 0.0120 \\ \hline 0.04 \\ \hline 0.0180 \\ \hline 0.095 \\ s_{SWW}^{=} \\ \hline 0.025 \\ \hline 0.025 \\ \hline 0.0120 \\ \hline 0.012$
$\begin{array}{c} alpha \\ \alpha_{SPY} \\ \alpha_{DY} \\ s_{DY} \\ c_{CDY} \\ w_{WY} = l - \alpha \\ s_{SWY} \\ c_{CWY} \\ s \\ c \\ c \\ p/r = c/w_{WY} \\ c_{CWY} \\ \hline \\ c_{CWY} \\ \hline \\ c_{CDY} \\ \alpha_{DY} \\ s_{SPY} \\ \alpha_{DY} \\ s_{SPY} \\ \alpha_{DY} \\ s_{SPY} \\ c_{CDY} \\ w_{WT} = l - \alpha \\ s_{SWY} \\ c_{CWY} \\ \end{array}$	0.35 0.175 0.1260 0.0490 0.65 0.0390 0.6110 0.3400 0.6600 1.0154 0.65 0.35 0.14 0.21 0.0840 0.1260 0.65 0.0260 0.6240	0.3 0.15 0.1080 0.0420 0.7 0.0420 0.6580 0.3 0.7 0.3 0.7 0.3 0.12 0.18 0.0720 0.1080 0.7 0.280 0.6720	0.25 0.125 0.125 0.0900 0.0350 0.75 0.0450 0.7050 0.26 0.7400 0.9867 0.25 0.1 0.15 0.0600 0.0900 0.75 0.0300 0.7200	0.2 0.1 0.720 0.0720 0.280 0.2200 0.7520 0.2200 0.7800 0.9750 0.9750 0.8 0.9750 0.8 0.2 0.08 0.12 0.0480 0.0720 0.8 0.0320 0.8	0.15 0.075 0.075 0.0540 0.0210 0.85 0.0510 0.7990 0.1800 0.8200 0.9647 0.85 0.15 0.06 0.09 0.0360 0.0540 0.85 0.0540 0.85	0.1 0.05 0.0360 0.0140 0.540 0.8460 0.8460 0.8600 0.9 0.9 0.9 0.1 0.04 0.0240 0.0240 0.0360 0.9 0.360	$\begin{array}{c} \hline 0.05 \\ 0.025 \\ 0.025 \\ 0.025 \\ 0.025 \\ 0.0180 \\ 0.070 \\ 0.0970 \\ 0.0970 \\ 0.0570 \\ 0.06570 \\ 0.06570 \\ 0.06570 \\ 0.06570 \\ 0.000 \\ c_{CWY}+c_{CDY} \\ \hline 0.0900 \\ c_{CWY}+c_{CDY} \\ \hline 0.0900 \\ c_{CWY}+c_{CDY} \\ \hline 0.0120 \\ 0.0120 \\ 0.0120 \\ 0.04 \\ 0.0180 \\ 0.995 \\ s_{SWW}= \\ 0.028 \\ 0.0120 \\ 0.04 \\ 0.0180 \\ 0.995 \\ s_{SWW}= \\ 0.028 \\ 0.0120 \\ 0.04 \\ 0.0180 \\ 0.04 \\ 0.0120 \\ 0.04 \\ 0.04 \\ 0.0120 \\ 0.04 \\ 0.04 \\ 0.058 \\ 0.04 \\ 0.04 \\ 0.058 \\ 0.04 \\ 0.058 \\ 0.04 \\ 0.058 \\ 0.04 \\ 0.058 \\ 0.04 \\ 0.058 \\ 0.04 \\ 0.058 \\ 0.04 \\ 0.058 \\ 0.04 \\ 0.058 \\ 0.04 \\ 0.058 \\ 0.04 \\ 0.058 \\ 0.04 \\ 0.058 \\ 0.04 \\ 0.04 \\ 0.058 \\ 0.04 \\ 0.04 \\ 0.058 \\ 0.04 \\ 0.04 \\ 0.058 \\ 0.04 \\ 0.0$

Table A1-1 Structure of saving and consumption as a base to be consistent with the utility function

Table A1-2 The utility function of $c (\rho/r)$ by 1-*alpha* : consistent with saving and consumption as a base

Count backwa	rd	ρ	a is the discount	rate of the utility	function and r is	the rate of profit 1	inder convergence	
Case 1	.u	0.05	p 10 110 01000 011	$c=(\rho/r)(l-\alpha)$		-	inter tour togenet	1 - α
$r = \rho/(C/W)$	p/r	0.65	0.7	0.75	0.8	0.85	0.9	0.95
0.0466	1.0730	0.6975	0.7511	0.8048	0.8584	0.9121	0.9657	1.0194
0.0473	1.0576	0.6874	0.7403	0.7932	0.8461	0.8990	0.9519	1.0047
0.0483	1.0357	0.6732	0.7250	0.7767	0.8285	0.8803	0.9321	0.9839
0.0492	1.0166	0.6608	0.7116	0.7625	0.8133	0.8641	0.9150	0.9658
0.0500	1	0.65	0.7	0.75	0.8	0.85	0.9	0.95
0.0507	0.9853	0.6404	0.6897	0.7390	0.7882	0.8375	0.8867	0.9360
0.0514	0.9722	0.6319	0.6805	0.7292	0.7778	0.8264	0.8750	0.9236
0.0521	0.9605	0.6243	0.6724	0.7204	0.7684	0.8164	0.8645	0.9125
0.0526	0.9500	0.6175	0.6650	0.7125	0.7600	0.8075	0.8550	0.9025
-	The z axis: for	r <i>ρ/r</i> .	The above ide	ea comes from	both F.P. Ram	nsey [1928] an	d J Tinbergen	[1956].
Count backwa	rd	ρ						
Case 2		0.1		$c=(\rho/r)(l-\alpha)$), where $\rho/r=$	= <i>C/W</i> .		1-α
$r = \rho/(C/W)$	ρ/r	0.65	0.7	0.75	0.8	0.85	0.9	0.95
0.0917	1.0900	0.7085	0.7630	0.8175	0.8720	0.9265	0.9810	1.0355
0.0940	1.0635	0.6913	0.7444	0.7976	0.8508	0.9039	0.9571	1.0103
0.0962	1.0393	0.6755	0.7275	0.7795	0.8314	0.8834	0.9354	0.9873
0.0982	1.0183	0.6619	0.7128	0.7638	0.8147	0.8656	0.9165	0.9674
0.1000	1	0.65	0.7	0.75	0.8	0.85	0.9	0.95
0.1016	0.9838	0.6395	0.6887	0.7379	0.7871	0.8363	0.8854	0.9346
0.1032	0.9694	0.6301	0.6786	0.7271	0.7756	0.8240	0.8725	0.9210
0.1045	0.9566	0.6218	0.6696	0.7174	0.7653	0.8131	0.8609	0.9088
0.1064	0.9400	0.6110	0.6580	0.7050	0.7520	0.7990	0.8460	0.8930
	The z axis: for	r <i>ρ/r</i> .						
Count backwa	rd	ρ						
Case 3	,	0.1		$c=(\rho/r)(l-\alpha)$			0.0	1-α
$r = \rho / (C/W)$	ρ/r	0.65	0.7	0.75	0.8	0.85	0.9	0.95
0.0971	1.0300	0.6695	0.7210	0.7725	0.8240	0.8755	0.9270	0.9785
0.0985	1.0154	0.6600	0.7108	0.7615	0.8123	0.8631	0.9138	0.9646
0.1000	1	0.65	0.7	0.75	0.8	0.85		0.95
0.1014 0.1026	0.9867	0.6413	0.6907	0.7400	0.7893	0.8387	0.8880	0.9373 0.9263
0.1026	0.9750	0.6338	0.6823	0.7313	0.7800	0.8288	0.8775	0.9263
0.1037	0.9647	0.6271	0.6753	0.7235	0.7718	0.8200	0.8682	0.9165
0.1047	0.9336	0.6211	0.6632	0.7107	0.7644	0.8122	0.8600	0.9078
0.1050	0.9474	0.6091	0.6559	0.7028	0.7379	0.8055	0.8320	0.8902
-	The z axis: for		0.0559	0.7028	0.7490	0.7905	0.8455	0.8902
Count backwa		ρ						
Case 4		0.1		$c=(\rho/r)(1-\alpha)$	where $\rho/r=$	C/W.		$1-\alpha$
$r = \rho/(C/W)$	ρ/r	0.65	0.7	0.75	0.8	0.85	0.9	0.95
0.0833	1.2000	0.7800	0.8400	0.9000	0.9600	1.0200	1.0800	1.1400
0.0867	1.1538	0.7500	0.8077	0.8654	0.9231	0.9808	1.0385	1.0962
0.0897	1.1143	0.7243	0.7800	0.8357	0.8914	0.9471	1.0029	1.0586
0.0926	1.0800	0.7020	0.7560	0.8100	0.8640	0.9180	0.9720	1.0260
0.0952	1.0500	0.6825	0.7350	0.7875	0.8400	0.8925	0.9450	0.9975
0.0977	1.0235	0.6653	0.7165	0.7676	0.8188	0.8700	0.9212	0.9724
0.1000	1	0.65	0.7	0.75	0.8	0.85	0.9	0.95
0.1022	0.9789	0.6363	0.6853	0.7342	0.7832	0.8321	0.8811	0.9300
0.1053	0.9500	0.6175	0.6650	0.7125	0.7600	0.8075	0.8550	0.9025
	The z axis: for	r <i>ρ/r</i> .						

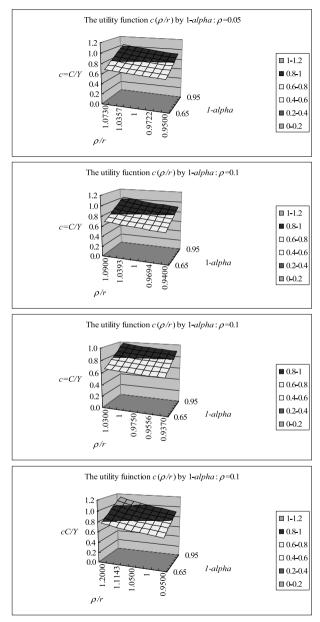


Figure A1-2 The utility function of $c (\rho/r)$ by 1-*alpha*

 Table A1-3
 The rate of saving dual to the utility function: consistent with saving and consumption as a base

Count backwa	rd	ρ	o is the discount	rate of the utility f	unction and r is t	he rate of profit u	nder convergence	
Case 1		0.05		$s=1-c=(\rho/r)($	$(1-\alpha)$, where	$\rho/r=C/W$.	-	1-α
$r = \rho/(C/W)$	ρ/r	0.65	0.7	0.75	0.8	0.85	0.9	0.95
0.0466	1.0730	0.3026	0.2489	0.1953	0.1416	0.0880	0.0343	-0.0194
0.0473	1.0576	0.3126	0.2597	0.2068	0.1539	0.1010	0.0481	-0.0047
0.0483	1.0357	0.3268	0.2750	0.2233	0.1715	0.1197	0.0679	0.0161
0.0492	1.0166	0.3392	0.2884	0.2375	0.1867	0.1359	0.0850	0.0342
0.0500	1	0.35	0.3	0.25	0.2	0.15	0.1	0.05
0.0507	0.9853	0.3596	0.3103	0.2610	0.2118	0.1625	0.1133	0.0640
0.0514	0.9722	0.3681	0.3195	0.2708	0.2222	0.1736	0.1250	0.0764
0.0521	0.9605	0.3757	0.3276	0.2796	0.2316	0.1836	0.1355	0.0875
0.0526	0.9500	0.3825	0.3350	0.2875	0.2400	0.1925	0.1450	0.0975
-	The z axis: for	r <i>ρ/r</i> .						
Count backwa	rd	ρ						
Case 2		0.1		$s=1-c=(\rho/r)($	$l - \alpha$), where	ρ/r=C/W.		1-α
$r = \rho/(C/W)$	ρ/r	0.65	0.7	0.75	0.8	0.85	0.9	0.95
0.0917	1.0900	0.2915	0.2370	0.1825	0.1280	0.0735	0.0190	-0.0355
0.0940	1.0635	0.3088	0.2556	0.2024	0.1492	0.0961	0.0429	-0.0103
0.0962	1.0393	0.3245	0.2725	0.2205	0.1686	0.1166	0.0646	0.0127
0.0982	1.0183	0.3381	0.2872	0.2363	0.1853	0.1344	0.0835	0.0326
0.1000	1	0.35	0.3	0.25	0.2	0.15	0.1	0.05
0.1016	0.9838	0.3605	0.3113	0.2621	0.2129	0.1638	0.1146	0.0654
0.1032	0.9694	0.3699	0.3214	0.2729	0.2244	0.1760	0.1275	0.0790
0.1045	0.9566	0.3782	0.3304	0.2826	0.2347	0.1869	0.1391	0.0913
0.1064	0.9400	0.3890	0.3420	0.2950	0.2480	0.2010	0.1540	0.1070
	The z axis: fo	r <i>ρ/r</i> .						
Count backwa	rd	ρ						
Case 3		0.1		$s=1-c=(\rho/r)($				1-α
Case 3 $r = \rho/(C/W)$	ρ/r	0.1 0.65	0.7	0.75	0.8	0.85	0.9	0.95
Case 3 $r = \rho / (C/W)$ 0.0971	ρ/r 1.0300	0.1 0.65 0.3305	0.2790	0.75 0.2275	0.8 0.1760	0.85 0.1245	0.0730	0.95 0.0215
Case 3 $r = \rho / (C/W)$ 0.0971 0.0985	ρ/r 1.0300 1.0154	0.1 0.65 0.3305 0.3400	0.2790 0.2892	0.75 0.2275 0.2385	0.8 0.1760 0.1877	0.85 0.1245 0.1369	0.0730 0.0862	0.95 0.0215 0.0354
Case 3 $r = \rho/(C/W)$ 0.0971 0.0985 0.1000	ρ/r <u>1.0300</u> <u>1.0154</u> 1	0.1 0.65 0.3305 0.3400 0.35	0.2790 0.2892 0.3	0.75 0.2275 0.2385 0.25	0.8 0.1760 0.1877 0.2	0.85 0.1245 0.1369 0.15	0.0730 0.0862 0.1	0.95 0.0215 0.0354 0.05
Case 3 $r = \rho/(C/W)$ 0.0971 0.0985 0.1000 0.1014	ρ/r 1.0300 1.0154 1 0.9867	0.1 0.65 0.3305 0.3400 0.35 0.3587	0.2790 0.2892 0.3 0.3093	0.75 0.2275 0.2385 0.25 0.2600	0.8 0.1760 0.1877 0.2 0.2107	0.85 0.1245 0.1369 0.15 0.1613	0.0730 0.0862 0.1 0.1120	0.95 0.0215 0.0354 0.05 0.0627
Case 3 $r = \rho/(C/W)$ 0.0971 0.0985 0.1000 0.1014 0.1026	<i>ρ/r</i> <i>1.0300</i> 1.0154 1 0.9867 0.9750	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3663	0.2790 0.2892 0.3 0.3093 0.3175	0.75 0.2275 0.2385 0.25 0.2600 0.2688	0.8 0.1760 0.1877 0.2 0.2107 0.2200	0.85 0.1245 0.1369 0.15 0.1613 0.1713	0.0730 0.0862 0.1 0.1120 0.1225	0.95 0.0215 0.0354 0.05 0.0627 0.0738
Case 3 $r = \rho/(C/W)$ 0.0971 0.0985 0.1000 0.1014 0.1026 0.1037	<i>ρ/r</i> <i>1.0300</i> 1.0154 1 0.9867 0.9750 0.9647	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3663 0.3729	0.2790 0.2892 0.3 0.3093 0.3175 0.3247	0.75 0.2275 0.2385 0.25 0.2600 0.2688 0.2765	0.8 0.1760 0.1877 0.2 0.2107 0.2200 0.2282	0.85 0.1245 0.1369 0.15 0.1613 0.1713 0.1800	0.0730 0.0862 0.1 0.1120 0.1225 0.1318	0.95 0.0215 0.0354 0.05 0.0627 0.0738 0.0835
Case 3 $r = \rho/(C/W)$ 0.0971 0.0985 0.1000 0.1014 0.1026 0.1037 0.1047	<i>ρ/r</i> <i>1.0300</i> 1.0154 1 0.9867 0.9750 0.9647 0.9556	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3663 0.3729 0.3789	0.2790 0.2892 0.3 0.3093 0.3175 0.3247 0.3311	0.75 0.2275 0.2385 0.25 0.2600 0.2688 0.2765 0.2833	0.8 0.1760 0.1877 0.2 0.2107 0.2200 0.2282 0.2356	0.85 0.1245 0.1369 0.15 0.1613 0.1713 0.1800 0.1878	0.0730 0.0862 0.1 0.120 0.1225 0.1318 0.1400	0.95 0.0215 0.0354 0.0627 0.0738 0.0835 0.0922
Case 3 $r = \rho/(C/W)$ 0.0971 0.0985 0.1000 0.1014 0.1026 0.1037 0.1047 0.1056	<i>ρ/r</i> <i>1.0300</i> 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3663 0.3729 0.3789 0.3789	0.2790 0.2892 0.3 0.3093 0.3175 0.3247 0.3311 0.3368	0.75 0.2275 0.2385 0.25 0.2600 0.2688 0.2765 0.2833 0.2895	0.8 0.1760 0.1877 0.2 0.2107 0.2200 0.2282 0.2356 0.2421	0.85 0.1245 0.1369 0.15 0.1613 0.1713 0.1800 0.1878 0.1947	0.0730 0.0862 0.1 0.120 0.1225 0.1318 0.1400 0.1474	0.95 0.0215 0.0354 0.05 0.0627 0.0738 0.0835 0.0922 0.1000
Case 3 $r = \rho/(C/W)$ 0.0971 0.0985 0.1000 0.1014 0.1026 0.1037 0.1047 0.1056 0.1067	<i>ρ/r</i> <i>1.0300</i> 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 0.9370	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3683 0.3729 0.3789 0.3789 0.3842 0.3910	0.2790 0.2892 0.3 0.3093 0.3175 0.3247 0.3311	0.75 0.2275 0.2385 0.25 0.2600 0.2688 0.2765 0.2833	0.8 0.1760 0.1877 0.2 0.2107 0.2200 0.2282 0.2356	0.85 0.1245 0.1369 0.15 0.1613 0.1713 0.1800 0.1878	0.0730 0.0862 0.1 0.120 0.1225 0.1318 0.1400	0.95 0.0215 0.0354 0.05 0.0627 0.0738 0.0835 0.0922
Case 3 $r = \rho/(C/W)$ 0.0971 0.0985 0.1000 0.1014 0.1026 0.1037 0.1047 0.1056 0.1067	<i>ρ/r</i> <i>1.0300</i> 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 <i>0.9370</i> The z axis: fo	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3663 0.3729 0.3789 0.3789 0.3842 0.3910 r p/r:	0.2790 0.2892 0.3 0.3093 0.3175 0.3247 0.3311 0.3368	0.75 0.2275 0.2385 0.25 0.2600 0.2688 0.2765 0.2833 0.2895	0.8 0.1760 0.1877 0.2 0.2107 0.2200 0.2282 0.2356 0.2421	0.85 0.1245 0.1369 0.15 0.1613 0.1713 0.1800 0.1878 0.1947	0.0730 0.0862 0.1 0.120 0.1225 0.1318 0.1400 0.1474	0.95 0.0215 0.0354 0.05 0.0627 0.0738 0.0835 0.0922 0.1000
Case 3 $r = \rho/(C/W)$ 0.0971 0.0985 0.1000 0.1014 0.1026 0.1037 0.1047 0.1056 0.1067 Count backwa	<i>ρ/r</i> <i>1.0300</i> 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 <i>0.9370</i> The z axis: fo	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3663 0.3729 0.3789 0.3789 0.3789 0.3842 0.3910 r ρ/r. ρ	0.2790 0.2892 0.3 0.3093 0.3175 0.3247 0.3311 0.3368	0.75 0.2275 0.2385 0.25 0.2600 0.2688 0.2765 0.2833 0.2895 0.2973	0.8 0.1760 0.1877 0.2 0.2107 0.2200 0.2282 0.2356 0.2421 0.2504	0.85 0.1245 0.1369 0.15 0.1613 0.1713 0.1800 0.1878 0.1947 0.2036	0.0730 0.0862 0.1 0.120 0.1225 0.1318 0.1400 0.1474	0.95 0.0215 0.0354 0.05 0.0627 0.0738 0.0835 0.0922 0.1000 0.1099
Case 3 $r = \rho/(C/W)$ 0.0971 0.0985 0.1000 0.1014 0.1026 0.1037 0.1047 0.1056 0.1067 Count backwa Case 4	<i>p/r</i> <i>1.0300</i> 1.0154 1.09867 0.9750 0.9647 0.9556 0.9474 0.9370 The z axis: for rd	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3663 0.3729 0.3789 0.3789 0.3789 0.3842 0.3910 τ ρ/r. ρ 0.1	0.2790 0.2892 0.3 0.3093 0.3175 0.3247 0.3311 0.3368 0.3441	$\begin{array}{c} 0.75\\ \hline 0.2275\\ \hline 0.2385\\ \hline 0.25\\ \hline 0.2600\\ \hline 0.2608\\ \hline 0.2765\\ \hline 0.2833\\ \hline 0.2895\\ \hline 0.2973\\ \hline s=1-c=(\rho/r)(0.287)$	0.8 0.1760 0.1877 0.2 0.2107 0.2200 0.2282 0.2356 0.2421 0.2504 <i>l</i> -α), where	0.85 0.1245 0.1369 0.15 0.1613 0.1713 0.1800 0.1878 0.1947 0.2036	0.0730 0.0862 0.1 0.1225 0.1318 0.1400 0.1474 0.1567	0.95 0.0215 0.0354 0.05 0.0627 0.0738 0.0835 0.0922 0.1000 0.1099
Case 3 $r = \rho/(C/W)$ 0.0971 0.0985 0.1000 0.1014 0.1026 0.1037 0.1047 0.1056 0.1067 Count backwa Case 4 $r = \rho/(C/W)$	$\frac{\rho/r}{1.0300}$ 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 0.9370 The z axis: for rd ρ/r	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3663 0.3729 0.3789 0.3842 0.3910 x ρ/r. ρ 0.1 0.1	0.2790 0.2892 0.3 0.3093 0.3175 0.3247 0.3311 0.3368 0.3441 0.3441	$\begin{array}{c} 0.75\\ 0.2275\\ 0.2385\\ 0.25\\ 0.2600\\ 0.2688\\ 0.2765\\ 0.2833\\ 0.2895\\ 0.2973\\ s= l_{-c}=(\rho/r)(\\ 0.75\\ \end{array}$	0.8 0.1760 0.1877 0.2107 0.2200 0.2282 0.2356 0.2421 0.2504 <i>I-α</i>), where 0.8	0.85 0.1245 0.1369 0.15 0.1613 0.1713 0.1800 0.1878 0.1947 0.2036 <i>p/r=C/W.</i> 0.85	0.0730 0.0862 0.1 0.1225 0.1318 0.1400 0.1474 0.1567 0.9	$\begin{array}{c} 0.95\\ 0.0215\\ 0.0354\\ 0.05\\ 0.0627\\ 0.0738\\ 0.0835\\ 0.0922\\ 0.1000\\ 0.1099\\ \hline \end{array}$
Case 3 $r = \rho/(C/W)$ 0.0971 0.0985 0.1000 0.1014 0.1026 0.1037 0.1047 0.1056 0.1067 Count backwas Case 4 $r = \rho/(C/W)$ 0.0833	$\frac{\rho/r}{1.0300}$ 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 0.9370 The z axis: for rd $\frac{\rho/r}{1.2000}$	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3663 0.3729 0.3789 0.3789 0.3842 0.3910 τ. ρ/r. ρ 0.1 0.1 0.65 0.2200	0.2790 0.2892 0.3 0.3093 0.3175 0.3247 0.3311 0.3368 0.3441 0.3441	$\begin{array}{c} 0.75\\ 0.2275\\ 0.2385\\ 0.25\\ 0.2600\\ 0.2688\\ 0.2765\\ 0.2833\\ 0.2895\\ 0.2973\\ \end{array}$	$\begin{array}{c} 0.8\\ 0.1760\\ 0.1877\\ 0.2\\ 0.2107\\ 0.2200\\ 0.2282\\ 0.2356\\ 0.2421\\ 0.2504\\ \end{array}$	0.85 0.1245 0.1369 0.15 0.1613 0.1713 0.1800 0.1878 0.1947 0.2036 <i>ρ/r=C/W.</i> 0.85 -0.0200	0.0730 0.0862 0.1 0.1225 0.1318 0.1400 0.1474 0.1567 0.9 -0.0800	$\begin{array}{c} 0.95\\ 0.0215\\ 0.0354\\ 0.05\\ 0.0627\\ 0.0738\\ 0.0835\\ 0.0922\\ 0.1000\\ 0.1099\\ 0.1099\\ \end{array}$
$\begin{array}{c} {\rm Case \ 3} \\ r = \rho/(C/W) \\ 0.0971 \\ 0.0985 \\ 0.1000 \\ 0.1014 \\ 0.1026 \\ 0.1037 \\ 0.1047 \\ 0.1056 \\ 0.1067 \end{array}$	<i>ρ/r</i> <i>1.0300</i> <i>1.0154</i> <i>1</i> 0.9867 0.9750 0.9647 0.9556 0.9474 <i>0.9370</i> The z axis: for rd <i>ρ/r</i> <i>1.2000</i> <i>1.1143</i>	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.363 0.3729 0.3729 0.3789 0.3842 0.3910 <i>τ ρ/r</i> . <i>ρ</i> 0.1 0.65 0.2200 0.2500	0.2790 0.2892 0.3 0.3093 0.3175 0.3247 0.3311 0.3368 0.3441 0.3441 0.7 0.7 0.1600 0.1923	$\begin{array}{c} 0.75\\ \hline 0.2275\\ \hline 0.2385\\ \hline 0.25\\ \hline 0.2600\\ \hline 0.2688\\ \hline 0.2765\\ \hline 0.2833\\ \hline 0.2895\\ \hline 0.2973\\ \hline s=l-c=(\rho/r)(-0.75)\\ \hline 0.1000\\ \hline 0.1346\\ \end{array}$	0.8 0.1760 0.1877 0.2 0.2107 0.2200 0.2282 0.2356 0.2421 0.2504 <i>I</i> -α), where 0.8 0.0400 0.0769	0.85 0.1245 0.1369 0.15 0.1613 0.1713 0.1800 0.1878 0.1947 0.2036 <i>ρ/r=C/W</i> . 0.85 -0.0200 0.0192	0.0730 0.0862 0.1 0.120 0.1225 0.1318 0.1400 0.1474 0.1567 0.9 -0.0800 -0.0385	$\begin{array}{c} 0.95\\ 0.0215\\ 0.0354\\ 0.05\\ 0.0627\\ 0.0738\\ 0.0835\\ 0.0922\\ 0.1000\\ 0.1099\\ \hline \end{array}$
$\begin{array}{c} {\rm Case \ 3} \\ r=\rho/(C/W) \\ 0.0911 \\ 0.0985 \\ 0.1000 \\ 0.1014 \\ 0.1026 \\ 0.1037 \\ 0.1047 \\ 0.1056 \\ 0.1067 \end{array}$	<i>ρ/r</i> <i>1.0300</i> <i>1.0154</i> 1 0.9867 0.9750 0.9647 0.9556 0.9474 <i>0.9370</i> The z axis: for rd <i>ρ/r</i> <i>1.2000</i> 1.1143 1.0800	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3663 0.3729 0.3789 0.3789 0.3789 0.3842 0.3910 τ <i>p/r</i> : <i>ρ</i> 0.1 0.65 0.2200 0.22500 0.2757	0.2790 0.2892 0.3 0.3093 0.3105 0.3247 0.3311 0.3368 0.3441 0.3441 0.07 0.600 0.1923 0.2200	$\begin{array}{c} 0.75\\ 0.2275\\ 0.2385\\ 0.25\\ 0.2600\\ 0.2688\\ 0.2765\\ 0.2833\\ 0.2895\\ 0.2973\\ \end{array}$ $s=1-c=(\rho/r)(0.75\\ 0.1000\\ 0.1346\\ 0.1643\\ \end{array}$	0.8 0.1760 0.1877 0.2 0.2107 0.2200 0.2282 0.2356 0.2421 0.2504 <i>I</i> -α), where 0.8 0.0400 0.0769 0.1086	0.85 0.1245 0.1369 0.15 0.1613 0.1713 0.1800 0.1878 0.1947 0.2036 <i>p/r=C/W.</i> 0.85 -0.0200 0.0192 0.0529	0.0730 0.0862 0.1 0.1225 0.1318 0.1400 0.1474 0.1567 0.9 -0.0800 -0.0385 -0.0029	0.95 0.0215 0.0354 0.05 0.0627 0.0738 0.0835 0.0922 0.1000 0.1099 1-α 0.95 -0.1400 -0.0962 -0.0586
Case 3 $r = \rho/(C/W)$ 0.0971 0.0985 0.1000 0.1014 0.1026 0.1047 0.1047 0.1047 0.1047 0.1047 0.1047 0.1047 0.1047 0.1056 0.1067 Count backwa Case 4 $r = \rho/(C/W)$ 0.0833 0.0897 0.0926 0.0926	<i>ρ/r</i> <i>1.0300</i> 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 <i>0.9370</i> The z axis: for rd <i>ρ/r</i> <i>1.2000</i> 1.1143 1.0800 1.0500	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3663 0.3729 0.3789 0.3789 0.3842 0.3910 τ <i>ρ/τ</i> . <i>ρ</i> 0.1 0.65 0.2200 0.2500 0.2257 0.2980	0.2790 0.2892 0.3 0.3093 0.3175 0.3247 0.3311 0.3368 0.3441 0.3441 0.3441 0.31600 0.1223 0.2200 0.22400	$\begin{array}{c} 0.75\\ 0.275\\ 0.2385\\ 0.25\\ 0.2600\\ 0.2688\\ 0.2765\\ 0.2833\\ 0.2895\\ 0.2973\\ \hline 0.2973\\ \hline 0.2973\\ \hline 0.2973\\ \hline 0.1000\\ 0.1346\\ 0.1643\\ 0.1900\\ \hline \end{array}$	0.8 0.1760 0.1877 0.2 0.2107 0.2282 0.2356 0.2421 0.2504 <i>I</i> - α), where 0.8 0.0400 0.0769 0.1886 0.1360	0.85 0.1245 0.1369 0.15 0.1613 0.1713 0.1800 0.1878 0.1947 0.2036 <i>p/r=C/W.</i> 0.855 -0.0200 0.0192 0.0529 0.0820	0.0730 0.0862 0.1 0.1225 0.1318 0.1400 0.1474 0.1567 0.1567 0.9 -0.0800 -0.0880 -0.029 0.0280	$\begin{array}{c} 0.95\\ 0.0215\\ 0.0354\\ 0.05\\ 0.0627\\ 0.0738\\ 0.0835\\ 0.0922\\ 0.1000\\ 0.1099\\ \hline \end{array}$
Case 3 $r = \rho/(C/W)$ 0.0971 0.0985 0.1000 0.1014 0.1026 0.1037 0.1047 0.1056 0.1067 Count backwa Case 4 $r = \rho/(C/W)$ 0.0833 0.0897 0.0952 0.0952 0.0952 0.0952	$\frac{\rho/r}{1.0300}$ 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 0.9370 The z axis: for rd $\frac{\rho/r}{1.2000}$ 1.1143 1.0800 1.0550 1.0235	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3663 0.3729 0.3789 0.3842 0.3910 x ρ/r. ρ 0.1 0.65 0.2200 0.2500 0.2500 0.2757 0.2980 0.3175	0.2790 0.2892 0.3 0.3093 0.3175 0.3247 0.3311 0.3368 0.3441 0.3441 0.3460 0.3441 0.200 0.1923 0.2200 0.2440 0.2650	$\begin{array}{c} 0.75\\ 0.2275\\ 0.2385\\ 0.25\\ 0.2600\\ 0.2688\\ 0.2765\\ 0.2833\\ 0.2895\\ 0.2973\\ 0.2973\\ s= l_{-c} = (\rho/r)(\\ 0.75\\ 0.1000\\ 0.1346\\ 0.1643\\ 0.1900\\ 0.2125\\ \end{array}$	0.8 0.1760 0.1877 0.2 0.2107 0.2282 0.2356 0.2421 0.2504 1- α), where 0.8 0.0400 0.0769 0.1360 0.1600	$\begin{array}{c} 0.85\\ 0.1245\\ 0.1369\\ 0.15\\ 0.1613\\ 0.1713\\ 0.1800\\ 0.1878\\ 0.1947\\ 0.2036\\ \hline \rho/r=C/W.\\ 0.855\\ -0.0200\\ 0.0192\\ 0.0529\\ 0.0820\\ 0.1075\\ \end{array}$	0.0730 0.0862 0.1 0.1120 0.1225 0.1318 0.1400 0.1474 0.1567 0.9 -0.0800 -0.0385 -0.029 0.0280 0.0550	$\begin{array}{c} 0.95\\ 0.0215\\ 0.0354\\ 0.05\\ 0.0627\\ 0.0738\\ 0.0835\\ 0.0922\\ 0.1000\\ 0.1099\\ \hline \end{array}$
Case 3 $r = \rho/(C/W)$ 0.0971 0.0985 0.1000 0.1014 0.1026 0.1037 0.1047 0.1056 0.1067 Count backwa Case 4 $r = \rho/(C/W)$ 0.0833 0.0897 0.0925 0.0977 0.1000	$\frac{\rho/r}{1.0300}$ 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 0.9370 The z axis: for rd $\frac{\rho/r}{1.2000}$ 1.1143 1.0800 1.0500 1.0235 1.0000	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.363 0.3729 0.3729 0.3789 0.3842 0.3910 r ρ/r. ρ 0.1 0.65 0.2200 0.2500 0.2550 0.2757 0.2980 0.3175 0.3347	0.2790 0.2892 0.3 0.3093 0.3175 0.3247 0.3311 0.3368 0.3441 0.3461 0.3441 0.1923 0.2200 0.2450 0.2450 0.2835	$\begin{array}{c} 0.75\\ 0.2275\\ 0.2385\\ 0.25\\ 0.2600\\ 0.2688\\ 0.2765\\ 0.2833\\ 0.2895\\ 0.2973\\ \hline \end{array}$	0.8 0.1760 0.1877 0.2 0.2107 0.2282 0.2356 0.2421 0.2504 1- α), where 0.8 0.0400 0.0769 0.1860 0.1600 0.1812	0.85 0.1245 0.1369 0.15 0.1613 0.1713 0.1800 0.1878 0.1947 0.2036 <i>p/r=C/W.</i> 0.85 -0.0200 0.0192 0.0529 0.0820 0.1075 0.1300	0.0730 0.0862 0.1 0.1120 0.1225 0.1318 0.1400 0.1474 0.1567 0.9 -0.0800 -0.0385 -0.0029 0.0280 0.0550 0.0788	$\begin{array}{c} 0.95\\ 0.0215\\ 0.0354\\ 0.055\\ 0.0627\\ 0.0738\\ 0.0835\\ 0.0922\\ 0.1000\\ 0.1099\\ 0.1099\\ 0.1099\\ 0.1099\\ 0.1099\\ 0.1099\\ 0.1095\\ -0.1400\\ -0.0962\\ -0.0586\\ -0.0260\\ 0.0025\\ 0.0276\\ \end{array}$
$\begin{array}{c} {\rm Case \ 3} \\ r=\rho/(C/W) \\ 0.0911 \\ 0.0985 \\ 0.1000 \\ 0.1014 \\ 0.1026 \\ 0.1037 \\ 0.1047 \\ 0.1056 \\ 0.1067 \\ \end{array}$	<i>ρ/r</i> <i>1.0300</i> 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 <i>0.9370</i> The z axis: for <i>rd</i> <i>β/r</i> <i>1.2000</i> 1.1143 1.0800 1.0235 1.0000 1.0235 1.0000 1.0235 1.00000 1.00000 1.0000 1.0000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.000000 1.000000 1.0000000000	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3663 0.3729 0.3789 0.3842 0.3910 τ <i>p/r</i> : <i>ρ</i> 0.1 0.65 0.2200 0.2500 0.2550 0.2550 0.3175 0.3347 0.354 0.354 0.354 0.354 0.354 0.3557 0.2980 0.3175 0.3347 0.357 0.357 0.3587 0.3587 0.3587 0.3587 0.3587 0.3587 0.3587 0.3587 0.3587 0.3587 0.3587 0.3587 0.3587 0.3587 0.3587 0.3587 0.3587 0.3587 0.3587 0.3729 0.3729 0.3789 0.3729 0.3789 0.3789 0.3729 0.3789 0.3789 0.3789 0.3842 0.3910 0.1 0.5500 0.2500 0.2757 0.2980 0.3175 0.3347 0.3347 0.3347 0.3347 0.3347 0.3587 0.3587 0.3789 0.3789 0.3887 0.3897 0.3200 0.2500 0.3175 0.3347 0.3347 0.3347 0.3347 0.3347 0.3357 0.3347 0.3357 0.3347 0.3357 0.3347 0.3357 0.3357 0.3347 0.3357 0.3357 0.3357 0.3357 0.3347 0.3357 0.3357 0.3357 0.3357 0.3357 0.3357 0.3357 0.3357 0.3357 0.3357 0.3357 0.3357 0.3357 0.3357 0.3357 0.3357 0.3357 0.3357 0.3577 0.3577 0.3577 0.3577 0.3357 0.3357 0.3357 0.3357 0.3357 0.3357 0.3357 0.3357 0.3357 0.3357 0.3357 0.3357 0.3357 0.3357 0.3577 0.5777 0.5777 0.5777 0.5777 0.5777 0.5777 0.5777 0.5777 0.5777 0.5777 0.57777 0.57777 0.57777 0.5777777777777777777777777777777777777	0.2790 0.2892 0.3 0.3093 0.3175 0.3247 0.3311 0.3368 0.3441 0.368 0.3441 0.1923 0.2200 0.1923 0.2200 0.2440 0.2635 0.3	$\begin{array}{c} 0.75\\ 0.2275\\ 0.2385\\ 0.25\\ 0.260\\ 0.2688\\ 0.2765\\ 0.2833\\ 0.2895\\ 0.2973\\ 0.2973\\ s=1-c=(\rho/r)(\\ 0.75\\ 0.1000\\ 0.1346\\ 0.1643\\ 0.1900\\ 0.2125\\ 0.2324\\ 0.25\\ \end{array}$	0.8 0.1760 0.1877 0.2 0.2107 0.2200 0.2282 0.2356 0.2421 0.2504 <i>l</i> -α), where 0.8 0.0400 0.0769 0.1086 0.1360 0.1600 0.1812 0.2	0.85 0.1245 0.1369 0.15 0.1613 0.1713 0.1800 0.1878 0.1947 0.2036 -0.2036 -0.2036 -0.0200 0.0192 0.0529 0.0820 0.0192 0.0529 0.0820 0.1075	0.0730 0.0862 0.1 0.1120 0.1225 0.1318 0.1400 0.1474 0.1567 -0.0800 -0.0385 -0.0029 0.0280 0.0280 0.0550 0.0788 0.1	$\begin{array}{c} 0.95\\ 0.0215\\ 0.0354\\ 0.05\\ 0.0627\\ 0.0738\\ 0.0835\\ 0.0922\\ 0.1000\\ 0.1099\\ \hline \end{array}$
Case 3 $r = \rho/(C/W)$ 0.0971 0.0985 0.1000 0.1014 0.1026 0.1037 0.1047 0.1056 0.1067 Count backwa Case 4 $r = \rho/(C/W)$ 0.0833 0.0897 0.0926 0.0952 0.0977 0.1000 0.1000 0.1000 0.1002	<i>ρ/r</i> <i>1.0300</i> 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 <i>0.9370</i> The z axis: for rd <i>ρ/r</i> <i>1.2000</i> 1.1143 1.0800 1.0235 1.0000 1.0235 1.0000 1.0235	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3663 0.3729 0.3789 0.3842 0.3910 τ <i>p/r</i> . <i>p</i> 0.1 0.65 0.2200 0.2500 0.2500 0.2757 0.2980 0.3175 0.3347 0.35 0.357	0.2790 0.2892 0.30 0.3093 0.3175 0.3247 0.3311 0.3348 0.3441 0.3441 0.3600 0.2200 0.2240 0.2250 0.2235 0.33 0.3147	$\begin{array}{r} 0.75\\ \hline 0.275\\ \hline 0.2385\\ \hline 0.25\\ \hline 0.2600\\ \hline 0.2688\\ \hline 0.2765\\ \hline 0.2833\\ \hline 0.2895\\ \hline 0.2973\\ \hline 0.2973\\ \hline 0.2973\\ \hline 0.1000\\ \hline 0.1346\\ \hline 0.1643\\ \hline 0.1900\\ \hline 0.2125\\ \hline 0.2324\\ \hline 0.25\\ \hline 0.25\\ \hline 0.2658\\ \hline \end{array}$	0.8 0.1760 0.1877 0.2 0.2107 0.2282 0.2356 0.2421 0.2504 <i>I</i> - α), where 0.8 0.0400 0.0769 0.1866 0.1600 0.1812 0.2 0.2168	$\begin{array}{c} 0.85\\ 0.1245\\ 0.1369\\ 0.15\\ 0.1613\\ 0.1713\\ 0.1810\\ 0.1878\\ 0.1947\\ 0.2036\\ \rho/r=C/W.\\ \hline 0.855\\ -0.0200\\ 0.0192\\ 0.0529\\ 0.0820\\ 0.0192\\ 0.0529\\ 0.0820\\ 0.1075\\ 0.1300\\ 0.15\\ 0.1679\\ \end{array}$	0.0730 0.0862 0.1 0.1225 0.1318 0.1400 0.1474 0.1567 0.1567 0.0800 -0.0800 -0.0808 -0.0029 0.0280 0.0280 0.0550 0.0788 0.1 0.1189	$\begin{array}{c} 0.95\\ 0.0215\\ 0.0354\\ 0.05\\ 0.0627\\ 0.0738\\ 0.0835\\ 0.0922\\ 0.1000\\ 0.1099\\ \hline \end{array}$
Case 3 $r = \rho/(C/W)$ 0.0971 0.0985 0.1000 0.1014 0.1026 0.1047 0.1047 0.1047 0.1047 0.1047 0.1047 0.1047 0.1047 0.1056 0.1067 Count backwa Case 4 $r = \rho/(C/W)$ 0.0833 0.0897 0.0926 0.0925 0.0977 0.1000 0.1000 0.1000 0.1002 0.1003	<i>ρ/r</i> <i>1.0300</i> 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 <i>0.9370</i> The z axis: for <i>rd</i> <i>β/r</i> <i>1.2000</i> 1.1143 1.0800 1.0235 1.0000 1.0235 1.0000 1.0235 1.00000 1.00000 1.0000 1.0000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.00000 1.000000 1.000000 1.0000000000	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3663 0.3729 0.3789 0.3789 0.3842 0.3910 τ <i>ρ/τ</i> . <i>ρ</i> 0.1 0.65 0.2200 0.2500 0.2500 0.2257 0.2980 0.3175 0.3347 0.3347 0.357 0.3637 0.3825	0.2790 0.2892 0.3 0.3093 0.3175 0.3247 0.3311 0.3368 0.3441 0.368 0.3441 0.1923 0.2200 0.1923 0.2200 0.2440 0.2635 0.3	$\begin{array}{c} 0.75\\ 0.2275\\ 0.2385\\ 0.25\\ 0.260\\ 0.2688\\ 0.2765\\ 0.2833\\ 0.2895\\ 0.2973\\ 0.2973\\ s=1-c=(\rho/r)(\\ 0.75\\ 0.1000\\ 0.1346\\ 0.1643\\ 0.1900\\ 0.2125\\ 0.2324\\ 0.25\\ \end{array}$	0.8 0.1760 0.1877 0.2 0.2107 0.2200 0.2282 0.2356 0.2421 0.2504 <i>l</i> -α), where 0.8 0.0400 0.0769 0.1086 0.1360 0.1600 0.1812 0.2	0.85 0.1245 0.1369 0.15 0.1613 0.1713 0.1800 0.1878 0.1947 0.2036 -0.2036 -0.2036 -0.0200 0.0192 0.0529 0.0820 0.0192 0.0529 0.0820 0.1075	0.0730 0.0862 0.1 0.1120 0.1225 0.1318 0.1400 0.1474 0.1567 -0.0800 -0.0385 -0.0029 0.0280 0.0280 0.0550 0.0788 0.1	$\begin{array}{c} 0.95\\ 0.0215\\ 0.0354\\ 0.05\\ 0.0627\\ 0.0738\\ 0.0835\\ 0.0922\\ 0.1000\\ 0.1099\\ \hline \end{array}$

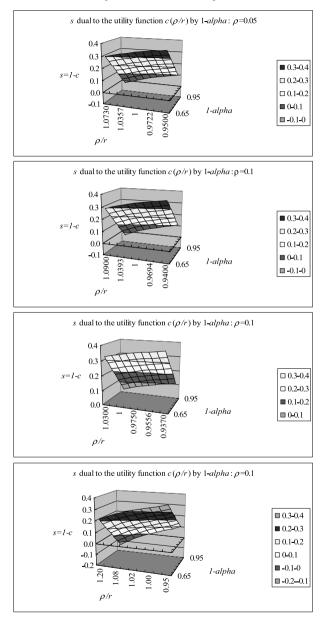


Figure A1-3 The rate of saving dual to the utility function of $c (\rho/r)$ by 1-alpha

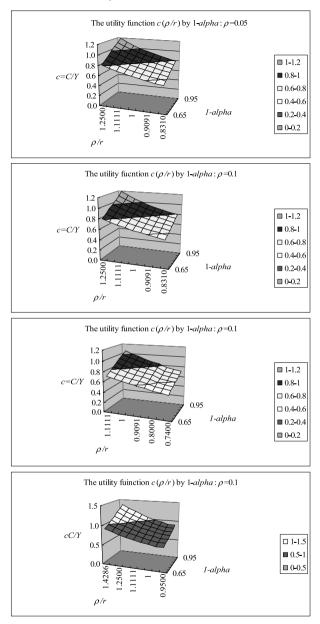
=	0.67	0.5	0.85	0.0	0.04	0.0	0.05 4.1.1
Case 1	0.65	0.7	0.75	0.8	0.85	0.9	0.95 1-alpha
alpha	0.35	0.3	0.25	0.2	0.15	0.1	0.05 s _{SP/P} at $\alpha = s$
$\alpha_{\rm SP/Y}$	0.1323	0.1350	0.1325	0.1300	0.0900	0.0600	0.0350 0.65
$\alpha_{D/Y}$	0.2177	0.1650	0.1175	0.0700	0.0600	0.0400	0.0150 s _{SD/D} at $\alpha = s$
SSD/Y	0.0894	0.0660	0.0470	0.0300	0.0270	0.0180	0.0078 0.429
c _{CD/Y}	0.1284	0.0990	0.0705	0.0400	0.0330	0.0220	0.0072
$w_{W/Y}=1-\alpha$	0.65	0.7	0.75	0.8	0.85	0.9	0.95 s _{SW/W} at α =
$s_{SW/Y}$	0.0137	0.0212	0.0311	0.0400	0.0735	0.1038	0.1311 0.05
c _{CW/Y}	0.6364	0.6788	0.7190	0.7600	0.7765	0.7962	0.8189
s	0.2353	0.2222	0.21	0.2	0.1905	0.1818	0.1739
с	0.7647	0.7778	0.7895	0.8000	0.8095	0.8182	0.8261 c _{CWY} +c _{CDY}
ρ/ r=c/w _{W/Y}	1.1765	1.1111	1.0526	1.0000	0.9524	0.9091	0.8696
s _{SP/P} =	0.3779	0.45	0.53	0.65	0.6	0.6	0.7
s _{SD/D} =	0.4104	0.4	0.4	0.429	0.45	0.45	0.52
s _{SW/W} =	0.021	0.0303	0.0414	0.05	0.0864	0.1153	0.138
Case 2	0.65	0.7	0.75	0.8	0.85	0.9	0.95 1-alpha
alpha	0.35	0.3	0.25	0.2	0.15	0.1	0.05 s _{SP/P} at $\alpha = s$
α _{SP/Y}	0.1323	0.1350	0.1325	0.1300	0.0900	0.0600	0.0350 0.45
$\alpha_{D/Y}$	0.217735	0.165	0.1175	0.07	0.06	0.04	0.015 s _{SD/D} at $\alpha = s$
S _{SD/Y}	0.0894	0.0660	0.0470	0.0300	0.0270	0.0180	0.0078 0.6
	0.1284	0.0990	0.0705	0.0300	0.0270	0.0220	0.0078 0.0
$c_{CD/Y}$ $w_{W/Y}=1-\alpha$	0.1284	0.0990	0.0705	0.0400	0.0330	0.0220	0.0072 0.95 s _{SW/W} at α =
	0.0137	0.0212	0.0311	0.0400	0.0735	0.1038	0.1311 0.055
S _{SW/Y}	0.6364	0.6788	0.7190	0.7600	0.0735	0.7962	0.8189
c _{CW/Y}	0.0304	0.0788	0.7190		0.1905	0.1962	0.1739
s	0.2355	0.2222	0.21	0.2	0.1905	0.1818	
C .			1.0526		0.8095	0.8182	0.8261 c _{CW/Y} +c _{CD/Y}
ρ / r=c/w _{W/Y}	1.1765	1.1111		1.0000			
s _{SP/P} =	0.3779	0.45	0.53	0.65 0.429	0.6	0.6	0.7
s _{SD/D} =	0.4104	0.4	0.4 0.0414	0.429	0.45	0.45	0.52 0.138
s _{sw/w} =	0.021	0.0303	0.0414	0.05	0.0864	0.1153	0.138 0.95 1-alpha
alpha	0.05	0.7	0.75	0.8	0.85	0.9	$0.05 \text{ s}_{\text{SP/P}} \text{ at } \alpha = s$
1	0.2100	0.1800	0.1500	0.1200	0.0900	0.0600	0.0300 0.5
$\alpha_{\rm SP/Y}$	0.2100	0.1800	0.1300	0.1200	0.0900	0.000	
$\alpha_{D/Y}$							0.02 s _{SD/D} at $\alpha = s$
SSD/Y	0.0630	0.0540	0.0450	0.0360	0.0270	0.0180	0.0090 0.72
CCD/Y	0.0770	0.0660	0.0550	0.0440	0.0330	0.0220	0.0110
$w_{W/Y}=1-\alpha$	0.65	0.7	0.75	0.8	0.85	0.9	0.95 s _{SW/W} at α =
$\mathbf{s}_{\mathrm{SW/Y}}$		0.0660		0.1167	0.1438	0.2020	
$c_{CW/Y}$	0.0428		0.0907				0.2303 0.06
	0.6072	0.6340	0.6593	0.6833	0.7062	0.6980	0.7197
s		0.6340 0.3					0.7197 0.2693
с	0.6072 0.3158 0.6842	0.6340 0.3 0.7000	0.6593 0.29 0.7143	0.6833 0.2727 0.7273	0.7062 0.2608 0.7392	0.6980 0.2800 0.7200	0.7197 0.2693 0.7307 c _{CW/Y} +c _{CD/Y}
с	0.6072 0.3158 0.6842 1.0526	0.6340 0.3 0.7000 1.0000	0.6593 0.29 0.7143 0.9524	0.6833	0.7062 0.2608 0.7392 0.8696	0.6980 0.2800 0.7200 0.8000	0.7197 0.2693
с	0.6072 0.3158 0.6842	0.6340 0.3 0.7000	0.6593 0.29 0.7143	0.6833 0.2727 0.7273	0.7062 0.2608 0.7392	0.6980 0.2800 0.7200	0.7197 0.2693 0.7307 c _{CW/Y} +c _{CD/Y}
c ρ/ r=c/w _{W/Y}	0.6072 0.3158 0.6842 1.0526	0.6340 0.3 0.7000 1.0000	0.6593 0.29 0.7143 0.9524	0.6833 0.2727 0.7273 0.9091 0.6 0.45	0.7062 0.2608 0.7392 0.8696	0.6980 0.2800 0.7200 0.8000	0.7197 0.2693 0.7307 c _{CWY} +c _{CDY} 0.7692
$\frac{c}{\rho / r = c / w_{W/Y}}$ $s_{SP/P} =$	0.6072 0.3158 0.6842 1.0526 0.6	0.6340 0.3 0.7000 1.0000 0.6	0.6593 0.29 0.7143 0.9524 0.6	0.6833 0.2727 0.7273 0.9091 0.6	0.7062 0.2608 0.7392 0.8696 0.6	0.6980 0.2800 0.7200 0.8000 0.6	0.7197 0.2693 0.7307 c _{CWY} +c _{CDY} 0.7692 0.6
c p/ r=c/w _{W/Y} s _{SP/P} = s _{SD/D} = s _{SW/W} = Case 4	0.6072 0.3158 0.6842 1.0526 0.6 0.45 0.0659 0.65	0.6340 0.3 0.7000 1.0000 0.6 0.45 0.0943 0.7	0.6593 0.29 0.7143 0.9524 0.6 0.45 0.1209 0.75	0.6833 0.2727 0.7273 0.9091 0.6 0.45 0.1459 0.8	0.7062 0.2608 0.7392 0.8696 0.6 0.45 0.1692 0.85	0.6980 0.2800 0.7200 0.8000 0.6 0.45 0.2244 0.9	0.7197 0.2693 0.7307 0.7692 0.6 0.45 0.2424 0.95 1-alpha
c $\rho/r=c/w_{W/Y}$ $s_{SP/P}=$ $s_{SD/D}=$ $s_{SW/W}=$	0.6072 0.3158 0.6842 1.0526 0.6 0.45 0.0659 0.65 0.35	0.6340 0.3 0.7000 1.0000 0.6 0.45 0.0943 0.7 0.3	0.6593 0.29 0.7143 0.9524 0.6 0.45 0.1209 0.75 0.25	0.6833 0.2727 0.7273 0.9091 0.6 0.45 0.1459 0.8 0.2	0.7062 0.2608 0.7392 0.8696 0.6 0.45 0.1692 0.85 0.15	0.6980 0.2800 0.7200 0.8000 0.6 0.45 0.2244 0.9 0.1	$\begin{array}{c} 0.7197\\ \hline 0.2693\\ 0.7307\\ \hline 0.7692\\ \hline 0.6\\ 0.45\\ 0.2424\\ \hline 0.095\\ \hline 1\text{-}alpha\\ \hline 0.05\\ s_{SP,P} \text{ at } \alpha = s\end{array}$
c $\rho/r=c/w_{W/Y}$ $s_{SP/P}=$ $s_{SD/D}=$ $s_{SW/W}=$ Case 4	0.6072 0.3158 0.6842 1.0526 0.6 0.45 0.0659 0.65	0.6340 0.3 0.7000 1.0000 0.6 0.45 0.0943 0.7	0.6593 0.29 0.7143 0.9524 0.6 0.45 0.1209 0.75	0.6833 0.2727 0.7273 0.9091 0.6 0.45 0.1459 0.8	0.7062 0.2608 0.7392 0.8696 0.6 0.45 0.1692 0.85 0.15 0.0450	0.6980 0.2800 0.7200 0.8000 0.6 0.45 0.2244 0.9 0.1 0.0400	0.7197 0.2693 0.7307 c _{CWY} +c _{CDY} 0.7692 0.6 0.45 0.2424 0.95 1-alpha
c $p/r=c/w_{W/Y}$ $s_{SP/P}=$ $s_{SD/D}=$ $s_{SW/W}=$ Case 4 alpha	0.6072 0.3158 0.6842 1.0526 0.65 0.059 0.65 0.35 0.0175 0.3325	0.6340 0.3 0.7000 1.0000 0.6 0.45 0.0943 0.3 0.0300 0.27	0.6593 0.29 0.7143 0.9524 0.6 0.45 0.1209 0.75 0.25 0.0500 0.2	0.6833 0.2727 0.7273 0.9091 0.6 0.45 0.1459 0.8 0.2 0.0400 0.16	0.7062 0.2608 0.7392 0.8696 0.45 0.1692 0.85 0.15 0.0450 0.105	0.6980 0.2800 0.7200 0.8000 0.6 0.45 0.2244 0.9 0.1 0.0400 0.06	$\begin{array}{c} 0.7197\\ 0.2693\\ 0.7307\\ 0.7807\\ 0.66\\ 0.445\\ 0.0242\\ \hline 0.025\\ 0.020\\ 0.05\\ 0.8p_{\rm p} \mbox{at } \alpha = 0\\ 0.020\\ 0.020\\ 0.03\\ s_{\rm SDD} \mbox{at } \alpha = 0\\ 0.03\\ s_{\rm SDD} \$
$\frac{c}{\rho/r=c/w_{W/Y}}$ $\frac{s_{SP/P}}{s_{SD/D}}=$ $\frac{s_{SW/W}}{s_{SW/W}}=$ $\frac{case \ 4}{alpha}$ $\alpha_{SP/Y}$	0.6072 0.3158 0.6842 1.0526 0.6 0.45 0.0659 0.65 0.35 0.0175	0.6340 0.3 0.7000 1.0000 0.6 0.45 0.0943 0.7 0.3 0.0300	0.6593 0.29 0.7143 0.9524 0.6 0.45 0.1209 0.75 0.25 0.0500	0.6833 0.2727 0.7273 0.9091 0.6 0.45 0.1459 0.8 0.2 0.0400	0.7062 0.2608 0.7392 0.8696 0.6 0.45 0.1692 0.85 0.15 0.0450	0.6980 0.2800 0.7200 0.8000 0.6 0.45 0.2244 0.9 0.1 0.0400	$\begin{array}{c} 0.7197\\ 0.2693\\ 0.7692\\ 0.7692\\ 0.6\\ 0.45\\ 0.2424\\ 0.95\\ 1-alpha\\ 0.05\\ 8_{Spp} \mbox{ at } \alpha = s\\ 0.0200 & 0.4 \end{array}$
c $\rho/r=c/w_{W/Y}$ $s_{SP/P}=$ $s_{SD/D}=$ $s_{SW/W}=$ $Case 4$ $alpha$ $\alpha_{SP/Y}$ $\alpha_{D/Y}$	0.6072 0.3158 0.6842 1.0526 0.65 0.059 0.65 0.35 0.0175 0.3325	0.6340 0.3 0.7000 1.0000 0.6 0.45 0.0943 0.3 0.0300 0.27	0.6593 0.29 0.7143 0.9524 0.6 0.45 0.1209 0.75 0.25 0.0500 0.2	0.6833 0.2727 0.7273 0.9091 0.6 0.45 0.1459 0.8 0.2 0.0400 0.16	0.7062 0.2608 0.7392 0.8696 0.45 0.1692 0.85 0.15 0.0450 0.105	0.6980 0.2800 0.7200 0.8000 0.6 0.45 0.2244 0.9 0.1 0.0400 0.06	$\begin{array}{c} 0.7197\\ 0.2693\\ 0.7307\\ 0.7807\\ 0.66\\ 0.445\\ 0.0242\\ \hline 0.025\\ 0.020\\ 0.05\\ 0.8p_{\rm p} \mbox{at } \alpha = 0\\ 0.020\\ 0.020\\ 0.03\\ s_{\rm SDD} \mbox{at } \alpha = 0\\ 0.03\\ s_{\rm SDD} \$
$\begin{array}{c} c \\ \rho/r=c/w_{W/Y} \\ s_{SP,P}= \\ s_{SD,D}= \\ s_{SW,W}= \\ \hline \\ case 4 \\ \hline \\ alpha \\ \hline \\ \alpha_{SP/Y} \\ \alpha_{DY} \\ \hline \\ s_{SD,Y} \\ c_{CD,Y} \end{array}$	0.6072 0.3158 0.6842 1.0526 0.65 0.0659 0.65 0.035 0.0175 0.3325 0.0000	0.6340 0.3 0.7000 1.0000 0.6 0.45 0.0943 0.7 0.3 0.0300 0.27 0.0270	0.6593 0.29 0.7143 0.9524 0.66 0.45 0.1209 0.75 0.25 0.0500 0.2 0.0200	0.6833 0.2727 0.7273 0.9091 0.6 0.45 0.1459 0.8 0.2 0.0400 0.16 0.0240	0.7062 0.2608 0.7392 0.8696 0.45 0.1692 0.85 0.15 0.0450 0.0450 0.105 0.0210	0.6980 0.2800 0.7200 0.8000 0.6 0.45 0.2244 0.9 0.1 0.0400 0.06 0.0210	0.7197 0.2693 0.7307 e _{CWY} +e _{CDY} 0.6 0.45 0.45 0.2424 0.05 0.05 0.0200 0.4 0.03 s _{SDP} at α ≈ 0 0.0200 0.4 0.03 s _{SDP} at α ≈ 0 0.0120 0.4
$\begin{array}{c} c \\ \rho/r=c/w_{W/Y} \\ s_{Sp,P}= \\ s_{SDD}= \\ s_{SWW}= \\ \hline \\ case 4 \\ alpha \\ \alpha_{SP/Y} \\ \alpha_{DY} \\ \alpha_{DY} \\ c_{CDY} \\ w_{W/Y}=1-\alpha \end{array}$	0.6072 0.3158 0.6842 1.0526 0.6 0.45 0.0659 0.65 0.35 0.0175 0.3325 0.0000 0.3325	0.6340 0.7000 1.0000 0.65 0.0943 0.7 0.3 0.0300 0.27 0.0270 0.2430	0.6593 0.29 0.7143 0.9524 0.65 0.45 0.1209 0.75 0.25 0.0500 0.2 0.0200 0.1800	0.6833 0.2727 0.7273 0.9091 0.6 0.45 0.1459 0.8 0.2 0.0400 0.16 0.0240 0.1360	0.7062 0.2608 0.7392 0.8696 0.6 0.45 0.1692 0.85 0.15 0.0450 0.105 0.0210 0.0840	0.6980 0.2800 0.7200 0.8000 0.6 0.45 0.2244 0.9 0.1 0.0400 0.06 0.0210 0.0390	0.7197 0.2693 0.7307 e _{CWY} +e _{CDY} 0.6 0.45 0.45 0.2424 0.05 0.05 0.0200 0.4 0.03 s _{SDP} at α ≈ 0 0.0200 0.4 0.03 s _{SDP} at α ≈ 0 0.0120 0.4
$\begin{array}{c} c\\ \rho/r=c/w_{WY}\\ s_{SPP}=\\ s_{SDD}=\\ s_{SDD}=\\ s_{SWW}=\\ \hline \\ c_{SPY}\\ \alpha_{DY}\\ \alpha_{DY}\\ \hline \\ s_{SDY}\\ c_{CDY}\\ \hline \\ w_{WY}=1-\alpha\\ s_{SWY} \end{array}$	0.6072 0.3158 0.6842 1.0526 0.65 0.0659 0.65 0.035 0.0175 0.3325 0.0000 0.3325 0.0000 0.3325 0.65 0.1159	0.6340 0.3 0.7000 1.000 0.6 0.45 0.0943 0.7 0.3 0.0300 0.27 0.0270 0.2430 0.7 0.0680	0.6593 0.29 0.7143 0.9524 0.6 0.45 0.1209 0.75 0.25 0.0500 0.2 0.0200 0.0200 0.0200 0.75 0.0476	0.6833 0.2727 0.7273 0.9091 0.6 0.459 0.1459 0.2 0.0400 0.16 0.0240 0.0240 0.0240 0.1660 0.8 0.0471	0.7062 0.2608 0.7392 0.8696 0.6 0.45 0.1692 0.85 0.15 0.0450 0.0450 0.0210 0.0210 0.0210 0.0840 0.885 0.0393	0.6980 0.2800 0.7200 0.000 0.45 0.2244 0.9 0.1 0.0400 0.0400 0.0210 0.0210 0.0390 0.9 0.0390	$\begin{array}{c} 0.7197\\ 0.2693\\ 0.7307\\ 0.7307\\ 0.7692\\ 0.6\\ 0.45\\ 0.042\\ \hline 0.05\\ 0.95\\ 0.424\\ \hline 0.05\\ 0.5_{Spp} \text{ at } \alpha =\\ 0.020\\ 0.4\\ 0.03\\ s_{Spp} \text{ at } \alpha =\\ 0.0120\\ 0.4\\ 0.03\\ s_{Spp} \text{ at } \alpha =\\ 0.0120\\ 0.4\\ 0.03\\ s_{Spp} \text{ at } \alpha =\\ 0.0120\\ 0.4\\ 0.03\\ s_{Spp} \text{ at } \alpha =\\ 0.0120\\ 0.4\\ 0.002\\ 0.4\\ 0.002\\ 0.002\\ 0.002\\ 0.002\\ 0.004\\ 0.$
$\begin{array}{c} c\\ \rho/r=c' w_{WY}\\ s_{SD}p^{=}\\ s_{SD}w^{=}\\ \hline \\ s_{SWW} \\ \hline \\ \hline \\ case 4\\ \alpha_{SPY}\\ \alpha_{DY}\\ \hline \\ \alpha_{SPY}\\ \alpha_{DY}\\ \hline \\ s_{SDY}\\ c_{CDY}\\ w_{WY} \\ = 1 \\ \alpha\\ \\ s_{SWY}\\ c_{CWY}\\ \end{array}$	0.6072 0.3158 0.6842 1.0526 0.65 0.35 0.0175 0.3325 0.0000 0.3325 0.0000 0.3325 0.65 0.1159 0.5341	0.6340 0.3 0.7000 1.0000 0.6 0.45 0.0943 0.7 0.0270 0.2430 0.7 0.0580 0.6320	0.6593 0.29 0.7143 0.954 0.6 0.45 0.259 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25	0.6833 0.2727 0.7273 0.9091 0.6 0.45 0.1459 0.8 0.2 0.0400 0.16 0.0240 0.1360 0.8 0.8 0.0471 0.7529	0.7062 0.2608 0.7392 0.8696 0.45 0.45 0.45 0.15 0.0450 0.105 0.0210 0.0840 0.85 0.0393 0.8107	0.6980 0.2800 0.7200 0.8000 0.6 0.45 0.2244 0.9 0.1 0.0400 0.06 0.0210 0.0390 0.9 0.9 0.9 0.9 0.9 0.9 0.9	$\begin{array}{c} 0.7197\\ 0.2693\\ 0.7307\\ 0.7692\\ 0.6\\ 0.45\\ 0.2424\\ 0.05\\ \text{s}_{\text{SP}\text{p}} \text{ tr } \alpha \approx \\ 0.020\\ 0.05\\ \text{s}_{\text{SP}\text{p}} \text{ tr } \alpha \approx \\ 0.020\\ 0.04\\ 0.03\\ \text{s}_{\text{SD}\text{ D}} \text{ tr } \alpha \approx \\ 0.0120\\ 0.04\\ 0.0180\\ 0.95\\ \text{s}_{\text{SWW}} \text{ tr } \alpha \approx \\ 0.0624\\ 0.04\\ 0.8876\\ \end{array}$
$\begin{array}{c} c\\ s_{SPP} = \\ s_{SDD} = \\ s_{SWW} = \\ \hline \\ c_{SPYN} \\ \alpha_{DNY} \\ \hline \\ s_{SDYN} \\ \alpha_{DNY} \\ \hline \\ s_{SDY} \\ c_{CDY} \\ \hline \\ w_{WY} = 1 - \alpha \\ s_{SWYN} \\ c_{CWYN} \\ \hline \\ s \\ \end{array}$	0.6072 0.3158 0.6842 1.0526 0.65 0.35 0.0175 0.325 0.0000 0.3325 0.065 0.1159 0.5341 0.1334	0.6340 0.3 0.7000 1.0000 0.6 0.45 0.0943 0.7 0.3 0.3000 0.27 0.2430 0.7 0.2430 0.7 0.6800 0.6320 0.1	0.6593 0.29 0.7143 0.9524 0.6 0.45 0.1209 0.75 0.25 0.25 0.25 0.25 0.25 0.25 0.20 0.20	0.6833 0.2727 0.227 0.9091 0.6 0.45 0.45 0.45 0.45 0.2 0.0400 0.16 0.0240 0.1360 0.0240 0.1360 0.02471 0.7529 0.7111	0.7062 0.2608 0.7392 0.8696 0.6 0.45 0.1692 0.85 0.15 0.0450 0.0210 0.0210 0.0840 0.0210 0.0840 0.85 0.0393 0.8107 0.1053	0.6980 0.2800 0.7200 0.8000 0.6 0.245 0.244 0.9 0.1 0.0400 0.06 0.0210 0.0390 0.0390 0.390 0.8610 0.1	$\begin{array}{c} 0.7197\\ 0.2693\\ 0.7307\\ 0.603\\ 0.6\\ 0.45\\ 0.45\\ 0.0242\\ \hline \\ 0.020\\ 0.05\\ 0.003\\ 8_{SP,P} \ at \ \alpha \approx \\ 0.0200\\ 0.03\\ 8_{SD,P} \ at \ \alpha \approx \\ 0.0120\\ 0.0120\\ 0.0180\\ 0.058\\ \hline \\ 0.0624\\ 0.064\\ \hline \\ 0.094\\ \hline \end{array}$
$\begin{array}{c} c\\ c\\ p/r=c'w_{WY}\\ s_{Spp}=\\ s_{SpD}=\\ s_{SWV}=\\ case 4\\ alpha\\ d_{SpY}\\ \alpha_{DY}\\ \alpha_{DY}\\ c_{CDY}\\ w_{WY}=1-\alpha\\ s_{SWY}\\ c_{CWY}\\ s\\ c\\ c\\ c_{WY}\\ s\\ c\\ c\\$	0.6072 0.3158 0.6842 1.0526 0.45 0.0659 0.059 0.059 0.0325 0.0000 0.3325 0.0000 0.3325 0.0000 0.3325 0.059 0.5341 0.1334 0.8666	0.6340 0.300 1.0000 1.0000 0.6 0.45 0.0943 0.7 0.3 0.3 0.3 0.3 0.3 0.3 0.27 0.270 0.24 0.27 0.0270 0.24 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3	0.6593 0.29 0.7143 0.9524 0.6 0.45 0.1209 0.75 0.25 0.500 0.2 0.0200 0.2 0.0200 0.75 0.0476 0.75 0.0476 0.7524 0.0476 0.0476 0.024 0.04824	0.6833 0.7277 0.7273 0.9091 0.9091 0.6 0.45 0.459 0.1459 0.2 0.0400 0.16 0.0240 0.16 0.0240 0.16 0.0240 0.16 0.8 8 0.0471 0.7259 0.1111	0.7062 0.2608 0.7392 0.8696 0.6 0.45 0.1692 0.855 0.15 0.0450 0.015 0.0210 0.0210 0.0840 0.0393 0.8047 0.1055	0.6980 0.2800 0.7200 0.8000 0.6 0.45 0.2244 0.9 0.1 0.440 0.09 0.01 0.0400 0.0510 0.0210 0.0390 0.0390 0.8610 0.0390	$\begin{array}{c} 0.7197\\ 0.2693\\ 0.7307\\ 0.7307\\ 0.7692\\ 0.6\\ 0.45\\ 0.2424\\ \hline 0.05\\ 0.85pp \ at \ \alpha = 3\\ 0.020\\ 0.020\\ 0.03\\ 0.85pp \ at \ \alpha = 3\\ 0.0120\\ 0.03\\ 0.0120\\ 0.04\\ 0.03\\ 0.85pt \ at \ \alpha = 3\\ 0.0120\\ 0.4\\ 0.0120\\ 0.4\\ 0.0120\\ 0.4\\ 0.005\\ 0.9$
$\begin{array}{c} c\\ c\\ \rho/r=c' W_{W/Y}\\ s_{Spp}=\\ s_{Sw,W}=\\ case 4\\ alpha\\ \sigma_{SpY}\\ \sigma_{DY}\\ \sigma_{DY}\\ c_{DY}\\ c_{CDY}\\ c_{CDY}\\ c_{CWY}\\ c_{CWY}\\ s\\ s\\ c\\ c\\ c_{WY}\\ c_{CWY}\\ s\\ c\\ c\\ \rho/r=c' W_{WY} \end{array}$	0.6072 0.3158 0.6842 1.0526 0.45 0.0659 0.059 0.0000 0.3325 0.0000 0.3325 0.0000 0.3325 0.0000 0.3325 0.0000 0.3325 0.65 0.1159 0.5341 0.1334 0.8666 1.3333	0.6340 0.300 1.0000 0.6 0.45 0.0943 0.7 0.3 0.300 0.270 0.2430 0.7 0.0270 0.2430 0.7 0.0280 0.7 0.6320 0.1 0.8750 1.2500	0.6593 0.29 0.7143 0.9524 0.6 0.45 0.1209 0.75 0.25 0.0200 0.1800 0.75 0.0476 0.7024 0.476 0.475 0.476 0.475	0.6833 0.2727 0.2273 0.9091 0.6 0.45 0.1459 0.2 0.0400 0.16 0.0240 0.0240 0.0240 0.16240 0.1529 0.0471 0.7529 0.1111 0.88	0.7062 0.2608 0.7392 0.8696 0.6 0.45 0.1692 0.045 0.015 0.0450 0.0210 0.0210 0.0210 0.0393 0.8047 1.0526	0.6980 0.2800 0.7200 0.8000 0.6 0.45 0.2244 0.9 0.1 0.45 0.2244 0.9 0.1 0.0400 0.0210 0.0210 0.0390 0.0390 0.0390 0.0390 0.0390 0.0390 0.0390 0.0390	$\begin{array}{c} 0.7197\\ 0.2693\\ 0.7307\\ 0.7307\\ 0.7692\\ 0.6\\ 0.45\\ 0.2424\\ \hline 0.05\\ 0.58_{Spp} at $\alpha^{=s}$\\ 0.0200\\ 0.4\\ 0.03\\ s_{SDp} at $\alpha^{=s}$\\ 0.0120\\ 0.4\\ 0.03\\ s_{SDD} at $\alpha^{=s}$\\ 0.0120\\ 0.4\\ 0.03\\ 0.95\\ s_{SWW} at $\alpha^{=s}$\\ 0.04\\ 0.04\\ 0.0887\\ 0.095\\ s_{SWW} at $\alpha^{=s}$\\ 0.04\\ 0.04\\ 0.8876\\ 0.0944\\ 0.9056\\ c_{CW}+^{6}c_{DY}\\ 0.9533\\ \end{array}$
$\begin{array}{c} c\\ \rho/r=C^{+}W_{HY}\\ S_{SP}=\\ s_{SDD}=\\ s_{SWW}=\\ c_{SWW}=\\ c_{SWW}=\\ c_{SDY}\\ \alpha_{DY}\\ \alpha$	0.6072 0.3158 0.6842 1.0526 0.65 0.659 0.65 0.355 0.0175 0.3325 0.65 0.3325 0.000 0.3325 0.65 0.1159 0.5341 0.1334 0.8666 1.3333 0.05	0.6340 0.30 0.7000 1.0000 0.6 0.45 0.045 0.7 0.3 0.3 0.3 0.3 0.3 0.27 0.270 0.2430 0.7 0.0270 0.2430 0.7 0.66 0.45 0.271 0.270 0.2430 0.7 0.6320 0.6 0.5 0.6 0.5 0.094 0.2 0.0 0.6 0.2 0.0 0.1 0.0 0.6 0.2 0.0 0.1 0.0 0.0 0.2 0.0 0.0 0.2 0.0 0.2 0.0 0.2 0.0 0.0	0.6593 0.29 0.7143 0.9524 0.6 0.45 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.2	0.6833 0.2727 0.2273 0.9091 0.6 0.45 0.45 0.45 0.2 0.040 0.16 0.0240 0.1360 0.8 0.0240 0.1360 0.8 0.0471 0.7529 0.1111 0.889 1.1111 0.8	0.7062 0.2608 0.7392 0.8696 0.6 0.45 0.1692 0.85 0.15 0.0450 0.0210 0.0840 0.85 0.033 0.8107 0.1053 0.8047 1.053 0.8947 0.3	0.6980 0.2800 0.7200 0.8000 0.6 0.45 0.2244 0.9 0.45 0.2244 0.9 0.04 0.06 0.0210 0.0390 0.0390 0.0390 0.0390 0.8610 0.8610 0.8610 0.8610 0.4	$\begin{array}{c} 0.7197\\ 0.2693\\ 0.7307\\ 0.7692\\ 0.6\\ 0.45\\ 0.2424\\ 0.95\\ 0.928\\ 0.05\\ 0.928\\ 0.000\\ 0.45\\ 0.928\\ 0.928\\ 0.928\\ 0.928\\ 0.928\\ 0.95\\ 0.95\\ 0.958$
$\begin{array}{c} c\\ \rho/r=c'w_{WY}\\ s_{SP}p=\\ s_{SD}p=\\ s_{SWW}\\ c_{DY}\\ \alpha_{DY}\\ \alpha_{DY}\\ \alpha_{DY}\\ \alpha_{DY}\\ c_{CDY}\\ w_{WY}=1-\alpha\\ s_{SWY}\\ c_{CWY}\\ c_{CWY}\\ s\\ c\\ c_{WY}\\ c_{CWY}\\ s\\ c\\ c\\ \rho/r=c'w_{WY}\end{array}$	0.6072 0.3158 0.6842 1.0526 0.45 0.0659 0.059 0.0000 0.3325 0.0000 0.3325 0.0000 0.3325 0.0000 0.3325 0.0000 0.3325 0.65 0.1159 0.5341 0.1334 0.8666 1.3333	0.6340 0.300 1.0000 0.6 0.45 0.0943 0.7 0.3 0.300 0.270 0.2430 0.7 0.0270 0.2430 0.7 0.0280 0.7 0.6320 0.1 0.8750 1.2500	0.6593 0.29 0.7143 0.9524 0.6 0.45 0.1209 0.75 0.25 0.0200 0.1800 0.75 0.0476 0.7024 0.476 0.475 0.476 0.475	0.6833 0.2727 0.7273 0.9091 0.9091 0.6 0.45 0.1459 0.2 0.0400 0.16 0.0240 0.0240 0.0240 0.1360 0.0241 0.7529 0.1111 0.7529	0.7062 0.2608 0.7392 0.8696 0.6 0.45 0.1692 0.045 0.015 0.0450 0.0210 0.0210 0.0210 0.0393 0.8047 1.0526	0.6980 0.2800 0.7200 0.8000 0.6 0.45 0.2244 0.9 0.1 0.45 0.2244 0.9 0.1 0.0400 0.0210 0.0210 0.0390 0.0390 0.0390 0.0390 0.0390 0.0390 0.0390 0.0390	$\begin{array}{c} 0.7197\\ 0.2693\\ 0.7307\\ c_{CWV}^+c_{CWV} \\ \hline 0.7602\\ 0.6\\ 0.45\\ 0.2424\\ \hline 0.95\\ 1-alpha\\ 0.05\\ s_{Spp} at \alpha = s\\ 0.020\\ 0.4\\ 0.03\\ s_{SDD} at \alpha = s\\ 0.0120\\ 0.4\\ 0.0180\\ 0.95\\ s_{SWW} at \alpha = 0.04\\ 0.04\\ 0.04\\ 0.08876\\ 0.0905\\ c_{CWV}^+c_{CDV}\\ 0.9056\\ c_{CWV}^+c_{CDV}\\ \end{array}$

 Table A2-1
 Structure of saving and consumption as a base to be consistent with the utility function

	consu	mption as	s a base					
		ρ	ρ is the discount	rate of the utility	function & r is th	e rate of rental un	der convergence.	
Case 1		0.05		$c = (\rho/r)(1 - \alpha)$), where $\rho/r=$	C/W.		1 - α
$r = \rho/(C/W)$	ρ/r	0.65	0.7	0.75	0.8	0.85	0.9	0.95
0.0400	1.2500	0.8125	0.8750	0.9375	1.0000	1.0625	1.1250	1.1875
0.0425	1.1765	0.7647	0.8236	0.8824	0.9412	1.0000	1.0589	1.1177
0.0450	1.1111	0.7222	0.7778	0.8333	0.8889	0.9444	1.0000	1.0555
0.0475	1.0526	0.6842	0.7368	0.7895	0.8421	0.8947	0.9473	1.0000
0.0500	1	0.65	0.70	0.75	0.80	0.85	0.90	0.95
0.0525	0.9524	0.6191	0.6667	0.7143	0.7619	0.8095	0.8572	0.9048
0.0550	0.9091	0.5909	0.6364	0.6818	0.7273	0.7727	0.8182	0.8636
0.0575	0.8696	0.5652	0.6087	0.6522	0.6957	0.7391	0.7826	0.8261
0.0602	0.8310	0.5402	0.5817	0.6233	0.6648	0.7064	0.7479	0.7895
	The z axis: for	·	The above ide	a comes from	both F.P. Ram	sey [1928] an	d J Tinbergen	[1956].
Count backwa	ard	ρ						
Case 2		0.1		<u> </u>), where $\rho/r=$		0.0	$1-\alpha$
$r = \rho/(C/W)$	ρ/r	0.65	0.7	0.75	0.8	0.85	0.9	0.95
0.0800	1.2500	0.8125	0.8750	0.9375	1.0000	1.0625	1.1250	1.1875
0.0850	1.1765	0.7647	0.8236	0.8824	0.9412	1.0000	1.0589	1.1177
0.0900	1.1111	0.7222	0.7778	0.8333	0.8889	0.9444	1.0000	1.0555
0.0950	1.0526	0.6842	0.7368	0.7895	0.8421	0.8947	0.9473	1.0000
0.1000	1	0.65	0.70	0.75	0.80	0.85	0.90	0.95
0.1050	0.9524	0.6191	0.6667	0.7143	0.7619	0.8095	0.8572	0.9048
0.1100	0.9091	0.5909	0.6364	0.6818	0.7273	0.7727	0.8182	0.8636
0.1150	0.8696	0.5652	0.6087	0.6522	0.6957	0.7391	0.7826	0.8261
0.1203	0.8310	0.5402	0.5817	0.6233	0.6648	0.7064	0.7479	0.7895
Count backwa	The z axis: for							
Case 3	ard	ρ 0.1		$c=(\alpha/r)(1-\alpha)$), where $\rho/r=$	C/W		1 - α
$r = \rho/(C/W)$	ρ/r	0.65	0.7	0.75	0.8	0.85	0.9	0.95
0.0900	1.1111	0.7222	0.7778	0.8333	0.8889	0.9444	1.0000	1.0556
0.0950	1.0526	0.6842	0.7368	0.7895	0.8421	0.8947	0.9473	1.0000
0.1000	1	0.65	0.70	0.75	0.80	0.85	0.90	0.95
0.1050	0.9524	0.6191	0.6667	0.7143	0.7619	0.8095	0.8572	0.9048
0.1100	0.9091	0.5909	0.6364	0.6818	0.7273	0.7727	0.8182	0.8636
0.1150	0.8696	0.5652	0.6087	0.6522	0.6957	0.7392	0.7826	0.8261
0.1250	0.8000							
0.1300		0.5200	0.5600	0.6000	0.6400	0.6800	0.7200	0.7600
	0.7692	0.5200	0.5600	0.6000	0.6400	0.6800 0.6538	0.7200	0.7600
0.1351								
	0.7692 0.7400	0.5000 0.4810	0.5384	0.5769	0.6154	0.6538	0.6923	0.7307
	0.7692 0.7400 The z axis: for	0.5000 0.4810	0.5384	0.5769	0.6154	0.6538	0.6923	0.7307
0.1351	0.7692 0.7400 The z axis: for	0.5000 0.4810 Γ ρ/r.	0.5384	0.5769 0.5550	0.6154	0.6538 0.6290	0.6923	0.7307
0.1351 Count backwa	0.7692 0.7400 The z axis: for	0.5000 0.4810 τ ρ/r. ρ	0.5384	0.5769 0.5550	0.6154 0.5920	0.6538 0.6290	0.6923	0.7307 0.7030
0.1351 Count backwa Case 4	0.7692 0.7400 The z axis: fo ard	0.5000 0.4810 Γ ρ/r. ρ 0.1	0.5384 0.5180	0.5769 0.5550 $c=(\rho/r)(l-\alpha)$	0.6154 0.5920	0.6538 0.6290	0.6923 0.6660	0.7307 0.7030 1-α
0.1351 Count backwa Case 4 $r=\rho/(C/W)$	$ \begin{array}{r} 0.7692 \\ 0.7400 \\ The z axis: for ard \\ \rho/r \\ \underline{1.4286} \\ 1.3333 \end{array} $	0.5000 0.4810 τ ρ/r. ρ 0.1 0.65	0.5384 0.5180	$\frac{0.5769}{0.5550}$ $c = (\rho/r)(1-\alpha)$ 0.75	0.6154 0.5920), where ρ/r= 0.8	0.6538 0.6290 C/W.	0.6923 0.6660	0.7307 0.7030 <u>1-α</u> 0.95
0.1351 Count backwar Case 4 $r = \rho/(C/W)$ 0.0700 0.0750 0.0800	0.7692 0.7400 The z axis: for ard <u>p/r</u> 1.4286 1.3333 1.2500	0.5000 0.4810 r ρ/r. 0.1 0.65 0.9286 0.8666 0.8125	0.5384 0.5180 0.7 1.0000 0.9333 0.8750	$\begin{array}{c} 0.5769\\ \hline 0.5550\\ \hline \\ c=(\rho/r)(l-\alpha)\\ \hline 0.75\\ \hline 1.0714\\ \hline 1.0000\\ \hline 0.9375\\ \hline \end{array}$	0.6154 0.5920), where p/r=0 0.8 1.1429 1.0666 1.0000	0.6538 0.6290 C/W. 0.85 1.2143 1.1333 1.0625	0.6923 0.6660 0.9 1.2857 1.2000 1.1250	$\begin{array}{r} 0.7307\\ 0.7030\\ \hline \\ 1-\alpha\\ 0.95\\ \hline 1.3571\\ \hline 1.2666\\ \hline 1.1875\\ \end{array}$
$\begin{array}{c} 0.1351\\ \text{Count backwa}\\ \textbf{Case 4}\\ r = \rho/(C/W)\\ 0.0700\\ 0.0750\\ 0.0800\\ 0.0850 \end{array}$	0.7692 0.7400 The z axis: fo ard <u>p/r</u> 1.4286 1.3333 1.2500 1.1765	0.5000 0.4810 r ρ/r. 0.1 0.65 0.9286 0.8666 0.8125 0.7647	0.5384 0.5180 0.7 1.0000 0.9333 0.8750 0.8236	$\begin{array}{c} 0.5769\\ 0.5550\\ \hline \\ c=(\rho/r)(1-\alpha)\\ 0.75\\ \hline 1.0714\\ \hline 1.0000\\ 0.9375\\ \hline 0.8824\\ \end{array}$	0.6154 0.5920), where p/r=- 0.8 1.1429 1.0666 1.0000 0.9412	0.6538 0.6290 C/W. 0.85 1.2143 1.1333 1.0625 1.0000	0.6923 0.6660 0.9 1.2857 1.2000 1.1250 1.0589	$\begin{array}{r} 0.7307\\ 0.7030\\ \hline \\ 0.95\\ 1.3571\\ \hline 1.2666\\ 1.1875\\ 1.1177\\ \end{array}$
$\begin{array}{c} 0.1351\\ \text{Count backwa}\\ \textbf{Case 4}\\ r=\rho/(C/W)\\ 0.0700\\ 0.0750\\ 0.0800\\ 0.0850\\ 0.0900\\ \end{array}$	0.7692 0.7400 The z axis: for ard <i>p/r</i> 1.4286 1.3333 1.2500 1.1765 1.1111	0.5000 0.4810 p 0.1 0.65 0.9286 0.8666 0.8666 0.8125 0.7647 0.7222	0.5384 0.5180 0.7 1.0000 0.9333 0.8750 0.8236 0.7778	0.5769 0.5550 c=(p/r)(1- a) 0.75 1.0714 1.0000 0.9375 0.8824 0.8333	0.6154 0.5920), where p/r= 0.8 1.1429 1.0666 1.0000 0.9412 0.8889	0.6538 0.6290 C/W. 1.2143 1.1333 1.0625 1.0000 0.9444	0.6923 0.6660 1.2857 1.2000 1.1250 1.0589 1.0000	$\begin{array}{r} 0.7307\\ \hline 0.7030\\ \hline 1.200\\ \hline 1.3571\\ \hline 1.2666\\ \hline 1.1875\\ \hline 1.1177\\ \hline 1.0555\\ \end{array}$
$\begin{array}{c} 0.1351\\ \text{Count backwa}\\ \textbf{Case 4}\\ r=\rho/(C/W)\\ 0.0700\\ 0.0750\\ 0.0800\\ 0.0850\\ 0.0900\\ 0.0950\\ \end{array}$	0.7692 0.7400 The z axis: fo ard <u>p/r</u> 1.4286 1.3333 1.2500 1.1765	0.5000 0.4810 p 0.1 0.65 0.9286 0.8666 0.8666 0.8666 0.8125 0.7647 0.7222 0.6842	0.5384 0.5180 0.7180 0.9333 0.8750 0.8236 0.7778 0.7368	$\begin{array}{c} 0.5769\\ 0.5550\\ \hline \\ c=(\rho/r)(1-\alpha)\\ 0.75\\ 1.0714\\ \hline 1.0000\\ 0.9375\\ \hline 0.8824\\ 0.8333\\ 0.7895\\ \end{array}$	0.6154 0.5920), where ρ/r= 0.8 1.1429 1.0666 1.0000 0.9412 0.8889 0.8421	0.6538 0.6290 C/W. 0.85 1.2143 1.1333 1.0625 1.0000 0.9444 0.8947	0.6923 0.6660 1.2857 1.2000 1.1250 1.0589 1.0000 0.9473	0.7307 0.7030 1-α 0.95 1.3571 1.2666 1.1875 1.1177 1.0555 1.0000
$\begin{array}{c} 0.1351 \\ \text{Count backwa} \\ \textbf{Case 4} \\ r = \rho/(C/W) \\ 0.0700 \\ 0.0750 \\ 0.0850 \\ 0.0850 \\ 0.0900 \\ 0.0950 \\ 0.1000 \end{array}$	$\begin{array}{c} 0.7692 \\ \hline 0.7400 \\ \text{The z axis: for ard} \\ \hline 1.4286 \\ \hline 1.3333 \\ \hline 1.2500 \\ \hline 1.1765 \\ \hline 1.1111 \\ \hline 1.0526 \\ \hline 1 \end{array}$	0.5000 0.4810 p/r. 0.1 0.65 0.9286 0.8666 0.8125 0.7647 0.7222 0.6842 0.65	0.5384 0.5180 0.77 1.0000 0.9333 0.8750 0.8236 0.7778 0.7368 0.70	$\begin{array}{c} 0.5769\\ 0.5550\\ \hline\\ c=(\rho/r)(1-\alpha)\\ 0.75\\ \hline\\ 1.0714\\ \hline\\ 1.0000\\ 0.9375\\ \hline\\ 0.824\\ 0.8333\\ 0.7895\\ \hline\\ 0.75\\ \hline\end{array}$	0.6154 0.5920 0, where p/r= 0.8 1.1429 1.0666 1.0000 0.9412 0.8889 0.8421 0.880	0.6538 0.6290 C/W. 0.85 1.2143 1.1333 1.0625 1.0000 0.9444 0.8947 0.85	0.6923 0.6660 1.2857 1.2000 1.1250 1.0589 1.0000 0.9473 0.90	0.7307 0.7030 1-α 0.95 1.3571 1.2666 1.1875 1.1177 1.0555 1.0000 0.95
$\begin{array}{c} 0.1351 \\ \text{Count backwa} \\ \textbf{Case 4} \\ r = \rho/(C/W) \\ 0.0700 \\ 0.0750 \\ 0.0800 \\ 0.0850 \\ 0.0900 \\ 0.0950 \\ 0.1000 \\ 0.1049 \end{array}$	$\begin{array}{c} 0.7692\\ 0.7400\\ \text{The z axis: for ard}\\ \hline P/r\\ 1.4286\\ 1.3333\\ 1.2500\\ 1.1765\\ 1.1111\\ 1.0526\\ 0\\ 1\\ 0.9533\\ \end{array}$	0.5000 0.4810 p/r. 0.1 0.65 0.9286 0.8666 0.8125 0.7647 0.7222 0.6842 0.65 0.6196	0.5384 0.5180 0.77 1.0000 0.9333 0.8750 0.8236 0.7778 0.7368 0.7368 0.70 0.6673	$\begin{array}{c} 0.5769\\ 0.5550\\ \hline\\ c=(\rho/r)(1-\alpha)\\ 0.75\\ \hline\\ 1.0714\\ \hline\\ 1.0000\\ 0.9375\\ 0.824\\ 0.8333\\ 0.7895\\ 0.75\\ 0.7149\\ \hline\end{array}$	0.6154 0.5920), where p/r= 0.8 1.1429 1.0666 1.0000 0.9412 0.8889 0.8421 0.80 0.7626	0.6538 0.6290 C/W. 0.85 1.2143 1.1333 1.0625 1.0000 0.9444 0.9444 0.8947 0.85 0.8103	0.6923 0.6660 1.2857 1.2000 1.1250 1.0589 1.0000 0.9473 0.900 0.8579	0.7307 0.7030 1-α 0.95 1.3571 1.2666 1.1875 1.1177 1.0555 1.0000 0.95 0.9056
$\begin{array}{c} 0.1351 \\ \text{Count backwa} \\ \textbf{Case 4} \\ r = \rho/(C/W) \\ 0.0700 \\ 0.0750 \\ 0.0850 \\ 0.0850 \\ 0.0900 \\ 0.0950 \\ 0.1000 \end{array}$	$\begin{array}{c} 0.7692 \\ \hline 0.7400 \\ \text{The z axis: for ard} \\ \hline 1.4286 \\ \hline 1.3333 \\ \hline 1.2500 \\ \hline 1.1765 \\ \hline 1.1111 \\ \hline 1.0526 \\ \hline 1 \end{array}$	0.5000 0.4810 r p/r. 0.1 0.65 0.9286 0.8666 0.8125 0.7647 0.7222 0.6842 0.6542 0.6196 0.6196	0.5384 0.5180 0.77 1.0000 0.9333 0.8750 0.8236 0.7778 0.7368 0.70	$\begin{array}{c} 0.5769\\ 0.5550\\ \hline\\ c=(\rho/r)(1-\alpha)\\ 0.75\\ \hline\\ 1.0714\\ \hline\\ 1.0000\\ 0.9375\\ \hline\\ 0.824\\ 0.8333\\ 0.7895\\ \hline\\ 0.75\\ \hline\end{array}$	0.6154 0.5920 0, where p/r= 0.8 1.1429 1.0666 1.0000 0.9412 0.8889 0.8421 0.880	0.6538 0.6290 C/W. 0.85 1.2143 1.1333 1.0625 1.0000 0.9444 0.8947 0.85	0.6923 0.6660 1.2857 1.2000 1.1250 1.0589 1.0000 0.9473 0.90	0.7307 0.7030 1-α 0.95 1.3571 1.2666 1.1875 1.1177 1.0555 1.0000 0.95

Table A2-2 The utility function of $c (\rho/r)$ by 1-*alpha* : consistent with saving and consumption as a base

The z axis: for ρ/r .

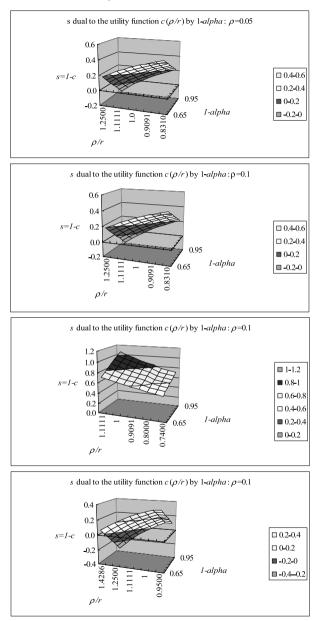


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Figure A2-2 The utility function of $c (\rho/r)$ by 1-*alpha*

	consu	mption as	a base					
Count backwa	rd	ρ	o is the discount	rate of the utility f	unction & r is the	e rate of rental un	der convergence.	
Case 1		0.05		$s=1-c=(\rho/r)($	$(1 - \alpha)$, where	$\rho/r=C/W.$		1-α
$r = \rho/(C/W)$	ρ/r	0.65	0.7	0.75	0.8	0.85	0.9	0.95
0.0400	1.2500	0.1875	0.1250	0.0625	0.0000	-0.0625	-0.1250	-0.1875
0.0425	1.1765	0.2353	0.1764	0.1176	0.0588	0.0000	-0.0589	-0.1177
0.0450	1.1111	0.2778	0.2222	0.1667	0.1111	0.0556	0.0000	-0.0555
0.0475	1.0526	0.3158	0.2632	0.2106	0.1579	0.1053	0.0527	0.0000
0.0500	1.0	0.35	0.3	0.25	0.2	0.15	0.1	0.05
0.0525	0.9524	0.3809	0.3333	0.2857	0.2381	0.1905	0.1428	0.0952
0.0550	0.9091	0.4091	0.3636	0.3182	0.2727	0.2273	0.1818	0.1364
0.0575	0.8696	0.4348	0.3913	0.3478	0.3043	0.2609	0.2174	0.1739
0.0602	0.8310	0.4599	0.4183	0.3768	0.3352	0.2937	0.2521	0.2106
	The z axis: fo	τ <i>ρ/r</i> .						
Count backwa	rd	ρ						
Case 2		0.1		$s=1-c=(\rho/r)($				1-α
$r = \rho/(C/W)$	ρ/r	0.65	0.7	0.75	0.8	0.85	0.9	0.95
0.0800	1.2500	0.1875	0.1250	0.0625	0.0000	-0.0625	-0.1250	-0.1875
0.0850	1.1765	0.2353	0.1764	0.1176	0.0588	0.0000	-0.0589	-0.1177
0.0900	1.1111	0.2778	0.2222	0.1667	0.1111	0.0556	0.0000	-0.0555
0.0950	1.0526	0.3158	0.2632	0.2106	0.1579	0.1053	0.0527	0.0000
0.1000	1	0.35	0.3	0.25	0.2	0.15	0.1	0.05
0.1050	0.9524	0.3809	0.3333	0.2857	0.2381	0.1905	0.1428	0.0952
0.1100	0.9091	0.4091	0.3636	0.3182	0.2727	0.2273	0.1818	0.1364
0.1150	0.8696	0.4348	0.3913	0.3478	0.3043	0.2609	0.2174	0.1739
0.1203	0.8310	0.4599	0.4183	0.3768	0.3352	0.2937	0.2521	0.2106
	The z axis: for							
Count backwa		ρ		a=1 a= (a /a)/	7 or) where	2/#=C/W		1 ~
Count backwa Case 3	rd	ρ 0.1		$\frac{s=1-c=(\rho/r)}{0.75}$			0.9	1-α 0.95
Count backwar Case 3 $r = \rho/(C/W)$	rd $ ho/r$	ρ 0.1 0.65	0.7	0.75	0.8	0.85	0.9	0.95
Count backwa Case 3 $r = \rho/(C/W)$ 0.0900	rd /r 	ρ 0.1 0.65 0.7222	0.7 0.7778	0.75 0.8333	0.8 0.8889	0.85 0.9444	1.0000	0.95 1.0556
Count backwa Case 3 $r = \rho / (C/W)$ 0.0900 0.0950	rd <u> <i>p</i>/<i>r</i></u> <u> 1.1111</u> 1.0526	ρ 0.1 0.65 0.7222 0.6842	0.7 0.7778 0.7368	0.75 0.8333 0.7895	0.8 0.8889 0.8421	0.85 0.9444 0.8947	1.0000 0.9473	0.95 1.0556 1.0000
Count backwa Case 3 $r = \rho/(C/W)$ 0.0900 0.0950 0.1000	rd ρ/r 1.1111 1.0526 1	ρ 0.1 0.65 0.7222 0.6842 0.65	0.7 0.7778 0.7368 0.7	0.75 0.8333 0.7895 0.75	0.8 0.8889 0.8421 0.8	0.85 0.9444 0.8947 0.85	1.0000 0.9473 0.9	0.95 1.0556 1.0000 0.95
Count backwa Case 3 $r = \rho/(C/W)$ 0.0900 0.0950 0.1000 0.1050	rd ρ/r 1.1111 1.0526 1 0.9524	$\begin{array}{c} \rho \\ 0.1 \\ 0.65 \\ 0.7222 \\ 0.6842 \\ 0.65 \\ 0.6191 \end{array}$	0.7 0.7778 0.7368 0.7 0.6667	0.75 0.8333 0.7895 0.75 0.7143	0.8 0.8889 0.8421 0.8 0.7619	0.85 0.9444 0.8947 0.85 0.8095	1.0000 0.9473 0.9 0.8572	0.95 1.0556 1.0000 0.95 0.9048
Count backwa Case 3 $r = \rho/(C/W)$ 0.0900 0.0950 0.1000 0.1050 0.1100	rd p/r 1.1111 1.0526 1 0.9524 0.9091	$\begin{array}{c} \rho \\ 0.1 \\ 0.65 \\ 0.7222 \\ 0.6842 \\ 0.65 \\ 0.6191 \\ 0.5909 \end{array}$	0.7 0.7778 0.7368 0.7 0.6667 0.6364	0.75 0.8333 0.7895 0.75 0.7143 0.6818	0.8 0.8889 0.8421 0.8 0.7619 0.7273	0.85 0.9444 0.8947 0.85 0.8095 0.7727	1.0000 0.9473 0.9 0.8572 0.8182	0.95 1.0556 1.0000 0.95 0.9048 0.8636
Count backwa Case 3 $r = \rho/(C/W)$ 0.0900 0.0950 0.1000 0.1050 0.1100 0.1150	rd ρ/r 1.1111 1.0526 1 0.9524 0.9091 0.8696	ρ 0.1 0.65 0.7222 0.6842 0.65 0.6191 0.5909 0.5652	0.7 0.7778 0.7368 0.7 0.6667 0.6364 0.6087	0.75 0.8333 0.7895 0.75 0.7143 0.6818 0.6522	0.8 0.8889 0.8421 0.8 0.7619 0.7273 0.6957	0.85 0.9444 0.8947 0.85 0.8095 0.7727 0.7392	1.0000 0.9473 0.9 0.8572 0.8182 0.7826	0.95 1.0556 1.0000 0.95 0.9048 0.8636 0.8261
Count backwa Case 3 $r = \rho/(C/W)$ 0.0900 0.0950 0.1000 0.1050 0.1100 0.1150 0.1250	rd <u>ρ/r</u> <u>1.1111</u> 1.0526 <u>1</u> 0.9524 0.9091 0.8696 0.8000	<i>ρ</i> 0.1 0.65 0.7222 0.6842 0.65 0.6191 0.5909 0.5652 0.5200	0.7 0.7778 0.7368 0.7 0.6667 0.6364 0.6087 0.5600	0.75 0.8333 0.7895 0.75 0.7143 0.6818 0.6522 0.6000	0.8 0.8889 0.8421 0.8 0.7619 0.7273 0.6957 0.6400	0.85 0.9444 0.8947 0.85 0.8095 0.7727 0.7392 0.6800	1.0000 0.9473 0.9 0.8572 0.8182 0.7826 0.7200	0.95 1.0556 1.0000 0.95 0.9048 0.8636 0.8261 0.7600
Count backwa Case 3 $r=\rho/(C/W)$ 0.0900 0.0950 0.1000 0.1050 0.1100 0.1250 0.1300	rd <u>p/r</u> <u>1.1111</u> 1.0526 0.9524 0.9091 0.8696 0.8000 0.7692	ρ 0.1 0.65 0.7222 0.6842 0.65 0.6101 0.5552 0.5200 0.5000	0.7 0.7778 0.7368 0.7 0.6667 0.6364 0.6087 0.5600 0.5384	0.75 0.8333 0.7895 0.75 0.7143 0.6818 0.6522 0.6000 0.5769	0.8 0.8889 0.8421 0.8 0.7619 0.7273 0.6957 0.6400 0.6154	0.85 0.9444 0.8947 0.85 0.8095 0.7727 0.7392 0.6800 0.6538	1.0000 0.9473 0.9 0.8572 0.8182 0.7826 0.7200 0.6923	0.95 1.0556 1.0000 0.95 0.9048 0.8636 0.8261 0.7600 0.7307
Count backwa Case 3 $r = \rho/(C/W)$ 0.0900 0.0950 0.1000 0.1050 0.1100 0.1250 0.1300 0.1351	rd <u>ρ/r</u> <u>1.1111</u> 1.0526 1.05524 0.9524 0.9091 0.8696 0.8000 0.7692 0.7400	ρ 0.1 0.65 0.7222 0.6842 0.65 0.6191 0.5909 0.5652 0.5200 0.5000 0.4810	0.7 0.7778 0.7368 0.7 0.6667 0.6364 0.6087 0.5600	0.75 0.8333 0.7895 0.75 0.7143 0.6818 0.6522 0.6000	0.8 0.8889 0.8421 0.8 0.7619 0.7273 0.6957 0.6400	0.85 0.9444 0.8947 0.85 0.8095 0.7727 0.7392 0.6800	1.0000 0.9473 0.9 0.8572 0.8182 0.7826 0.7200	0.95 1.0556 1.0000 0.95 0.9048 0.8636 0.8261 0.7600
Count backwa Case 3 $r = \rho'(C/W)$ 0.0900 0.0950 0.1000 0.1050 0.1100 0.1150 0.1250 0.1300 0.1351	rd <u>p/r</u> <u>1.1111</u> <u>1.0526</u> <u>1</u> 0.9524 0.9091 0.8696 0.8000 0.7692 <u>0.7400</u> The z axis: for	ρ 0.1 0.65 0.7222 0.6842 0.65 0.6191 0.5909 0.5652 0.5200 0.5000 0.4810 r ρ/r.	0.7 0.7778 0.7368 0.7 0.6667 0.6364 0.6087 0.5600 0.5384	0.75 0.8333 0.7895 0.75 0.7143 0.6818 0.6522 0.6000 0.5769	0.8 0.8889 0.8421 0.8 0.7619 0.7273 0.6957 0.6400 0.6154	0.85 0.9444 0.8947 0.85 0.8095 0.7727 0.7392 0.6800 0.6538	1.0000 0.9473 0.9 0.8572 0.8182 0.7826 0.7200 0.6923	0.95 1.0556 1.0000 0.95 0.9048 0.8636 0.8261 0.7600 0.7307
Count backwa Case 3 $r = \rho/(C/W)$ 0.0900 0.0950 0.1000 0.1050 0.1100 0.1250 0.1300 0.1351	rd <u>p/r</u> <u>1.1111</u> <u>1.0526</u> <u>1</u> 0.9524 0.9091 0.8696 0.8000 0.7692 <u>0.7400</u> The z axis: for	ρ 0.1 0.65 0.7222 0.6842 0.65 0.6191 0.5909 0.5652 0.5200 0.5000 0.4810	0.7 0.7778 0.7368 0.7 0.6667 0.6364 0.6087 0.5600 0.5384 0.5180	0.75 0.8333 0.7895 0.75 0.7143 0.6818 0.6522 0.6000 0.5769 0.5550	0.8 0.8889 0.8421 0.8 0.7619 0.7273 0.6957 0.6400 0.6154 0.5920	0.85 0.9444 0.8947 0.85 0.8095 0.7727 0.7392 0.6800 0.6538 0.6290	1.0000 0.9473 0.9 0.8572 0.8182 0.7826 0.7200 0.6923	0.95 1.0556 1.0000 0.95 0.9048 0.8636 0.8261 0.7600 0.7307 0.7030
Count backwa Case 3 $r = \rho/(C/W)$ 0.0900 0.0950 0.1000 0.1150 0.1250 0.1250 0.1300 0.1351 Count backwa Case 4	rd <u>p/r</u> <u>1.1111</u> <u>1.0526</u> <u>1</u> 0.9524 0.9091 0.8696 0.8000 0.7692 <u>0.7400</u> The z axis: for rd	ρ 0.1 0.65 0.7222 0.6842 0.65 0.6191 0.5909 0.5652 0.5200 0.5000 0.4810 r ρ/r. ρ	0.7 0.7778 0.7368 0.7 0.6667 0.6364 0.6087 0.5600 0.5384 0.5180	0.75 0.8333 0.7895 0.75 0.7143 0.6818 0.6522 0.6000 0.5769	0.8 0.8889 0.8421 0.8 0.7619 0.7273 0.6957 0.6400 0.6154 0.5920	0.85 0.9444 0.8947 0.85 0.8095 0.7727 0.7392 0.6800 0.6538 0.6290	1.0000 0.9473 0.9 0.8572 0.8182 0.7826 0.7200 0.6923	0.95 1.0556 1.0000 0.95 0.9048 0.8636 0.8261 0.7600 0.7307
Count backwa Case 3 $r = \rho/(C/W)$ 0.0900 0.0950 0.1000 0.1050 0.1100 0.1250 0.1300 0.1351 Count backwa	rd <u>p/r</u> <u>1.1111</u> <u>1.0526</u> <u>1</u> 0.9524 0.9091 0.8696 0.8000 0.7692 <u>0.7400</u> The z axis: for	$\begin{array}{c} \rho \\ 0.1 \\ 0.65 \\ 0.7222 \\ 0.6842 \\ 0.65 \\ 0.6191 \\ 0.5909 \\ 0.5652 \\ 0.5200 \\ 0.5000 \\ 0.4810 \\ r \ \rho /r. \\ \hline \rho \\ 0.1 \end{array}$	0.7 0.7778 0.7368 0.7 0.6667 0.6364 0.6087 0.5600 0.5384 0.5180	$\begin{array}{c} 0.75\\ 0.8333\\ 0.7895\\ 0.75\\ 0.7143\\ 0.6818\\ 0.6522\\ 0.6000\\ 0.5769\\ 0.5550\\ \end{array}$	0.8 0.8889 0.8421 0.8 0.7619 0.773 0.6957 0.6400 0.6154 0.5920	0.85 0.9444 0.8947 0.85 0.8095 0.7727 0.7392 0.6800 0.6538 0.6290	1.0000 0.9473 0.9 0.8572 0.8182 0.7826 0.7200 0.6923 0.6660	$\begin{array}{c} 0.95\\ \hline 1.0556\\ \hline 1.0000\\ 0.95\\ \hline 0.9048\\ 0.8636\\ \hline 0.8261\\ \hline 0.7600\\ \hline 0.7307\\ \hline 0.7030\\ \hline \end{array}$
Count backwa Case 3 $r = \rho/(C/W)$ 0.0900 0.0950 0.1000 0.1050 0.1150 0.1250 0.1300 0.1351 Count backwa Case 4 $r = \rho/(C/W)$	rd <u>p/r</u> <u>1.1111</u> 1.0526 <u>1</u> 0.9524 0.9091 0.8696 0.8696 0.8600 0.7692 0.7400 The z axis: for rd <u>p/r</u>	$ ρ $ 0.1 0.65 0.7222 0.6842 0.65 0.6191 0.5909 0.5652 0.5200 0.5000 0.5000 0.4810 $r \rho r.$ $ ρ $ 0.1 0.65	0.7 0.7778 0.7368 0.7 0.6667 0.6364 0.6087 0.5600 0.5384 0.5180	$\begin{array}{c} 0.75\\ 0.8333\\ 0.7895\\ 0.75\\ 0.7143\\ 0.6818\\ 0.6522\\ 0.6000\\ 0.5769\\ 0.5550\\ \end{array}$	0.8 0.8889 0.8421 0.8 0.7619 0.7273 0.6957 0.6400 0.6154 0.5920 <i>I</i> -α), where 0.8	0.85 0.9444 0.8947 0.85 0.8095 0.7727 0.7392 0.6800 0.6538 0.6290 <i>ρ/r=C/W.</i> 0.85	1.0000 0.9473 0.9 0.8572 0.8182 0.7826 0.7200 0.6923 0.6660	0.95 1.0556 1.0000 0.9048 0.8636 0.8261 0.7600 0.7307 0.7030 1-α 0.95
Count backwa Case 3 $r = \rho/(C/W)$ 0.0900 0.0950 0.1000 0.1050 0.1100 0.1250 0.1300 0.1351 Count backwa Case 4 $r = \rho/(C/W)$ 0.0700	rd <u>p/r</u> <u>1.1111</u> 1.0526 <u>1</u> 0.9524 0.9524 0.9524 0.9524 0.9526 0.8000 0.8696 0.8000 0.7692 0.7400 The z axis: for rd <u>p/r</u> <u>1.4286</u>	ρ 0.1 0.65 0.7222 0.6842 0.65 0.6191 0.5909 0.5652 0.5200 0.5500 0.4810 r ρ/r. ρ 0.1 0.65 0.0714	0.7 0.7778 0.7368 0.7368 0.6667 0.6364 0.6087 0.5600 0.5384 0.5180 0.5180	$\begin{array}{r} 0.75\\ 0.8333\\ 0.7895\\ 0.75\\ 0.7143\\ 0.6818\\ 0.6522\\ 0.6000\\ 0.5769\\ 0.5550\\ \end{array}$	0.8 0.8889 0.8421 0.8 0.7619 0.7273 0.6957 0.6400 0.6154 0.5920 <i>l</i> -α), where 0.8 -0.1429	0.85 0.9444 0.8947 0.85 0.8095 0.7727 0.7392 0.6800 0.6538 0.6290 p/r=C/W. 0.85 -0.2143	1.0000 0.9473 0.9 0.8572 0.8182 0.7826 0.7200 0.6923 0.6660	$\begin{array}{c} 0.95\\ \hline 1.0556\\ \hline 1.0000\\ 0.95\\ \hline 0.9048\\ \hline 0.8636\\ \hline 0.8261\\ \hline 0.7600\\ \hline 0.7307\\ \hline 0.7030\\ \hline 0.7030\\ \hline 1-\alpha\\ \hline 0.95\\ \hline -0.3571\\ \end{array}$
Count backwa Case 3 $r = \rho/(C/W)$ 0.0900 0.0950 0.1000 0.1050 0.1100 0.1250 0.1350 0.1351 Count backwa Case 4 $r = \rho/(C/W)$ 0.0700 0.0750	rd <u>p/r</u> <u>1.1111</u> 1.0526 1 0.9524 0.9091 0.8696 0.8000 0.7692 0.7400 The z axis: for rd <u>p/r</u> <u>1.4286</u> 1.3333	ρ 0.1 0.65 0.7222 0.6842 0.65 0.6191 0.5909 0.5652 0.5200 0.5000 0.4810 0.720 0.4810 0.767 ρ/r. ρ 0.11 0.65 0.0714 0.1334	0.7 0.7778 0.7368 0.7 0.6667 0.6364 0.6087 0.5384 0.5180 0.5180 0.7 0.0000 0.0667	$\begin{array}{r} 0.75\\ 0.8333\\ 0.7895\\ 0.77\\ 0.7143\\ 0.6818\\ 0.6522\\ 0.6000\\ 0.5769\\ 0.5550\\ \end{array}$	0.8 0.8889 0.8421 0.8 0.7619 0.7273 0.6957 0.6400 0.6154 0.5920 (<i>I</i> -α), where 0.8 -0.1429 -0.0666	0.85 0.9444 0.8947 0.85 0.8095 0.7727 0.7392 0.6800 0.6538 0.6290 p/r=C/W. 0.85 -0.2143 -0.1333	1.0000 0.9473 0.9 0.8572 0.8182 0.7826 0.7200 0.6923 0.6660 0.9 -0.2857 -0.2000	0.95 1.0556 1.0000 0.95 0.9048 0.8636 0.8261 0.7600 0.7307 0.7030 1-α 0.95 -0.3571 -0.2666
Count backwa Case 3 $r = \rho/(C/W)$ 0.0900 0.0950 0.1000 0.1050 0.1150 0.1250 0.1300 0.1351 Count backwa Case 4 $r = \rho/(C/W)$ 0.0750 0.0800	rd <u>p/r</u> <u>1.1111</u> <u>1.0526</u> <u>1</u> 0.9524 <u>0.9091</u> <u>0.8696</u> <u>0.8000</u> <u>0.7692</u> <u>0.7400</u> The z axis: for rd <u>p/r</u> <u>1.4286</u> <u>1.3333</u> <u>1.2500</u>	$\begin{array}{c} \rho \\ 0.1 \\ 0.65 \\ 0.7222 \\ 0.6842 \\ 0.65 \\ 0.6191 \\ 0.5909 \\ 0.5652 \\ 0.5200 \\ 0.5000 \\ 0.4810 \\ r. \rho/r. \\ \rho \\ 0.0714 \\ 0.1334 \\ 0.1875 \end{array}$	0.7 0.7778 0.7368 0.7368 0.6667 0.6364 0.6087 0.5080 0.5384 0.5180 0.5180 0.5180 0.0000 0.0667 0.1250	$\begin{array}{r} 0.75\\ 0.8333\\ 0.7895\\ 0.75\\ 0.7143\\ 0.6818\\ 0.6522\\ 0.6000\\ 0.5769\\ 0.5550\\ \hline \\ s=1-c=(\rho/r)(0.755\\ -0.0714\\ 0.0000\\ 0.0625\\ \hline \end{array}$	0.8 0.8889 0.8421 0.8 0.7619 0.7273 0.6400 0.6154 0.5920 <i>I</i> -α), where 0.8 -0.1429 -0.0666 0.0000	$\rho/r=C/W.$ 0.85 0.9444 0.8947 0.85 0.8095 0.7727 0.7392 0.6800 0.6538 0.6290 0.6538 0.6290 0.85 -0.2143 -0.1333 -0.0625	1.0000 0.9473 0.9 0.8572 0.8182 0.7826 0.7200 0.6923 0.6660 -0.2857 -0.2000 -0.1250	$\begin{array}{c} 0.95\\ \hline 1.0556\\ \hline 1.0000\\ 0.95\\ \hline 0.9048\\ \hline 0.8636\\ \hline 0.8636\\ \hline 0.7600\\ \hline 0.7307\\ \hline 0.7030\\ \hline \\ \hline 0.7030\\ \hline \\ \hline -0.2666\\ \hline -0.1875\\ \end{array}$
Count backwa Case 3 $r = \rho/(C/W)$ 0.0900 0.0950 0.1000 0.1050 0.1150 0.1250 0.1300 0.1351 Count backwa Case 4 $r = \rho/(C/W)$ 0.0700 0.0800 0.0880	rd <u>p/r</u> <u>1.1111</u> <u>1.0526</u> <u>1</u> 0.9524 0.9091 0.8696 0.8000 0.7692 <u>0.7400</u> The z axis: for rd <u>p/r</u> <u>1.4286</u> <u>1.3333</u> <u>1.2500</u> <u>1.1765</u>	ρ 0.1 0.65 0.7222 0.6842 0.65 0.6191 0.5909 0.5652 0.5200 0.5000 0.5000 0.4810 r $ρ/r$. $ρ$ 0.1 0.65 0.0714 0.1334 0.1875 0.2353	0.7 0.7778 0.7368 0.7 0.6667 0.6364 0.6384 0.5180 0.5180 0.5180 0.5180 0.07 0.0607 0.0250 0.01265 0.1765	$\begin{array}{c} 0.75\\ 0.8333\\ 0.7895\\ 0.75\\ 0.7143\\ 0.6818\\ 0.6522\\ 0.6000\\ 0.5759\\ 0.5550\\ \hline \\ s=l-c=(\rho/r)(\\ 0.75\\ -0.0714\\ \hline \\ 0.0000\\ 0.0625\\ \hline \\ 0.1176\\ \hline \end{array}$	0.8 0.8889 0.8421 0.8 0.7619 0.7273 0.6457 0.6400 0.6154 0.5920 -0.1429 -0.0666 0.0000 0.0588	0.85 0.9444 0.8947 0.85 0.8095 0.7727 0.7392 0.6800 0.6538 0.6290 <i>ρ/r=C/W.</i> 0.85 -0.2143 -0.1333 -0.0625 0.0000	1.0000 0.9473 0.9 0.8572 0.8182 0.7826 0.7826 0.6923 0.6660 0.6660 0.9 -0.2857 -0.2085 -0.250 -0.1250 -0.0589	$\begin{array}{c} 0.95\\ 1.0556\\ 1.0000\\ 0.95\\ 0.9048\\ 0.8636\\ 0.8261\\ 0.7600\\ 0.7307\\ 0.7030\\ \hline \end{array}$
Count backwa Case 3 $r = \rho/(C/W)$ 0.0900 0.0950 0.1000 0.1050 0.1150 0.1250 0.1300 0.1351 Count backwa Case 4 $r = \rho/(C/W)$ 0.0750 0.0850 0.0850 0.0900	rd p/r 1.1111 1.0526 1 0.9524 0.9524 0.9524 0.9524 0.9524 0.9524 0.9524 0.9524 0.9524 0.9524 0.9524 0.9524 0.9524 0.9524 0.9524 0.8696 0.8606 0.8606 0.7692 0.7400 The z axis: for rd <i>p/r</i> <i>1.4286</i> 1.3333 1.2500 0.1765 1.1111	$\begin{array}{c} \rho \\ 0.1 \\ 0.65 \\ 0.7222 \\ 0.6842 \\ 0.65 \\ 0.6191 \\ 0.5909 \\ 0.5652 \\ 0.5200 \\ 0.5500 \\ 0.6552 \\ 0.5200 \\ 0.4810 \\ r \ \rho /r. \\ \begin{array}{c} \rho \\ \rho \\ \rho \\ 0.1 \\ 0.65 \\ 0.0714 \\ 0.1334 \\ 0.1875 \\ 0.2353 \\ 0.2778 \end{array}$	0.7 0.7778 0.7368 0.7368 0.6364 0.6364 0.6387 0.55600 0.5384 0.5180 0.5180 0.5180 0.07 0.0000 0.0667 0.1250 0.1765 0.2222	0.75 0.8333 0.7895 0.75 0.7143 0.6818 0.6522 0.6000 0.5769 0.5550 $s=1-c=(\rho/r)/0.78$ -0.0714 0.0000 0.625 0.1176 0.1667	$\begin{array}{c} 0.8\\ 0.8889\\ 0.8421\\ 0.8\\ 0.7619\\ 0.7273\\ 0.6957\\ 0.6400\\ 0.6154\\ 0.5920\\ \hline \end{array}$	0.85 0.9444 0.8947 0.85 0.8095 0.7727 0.7392 0.6800 0.6538 0.6290 <i>p/r=C/W</i> . 0.85 -0.2143 -0.1333 -0.0625 0.0000 0.0556	1.0000 0.9473 0.9 0.8572 0.8572 0.7200 0.6923 0.6660 -0.2857 -0.2000 -0.2857 -0.2000 -0.1250 0.0589 0.0000	$\begin{array}{c} 0.95\\ \hline 1.0556\\ \hline 1.0000\\ 0.95\\ \hline 0.9048\\ \hline 0.8636\\ \hline 0.8261\\ \hline 0.7600\\ \hline 0.7307\\ \hline 0.7030\\ \hline \\ 0.7030\\ \hline \\ \hline 0.7030\\ \hline \\ 0.700\\ \hline \\ 0.7030\\ \hline 0.7030\\ \hline \\ 0.7030\\ \hline $
Count backwa Case 3 $r = \rho/(C/W)$ 0.0900 0.0950 0.1000 0.1050 0.1100 0.1150 0.1250 0.1350 0.1351 Count backwa Case 4 $r = \rho/(C/W)$ 0.0700 0.0750 0.0800 0.0850 0.0900 0.0950	rd p/r 1.1111 1.0526 1 0.9524 0.9091 0.8696 0.8000 0.7692 0.7400 The z axis: for rd p/r 1.4286 1.3333 1.2500 1.1111 1.0526	ρ 0.1 0.65 0.7222 0.6842 0.65 0.6191 0.5909 0.5652 0.5200 0.5000 0.4810 p/r. ρ 0.11 0.65 0.0714 0.1334 0.1875 0.2353 0.2778 0.3158	0.7 0.7778 0.7368 0.76 0.6364 0.6087 0.5600 0.5384 0.5180 0.5180 0.5180 0.0.667 0.1250 0.1765 0.2222 0.2632	0.75 0.8333 0.7895 0.75 0.7143 0.6818 0.6522 0.6000 0.5769 0.5550 s=1-c=(p/r)(0.75 -0.0714 0.0000 0.0625 0.11667 0.2106	$\begin{array}{c} 0.8\\ 0.8889\\ 0.8421\\ 0.8\\ 0.7619\\ 0.7273\\ 0.6957\\ 0.6400\\ 0.6154\\ 0.5920\\ \end{array}$	0.85 0.9444 0.8947 0.85 0.7727 0.7392 0.6800 0.6538 0.6290 <i>p/r=C/W.</i> 0.85 -0.2143 -0.1333 -0.0625 0.0000 0.0556 0.1053	1.0000 0.9473 0.9 0.8572 0.8182 0.7826 0.7200 0.6923 0.6660 -0.2857 -0.2000 -0.2857 -0.2000 -0.1250 -0.0589 0.0000 0.0527	0.95 1.0556 1.0000 0.95 0.9048 0.8636 0.8261 0.7600 0.7307 0.7030 1-α 0.955 -0.3571 -0.2666 -0.1177 -0.0555 0.0000
Count backwa Case 3 $r = \rho/(C/W)$ 0.0900 0.0950 0.1000 0.1100 0.1150 0.1250 0.1300 0.1351 Count backwa Case 4 $r = \rho/(C/W)$ 0.0700 0.0750 0.0800 0.0850 0.0950 0.1000	rd <u>p/r</u> <u>1.1111</u> 1.0526 1 0.9524 0.9091 0.8696 0.8000 0.7692 0.7400 The z axis: for rd <u>p/r</u> <u>1.4286</u> 1.3333 1.2500 1.1765 <u>1.1111</u> 1.1111 1.0526 1 1 1.0526 1 1 1.0526 1 1 1.0526 1 1 1.0526 1 1 1.0526 1 1 1.0526 1 1 1 1.0526 1 1 1 1.0526 1 1 1 1 1.0526 1 1 1 1 1 1 1 1 1	$\begin{array}{c} \rho \\ 0.1 \\ 0.65 \\ 0.7222 \\ 0.6842 \\ 0.65 \\ 0.6191 \\ 0.5909 \\ 0.5652 \\ 0.5200 \\ 0.5000 \\ 0.4810 \\ 0.7800 \\ 0.4810 \\ 0.714 \\ 0.1334 \\ 0.1875 \\ 0.2353 \\ 0.2778 \\ 0.3158 \\ 0.35 \\ 0.35 \end{array}$	0.7 0.7778 0.7368 0.7368 0.6667 0.6364 0.6087 0.5080 0.5384 0.5180 0.5384 0.5180 0.0667 0.1250 0.1765 0.2222 0.2322 0.3	$\begin{array}{c} 0.75\\ 0.8333\\ 0.7895\\ 0.75\\ 0.7143\\ 0.6818\\ 0.6522\\ 0.6000\\ 0.5769\\ 0.5550\\ \hline \end{array}$	$\begin{array}{c} 0.8\\ 0.8889\\ 0.8421\\ 0.8\\ 0.7619\\ 0.7273\\ 0.6957\\ 0.6400\\ 0.6154\\ 0.5920\\ \hline \\ \textbf{u}, \textbf{u}, \textbf{where}\\ 0.8\\ -0.1429\\ -0.0666\\ \hline \textbf{0.0000}\\ 0.0588\\ 0.1111\\ 0.1579\\ \hline 0.2\\ \hline \end{array}$	0.85 0.9444 0.8947 0.85 0.8095 0.7727 0.7392 0.6800 0.6538 0.6290 0.6538 0.6290 0.85 -0.2143 -0.1333 -0.0625 0.0000 0.0556 0.1053 0.15	1.0000 0.9473 0.9 0.8572 0.8182 0.7826 0.7200 0.6923 0.6660 -0.2857 -0.2000 -0.1250 -0.0589 0.00527 0.1	$\begin{array}{c} 0.95\\ \hline 1.0556\\ \hline 1.0000\\ 0.95\\ \hline 0.9048\\ 0.8636\\ \hline 0.8636\\ 0.7600\\ \hline 0.7307\\ \hline 0.7030\\ \hline 0.7030\\ \hline \\ -0.2666\\ \hline -0.1875\\ \hline -0.1177\\ \hline -0.2666\\ \hline -0.1875\\ \hline -0.1177\\ \hline -0.0555\\ \hline 0.0000\\ \hline 0.05\\ \hline \end{array}$

Table A2-3 The rate of saving dual to the utility function: consistent with saving and consumption as a base



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Figure A2-3 The rate of saving dual to the utility function of $c (\rho/r)$ by 1-alpha

Case 1	0.65	0.7	0.75	0.8	0.85	0.9	0.95 1-alph
alpha	0.35	0.3	0.25	0.2	0.15	0.1	0.05 s _{SP/P} =
$\alpha_{\rm SP/Y}$	0.2275	0.195	0.1625	0.13	0.0975	0.065	0.0325 0.
$\alpha_{D/Y}$	0.1225	0.105	0.0875	0.07	0.0525	0.035	0.0175 s _{SD/D} =
SSD/Y	0.0526	0.0450	0.0375	0.0300	0.0225	0.0150	0.0075 0.4
c _{CD/Y}	0.0699	0.0600	0.0500	0.0400	0.0300	0.0200	0.0100
$w_{W/Y}=1-\alpha$	0.65	0.7	0.75	0.8	0.85	0.9	0.95 s _{SW/W} =
SSW/Y	0.0325	0.0350	0.0375	0.0400	0.0425	0.0450	0.0475 0.
c _{CW/Y}	0.6175	0.6650	0.7125	0.7600	0.8075	0.8550	0.9025
s	0.3126	0.2750	0.24	0.2	0.1625	0.1250	0.0875
с	0.6874	0.7250	0.7625	0.8000	0.8375	0.8750	0.9125 c _{CW/Y} +c
∂/ r= c/w _{W/Y}	1.0576	1.0357	1.0166	1.0000	0.9853	0.9722	0.9605
Case 2	0.65	0.7	0.75	0.8	0.85	0.9	0.95 1-alph
alpha	0.85	0.7	0.75	0.8	0.85	0.9	0.95 1-alph 0.05 s _{SP/P} =
•	0.1575	0.135	0.1125	0.09	0.0675	0.045	0.0225 0.
$\alpha_{\rm SP/Y}$	0.1975	0.155	0.1125	0.09	0.0825	0.045	
α _{D/Y}	0.1923	0.0990	0.1375	0.0660	0.0823	0.0330	$\frac{0.0275}{0.0165}$ s _{SD/D} =
S _{SD/Y}	0.0770	0.0990	0.0823	0.0880	0.0493	0.0330	0.0105 0
c _{CD/Y}	0.65	0.0000	0.0330	0.0440	0.0330	0.0220	0.95 s _{sw/w} =
w _{W/Y} =1-α	0.0358	0.0385	0.0413	0.0440	0.85	0.0495	0.0523 0.0
S _{SW/Y}	0.0338	0.6615	0.0413	0.7560	0.8033	0.0493	0.0323 0.0
c _{CW/Y}	0.3088	0.0015	0.7088	0.7560		0.8303	0.0913
s	0.3088	0.2725			0.1638		
0	0.6012	0 7275	0 7629				
C	0.6913	0.7275	0.7638	0.8000	0.8363	0.8725	
с 2/ r=c/w _{W/Y}	0.6913 1.0635	0.7275 1.0393	0.7638 1.0183	0.8000	0.8363 0.9838	0.8725 0.9694	0.9088 c _{CW/Y} +c 0.9566
⊃/r=c/w _{W/Y}							Chit
∂/r=c/w _{W/Y}	1.0635	1.0393	1.0183	1.0000	0.9838	0.9694	0.9566
<i>p/r=c/w_{W/Y}</i> ase 3 alpha	0.65 0.35	1.0393	1.0183 0.75 0.25	1.0000	0.9838 0.85	0.9694 0.9	0.9566 0.95 1-alph 0.05 s _{SP/P} =
$\frac{\partial r = c/w_{W/Y}}{\text{ase 3}}$	1.0635 0.65 0.35 0.175	0.7 0.3 0.15	1.0183 0.75 0.25 0.125	1.0000 0.8 0.2 0.1	0.9838 0.85 0.15 0.075	0.9694 0.9 0.1 0.05	0.9566 0.95 0.05 0.025 0.025 0.025
$\frac{\partial r = c/w_{W/Y}}{\text{algha}}$	1.0635 0.65 0.35 0.175 0.175	1.0393 0.7 0.3 0.15 0.15	1.0183 0.75 0.25 0.125 0.125	1.0000 0.8 0.2 0.1 0.1	0.9838 0.85 0.15 0.075 0.075	0.9694 0.9 0.1 0.05 0.05	$\begin{array}{c} \textbf{0.9566} \\ \hline \textbf{0.95} & 1 \text{-} alph \\ \hline \textbf{0.05} & \textbf{s}_{\text{SP/P}} = \\ \hline \textbf{0.025} & \textbf{0} \\ \hline \textbf{0.025} & \textbf{s}_{\text{SD/D}} = \end{array}$
$\frac{\sigma/r=c/w_{W/Y}}{ase 3}$ $\frac{alpha}{\alpha_{SP/Y}}$ $\frac{\alpha_{D/Y}}{s_{SD/Y}}$	1.0635 0.65 0.35 0.175 0.175 0.1260	1.0393 0.7 0.15 0.15 0.1080	1.0183 0.75 0.25 0.125 0.125 0.0900	1.0000 0.8 0.2 0.1 0.1 0.1	0.9838 0.85 0.15 0.075 0.075 0.0540	0.9694 0.9 0.1 0.05 0.05 0.0360	$\begin{array}{c} 0.9566\\\hline\\0.95\\0.05\\s_{SP/P}=\\0.025\\0\\0.025\\s_{SD/P}=\\\hline\\0.0180\\0\end{array}$
$\frac{\partial r = c/w_{W/Y}}{\text{ase 3}}$ $\frac{\partial r}{\partial_{SP/Y}}$ $\frac{\partial \sigma_{SP/Y}}{\partial_{D/Y}}$ $\frac{\partial \sigma_{SP/Y}}{\partial_{SD/Y}}$	1.0635 0.65 0.175 0.175 0.1260 0.0490	1.0393 0.7 0.3 0.15 0.15 0.1080 0.0420	1.0183 0.75 0.25 0.125 0.125 0.0900 0.0350	1.0000 0.8 0.2 0.1 0.1 0.10 0.0720 0.0280	0.9838 0.85 0.15 0.075 0.075 0.0540 0.0210	0.9694 0.9 0.1 0.05 0.05 0.0360 0.0140	0.9566 0.95 1-alph 0.05 s _{SP/P} = 0.025 00 0.025 s _{SDD} = 0.0180 0. 0.0070
$\frac{ase 3}{\alpha_{SPY}}$ $\frac{\alpha_{SPY}}{\alpha_{DY}}$ $\frac{\alpha_{DY}}{s_{SDY}}$ $\frac{s_{SDY}}{c_{CDY}}$ $w_{WY}=1-\alpha$	1.0635 0.65 0.35 0.175 0.175 0.1260 0.0490 0.65	1.0393 0.7 0.3 0.15 0.15 0.1080 0.0420 0.7	1.0183 0.75 0.25 0.125 0.125 0.0900 0.0350 0.75	1.0000 0.8 0.2 0.1 0.1 0.0720 0.0280 0.8	0.9838 0.85 0.15 0.075 0.075 0.0540 0.0210 0.85	0.9694 0.9 0.1 0.05 0.03 0.0360 0.0140 0.9	$\begin{array}{c} \hline \textbf{0.9566} \\ \hline \textbf{0.9566} \\ \hline \textbf{0.95} \\ \hline \textbf{0.05} \\ s_{\text{SP}} = \\ \hline \textbf{0.025} \\ \textbf{0.025} \\ s_{\text{SDD}} = \\ \hline \textbf{0.0180} \\ \textbf{0} \\ \textbf{0.0070} \\ \hline \textbf{0.95} \\ s_{\text{SW/W}} = \end{array}$
$\frac{alpha}{\alpha_{SP/Y}}$	1.0635 0.65 0.35 0.175 0.175 0.1260 0.0490 0.65 0.0390	1.0393 0.7 0.3 0.15 0.15 0.1080 0.0420 0.7 0.0420	1.0183 0.75 0.25 0.125 0.125 0.0900 0.0350 0.75 0.0450	1.0000 0.8 0.2 0.1 0.12 0.0720 0.0280 0.8 0.0480	0.9838 0.85 0.15 0.075 0.075 0.0540 0.0210 0.85 0.0510	0.9694 0.9 0.1 0.05 0.0360 0.0140 0.9 0.0540	$\begin{array}{c} \hline \textbf{0.9566} \\ \hline \textbf{0.9566} \\ \hline \textbf{0.956} \\ \hline \textbf{0.005} \\ s_{SPP} = \\ \hline \textbf{0.0025} \\ \textbf{0.0025} \\ s_{SDD} = \\ \hline \textbf{0.00180} \\ \textbf{0.0010} \\ \hline \textbf{0.0070} \\ \hline \textbf{0.0570} \hline \hline \textbf{0.0570} \\ \hline \textbf{0.0570} \\ \hline \textbf{0.0570} \hline \hline \textbf{0.0570} \\ \hline $
$\frac{by}{c_{\rm CWY}} = \frac{c_{\rm WWY}}{c_{\rm CWY}}$ $\frac{ase 3}{alpha}$ $\frac{a_{\rm SP/Y}}{\alpha_{\rm D/Y}}$ $\frac{a_{\rm SP/Y}}{\alpha_{\rm D/Y}}$ $\frac{a_{\rm SP/Y}}{\alpha_{\rm D/Y}}$ $\frac{a_{\rm SP/Y}}{\alpha_{\rm D/Y}}$ $\frac{a_{\rm SW/Y}}{c_{\rm CW/Y}}$	1.0635 0.65 0.33 0.175 0.175 0.1260 0.0490 0.65 0.0390 0.6110	1.0393 0.7 0.3 0.15 0.15 0.1080 0.0420 0.7 0.0420 0.6580	1.0183 0.75 0.25 0.125 0.125 0.0900 0.0350 0.75 0.0450 0.7050	1.0000 0.8 0.2 0.1 0.720 0.0280 0.8 0.0480 0.7520	0.9838 0.85 0.15 0.075 0.075 0.0540 0.0540 0.0510 0.85 0.0510 0.7990	0.9694 0.9 0.1 0.05 0.0360 0.0140 0.9 0.0540 0.8460	0.9566 Interpretation 0.051 1-alph 0.055 sspp= 0.025 0 0.025 sspp= 0.0180 0 0.095 ssymp= 0.0570 0 0.0570 0 0.8930 0
$\frac{by}{c} \frac{c}{w} \frac{w}{wy}$ ase 3 alpha $\alpha_{SP/Y}$ $\alpha_{D/Y}$ $\frac{s}{c} \frac{by}{c}$ $\frac{c}{cD/Y}$ $\frac{s}{w} \frac{w}{y'} = 1 - \alpha$ $\frac{s}{s} \frac{w}{y}$	1.0635 0.65 0.35 0.175 0.175 0.1260 0.0490 0.65 0.0390 0.6110 0.3400	1.0393 0.7 0.3 0.15 0.15 0.1080 0.0420 0.7 0.0420 0.6580 0.3	1.0183 0.75 0.25 0.125 0.125 0.0900 0.0350 0.75 0.0450 0.7050 0.26	1.0000 0.8 0.2 0.1 0.10 0.0280 0.8 0.0480 0.7520 0.2200	0.9838 0.85 0.15 0.075 0.075 0.0540 0.0540 0.0510 0.85 0.0510 0.7990 0.1800	0.9694 0.9 0.1 0.05 0.05 0.0360 0.0140 0.9 0.0540 0.8460 0.1400	0.9566 0.05 0.05 spp= 0.025 0 0.025 sspp= 0.0180 0 0.0570 0 0.0570 0 0.8930 0.1000
$\begin{array}{c c} c'w_{W/Y} \\ \hline \\ case 3 \\ \hline \\ alpha \\ \hline \\ \alpha_{SP/Y} \\ \hline \\ s_{SD/Y} \\ \hline \\ c_{CD/Y} \\ \hline \\ w_{W/Y} = l - \alpha \\ \hline \\ s_{SW/Y} \\ \hline \\ c_{CW/Y} \\ \hline \\ s \\ c \\ \end{array}$	1.0635 0.65 0.33 0.175 0.175 0.1260 0.0490 0.65 0.0390 0.6110	1.0393 0.7 0.3 0.15 0.15 0.1080 0.0420 0.7 0.0420 0.6580	1.0183 0.75 0.25 0.125 0.125 0.0900 0.0350 0.75 0.0450 0.7050	1.0000 0.8 0.2 0.1 0.720 0.0280 0.8 0.0480 0.7520	0.9838 0.85 0.15 0.075 0.075 0.0540 0.0540 0.0510 0.85 0.0510 0.7990	0.9694 0.9 0.1 0.05 0.0360 0.0140 0.9 0.0540 0.8460	0.9566 Interpretation 0.051 1-alph 0.055 sspp= 0.025 0 0.025 sspp= 0.0180 0 0.095 ssymp= 0.0570 0 0.0570 0 0.8930 0
$\frac{\partial r - c' w_{W/Y}}{a \ln a}$ $\frac{a \ln a}{a \ln a}$ $\frac{\partial r_{SP/Y}}{\partial r_{D/Y}}$ $\frac{\partial r_{SP/Y}}{\delta r_{CD/Y}}$ $\frac{\partial r_{SSW/Y}}{\delta r_{CW/Y}}$ $\frac{c}{c}$ $\frac{c}{c}$ $\frac{c}{c' w_{W/Y}}$	1.0635 0.65 0.35 0.175 0.1260 0.0490 0.65 0.390 0.6110 0.3400 0.6600 1.0154	1.0393 0.7 0.3 0.15 0.15 0.15 0.0420 0.6580 0.3 0.7000 1.0000	1.0183 0.75 0.25 0.125 0.125 0.0900 0.0350 0.75 0.0450 0.7050 0.26 0.7400 0.9867	1.0000 0.8 0.2 0.1 0.0720 0.0280 0.480 0.7520 0.2200 0.7800 0.9750	0.9838 0.85 0.15 0.075 0.075 0.0540 0.0210 0.85 0.0510 0.7990 0.1800 0.8200 0.9647	0.9694 0.9 0.1 0.05 0.0360 0.0360 0.040 0.8460 0.1400 0.8600 0.9556	0.9566 In-alph 0.05 1-alph 0.05 spp= 0.025 0 0.025 0 0.0180 0 0.0570 0 0.0570 0 0.0570 0 0.0570 0 0.0570 0 0.9900 c _{cwy+} +c 0.9474 0
$\frac{c_{WWY}}{c_{SDY}}$ $\frac{c_{SDY}}{c_{SDY}}$ $\frac{\alpha_{SYY}}{c_{SDY}}$ $\frac{c_{SDY}}{c_{CDY}}$ $\frac{c_{CDY}}{w_{WY}}$ $\frac{c_{CWY}}{s}$	1.0635 0.65 0.35 0.175 0.175 0.1260 0.0490 0.65 0.3300 0.6110 0.3400 0.6600 1.0154	1.0393 0.7 0.3 0.15 0.15 0.15 0.0420 0.7 0.420 0.6580 0.3 0.7000 1.0000	1.0183 0.75 0.25 0.125 0.125 0.0900 0.0350 0.75 0.0450 0.7050 0.26 0.7400 0.9867 0.75	1.0000 0.8 0.2 0.1 0.0720 0.0280 0.8 0.0480 0.7520 0.2200 0.7800 0.9750 0.8	0.9838 0.85 0.15 0.075 0.075 0.0540 0.0210 0.85 0.0510 0.7990 0.1800 0.8200 0.9647 0.85	0.9694 0.9 0.1 0.05 0.0360 0.0140 0.9 0.0540 0.8460 0.1400 0.8600 0.9556 0.9	0.9566 1-alph 0.05 spp= 0.025 sspp= 0.0180 0. 0.057 sspp= 0.0180 0. 0.057 0. 0.057 0. 0.057 0. 0.0570 0. 0.0570 0. 0.0570 0. 0.0590 ccwy+c 0.99474 0.951
$p/r=c/w_{W/Y}$ ase 3 alpha alpha agree as a gree as a	1.0635 0.65 0.35 0.175 0.1260 0.0490 0.65 0.0390 0.6110 0.3400 0.6600 1.0154 0.65 0.35	1.0393 0.7 0.3 0.15 0.15 0.15 0.0420 0.7 0.0420 0.7 0.0420 0.7 0.0420 0.7 0.0420 0.7 0.0580 0.3 0.7000 1.0000 0.7 0.3	1.0183 0.75 0.25 0.125 0.0900 0.0350 0.75 0.0450 0.7050 0.26 0.7400 0.9867 0.75 0.25	1.0000 0.8 0.2 0.1 0.0720 0.0280 0.8 0.0480 0.7520 0.2200 0.7800 0.9750 0.8 0.2	0.9838 0.85 0.15 0.075 0.075 0.0540 0.0210 0.85 0.0510 0.7990 0.1800 0.8200 0.9647 0.85 0.15	0.9694 0.9 0.1 0.05 0.0360 0.0140 0.9 0.0540 0.8460 0.8460 0.8460 0.9556 0.9 0.9 0.1	0.9566 0.05 0.05 spp= 0.025 0 0.025 sspp= 0.0180 0 0.0570 0 0.0570 0 0.0950 ccwy+c 0.09474 0 0.051 1-alph 0.051 1-alph
$\frac{\partial f' = c' w_{W/Y}}{a l p h a}$ $\frac{a l p h a}{\alpha_{SP/Y}}$ $\frac{\alpha_{DY}}{s S D Y}$ $\frac{c_{CDY}}{c_{CDY}}$ $\frac{c_{CDY}}{s}$ $\frac{c_{CW/Y}}{s}$ $\frac{c}{c}$ $\frac{c_{CW/Y}}{s}$ $\frac{a l p h a}{\alpha_{SP/Y}}$	1.0635 0.65 0.35 0.175 0.175 0.1260 0.0490 0.65 0.3390 0.6110 0.3400 0.6600 1.0154 0.65 0.35 0.14	1.0393 0.7 0.3 0.15 0.15 0.1080 0.0420 0.7 0.0420 0.7 0.0420 0.7 0.0420 0.7 0.0420 0.7 0.0420 0.7 0.3 0.7000 1.0000	1.0183 0.75 0.25 0.125 0.0900 0.0350 0.75 0.0450 0.7050 0.26 0.7400 0.9867 0.75 0.25 0.125	1.0000 0.8 0.2 0.1 0.0720 0.0280 0.8 0.0480 0.7520 0.2200 0.7800 0.9750 0.8 0.2 0.08	0.9838 0.85 0.15 0.075 0.075 0.0540 0.0210 0.85 0.0510 0.7990 0.1800 0.8200 0.9647 0.85 0.15 0.06	0.9694 0.9 0.1 0.05 0.0360 0.0140 0.9 0.0540 0.8460 0.8460 0.1400 0.8600 0.9556 0.9 0.1 0.04	0.9566 1-alph 0.05 1-alph 0.05 spp= 0.025 0 0.025 ssp= 0.0180 0 0.0070 0 0.0570 0 0.8930 0.1000 0.9000 c_w+c 0.9474 0 0.055 ssp= 0.025 1-alph 0.050 sp= 0.020 0
$\begin{array}{c} \rho/r=c'w_{W/Y}\\ \textbf{ase 3}\\ \textbf{alpha}\\ \alpha_{SP/Y}\\ \alpha_{D/Y}\\ s_{SD/Y}\\ c_{CD/Y}\\ w_{W/Y}=1-\alpha\\ s_{SW/Y}\\ c_{CW/Y}\\ s\\ c\\ c\\$	1.0635 0.65 0.35 0.175 0.1260 0.0490 0.65 0.0390 0.6110 0.3400 0.6600 1.0154 0.65 0.35 0.14 0.21	1.0393 0.7 0.3 0.15 0.180 0.0420 0.7 0.0420 0.7000 1.0000 0.7 0.3 0.7000 1.0000 0.7 0.3 0.12 0.12	1.0183 0.75 0.25 0.125 0.0900 0.0350 0.75 0.0450 0.7050 0.26 0.7400 0.9867 0.75 0.125 0.125	1.0000 0.8 0.2 0.1 0.0720 0.0280 0.8 0.0480 0.7520 0.2200 0.7800 0.9750 0.2 0.08 0.2 0.08 0.21	0.9838 0.85 0.15 0.075 0.075 0.0540 0.0510 0.7990 0.1800 0.8200 0.9647 0.85 0.15 0.06 0.09	0.9694 0.9 0.1 0.05 0.0360 0.0140 0.9 0.0540 0.8460 0.1400 0.8600 0.9556 0.9 0.1 0.04 0.04 0.06	$\begin{array}{c} \hline 0.9566 \\ \hline 0.9566 \\ \hline 0.055 \\ s_{SPP} = \\ 0.025 \\ 0.025 \\ s_{SDD} = \\ 0.0180 \\ 0.0070 \\ 0.055 \\ s_{SWW} = \\ 0.0570 \\ 0.0570 \\ 0.0570 \\ 0.9000 \\ c_{CWY} + c \\ \hline 0.951 \\ 0.951 \\ 0.951 \\ s_{SpP} = \\ 0.02 \\ 0.03 \\ s_{SDD} = \\ \end{array}$
$\frac{\partial r - c' w_{WY}}{alpha}$ $\frac{alpha}{\alpha_{SPYY}}$ $\frac{\alpha_{DYY}}{\alpha_{DYY}}$ $\frac{s_{SDYY}}{c_{CDY}}$ $\frac{c_{CDYY}}{c_{CDYY}}$ $\frac{s_{SWYY}}{c_{CWYY}}$ $\frac{c_{CWYY}}{s}$ $\frac{c_{CWYY}}{c_{CWYY}}$ $\frac{s}{alpha}$ $\frac{\alpha_{SPYY}}{\alpha_{DYY}}$ $\frac{s_{SDY}}{s_{SDY}}$	1.0635 0.65 0.35 0.175 0.1260 0.0490 0.65 0.390 0.6110 0.3400 0.6600 1.0154 0.65 0.35 0.14 0.21 0.0840	1.0393 0.7 0.3 0.15 0.15 0.15 0.1420 0.6580 0.3 0.7000 1.0000 0.7 0.3 0.7000 1.0000 0.7 0.3 0.12 0.18 0.0720	1.0183 0.75 0.25 0.125 0.125 0.0900 0.0350 0.75 0.0450 0.7050 0.26 0.7400 0.9867 0.75 0.125 0.15	1.0000 0.8 0.2 0.1 0.0720 0.0280 0.8 0.0480 0.7520 0.2200 0.7800 0.9750 0.8 0.1 0.08 0.9750 0.08 0.12 0.0480	0.9838 0.85 0.15 0.075 0.075 0.0540 0.0510 0.7990 0.1800 0.8200 0.9647 0.85 0.15 0.06 0.09 0.0360	0.9694 0.9 0.1 0.05 0.0360 0.0360 0.040 0.8460 0.1400 0.8600 0.9556 0.9 0.9 0.1 0.04 0.04 0.06 0.0240	$\begin{array}{c} \hline 0.9566 \\ \hline 0.9566 \\ \hline 0.055 \\ s_{\rm SPP} = \\ \hline 0.025 \\ 0 \\ 0.025 \\ s_{\rm SDD} = \\ \hline 0.0180 \\ 0 \\ 0.0970 \\ 0.955 \\ s_{\rm SWW} = \\ \hline 0.0570 \\ 0 \\ 0.9900 \\ 0.9000 \\ c_{\rm CWY} + c \\ \hline 0.9930 \\ 0.1000 \\ 0.9000 \\ c_{\rm CWY} + c \\ \hline 0.9474 \\ \hline 0.055 \\ s_{\rm SPP} = \\ \hline 0.02 \\ 0 \\ 0.03 \\ s_{\rm SDD} = \\ \hline 0.0120 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\$
$\frac{p_{1}r=c'w_{W/Y}}{alpha}$ $\frac{alpha}{\alpha_{SP/Y}}$ $\frac{\alpha_{DY}}{\alpha_{DY}}$ $\frac{s_{SDY}}{c_{CDY}}$ $\frac{c_{CDY}}{w_{W/Y}=1-\alpha}$ $\frac{s_{W/Y}}{s_{S}}$ $\frac{c_{CWY}}{s_{S}}$ $\frac{c_{CWY}}{s_{S}}$ $\frac{c_{CDY}}{\alpha_{DY}}$ $\frac{alpha}{\alpha_{SP/Y}}$ $\frac{\alpha_{DY}}{\alpha_{DY}}$ $\frac{s_{SDY}}{s_{SDY}}$ $\frac{c_{CDY}}{c_{CDY}}$	1.0635 0.65 0.35 0.175 0.175 0.1260 0.0490 0.65 0.390 0.6110 0.3400 0.6600 1.0154 0.65 0.35 0.14 0.21 0.0840 0.1260	1.0393 0.7 0.3 0.15 0.15 0.15 0.1080 0.0420 0.7 0.420 0.6580 0.3 0.7000 1.0000 0.7 0.3 0.7 0.3 0.7 0.3 0.12 0.18 0.0720 0.1080	1.0183 0.75 0.25 0.125 0.125 0.0900 0.0350 0.75 0.26 0.750 0.26 0.7400 0.9867 0.75 0.25 0.1 0.15 0.0600 0.0900	1.0000 0.8 0.2 0.1 0.720 0.0280 0.8 0.0480 0.7520 0.2200 0.7800 0.7550 0.8 0.2 0.0480 0.02 0.08 0.12 0.0480 0.0720	0.9838 0.85 0.15 0.075 0.075 0.075 0.0540 0.0210 0.85 0.0510 0.7990 0.1800 0.8200 0.9647 0.85 0.15 0.06 0.09 0.0360 0.0540 0.0540	0.9694 0.9 0.1 0.05 0.0360 0.0360 0.040 0.8460 0.8460 0.8460 0.8600 0.9556 0.9 0.9 0.1 0.04 0.04 0.04 0.04 0.06 0.0240 0.0360	$\begin{array}{c} \hline 0.9566 \\ \hline 0.9566 \\ \hline 0.05 \\ 0.05 \\ s_{SPP} = \\ 0.025 \\ 0.0180 \\ 0.095 \\ s_{SWW} = \\ 0.0570 \\ 0.095 \\ 0.0570 \\ 0.0900 \\ 0.9000 \\ 0.9000 \\ 0.9000 \\ 0.9000 \\ 0.9000 \\ 0.9000 \\ 0.9000 \\ 0.9000 \\ 0.9000 \\ 0.0000 \\ 0.9000 \\ 0.0000 \\ 0.9000 \\ 0.0000 \\ 0.9000 \\ 0.000 \\ 0.000 \\ 0.000$
$p/r=c'w_{W/Y}$ alpha $\alpha_{SP/Y}$ s_{SDY} c_{CDY} $w_{W/Y}=1-\alpha$ $s_{W/Y}$ $c_{CW/Y}$ s c $c_{CW/Y}$ s c $c_{CW/Y}$ s c_{CDY} s c_{CDY} $w_{W/Y}=1-\alpha$	1.0635 0.65 0.35 0.175 0.175 0.175 0.175 0.1260 0.0490 0.65 0.3390 0.6110 0.3400 0.6600 1.0154 0.65 0.35 0.14 0.210 0.0840 0.1260 0.65	1.0393 0.7 0.3 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.7000 0.7000 1.0000 0.7 0.3 0.7000 0.7 0.3 0.12 0.18 0.0720 0.1080 0.7	1.0183 0.75 0.25 0.125 0.125 0.0900 0.0350 0.75 0.0450 0.750 0.26 0.7400 0.9867 0.75 0.25 0.1 0.15 0.0600 0.0900 0.75	1.0000 0.8 0.2 0.1 0.720 0.0280 0.8 0.0480 0.7520 0.2200 0.7800 0.9750 0.8 0.2 0.0480 0.12 0.0480 0.0480 0.0480 0.0720 0.8 0.12 0.0480 0.0720 0.8	0.9838 0.85 0.15 0.075 0.075 0.0540 0.0210 0.85 0.0510 0.7990 0.1800 0.8200 0.9647 0.85 0.15 0.06 0.09 0.0360 0.0540 0.0540	0.9694 0.9 0.1 0.05 0.0360 0.0140 0.9 0.0540 0.8600 0.9556 0.9 0.9 0.1 0.04 0.04 0.06 0.0240 0.0360 0.9 0.9	$\begin{array}{c} \hline 0.9566 \\ \hline 0.9566 \\ \hline 0.05 \\ s_{SPP} = \\ 0.025 \\ 0.005 \\ s_{SDD} = \\ 0.0125 \\ 0.0180 \\ 0.0070 \\ 0.095 \\ s_{SW/K} = \\ 0.0570 \\ 0.0570 \\ 0.0900 \\ c_{CWY} = \\ \hline 0.01000 \\ 0.9000 \\ c_{CWY} = \\ \hline 0.01000 \\ 0.9000 \\ c_{CWY} = \\ \hline 0.0180 \\ 0.0180 \\ 0.055 \\ s_{SW/K} = \\ \hline 0.0180 \\ 0.055 \\ s_{SW/K} = \\ \hline 0.0180 \\ 0.0180 \\ 0.955 \\ s_{SW/K} = \\ \hline 0.0180 \\ \hline$
$p/r=c'w_{W/Y}$ $alpha$ $\alpha_{SP/Y}$ s_{SDY} c_{CDY} $w_{WY}=1-\alpha$ $s_{SW/Y}$ $c_{CW/Y}$ s c $c_{W/Y}$ s c $c_{W/Y}$ s c_{DY} c_{DY} c_{DY} $w_{WY}=1-\alpha$ s_{SDY} α_{DY} c_{CDY} $w_{WY}=1-\alpha$ $s_{SW/Y}$ $w_{WY}=1-\alpha$ $s_{SW/Y}$	1.0635 0.65 0.35 0.175 0.1260 0.0490 0.65 0.0390 0.6110 0.3400 0.6600 1.0154 0.65 0.35 0.14 0.21 0.0840 0.1260 0.65 0.0260	1.0393 0.7 0.3 0.15 0.15 0.1080 0.0420 0.7 0.0420 0.6580 0.3 0.7000 1.0000 0.7 0.15 0.15 0.7000 1.0000 0.7 0.3 0.12 0.18 0.720 0.1080 0.7 0.280	1.0183 0.75 0.25 0.125 0.125 0.0900 0.0350 0.75 0.0450 0.7050 0.26 0.7400 0.9867 0.25 0.1 0.15 0.0600 0.75 0.75	1.0000 0.8 0.2 0.1 0.720 0.0280 0.8 0.0480 0.7520 0.2200 0.7800 0.9750 0.0480 0.7520 0.7800 0.9750 0.8 0.2 0.08 0.12 0.0480 0.0720 0.8 0.0320	0.9838 0.85 0.15 0.075 0.075 0.0540 0.0210 0.85 0.0510 0.7990 0.1800 0.8200 0.9647 0.85 0.15 0.0540 0.0340 0.85 0.0340	0.9694 0.9 0.1 0.05 0.0360 0.0140 0.9 0.0540 0.8460 0.9 0.9 0.9 0.1 0.04 0.0240 0.0240 0.0240 0.0360 0.9 0.0360	$\begin{array}{c} \hline 0.9566 \\ \hline 0.9566 \\ \hline 0.055 \\ s_{SP/P} = \\ \hline 0.005 \\ s_{SD/P} = \\ \hline 0.0180 \\ 0.0070 \\ 0.0070 \\ 0.0070 \\ 0.0570 \\ 0.0570 \\ 0.0570 \\ 0.08930 \\ 0.1000 \\ 0.9000 \\ \hline 0.9000 \\ c_{CW/P} = \\ \hline 0.02 \\ 0.02 \\ 0.02 \\ 0.035 \\ s_{SD/P} = \\ \hline 0.0120 \\ 0.0180 \\ 0.055 \\ s_{SW/W} = \\ \hline 0.0180 \\ 0.055 \\ s_{SW/W} = \\ \hline 0.0380 \\ 0.038 \\ 0.000 \\ 0.038 \\ 0.000 \\ 0.0380 \\ 0.000$
$p/r=c'w_{W/Y}$ alpha $\alpha_{SP/Y}$ $\alpha_{D/Y}$ SsDry $c_{D/Y}$ SsDry $c_{CW/Y}$ S c c c' $c'/r=c'w_{W/Y}$ alpha $\alpha_{SP/Y}$ $\alpha_{D/Y}$ SsDry $c_{D/Y}$ SsDry $c_{D/Y}$ SsDry $c_{C/Y}$ SsDry $c_{C/Y}$ SsDry $c_{C/Y}$ SsDry $c_{C/Y}$ SsDry $c_{C/Y}$ SsNY $c_{C/Y}$	1.0635 0.65 0.35 0.175 0.175 0.1260 0.0490 0.65 0.390 0.6110 0.3400 0.6600 1.0154 0.65 0.35 0.14 0.21 0.0840 0.1260 0.65 0.65 0.2200 0.640	1.0393 0.7 0.3 0.15 0.15 0.15 0.1420 0.7 0.0420 0.6580 0.3 0.7000 1.0000 0.7 0.3 0.7000 1.0000 0.7 0.3 0.12 0.18 0.0720 0.1880 0.7 0.280 0.6720	1.0183 0.75 0.25 0.125 0.125 0.0900 0.0350 0.75 0.0450 0.7050 0.26 0.7400 0.9867 0.75 0.15 0.0600 0.75 0.75 0.75 0.75 0.75 0.75 0.75 0.75 0.75 0.75 0.75	1.0000 0.8 0.2 0.1 0.720 0.0280 0.8 0.0480 0.7520 0.2200 0.7800 0.9750 0.21 0.08 0.12 0.0480 0.720 0.8 0.22 0.08 0.12 0.0480 0.0720 0.8 0.0320 0.7680	0.9838 0.85 0.15 0.075 0.075 0.0540 0.0210 0.85 0.0510 0.7990 0.1800 0.8200 0.9647 0.85 0.15 0.06 0.09 0.0360 0.0540 0.85 0.0340 0.85 0.340 0.8160	0.9694 0.9 0.1 0.05 0.0360 0.0140 0.9 0.0540 0.8460 0.1400 0.8600 0.9556 0.9 0.1 0.04 0.0240 0.0240 0.0360 0.9 0.0360 0.9	$\begin{array}{c} \hline 0.9566 \\ \hline 0.9566 \\ \hline 0.055 \\ s_{SPP} = \\ 0.025 \\ 0.025 \\ s_{SDD} = \\ 0.0180 \\ 0.0070 \\ 0.0955 \\ s_{SW/W} = \\ 0.0570 \\ 0.0570 \\ 0.0570 \\ 0.09000 \\ c_{CW/Y} + c \\ \hline 0.9474 \\ \hline 0.951 \\ 1-alph \\ 0.05 \\ s_{SPP} = \\ 0.02 \\ 0.0120 \\ 0.0180 \\ 0.95 \\ s_{SDD} = \\ 0.0120 \\ 0.03 \\ s_{SDD} = \\ 0.0120 \\ 0.0380 \\ 0.09120 \\ \hline \end{array}$
$\begin{array}{c c} & & & \\ & & & \\ \hline \hline & & \\ \hline \hline & & \\ \hline & & \\ \hline & & \\ \hline & & \\ \hline \hline & & \\ \hline & & \\ \hline \hline \\ \hline & & \\ \hline \hline \hline \\ \hline \hline \\ \hline \hline \hline \\ \hline \hline \hline \\ \hline \hline \hline \hline \\ \hline \hline$	1.0635 0.65 0.35 0.175 0.1260 0.0490 0.65 0.0390 0.6110 0.3400 0.6600 1.0154 0.65 0.35 0.14 0.21 0.0840 0.1260 0.65 0.0260	1.0393 0.7 0.3 0.15 0.15 0.1080 0.0420 0.7 0.0420 0.6580 0.3 0.7000 1.0000 0.7 0.15 0.15 0.7000 1.0000 0.7 0.3 0.12 0.18 0.720 0.1080 0.7 0.280	1.0183 0.75 0.25 0.125 0.125 0.0900 0.0350 0.75 0.0450 0.7050 0.26 0.7400 0.9867 0.25 0.1 0.15 0.0600 0.75 0.75	1.0000 0.8 0.2 0.1 0.720 0.0280 0.8 0.0480 0.7520 0.2200 0.7800 0.9750 0.0480 0.7520 0.7800 0.9750 0.8 0.2 0.08 0.12 0.0480 0.0720 0.8 0.0320	0.9838 0.85 0.15 0.075 0.075 0.0540 0.0210 0.85 0.0510 0.7990 0.1800 0.8200 0.9647 0.85 0.15 0.0540 0.0340 0.85 0.0340	0.9694 0.9 0.1 0.05 0.0360 0.0140 0.9 0.0540 0.8460 0.9 0.9 0.9 0.1 0.04 0.0240 0.0240 0.0240 0.0360 0.9 0.0360	$\begin{array}{c} \hline 0.9566 \\ \hline 0.9566 \\ \hline 0.055 \\ s_{SP/P} = \\ \hline 0.005 \\ s_{SD/P} = \\ \hline 0.0180 \\ 0.0070 \\ 0.0070 \\ 0.0070 \\ 0.0570 \\ 0.0570 \\ 0.0570 \\ 0.08930 \\ 0.1000 \\ 0.9000 \\ \hline 0.9000 \\ c_{CW/P} = \\ \hline 0.02 \\ 0.02 \\ 0.02 \\ 0.035 \\ s_{SD/P} = \\ \hline 0.0120 \\ 0.0180 \\ 0.055 \\ s_{SW/W} = \\ \hline 0.0180 \\ 0.055 \\ s_{SW/W} = \\ \hline 0.0380 \\ 0.038 \\ 0.000 \\ 0.038 \\ 0.000 \\ 0.0380 \\ 0.000$

Table A3-1 Structure of saving and consumption as a base to be consistent with the utility function

Table A3-2 The utility function of $c (\rho/r)$ by 1-*alpha* : consistent with saving and consumption as a base

Count backwa	rd	r	a is the discount	rate of the utility fi	unction & r is the	e rate of rental un	der convergence	
Count backwa	iu	, 0.05	p is the discould	$c=(\rho/r)(l-\alpha)$			der convergence.	$1-\alpha$
$\rho = r(C/W)$	ρ/r	0.65	0.7	0.75	0.8	0.85	0.9	0.95
0.0537	1.0730	0.6975	0.7511	0.8048	0.8584	0.9121	0.9657	1.0194
0.0529	1.0576	0.6874	0.7403	0.7932	0.8461	0.8990	0.9519	1.0047
0.0518	1.0357	0.6732	0.7250	0.7767	0.8285	0.8803	0.9321	0.9839
0.0508	1.0166	0.6608	0.7116	0.7625	0.8133	0.8641	0.9150	0.9658
0.0500	1.0100	0.65	0.7	0.75	0.8	0.85	0.9	0.95
0.0493	0.9853	0.6404	0.6897	0.7390	0.7882	0.8375	0.8867	0.9360
0.0486	0.9722	0.6319	0.6805	0.7292	0.7778	0.8264	0.8750	0.9236
0.0480	0.9605	0.6243	0.6724	0.7204	0.7684	0.8164	0.8645	0.9125
0.0475	0.9500	0.6175	0.6650	0.7125	0.7600	0.8075	0.8550	0.9025
	The z axis: for	r ρ/r.	The above ide	ea comes from b	ooth F.P. Ram	sey [1928] and	J J Tinbergen [1956].
Count backwa	rd	r						
Case 2		0.1		$c = (\rho/r)(1 - \alpha)$, where $\rho/r=$	-C/W.		1-α
$\rho = r(C/W)$	ρ/r	0.65	0.7	0.75	0.8	0.85	0.9	0.95
0.1090	1.0900	0.7085	0.7630	0.8175	0.8720	0.9265	0.9810	1.0355
0.1063	1.0635	0.6913	0.7444	0.7976	0.8508	0.9039	0.9571	1.0103
0.1039	1.0393	0.6755	0.7275	0.7795	0.8314	0.8834	0.9354	0.9873
0.1018	1.0183	0.6619	0.7128	0.7638	0.8147	0.8656	0.9165	0.9674
0.1000	1	0.65	0.7	0.75	0.8	0.85	0.9	0.95
0.0984	0.9838	0.6395	0.6887	0.7379	0.7871	0.8363	0.8854	0.9346
0.0969	0.9694	0.6301	0.6786	0.7271	0.7756	0.8240	0.8725	0.9210
0.0957	0.9566	0.6218	0.6696	0.7174	0.7653	0.8131	0.8609	0.9088
0.0940	0.9400	0.6110	0.6580	0.7050	0.7520	0.7990	0.8460	0.8930
	The z axis: for							
Count backwa	rd	r						
Case 3		0.1		$c = (\rho/r)(1 - \alpha)$	<u> </u>			1-α
$\rho = r(C/W)$	ρ/r	0.1 0.65	0.7	0.75	0.8	0.85	0.9	0.95
$\rho = r(C/W)$ 0.1030	ρ/r 1.0300	0.1 0.65 0.6695	0.7210	0.75	0.8 0.8240	0.85 0.8755	0.9270	0.95
$\rho = r(C/W)$ 0.1030 0.1015	ρ/r 1.0300 1.0154	0.1 0.65 0.6695 0.6600	0.7210 0.7108	0.75 0.7725 0.7615	0.8 0.8240 0.8123	0.85 0.8755 0.8631	0.9270 0.9138	0.95 0.9785 0.9646
$ \rho = r(C/W) $ 0.1030 0.1015 0.1000	ρ/r <u>1.0300</u> <u>1.0154</u> 1	0.1 0.65 0.6695 0.6600 0.65	0.7210 0.7108 0.7	0.75 0.7725 0.7615 0.75	0.8 0.8240 0.8123 0.8	0.85 0.8755 0.8631 0.85	0.9270 0.9138 0.9	0.95 0.9785 0.9646 0.95
$\rho = r(C/W) 0.1030 0.1015 0.1000 0.0987$	ρ/r <u>1.0300</u> 1.0154 <u>1</u> 0.9867	0.1 0.65 0.6695 0.6600 0.65 0.6413	0.7210 0.7108 0.7 0.6907	0.75 0.7725 0.7615 0.75 0.7400	0.8 0.8240 0.8123 0.8 0.7893	0.85 0.8755 0.8631 0.85 0.8387	0.9270 0.9138 0.9 0.8880	0.95 0.9785 0.9646 0.95 0.9373
$\rho = r(C/W) 0.1030 0.1015 0.1000 0.0987 0.0975$	<i>ρ/r</i> 1.0300 1.0154 1 0.9867 0.9750	0.1 0.65 0.6695 0.6600 0.65 0.6413 0.6338	0.7210 0.7108 0.7 0.6907 0.6825	0.75 0.7725 0.7615 0.75 0.7400 0.7313	0.8 0.8240 0.8123 0.8 0.7893 0.7800	0.85 0.8755 0.8631 0.85 0.8387 0.8288	0.9270 0.9138 0.9 0.8880 0.8775	0.95 0.9785 0.9646 0.95 0.9373 0.9263
$\rho = r(C/W) \\ 0.1030 \\ 0.1015 \\ 0.1000 \\ 0.0987 \\ 0.0975 \\ 0.0965 \\ 0.0965$	<i>ρ/r</i> <i>1.0300</i> 1.0154 1 0.9867 0.9750 0.9647	0.1 0.65 0.6695 0.6600 0.65 0.6413 0.6338 0.6271	0.7210 0.7108 0.7 0.6907 0.6825 0.6753	0.75 0.7725 0.7615 0.7400 0.7313 0.7235	0.8 0.8240 0.8123 0.8 0.7893 0.7800 0.7718	0.85 0.8755 0.8631 0.85 0.8387 0.8288 0.8200	0.9270 0.9138 0.9 0.8880 0.8775 0.8682	0.95 0.9785 0.9646 0.95 0.9373 0.9263 0.9165
$ \rho = r(C/W) $ 0.1030 0.1015 0.1000 0.0987 0.0975 0.0965 0.0956	<i>ρ/r</i> 1.0300 1.0154 1 0.9867 0.9750 0.9647 0.9556	0.1 0.65 0.6695 0.6600 0.65 0.6413 0.6338 0.6271 0.6211	0.7210 0.7108 0.7 0.6907 0.6825 0.6753 0.6689	0.75 0.7725 0.7615 0.7615 0.7400 0.7313 0.7235 0.7167	0.8 0.8240 0.8123 0.8 0.7893 0.7800 0.7718 0.7644	0.85 0.8755 0.8631 0.85 0.8387 0.8288 0.8200 0.8122	0.9270 0.9138 0.9 0.8880 0.8775 0.8682 0.8600	0.95 0.9785 0.9646 0.95 0.9373 0.9263 0.9165 0.9078
$\rho = r (C/W)$ 0.1030 0.1015 0.1000 0.0987 0.0975 0.0965 0.0956 0.0956	<i>ρ/r</i> <i>1.0300</i> 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474	0.1 0.65 0.6695 0.6600 0.65 0.6413 0.6338 0.6271 0.6211 0.6158	0.7210 0.7108 0.7 0.6907 0.6825 0.6753 0.6689 0.6632	0.75 0.7725 0.7615 0.7400 0.7313 0.7235 0.7167 0.7105	0.8 0.8240 0.8123 0.8 0.7893 0.7800 0.7718 0.7644 0.7579	0.85 0.8755 0.8631 0.85 0.8387 0.8288 0.8200 0.8122 0.8053	0.9270 0.9138 0.9 0.8880 0.8775 0.8682 0.8600 0.8526	0.95 0.9785 0.9646 0.95 0.9373 0.9263 0.9165 0.9078 0.9000
$\rho = r (C/W) \\ 0.1030 \\ 0.1015 \\ 0.1000 \\ 0.0987 \\ 0.0975 \\ 0.0965 \\ 0.0956 \\ 0.0956 \\ 0.0947 \\ 0.0937 \\ 0.0937 \\ 0.0937 \\ 0.0937 \\ 0.0937 \\ 0.0937 \\ 0.0937 \\ 0.0037 \\ 0.0037 \\$	<i>ρ/r</i> 1.0300 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 0.9370	0.1 0.65 0.6695 0.6600 0.65 0.6413 0.6338 0.6271 0.6211 0.6158 0.6091	0.7210 0.7108 0.7 0.6907 0.6825 0.6753 0.6689	0.75 0.7725 0.7615 0.7615 0.7400 0.7313 0.7235 0.7167	0.8 0.8240 0.8123 0.8 0.7893 0.7800 0.7718 0.7644	0.85 0.8755 0.8631 0.85 0.8387 0.8288 0.8200 0.8122	0.9270 0.9138 0.9 0.8880 0.8775 0.8682 0.8600	0.95 0.9785 0.9646 0.95 0.9373 0.9263 0.9165 0.9078
$\rho = r(C/W) \\ 0.1030 \\ 0.1015 \\ 0.1000 \\ 0.0987 \\ 0.0975 \\ 0.0956 \\ 0.0956 \\ 0.0947 \\ 0.0937 \\ 0.0937$	<i>ρ/r</i> <i>1.0300</i> 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 <i>0.9370</i> The z axis: for	0.1 0.65 0.6695 0.6600 0.65 0.6413 0.6338 0.6271 0.6211 0.6158 0.6091	0.7210 0.7108 0.7 0.6907 0.6825 0.6753 0.6689 0.6632	0.75 0.7725 0.7615 0.7400 0.7313 0.7235 0.7167 0.7105	0.8 0.8240 0.8123 0.8 0.7893 0.7800 0.7718 0.7644 0.7579	0.85 0.8755 0.8631 0.85 0.8387 0.8288 0.8200 0.8122 0.8053	0.9270 0.9138 0.9 0.8880 0.8775 0.8682 0.8600 0.8526	0.95 0.9785 0.9646 0.95 0.9373 0.9263 0.9165 0.9078 0.9000
$\rho = r (C/W)$ 0.1030 0.1015 0.1000 0.0987 0.0975 0.0975 0.0956 0.0956 0.0947 0.0937 Count backwa	<i>ρ/r</i> <i>1.0300</i> 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 <i>0.9370</i> The z axis: for	0.1 0.65 0.6695 0.661 0.6413 0.6338 0.6271 0.6211 0.6211 0.6158 0.6091 5 p/r. r	0.7210 0.7108 0.7 0.6907 0.6825 0.6753 0.6689 0.6632	0.75 0.7725 0.7615 0.75 0.7400 0.7313 0.7235 0.7167 0.7105 0.7028	0.8 0.8240 0.8123 0.8 0.7893 0.7800 0.7718 0.7644 0.7579 0.7496	0.85 0.8755 0.8631 0.85 0.8387 0.8288 0.8200 0.8122 0.8053 0.7965	0.9270 0.9138 0.9 0.8880 0.8775 0.8682 0.8600 0.8526	0.95 0.9785 0.9646 0.95 0.9373 0.9263 0.9165 0.9078 0.9000 0.8902
ho=r(C/W) 0.1030 0.1015 0.0000 0.0987 0.0975 0.0965 0.0956 0.0947 0.0937 Count backwa Case 4	<u>ρ/r</u> <u>1.0300</u> <u>1.0154</u> <u>1</u> 0.9867 0.9750 0.9647 0.9556 0.9474 0.9370 The z axis: for rd	0.1 0.65 0.6695 0.6600 0.65 0.6413 0.6338 0.6271 0.6211 0.6158 0.6091 r p/r: r 0.1	0.7210 0.7108 0.7 0.6907 0.6825 0.6753 0.6689 0.6632 0.6559	$\begin{array}{c} 0.75\\ 0.7725\\ 0.7615\\ 0.7615\\ 0.7400\\ 0.7313\\ 0.7235\\ 0.7167\\ 0.7105\\ 0.7028\\ \end{array}$	0.8 0.8240 0.8123 0.8 0.7893 0.7893 0.7718 0.7718 0.7644 0.7579 0.7496 where ρ/r=6	0.85 0.8755 0.8631 0.8387 0.8387 0.8288 0.8200 0.8122 0.8053 0.7965	0.9270 0.9138 0.9 0.8880 0.8775 0.8682 0.8600 0.8526 0.8433	0.95 0.9785 0.9646 0.955 0.9373 0.9263 0.9165 0.9078 0.9000 0.8902
$\rho = r (C/W)$ 0.1030 0.1015 0.1000 0.0987 0.0987 0.0985 0.0956 0.0947 0.0937 Count backwa Case 4 $\rho = r (C/W)$	$\frac{\rho/r}{1.0300}$ 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 0.9370 The z axis: for rd ρ/r	0.1 0.65 0.6695 0.6600 0.65 0.6413 0.6338 0.6271 0.6211 0.6158 0.6091 <i>r</i> <i>r</i> 0.1 0.65	0.7210 0.7108 0.7 0.6907 0.6825 0.6753 0.6689 0.6632 0.6559 0.6559	$\begin{array}{c} 0.75\\ 0.725\\ 0.7725\\ 0.7615\\ 0.75\\ 0.7400\\ 0.7313\\ 0.7235\\ 0.7105\\ 0.7105\\ 0.7028\\ \hline c=(\rho /r)(1-\alpha),\\ 0.75\\ \hline \end{array}$	0.8 0.8240 0.8123 0.8 0.7893 0.7893 0.7890 0.7718 0.7644 0.7579 0.7496 	0.85 0.8755 0.8631 0.85 0.8387 0.8288 0.8200 0.8122 0.8053 0.7965 <i>C/W.</i> 0.85	0.9270 0.9138 0.9 0.8880 0.8775 0.8682 0.8660 0.8526 0.8433	$\begin{array}{c} 0.95\\ 0.9785\\ 0.9646\\ 0.95\\ 0.9373\\ 0.9263\\ 0.9165\\ 0.9078\\ 0.9000\\ 0.8902\\ \end{array}$
$\rho = r(C/W)$ 0.1030 0.1015 0.1000 0.0987 0.09975 0.0965 0.0956 0.0946 0.0947 0.0937 Count backwa Case 4 $\rho = r(C/W)$ 0.1200	$\frac{\rho / r}{1.0300}$ 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 0.9370 The z axis: for rd $\frac{\rho / r}{1.2000}$	0.1 0.65 0.6695 0.6600 0.65 0.6413 0.6338 0.6271 0.6211 0.6211 0.6158 0.6091 r p/r: r 0.1 0.65 0.7800	0.7210 0.7108 0.7 0.6907 0.6825 0.6753 0.6689 0.6632 0.6559 0.6559	$\begin{array}{c} 0.75\\ 0.7725\\ 0.7615\\ 0.7615\\ 0.75\\ 0.7400\\ 0.7313\\ 0.7235\\ 0.7167\\ 0.7105\\ 0.7105\\ 0.7028\\ \hline \end{array}$	0.8 0.8240 0.8123 0.8 0.7893 0.7800 0.7718 0.7644 0.7579 0.7496 0.7496	0.85 0.8755 0.8631 0.85 0.8387 0.8288 0.8200 0.8122 0.8053 0.7965 C/W. 0.85 1.0200	0.9270 0.9138 0.9 0.8880 0.8775 0.8682 0.8660 0.8526 0.8433 0.8433	$\begin{array}{c} 0.95\\ 0.9785\\ 0.9785\\ 0.9646\\ 0.95\\ 0.9373\\ 0.9263\\ 0.9165\\ 0.9078\\ 0.9000\\ 0.8902\\ \hline \\ 1-\alpha\\ 0.95\\ 1.1400\\ \end{array}$
$\rho = r (C/W)$ 0.1030 0.1015 0.1000 0.0987 0.0975 0.0965 0.0956 0.0947 0.0937 Count backwa Case 4 $\rho = r (C/W)$ 0.1200 0.1154	<i>ρ/r</i> <i>1.0300</i> 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 <i>0.9370</i> The z axis: for rd <i>ρ/r</i> <i>1.2000</i> 1.1538	0.1 0.6695 0.6600 0.65 0.6413 0.6338 0.6271 0.6211 0.6158 0.6091 <i>r</i> <i>r</i> 0.1 0.65 <i>r</i> 0.7800 0.7500	0.7210 0.7108 0.7 0.6907 0.6825 0.6753 0.6689 0.6632 0.6559 0.6559 0.7 0.8400 0.8077	$\begin{array}{c} 0.75\\ 0.772\\ 0.7725\\ 0.7615\\ 0.75\\ 0.7400\\ 0.7313\\ 0.7235\\ 0.7167\\ 0.7105\\ 0.7028\\ \hline \end{array}$	0.8 0.8240 0.8123 0.8 0.7893 0.7800 0.7718 0.7644 0.7579 0.7496 0.7496 0.8 0.9600 0.9231	0.85 0.8755 0.8631 0.85 0.8387 0.8288 0.8200 0.8122 0.8053 0.7965 <i>C/W.</i> 0.85	0.9270 0.9138 0.9 0.8880 0.8682 0.8600 0.8526 0.8433 0.8433 0.9 1.0800 1.0385	$\begin{array}{c} 0.95\\ 0.9785\\ 0.9785\\ 0.9646\\ 0.95\\ 0.9373\\ 0.9263\\ 0.9165\\ 0.9078\\ 0.9000\\ 0.8902\\ \hline \end{array}$
$\rho = r(C/W)$ 0.1030 0.1015 0.1000 0.0987 0.09975 0.0965 0.0956 0.0946 0.0947 0.0937 Count backwa Case 4 $\rho = r(C/W)$ 0.1200	$\frac{\rho / r}{1.0300}$ 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 0.9370 The z axis: for rd $\frac{\rho / r}{1.2000}$	0.1 0.65 0.6695 0.6600 0.65 0.6413 0.6338 0.6271 0.6211 0.6211 0.6158 0.6091 r p/r: r 0.1 0.65 0.7800	0.7210 0.7108 0.7 0.6907 0.6825 0.6753 0.6689 0.6632 0.6559 0.6559	$\begin{array}{c} 0.75\\ 0.7725\\ 0.7615\\ 0.7615\\ 0.75\\ 0.7400\\ 0.7313\\ 0.7235\\ 0.7167\\ 0.7105\\ 0.7105\\ 0.7028\\ \hline \end{array}$	0.8 0.8240 0.8123 0.8 0.7893 0.7800 0.7718 0.7644 0.7579 0.7496 0.7496	0.85 0.8755 0.8631 0.85 0.8387 0.8288 0.8200 0.8122 0.8053 0.7965 <i>C/W.</i> <i>C/W.</i> 0.85 1.0200 0.9808	0.9270 0.9138 0.9 0.8880 0.8775 0.8682 0.8660 0.8526 0.8433 0.8433	$\begin{array}{c} 0.95\\ 0.9785\\ 0.9785\\ 0.9646\\ 0.95\\ 0.9373\\ 0.9263\\ 0.9165\\ 0.9078\\ 0.9000\\ 0.8902\\ \hline \end{array}$
$\rho = r (C/W)$ 0.1030 0.1015 0.1000 0.0987 0.0975 0.0956 0.0956 0.0947 0.0937 Count backwa Case 4 $\rho = r (C/W)$ 0.1200 0.1154 0.1114	<u>ρ/r</u> 1.0300 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 0.9370 The z axis: for rd <u>ρ/r</u> 1.2000 1.1538 1.1143	0.1 0.6695 0.6600 0.65 0.6413 0.6338 0.6271 0.6211 0.6158 0.6091 r p/r. r 0.1 0.65 0.7800 0.7500 0.7243	0.7210 0.7108 0.7 0.6907 0.6825 0.6753 0.6689 0.6639 0.6559 0.6559 0.8400 0.8400 0.8077 0.88400 0.877	$\begin{array}{c} 0.75\\ 0.7725\\ 0.7725\\ 0.7615\\ 0.7615\\ 0.75\\ 0.7400\\ 0.7313\\ 0.7235\\ 0.7167\\ 0.7105\\ 0.7028\\ \hline \end{array}$	0.8 0.8240 0.8123 0.7893 0.7800 0.7718 0.7644 0.7579 0.7496 0.8 0.9600 0.9231 0.8914	0.85 0.8755 0.8631 0.85 0.8387 0.8288 0.8200 0.8122 0.8053 0.7965 C/W. 0.85 1.0200 0.9808 0.9471	0.9270 0.9138 0.9 0.8880 0.8775 0.8682 0.8600 0.8526 0.8433 0.8433 0.9 1.0800 1.0385 1.0029	0.95 0.9785 0.9646 0.95 0.9373 0.9263 0.9165 0.9078 0.9000 0.8902 1-α 0.95 1.1400 1.0962 1.0586
$\rho = r (C/W)$ 0.1030 0.1015 0.1000 0.0987 0.0987 0.0995 0.0956 0.0947 0.0937 Count backwa Case 4 $\rho = r (C/W)$ 0.1200 0.1154 0.1114 0.1080 0.1050	$\frac{\rho/r}{1.0300}$ 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 0.9370 The z axis: for rd $\frac{\rho/r}{1.2000}$ 1.1538 1.1143 1.0800 1.0500	0.1 0.65 0.6695 0.6600 0.65 0.6413 0.6338 0.6271 0.6211 0.6158 0.6091 r r 0.1 0.65 0.7800 0.7243 0.7020 0.6825	0.7210 0.7108 0.7 0.6907 0.6825 0.6753 0.6689 0.6632 0.6559 0.6559 0.6559 0.6559 0.6825 0.6559	$\begin{array}{c} 0.75\\ 0.725\\ 0.7725\\ 0.7615\\ 0.75\\ 0.7400\\ 0.7313\\ 0.7235\\ 0.7105\\ 0.7105\\ 0.7028\\ \hline \\ c=(\rho /r)(1-\alpha),\\ 0.75\\ 0.9000\\ 0.8654\\ 0.8357\\ 0.8100\\ 0.7875\\ \hline \end{array}$	0.8 0.8240 0.8123 0.8 0.7893 0.7800 0.7718 0.7644 0.7579 0.7496 0.7496 0.7496 0.8400 0.9231 0.8914 0.8640 0.8400	0.85 0.8755 0.8631 0.85 0.8387 0.8288 0.8200 0.8122 0.8053 0.7965 C/W. 0.855 1.0200 0.9808 0.9471 0.9180 0.8925	0.9270 0.9138 0.9 0.8880 0.8775 0.8682 0.8600 0.8526 0.8433 0.8433 0.8433 0.9450	$\begin{array}{c} 0.95\\ 0.9785\\ 0.9785\\ 0.9646\\ 0.95\\ 0.9373\\ 0.9263\\ 0.9165\\ 0.9078\\ 0.9000\\ 0.8902\\ \hline \end{array}$
$\rho = r (C/W)$ 0.1030 0.1015 0.1000 0.0987 0.0987 0.0995 0.0995 0.0947 0.0937 Count backwa Case 4 $\rho = r (C/W)$ 0.1200 0.1154 0.1114 0.1080	$\frac{\rho/r}{1.0300}$ 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 0.9370 The z axis: for rd $\frac{\rho/r}{1.2000}$ 1.1538 1.1143 1.0800	0.1 0.6695 0.6600 0.65 0.6413 0.6338 0.6271 0.6211 0.6158 0.6091 <i>r</i> <i>r</i> 0.1 0.65 <i>r</i> 0.7800 0.7500 0.7243 0.7202 0.7243 0.7020	0.7210 0.7108 0.7 0.6907 0.6825 0.6753 0.6689 0.6639 0.6559 0.6559 0.8400 0.8400 0.8077 0.88400 0.877	$\begin{array}{c} 0.75\\ 0.7725\\ 0.7725\\ 0.7615\\ 0.75\\ 0.7400\\ 0.7313\\ 0.7235\\ 0.7167\\ 0.7105\\ 0.7105\\ 0.7028\\ \hline \end{array}$	0.8 0.8240 0.8123 0.7893 0.7800 0.7718 0.7644 0.7579 0.7496 0.7496 0.8 0.9600 0.9231 0.8914 0.8640	0.85 0.8755 0.8631 0.85 0.8387 0.8288 0.8200 0.8122 0.8053 0.7965 C/W. 0.855 1.0200 0.9808 0.9471 0.9180 0.8925 0.8700	0.9270 0.9138 0.9 0.8880 0.8775 0.8682 0.8600 0.8526 0.8526 0.8433 0.8433 0.8433 0.9433 1.0800 1.0385 1.0029 0.9720	0.95 0.9785 0.9785 0.9785 0.9785 0.9785 0.9785 0.9785 0.9785 0.9785 0.9785 0.9263 0.9165 0.9078 0.9078 0.9070 0.9
$\rho = r(C/W)$ 0.1030 0.1015 0.1000 0.0987 0.0975 0.0965 0.0956 0.0947 0.0937 Count backwa Case 4 $\rho = r(C/W)$ 0.1200 0.1154 0.1114 0.1080 0.1050 0.1050 0.1054	$\frac{\rho / r}{1.0300}$ 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 0.9370 The z axis: for rd $\frac{\rho / r}{1.2000}$ 1.1538 1.1143 1.0800 1.0500 1.0235	0.1 0.65 0.6695 0.6600 0.65 0.6413 0.6338 0.6271 0.6211 0.6158 0.6091 r r 0.1 0.65 0.7800 0.7243 0.7020 0.6825	0.7210 0.7108 0.7 0.6907 0.6825 0.6753 0.6689 0.6632 0.6559 0.6559 0.6559 0.6559 0.6559 0.6559 0.7580 0.8400 0.8077 0.7800 0.7350 0.7165	$\begin{array}{c} 0.75\\ 0.725\\ 0.7725\\ 0.7615\\ 0.75\\ 0.7400\\ 0.7313\\ 0.7235\\ 0.7105\\ 0.7105\\ 0.7028\\ \hline \\ c=(\rho /r)(1-\alpha),\\ 0.75\\ 0.9000\\ 0.8654\\ 0.8357\\ 0.8100\\ 0.7875\\ \hline \end{array}$	0.8 0.8240 0.8123 0.8 0.7893 0.7800 0.7718 0.7644 0.7579 0.7496 0.7496 0.7496 0.8 0.9600 0.9231 0.8914 0.8640 0.8400 0.8188	0.85 0.8755 0.8631 0.85 0.8387 0.8288 0.8200 0.8122 0.8053 0.7965 C/W. 0.855 1.0200 0.9808 0.9471 0.9180 0.8925	0.9270 0.9138 0.9 0.8880 0.8775 0.8682 0.8600 0.8526 0.8433 0.8433 0.9 1.0800 1.0385 1.0029 0.9720 0.9450 0.9212	$\begin{array}{c} 0.95\\ 0.9785\\ 0.9785\\ 0.9646\\ 0.95\\ 0.9373\\ 0.9263\\ 0.9165\\ 0.9078\\ 0.9000\\ 0.8902\\ 0.8902\\ \hline 0.8902\\ 1.400\\ 1.0962\\ 1.0586\\ 1.0260\\ 0.9975\\ 0.9724\\ \end{array}$
$\rho = r (C/W)$ 0.1030 0.1015 0.1000 0.0987 0.0975 0.0955 0.0955 0.0956 0.0947 0.0937 Count backwa Case 4 $\rho = r (C/W)$ 0.1200 0.1154 0.1114 0.1080 0.1050 0.1024 0.1000	<u>ρ/r</u> 1.0300 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 0.9370 The z axis: for rd <u>ρ/r</u> 1.2000 1.1538 1.1143 1.0800 1.0500 1.0235 1	0.1 0.6695 0.6600 0.65 0.6413 0.6338 0.6271 0.6211 0.6158 0.6091 <i>r</i> p/ <i>r</i> : <i>r</i> 0.1 0.7800 0.7500 0.7500 0.7243 0.7020 0.6653 0.6653 0.65	0.7210 0.7108 0.7 0.6907 0.6825 0.6753 0.6689 0.6632 0.6559 0.6559 0.6559 0.6559 0.6559 0.6559 0.6559 0.77 0.8400 0.8077 0.7800 0.7560 0.7756 0.7165 0.7	$\begin{array}{c} 0.75\\ 0.725\\ 0.7725\\ 0.7615\\ 0.7615\\ 0.75\\ 0.7400\\ 0.7313\\ 0.7235\\ 0.7167\\ 0.7105\\ 0.7028\\ \hline \end{array}$	0.8 0.8240 0.8123 0.7893 0.7890 0.7718 0.7644 0.7579 0.7496 0.8 0.9600 0.9231 0.8914 0.8640 0.8400 0.8400 0.8188 0.8	0.85 0.8755 0.8631 0.85 0.8387 0.8288 0.8200 0.8122 0.8053 0.7965 1.0200 0.9808 0.9471 0.9180 0.8925 0.8700 0.85	0.9270 0.9138 0.9 0.8880 0.8602 0.8526 0.8433 0.8433 0.9 1.0800 1.0385 1.0029 0.9720 0.9450 0.9212 0.9	0.95 0.9785 0.9785 0.9785 0.9785 0.9785 0.9785 0.9785 0.9785 0.9785 0.9785 0.9263 0.9165 0.9078 0.9070 0.8902 1-α 0.905 1.1400 1.0962 1.0586 1.0260 0.9975 0.9724 0.95 0.9300
$\label{eq:response} \begin{split} \rho = r \left(C/W \right) & 0.1030 \\ 0.1015 & 0.1000 \\ 0.0987 & 0.0987 \\ 0.09987 & 0.0987 \\ 0.09950 & 0.0947 \\ 0.0937 & 0.0947 \\ 0.0937 & 0.0947 \\ 0.0937 & 0.0947 \\ 0.0947 & 0.0947 \\ 0.1200 & 0.1154 \\ 0.1114 & 0.1080 \\ 0.1050 & 0.1024 \\ 0.1000 & 0.0979 \\ 0.0950 & 0.0950 \\ \end{split}$	<i>ρ/r</i> 1.0300 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 0.9370 The z axis: for rd <i>ρ/r</i> 1.2000 1.1538 1.1143 1.0800 1.0235 1 1 0.9789	0.1 0.65 0.6695 0.6600 0.65 0.6413 0.6338 0.6271 0.6211 0.6158 0.6091 r r 0.1 0.65 0.7800 0.7500 0.7500 0.7500 0.7243 0.7020 0.6825 0.6653 0.6653 0.6363 0.6175	0.7210 0.7108 0.7 0.6907 0.6825 0.6753 0.6689 0.6632 0.6559 0.6559 0.6559 0.8400 0.8400 0.8077 0.8400 0.7560 0.7350 0.7165 0.77 0.6853	$\begin{array}{c} 0.75\\ 0.7725\\ 0.7725\\ 0.7725\\ 0.7725\\ 0.7705\\ 0.7705\\ 0.7105\\ 0.7105\\ 0.7105\\ 0.7105\\ 0.7028\\ \hline \end{array}$	0.8 0.8240 0.8123 0.7893 0.7800 0.7718 0.7644 0.7579 0.7496 0.8 0.9200 0.9231 0.8914 0.8640 0.8400 0.8188 0.8400 0.8188 0.88	0.85 0.8755 0.8631 0.85 0.8387 0.8288 0.8200 0.8122 0.8053 0.7965 C/W. 0.855 1.0200 0.9808 0.9471 0.9180 0.8925 0.8700 0.885 0.8321	0.9270 0.9138 0.9 0.8880 0.8775 0.8682 0.8600 0.8526 0.8526 0.8433 0.8433 0.8433 0.8433 0.8433 0.9430 0.9720 0.9720 0.9450 0.9212 0.9 0.9210	$\begin{array}{c} 0.95\\ 0.9785\\ 0.9785\\ 0.9646\\ 0.95\\ 0.9373\\ 0.9263\\ 0.9165\\ 0.9078\\ 0.9000\\ 0.8902\\ \hline \end{array}$

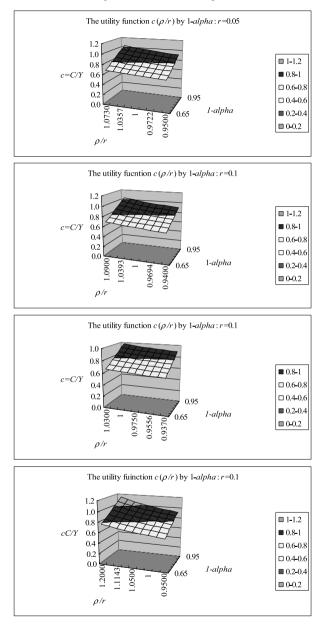


Figure A3-2 The utility function of $c (\rho/r)$ by 1-*alpha*

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Table A3-3 The rate of saving dual to the utility function: consistent with saving and consumption as a base

Count backwa	rd	r	o is the discount	rate of the utility	function & r is th	e rate of rental un	der convergence.	
Case 1		0.05		$s=1-c=(\rho/r)($				$1-\alpha$
$\rho = r(C/W)$	ρ/r	0,65	0.7	0.75	0.8	0.85	0.9	0.95
0.0537	1.0730	0.3026	0.2489	0.1953	0.1416	0.0880	0.0343	-0.0194
0.0529	1.0576	0.3126	0.2597	0.2068	0.1539	0.1010	0.0481	-0.0047
0.0518	1.0357	0.3268	0.2750	0.2233	0.1715	0.1197	0.0679	0.0161
0.0508	1.0166	0.3392	0.2884	0.2375	0.1867	0.1359	0.0850	0.0342
0.0500	1	0.35	0.3	0.25	0.2	0.15	0.1	0.05
0.0493	0.9853	0.3596	0.3103	0.2610	0.2118	0.1625	0.1133	0.0640
0.0486	0.9722	0.3681	0.3195	0.2708	0.2222	0.1736	0.1250	0.0764
0.0480	0.9605	0.3757	0.3276	0.2796	0.2316	0.1836	0.1355	0.0875
0.0475	0.9500	0.3825	0.3350	0.2875	0.2400	0.1925	0.1450	0.0975
•	The z axis: for	r <i>ρ/r</i> .						
Count backwa	rd	r						
Case 2		0.1		$s=1-c=(\rho/r)(c)$	$(1 - \alpha)$, where	$\rho/r=C/W$.		1-α
$\rho = r(C/W)$	ρ/r	0.65	0.7	0.75	0.8	0.85	0.9	0.95
0.1090	1.0900	0.2915	0.2370	0.1825	0.1280	0.0735	0.0190	-0.0355
0.1063	1.0635	0.3088	0.2556	0.2024	0.1492	0.0961	0.0429	-0.0103
0.1039	1.0393	0.3245	0.2725	0.2205	0.1686	0.1166	0.0646	0.0127
0.1018	1.0183	0.3381	0.2872	0.2363	0.1853	0.1344	0.0835	0.0326
0.1000	1	0.35	0.3	0.25	0.2	0.15	0.1	0.05
0.0984	0.9838	0.3605	0.3113	0.2621	0.2129	0.1638	0.1146	0.0654
0.0969	0.9694	0.3699	0.3214	0.2729	0.2244	0.1760	0.1275	0.0790
0.0957	0.9566	0.3782	0.3304	0.2826	0.2347	0.1869	0.1391	0.0913
0.0940	0.9400	0.3890	0.3420	0.2950	0.2480	0.2010	0.1540	0.1070
	The z axis: for	r <i>ρ/r</i> .						
Count backwa	rd	r						
Case 3		0.1		$s=1-c=(\rho/r)($	/	<u>/</u>		1-α
Case 3 $\rho = r(C/W)$	ρ/r	0.1 0.65	0.7	0.75	0.8	0.85	0.9	0.95
Case 3 $\rho = r(C/W)$ 0.1030	ρ/r 1.0300	0.1 0.65 0.3305	0.2790	0.75 0.2275	0.8 0.1760	0.85 0.1245	0.0730	0.95 0.0215
Case 3 $\rho = r(C/W)$ 0.1030 0.1015	ρ/r	0.1 0.65 0.3305 0.3400	0.2790 0.2892	0.75 0.2275 0.2385	0.8 0.1760 0.1877	0.85 0.1245 0.1369	0.0730 0.0862	0.95 0.0215 0.0354
Case 3 $\rho = r(C/W)$ 0.1030 0.1015 0.1000	ρ/r <u>1.0300</u> <u>1.0154</u> 1	0.1 0.65 0.3305 0.3400 0.35	0.2790 0.2892 0.3	0.75 0.2275 0.2385 0.25	0.8 0.1760 0.1877 0.2	0.85 0.1245 0.1369 0.15	0.0730 0.0862 0.1	0.95 0.0215 0.0354 0.05
Case 3 $\rho = r(C/W)$ 0.1030 0.1015 0.1000 0.0987	ρ/r 1.0300 1.0154 1 0.9867	0.1 0.65 0.3305 0.3400 0.35 0.3587	0.2790 0.2892 0.3 0.3093	0.75 0.2275 0.2385 0.25 0.2600	0.8 0.1760 0.1877 0.2 0.2107	0.85 0.1245 0.1369 0.15 0.1613	0.0730 0.0862 0.1 0.1120	0.95 0.0215 0.0354 0.05 0.0627
Case 3 $\rho = r(C/W)$ 0.1030 0.1015 0.1000 0.0987 0.0975	<i>ρ/r</i> 1.0300 1.0154 1 0.9867 0.9750	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3663	0.2790 0.2892 0.3 0.3093 0.3175	0.75 0.2275 0.2385 0.25 0.2600 0.2688	0.8 0.1760 0.1877 0.2 0.2107 0.2200	0.85 0.1245 0.1369 0.15 0.1613 0.1713	0.0730 0.0862 0.1 0.1120 0.1225	0.95 0.0215 0.0354 0.05 0.0627 0.0738
Case 3 $\rho = r(C/W)$ 0.1030 0.1015 0.1000 0.0987 0.0975 0.0965	<i>ρ/r</i> <i>1.0300</i> 1.0154 1 0.9867 0.9750 0.9647	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3663 0.3729	0.2790 0.2892 0.3 0.3093 0.3175 0.3247	0.75 0.2275 0.2385 0.25 0.2600 0.2688 0.2765	0.8 0.1760 0.1877 0.2 0.2107 0.2200 0.2282	0.85 0.1245 0.1369 0.15 0.1613 0.1713 0.1800	0.0730 0.0862 0.1 0.1120 0.1225 0.1318	0.95 0.0215 0.0354 0.05 0.0627 0.0738 0.0835
Case 3 $\rho = r(C/W)$ 0.1030 0.1015 0.1000 0.0987 0.0975 0.0965 0.0956	<i>ρ/r</i> 1.0300 1.0154 1 0.9867 0.9750 0.9647 0.9556	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3663 0.3729 0.3789	0.2790 0.2892 0.3 0.3093 0.3175 0.3247 0.3311	0.75 0.2275 0.2385 0.25 0.2600 0.2688 0.2765 0.2833	0.8 0.1760 0.1877 0.2 0.2107 0.2200 0.2282 0.2356	0.85 0.1245 0.1369 0.15 0.1613 0.1713 0.1800 0.1878	0.0730 0.0862 0.1 0.120 0.1225 0.1318 0.1400	0.95 0.0215 0.0354 0.05 0.0627 0.0738 0.0835 0.0922
Case 3 $\rho = r(C/W)$ 0.1030 0.1015 0.1000 0.0987 0.0975 0.0975 0.0956 0.0956 0.0956	<i>ρ/r</i> <i>1.0300</i> 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3663 0.3729 0.3789 0.3789	0.2790 0.2892 0.3 0.3093 0.3175 0.3247 0.3311 0.3368	0.75 0.2275 0.2385 0.25 0.2600 0.2688 0.2765 0.2833 0.2895	0.8 0.1760 0.1877 0.2 0.2107 0.2200 0.2282 0.2356 0.2421	0.85 0.1245 0.1369 0.15 0.1613 0.1713 0.1800 0.1878 0.1947	0.0730 0.0862 0.1 0.120 0.1225 0.1318 0.1400 0.1474	0.95 0.0215 0.0354 0.05 0.0627 0.0738 0.0835 0.0922 0.1000
Case 3 $\rho = r (C/W)$ 0.1030 0.1015 0.1000 0.0987 0.0975 0.0956 0.0956 0.0957	<i>ρ/r</i> <i>1.0300</i> 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 0.9370	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3663 0.3729 0.3789 0.3789 0.3842 0.3910	0.2790 0.2892 0.3 0.3093 0.3175 0.3247 0.3311	0.75 0.2275 0.2385 0.25 0.2600 0.2688 0.2765 0.2833	0.8 0.1760 0.1877 0.2 0.2107 0.2200 0.2282 0.2356	0.85 0.1245 0.1369 0.15 0.1613 0.1713 0.1800 0.1878	0.0730 0.0862 0.1 0.120 0.1225 0.1318 0.1400	0.95 0.0215 0.0354 0.05 0.0627 0.0738 0.0835 0.0922
Case 3 $\rho = r(C/W)$ 0.1030 0.1015 0.1000 0.0987 0.0987 0.0955 0.0956 0.0956 0.0947 0.0937	<i>ρ/r</i> <i>1.0300</i> 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 <i>0.9370</i> The z axis: for	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3663 0.3729 0.3789 0.3842 0.3910 r.p/r.	0.2790 0.2892 0.3 0.3093 0.3175 0.3247 0.3311 0.3368	0.75 0.2275 0.2385 0.25 0.2600 0.2688 0.2765 0.2833 0.2895	0.8 0.1760 0.1877 0.2 0.2107 0.2200 0.2282 0.2356 0.2421	0.85 0.1245 0.1369 0.15 0.1613 0.1713 0.1800 0.1878 0.1947	0.0730 0.0862 0.1 0.120 0.1225 0.1318 0.1400 0.1474	0.95 0.0215 0.0354 0.05 0.0627 0.0738 0.0835 0.0922 0.1000
Case 3 $\rho = r(C/W)$ 0.1030 0.1015 0.1000 0.0987 0.0965 0.0956 0.0947 0.0937 Count backwa	<i>ρ/r</i> <i>1.0300</i> 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 <i>0.9370</i> The z axis: for	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3663 0.3729 0.3789 0.3789 0.3842 0.3910 r ρ/r. r	0.2790 0.2892 0.3 0.3093 0.3175 0.3247 0.3311 0.3368	0.75 0.2275 0.2385 0.25 0.2600 0.2688 0.2765 0.2833 0.2895 0.2973	0.8 0.1760 0.1877 0.2 0.2107 0.2200 0.2282 0.2356 0.2421 0.2504	0.85 0.1245 0.1369 0.15 0.1613 0.1713 0.1800 0.1878 0.1947 0.2036	0.0730 0.0862 0.1 0.120 0.1225 0.1318 0.1400 0.1474	0.95 0.0215 0.0354 0.05 0.0627 0.0738 0.0835 0.0922 0.1000 0.1099
Case 3 $\rho = r(C/W)$ 0.1030 0.1015 0.1000 0.0987 0.0975 0.0956 0.0956 0.0947 0.0937 Count backwa Case 4	<i>ρ/r</i> 1.0300 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 0.9370 The z axis: for rd	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3663 0.3729 0.3789 0.3789 0.3842 0.3910 <i>r p/r</i> . <i>r</i>	0.2790 0.2892 0.3 0.3093 0.3175 0.3247 0.3311 0.3368 0.3441	$\begin{array}{c} 0.75\\ 0.2275\\ 0.2385\\ 0.25\\ 0.2600\\ 0.2688\\ 0.2765\\ 0.2833\\ 0.2895\\ 0.2973\\ s=1-c=(\rho/r)(r)(r)(r)(r)(r)(r)(r)(r)(r)(r)(r)(r)(r$	$\begin{array}{c} 0.8\\ 0.1760\\ 0.1877\\ 0.2\\ 0.2107\\ 0.2200\\ 0.2282\\ 0.2356\\ 0.2421\\ 0.2504\\ \end{array}$	$\begin{array}{c} 0.85\\ 0.1245\\ 0.1369\\ 0.15\\ 0.1613\\ 0.1713\\ 0.1800\\ 0.1878\\ 0.1947\\ 0.2036\\ \rho/r=C/W. \end{array}$	0.0730 0.0862 0.1 0.1225 0.1318 0.1400 0.1474 0.1567	0.95 0.0215 0.0354 0.05 0.0627 0.0738 0.0835 0.0922 0.1000 0.1099
Case 3 $\rho = r(C/W)$ 0.1030 0.1015 0.1000 0.0987 0.0975 0.0965 0.0956 0.0947 0.0937 Count backwa Case 4 $\rho = r(C/W)$	$\frac{\rho/r}{1.0300}$ 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 0.9370 The z axis: for rd ρ/r	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3663 0.3729 0.3789 0.3789 0.3842 0.3910 r r 0.1 0.65	0.2790 0.2892 0.3 0.3093 0.3175 0.3247 0.3311 0.3368 0.3441	0.75 0.2275 0.2385 0.25 0.2600 0.2688 0.2765 0.2895 0.2973 $s=l-c=(\rho/r)/$ 0.75	0.8 0.1760 0.1877 0.2 0.2107 0.2200 0.2282 0.2356 0.2421 0.2504 (<i>I</i> -α), where 0.8	$\begin{array}{c} 0.85\\ 0.1245\\ 0.1369\\ 0.15\\ 0.1613\\ 0.1713\\ 0.1800\\ 0.1878\\ 0.1947\\ 0.2036\\ \end{array}$	0.0730 0.0862 0.1 0.1225 0.1318 0.1400 0.1474 0.1567 0.9	$\begin{array}{c} 0.95\\ 0.0215\\ 0.0354\\ 0.05\\ 0.0627\\ 0.0738\\ 0.0835\\ 0.0922\\ 0.1000\\ 0.1099\\ \hline \end{array}$
Case 3 $\rho = r(C/W)$ 0.1030 0.1015 0.1000 0.0987 0.0955 0.0956 0.0956 0.0947 0.0937 Count backwa Case 4 $\rho = r(C/W)$ 0.1200	$\frac{\rho/r}{1.0300}$ 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 0.9370 The z axis: for rd $\frac{\rho/r}{1.2000}$	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3663 0.3729 0.3789 0.3842 0.3910 r p/r: r 0.1 0.65 0.2200	0.2790 0.2892 0.3 0.3093 0.3175 0.3247 0.3311 0.3368 0.3441 0.3441	$\begin{array}{c} 0.75\\ 0.275\\ 0.2385\\ 0.25\\ 0.2600\\ 0.2688\\ 0.2765\\ 0.2893\\ 0.2973\\ \hline \\ s=l-c=(\rho/r)(0.75\\ 0.1000\\ \hline \end{array}$	0.8 0.1760 0.1877 0.2 0.2107 0.2200 0.2282 0.2356 0.2421 0.2504 (2.504 (1- α), where 0.8 0.0400	0.85 0.1245 0.1369 0.15 0.1613 0.1713 0.1800 0.1878 0.1947 0.2036 <i>ρ/r=C/W.</i> 0.85 -0.0200	0.0730 0.0862 0.1 0.120 0.1225 0.1318 0.1400 0.1474 0.1567 0.9 -0.0800	$\begin{array}{c} 0.95\\ 0.0215\\ 0.0354\\ 0.05\\ 0.0627\\ 0.0738\\ 0.0835\\ 0.0922\\ 0.1000\\ 0.1099\\ 0.1099\\ \hline 1-\alpha\\ 0.95\\ -0.1400\\ \end{array}$
Case 3 $\rho = r(C/W)$ 0.1030 0.1015 0.0007 0.0975 0.0955 0.0956 0.0956 0.0956 0.0947 0.0937 Count backwa Case 4 $\rho = r(C/W)$ 0.1200 0.1200 0.1154	<i>ρ/r</i> <i>1.0300</i> 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 <i>0.9370</i> The z axis: for rd <i>ρ/r</i> <i>1.2000</i> 1.1143	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.363 0.3729 0.3789 0.3842 0.3910 r p/r. 0.1 0.65 0.2200 0.2500	0.2790 0.2892 0.3 0.3093 0.3175 0.3247 0.3311 0.3368 0.3441 0.3441 0.7 0.7 0.1600 0.1923	$\begin{array}{c} 0.75\\ 0.275\\ 0.2385\\ 0.25\\ 0.2600\\ 0.2688\\ 0.2765\\ 0.2833\\ 0.2895\\ 0.2973\\ \end{array}$	0.8 0.1760 0.1877 0.2 0.2107 0.2200 0.2282 0.2356 0.2421 0.2504 (<i>1-α</i>), where 0.8 0.0400 0.0769	0.85 0.1245 0.1369 0.15 0.1613 0.1713 0.1800 0.1878 0.1947 0.2036 ρ/r=C/W. 0.85 -0.0200 0.0192	0.0730 0.0862 0.1 0.1120 0.1225 0.1318 0.1400 0.1474 0.1567 0.9 -0.0800 -0.0385	0.95 0.0215 0.0354 0.05 0.0627 0.0738 0.0835 0.0922 0.1000 0.1099 1-α 0.95 -0.1400 -0.0962
Case 3 $\rho = r(C/W)$ 0.1030 0.1015 0.1000 0.0987 0.0975 0.0956 0.0956 0.0956 0.0947 0.0937 Count backwa Case 4 $\rho = r(C/W)$ 0.1200 0.1154 0.1114	<i>ρ/r</i> <i>1.0300</i> 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 <i>0.9370</i> The z axis: for rd <i>ρ/r</i> <i>1.2000</i> 1.1143 1.0800	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3663 0.3729 0.3789 0.3789 0.3842 0.3910 <i>x p/r.</i> <i>r</i> 0.1 0.65 0.2200 0.2500 0.2550	0.2790 0.2892 0.3 0.3093 0.3105 0.3247 0.3311 0.3368 0.3441 0.3441 0.0.7 0.1600 0.1923 0.2200	$\begin{array}{c} 0.75\\ 0.2275\\ 0.2385\\ 0.25\\ 0.2600\\ 0.2688\\ 0.2765\\ 0.2833\\ 0.2895\\ 0.2973\\ s=1-c=(\rho/r)(0.75\\ 0.1000\\ 0.1346\\ 0.1643\\ \end{array}$	$\begin{array}{c} 0.8\\ 0.1760\\ 0.1760\\ 0.2877\\ 0.2\\ 0.2107\\ 0.2200\\ 0.2282\\ 0.2356\\ 0.2421\\ 0.2504\\ \hline 0.2504\\ \hline 0.400\\ 0.0769\\ 0.1086\\ \hline \end{array}$	$\begin{array}{c} 0.85\\ \hline 0.1245\\ 0.1369\\ \hline 0.15\\ 0.1613\\ \hline 0.1613\\ \hline 0.1713\\ \hline 0.1800\\ \hline 0.1878\\ 0.1947\\ \hline 0.2036\\ \hline \rho/r=C/W.\\ \hline 0.85\\ \hline -0.0200\\ \hline 0.0192\\ \hline 0.0529\\ \hline 0.0529\\ \hline \end{array}$	0.0730 0.0862 0.1 0.1120 0.1225 0.1318 0.1400 0.1474 0.1567 0.9 -0.0800 -0.0385 -0.0029	$\begin{array}{c} 0.95\\ 0.0215\\ 0.0354\\ 0.05\\ 0.0627\\ 0.0738\\ 0.0835\\ 0.0922\\ 0.1000\\ 0.1099\\ \hline \\ 1-\alpha\\ 0.95\\ -0.1400\\ -0.0962\\ -0.0586\\ \hline \end{array}$
Case 3 $\rho = r(C/W)$ 0.1030 0.1015 0.1000 0.0987 0.0975 0.0956 0.0956 0.0947 0.0937 Count backwa Case 4 $\rho = r(C/W)$ 0.1200 0.1154 0.1114 0.1080	<u>ρ/r</u> 1.0300 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 0.9370 The z axis: for rd <u>ρ/r</u> 1.2000 1.1143 1.0800 1.0500	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3663 0.3729 0.3789 0.3842 0.3910 r r 0.1 0.65 0.2200 0.2500 0.2550 0.2980	0.2790 0.2892 0.3 0.3075 0.3247 0.3311 0.3368 0.3441 0.3441 0.3441 0.3441 0.3441 0.200 0.1600 0.1923 0.2200 0.2440	$\begin{array}{c} 0.75\\ 0.2275\\ 0.2385\\ 0.25\\ 0.2600\\ 0.2688\\ 0.2765\\ 0.2835\\ 0.2895\\ 0.2973\\ \hline 0.2973\\ s=l-c=(\rho/r)(0.75\\ 0.1000\\ 0.1346\\ 0.1643\\ 0.1900\\ \hline \end{array}$	$\begin{array}{c} 0.8\\ 0.1760\\ 0.1877\\ 0.2\\ 0.2107\\ 0.2200\\ 0.2282\\ 0.2356\\ 0.2421\\ 0.2504\\ \hline 0.2504\\ \hline 0.8\\ 0.0400\\ 0.0769\\ 0.1086\\ \hline 0.1360\\ \hline \end{array}$	$\begin{array}{c} 0.85\\ \hline 0.1245\\ 0.1369\\ \hline 0.15\\ 0.1613\\ \hline 0.1713\\ \hline 0.1713\\ \hline 0.1800\\ \hline 0.1878\\ \hline 0.1947\\ \hline 0.2036\\ \hline \rho/r=C/W.\\ \hline 0.855\\ \hline -0.0200\\ \hline 0.0192\\ \hline 0.0529\\ \hline 0.0820\\ \end{array}$	0.0730 0.0862 0.1 0.1120 0.1225 0.1318 0.1400 0.1474 0.1567 0.1567 0.09 -0.0800 -0.0800 -0.0385 -0.0029 0.0280	$\begin{array}{c} 0.95\\ 0.0215\\ 0.0354\\ 0.05\\ 0.0627\\ 0.0738\\ 0.0835\\ 0.0922\\ 0.1000\\ 0.1099\\ \hline \end{array}$
Case 3 $\rho = r(C/W)$ 0.1030 0.1015 0.1000 0.0987 0.0975 0.0965 0.0956 0.0947 0.0937 Count backwa Case 4 $\rho = r(C/W)$ 0.1154 0.1114 0.1184 0.1080 0.1050	<i>ρ/r</i> <i>1.0300</i> 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 <i>0.9370</i> The z axis: for rd <i>ρ/r</i> <i>1.2000</i> 1.1143 1.0800 1.05500 1.0235	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3663 0.3729 0.3789 0.3842 0.3910 r r 0.1 0.65 0.2200 0.2500 0.2500 0.2757 0.2980 0.3175	0.2790 0.2892 0.3 0.3093 0.3175 0.3247 0.3311 0.3368 0.3441 0.3441 0.3460 0.3441 0.200 0.1923 0.2200 0.2440 0.2650	0.75 0.2275 0.2385 0.255 0.2600 0.2688 0.2765 0.2833 0.2895 0.2973 0.2973 $s=l-c=(\rho/r)/$ 0.75 0.1000 0.1346 0.1643 0.1900 0.2125	0.8 0.1760 0.1877 0.2 0.2107 0.2282 0.2356 0.2421 0.2504 (1- α), where 0.8 0.0400 0.0769 0.1360	0.85 0.1245 0.1369 0.15 0.1613 0.1713 0.1878 0.1947 0.2036 \$\rho\phi\mathrm{r}=C/W\$. 0.855 -0.0200 0.0152 0.0529 0.0820 0.1075	0.0730 0.0862 0.1 0.1120 0.1225 0.1318 0.1400 0.1474 0.1567 0.9 -0.0800 -0.0385 -0.029 0.0280 0.0550	$\begin{array}{c} 0.95\\ 0.0215\\ 0.0354\\ 0.05\\ 0.0627\\ 0.0738\\ 0.0835\\ 0.0922\\ 0.1000\\ 0.1099\\ \hline \end{array}$
Case 3 $\rho = r(C/W)$ 0.1030 0.1015 0.0007 0.0975 0.0955 0.0956 0.0956 0.0956 0.0947 0.0937 Count backwa Case 4 $\rho = r(C/W)$ 0.1200 0.1154 0.1114 0.1030 0.1050 0.1050 0.1050	$\frac{\rho/r}{1.0300}$ 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 0.9370 The z axis: for rd $\frac{\rho/r}{1.2000}$ 1.1143 1.0800 1.0500 1.0235 1.0000	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.363 0.3729 0.3789 0.3842 0.3910 r ρ/r. r 0.1 0.65 0.2200 0.2500 0.2550 0.2757 0.2980 0.3175 0.3347	0.2790 0.2892 0.3 0.3093 0.3175 0.3247 0.3311 0.3368 0.3441 0.3468 0.3441 0.1923 0.2200 0.2400 0.2450 0.2835	0.75 0.275 0.2385 0.255 0.2600 0.2688 0.2765 0.28935 0.2973 $s=1-c=(\rho/r)($ 0.755 0.1000 0.1346 0.1643 0.1900 0.2125 0.2324	0.8 0.1760 0.1877 0.2 0.2107 0.2200 0.2282 0.2356 0.2421 0.2504 (1- α), where 0.8 0.0400 0.0769 0.1360 0.1600 0.1812	0.85 0.1245 0.1369 0.15 0.1613 0.1713 0.1878 0.1947 0.2036 \$\rho.2036\$ \$\rho.0200\$ 0.0192 0.0529 0.0529 0.0820 0.1075 0.1300	0.0730 0.0862 0.1 0.1120 0.1225 0.1318 0.1400 0.1474 0.1567 0.99 -0.0800 -0.0385 -0.0029 0.0280 0.0550 0.0788	$\begin{array}{c} 0.95\\ 0.0215\\ 0.0354\\ 0.05\\ 0.0627\\ 0.0738\\ 0.0835\\ 0.0922\\ 0.1000\\ 0.1099\\ 0.1099\\ \hline \end{array}$
Case 3 $\rho = r(C/W)$ 0.1030 0.1015 0.1000 0.0987 0.0975 0.0956 0.0956 0.0947 0.0937 Count backwa Case 4 $\rho = r(C/W)$ 0.1200 0.1154 0.1104 0.1154 0.1114 0.1080 0.1054 0.1024 0.1024 0.1024 0.1024 0.1024 0.1024 0.1000	<i>ρ/r</i> <i>1.0300</i> 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 <i>0.9370</i> The z axis: for rd <i>ρ/r</i> <i>1.2000</i> 1.1143 1.0800 1.0235 1.0000 1.0000 1	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3663 0.3729 0.3789 0.3842 0.3910 r p'r: r 0.1 0.65 0.2200 0.2500 0.2500 0.2757 0.2980 0.3175 0.3347 0.35	0.2790 0.2892 0.3 0.3093 0.3093 0.3175 0.3247 0.3311 0.3368 0.3441 0.360 0.1923 0.2200 0.2420 0.2200 0.2440 0.2635 0.3	$\begin{array}{c} 0.75\\ 0.2275\\ 0.2385\\ 0.25\\ 0.2600\\ 0.2688\\ 0.2765\\ 0.2833\\ 0.2895\\ 0.2973\\ \end{array}$ $s=1-c=(\rho/r)(0.75) \\ 0.1000\\ 0.1346\\ 0.1643\\ 0.1900\\ 0.2125\\ 0.2324\\ 0.25\\ \end{array}$	$\begin{array}{c} 0.8\\ 0.1760\\ 0.1877\\ 0.2\\ 0.2107\\ 0.2200\\ 0.2282\\ 0.2356\\ 0.2421\\ 0.2504\\ \end{array}$	0.85 0.1245 0.1369 0.15 0.1613 0.1713 0.1800 0.1878 0.1947 0.2036 0.1878 0.0947 0.2036 0.0192 0.0859 0.0820 0.0192 0.0820 0.1075 0.1300 0.15	0.0730 0.0862 0.1 0.1120 0.1225 0.1318 0.1400 0.1474 0.1567 -0.0800 -0.0385 -0.0029 0.0280 0.0550 0.0788 0.1	$\begin{array}{c} 0.95\\ 0.0215\\ 0.0354\\ 0.05\\ 0.0627\\ 0.0738\\ 0.0835\\ 0.0922\\ 0.1000\\ 0.1099\\ \hline \end{array}$
Case 3 $\rho = r(C/W)$ 0.1030 0.1015 0.1000 0.0987 0.0975 0.0956 0.0956 0.0947 0.0937 Count backwa Case 4 $\rho = r(C/W)$ 0.1200 0.1154 0.1114 0.1080 0.1050 0.1024 0.10024 0.0979	<i>ρ/r</i> <i>1.0300</i> 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 <i>0.9370</i> The z axis: for rd <i>ρ/r</i> <i>1.2000</i> 1.1143 1.0800 1.0235 1.0000 1.0235 1.0000 1.0235	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3663 0.3729 0.3789 0.3842 0.3910 <i>r p</i> / <i>r</i> . r 0.1 0.65 0.2200 0.2500 0.2500 0.2757 0.2980 0.3175 0.3347 0.33 0.357	0.2790 0.2892 0.30 0.3075 0.3247 0.3311 0.3368 0.3441 0.3441 0.3600 0.1600 0.1923 0.2200 0.2440 0.2650 0.2235 0.331 0.3147	$\begin{array}{c} 0.75\\ 0.2275\\ 0.2385\\ 0.25\\ 0.2600\\ 0.2688\\ 0.2765\\ 0.2833\\ 0.2895\\ 0.2973\\ \hline \\ s=l-c=(\rho/r)(0.75)\\ 0.1000\\ 0.1346\\ 0.1643\\ 0.1900\\ 0.2125\\ 0.225\\ 0.225\\ 0.225\\ 0.2658\\ \hline \end{array}$	0.8 0.1760 0.1877 0.2 0.2107 0.2202 0.2356 0.2421 0.2504 (1-α), where 0.8 0.0400 0.0769 0.1086 0.1360 0.1600 0.1812 0.2 0.2	$\begin{array}{c} 0.85\\ \hline 0.1245\\ 0.1369\\ \hline 0.15\\ 0.1613\\ \hline 0.1713\\ \hline 0.1800\\ \hline 0.1878\\ 0.1947\\ \hline 0.2036\\ \hline 0.2036\\ \hline 0.0192\\ \hline 0.0529\\ \hline 0.0820\\ \hline 0.1075\\ \hline 0.1300\\ \hline 0.15\\ \hline 0.1679\\ \hline \end{array}$	0.0730 0.0862 0.1 0.1120 0.1225 0.1318 0.1400 0.1474 0.1567 -0.0800 -0.0800 -0.0800 -0.0805 0.0280 0.0280 0.0280 0.0288 0.0.1189	$\begin{array}{c} 0.95\\ 0.0215\\ 0.0354\\ 0.05\\ 0.0627\\ 0.0738\\ 0.0835\\ 0.0922\\ 0.1000\\ 0.1099\\ \hline \end{array}$
Case 3 $\rho = r(C/W)$ 0.1030 0.1015 0.1000 0.0987 0.0975 0.0956 0.0947 0.0937 Count backwa Case 4 $\rho = r(C/W)$ 0.1200 0.1154 0.1144 0.1180 0.1050 0.024 0.1050 0.0279 0.0979 0.0950	<i>ρ/r</i> <i>1.0300</i> 1.0154 1 0.9867 0.9750 0.9647 0.9556 0.9474 <i>0.9370</i> The z axis: for rd <i>ρ/r</i> <i>1.2000</i> 1.1143 1.0800 1.0235 1.0000 1.0000 1	0.1 0.65 0.3305 0.3400 0.35 0.3587 0.3663 0.3729 0.3789 0.3842 0.3910 r r 0.1 0.65 0.2200 0.2500 0.2500 0.2550 0.2257 0.2980 0.3175 0.3347 0.3347 0.3637 0.3825	0.2790 0.2892 0.3 0.3093 0.3093 0.3175 0.3247 0.3311 0.3368 0.3441 0.360 0.1923 0.2200 0.2420 0.2200 0.2440 0.2635 0.3	$\begin{array}{c} 0.75\\ 0.2275\\ 0.2385\\ 0.25\\ 0.2600\\ 0.2688\\ 0.2765\\ 0.2833\\ 0.2895\\ 0.2973\\ \end{array}$ $s=1-c=(\rho/r)(0.75) \\ 0.1000\\ 0.1346\\ 0.1643\\ 0.1900\\ 0.2125\\ 0.2324\\ 0.25\\ \end{array}$	$\begin{array}{c} 0.8\\ 0.1760\\ 0.1877\\ 0.2\\ 0.2107\\ 0.2200\\ 0.2282\\ 0.2356\\ 0.2421\\ 0.2504\\ \end{array}$	0.85 0.1245 0.1369 0.15 0.1613 0.1713 0.1800 0.1878 0.1947 0.2036 0.1878 0.0947 0.2036 0.0192 0.0859 0.0820 0.0192 0.0820 0.1075 0.1300 0.15	0.0730 0.0862 0.1 0.1120 0.1225 0.1318 0.1400 0.1474 0.1567 -0.0800 -0.0385 -0.0029 0.0280 0.0550 0.0788 0.1	$\begin{array}{c} 0.95\\ 0.0215\\ 0.0354\\ 0.05\\ 0.0627\\ 0.0738\\ 0.0835\\ 0.0922\\ 0.1000\\ 0.1099\\ \hline \end{array}$

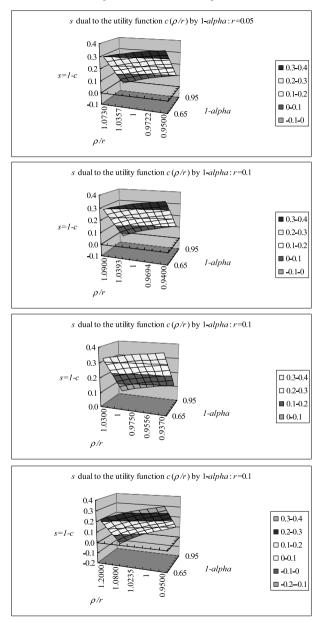
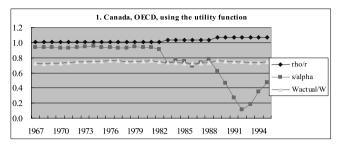
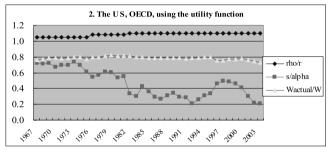
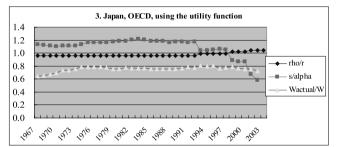


Figure A3-3 The rate of saving dual to the utility function of $c (\rho/r)$ by 1-alpha



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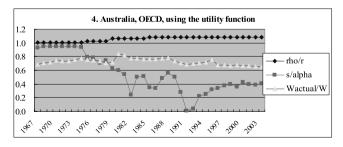
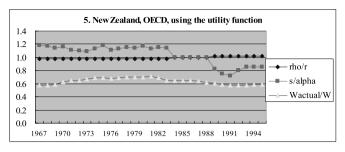
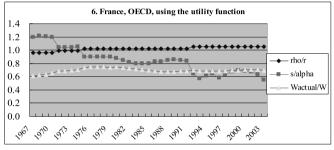
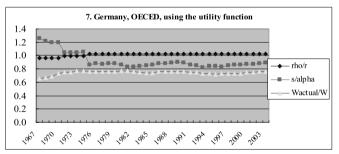


Figure A4-1 Utility coefficient, *rho/r*, and the ratio of saving to the relative share of rental using OECD data







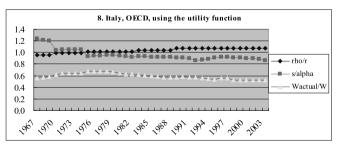
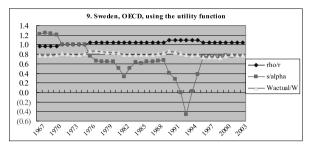
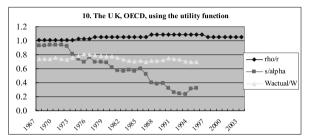
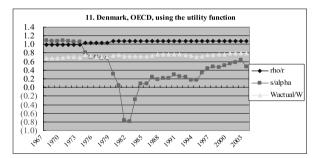


Figure A4-2 Utility coefficent, *rho/r*, and the ratio of saving to the relative share of rental using OECD data



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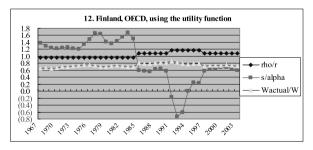
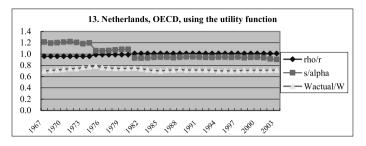
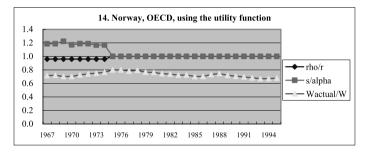
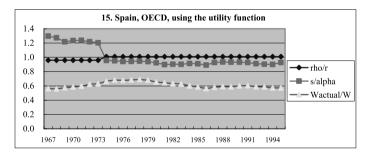


Figure A4-3 Utility coefficent, *rho/r*, and the ratio of saving to the relative share of rental using OECD data







Notes:

Data source: OECD National Statistics by year and my estimation of (rho/r) by year and country.

OECD data are GDP, actual wages, national disposable income, and consumption. In some countries, national disposable income and/or actual wages are not avialable after 1995. As the result, in these countries the ratio of saving to *alpha* and the ratio of actual wages in GDP to estimated compensation/wages in NDI cannot be shown in figures.

In several countries, the ratio of saving to *alpha* fluctuates due to bedget deficits, but this ratio will recover from critical situations in the long-term by taking appropriate policies.

Figure A4-4 Utility coefficent, *rho/r*, and the ratio of saving to the relative share of rental using OECD data

 Tables A4-1
 OECD data, applying my method to these data by country (1)

											•		
1. Canada	la		(For after 19		6a	la	VCDD	CN	p/r=	1.01	1.035	1.07	W 80
1967	GDP 68612	W _{actual} 37150	W/GDP 0.5415	(C/W) _{actual} 1.3919	59174	C 51708	Y/GDP 0.8624	C/Y 0.8738	rho/r 1.010	W=C/(p/r) 51196	W/Y 0.8652	s/alpha 0.9358	W _{actual} /W 0.7256
1967	74839	40385	0.5415	1.3919	64886	56948	0.8624	0.8738	1.010	56384	0.8652	0.9338	0.7256
1969	82424	45161	0.5479	1.3879	72000	62677	0.8735	0.8705	1.010	62056	0.8619	0.9376	0.7277
1970	88462	48952	0.5534	1.3819	76423	67647	0.8639	0.8852	1.010	66977	0.8764	0.9291	0.7309
1971	96550	53758	0.5568	1.3721	83477	73759	0.8646	0.8836	1.010	73029	0.8748	0.9301	0.7361
1972	107785	60341	0.5598	1.3641	94382	82313	0.8757	0.8721	1.010	81498	0.8635	0.9367	0.7404
1973 1974	126420 150956	69521 82867	0.5499 0.5489	1.3516 1.3341	110995 132820	93968 110556	0.8780 0.8799	0.8466 0.8324	1.010 1.010	93038 109461	0.8382 0.8241	0.9482 0.9531	0.7472 0.7570
1974	150956	96623	0.5489	1.3341	132820	129398	0.8799	0.8324 0.8712	1.010	128117	0.8241 0.8626	0.9531	0.7570
1975	196292	111884	0.5700	1.3241	171366	148142	0.8732	0.8645	1.010	146675	0.8559	0.9372	0.7628
1977	216088	124021	0.5739	1.3318	186472	165175	0.8629	0.8858	1.010	163540	0.8770	0.9287	0.7584
1978	239580	134933	0.5632	1.3547	206652	182789	0.8626	0.8845	1.010	180979	0.8758	0.9295	0.7456
1979	274092	151736	0.5536	1.3423	236343	203672	0.8623	0.8618	1.010	201655	0.8532	0.9419	0.7525
1980	307730	171424	0.5571	1.3388	264535	229505	0.8596	0.8676	1.010	227233	0.8590	0.9391	0.7544
1981 1982	353454 371820	197910 211604	0.5599 0.5691	1.3261	301500 314581	262443 286542	0.8530	0.8705	1.010 1.010	259845 283705	0.8618	0.9376 0.9081	0.7616 0.7459
1982	402229	211604	0.5514	1.3541 1.4091	341172	312535	0.8461 0.8482	0.9109 0.9161	1.010	301966	0.9019 0.8851	0.9081	0.7439
1984	441311	238849	0.5412	1.4122	375568	337310	0.8510	0.8981	1.035	325903	0.8678	0.7703	0.7329
1985	474339	257518	0.5429	1.4227	403431	366373	0.8505	0.9081	1.035	353984	0.8774	0.7494	0.7275
1986	501426	274801	0.5480	1.4315	423534	393367	0.8447	0.9288	1.035	380065	0.8974	0.6940	0.7230
1987	546778	298834	0.5465	1.4181	463617	423786	0.8479	0.9141	1.035	409455	0.8832	0.7354	0.7298
1988	600840	327823	0.5456	1.4012	515150	459343	0.8574	0.8917	1.035	443810	0.8615	0.7823	0.7387
1989 1990	645147 662809	353632 372087	0.5481 0.5614	1.4067 1.4185	550535 557839	497440 527818	0.8533 0.8416	0.9036 0.9462	1.070 1.070	464897 493288	0.8444 0.8843	0.6200 0.4651	0.7607 0.7543
1990	669113	382378	0.5715	1.4185	562715	549481	0.8410	0.9462	1.070	513534	0.9126	0.2691	0.7446
1992	683086	391619	0.5733	1.4449	570590	565869	0.8353	0.9917	1.070	528850	0.9268	0.1131	0.7405
1993	705987	398163	0.5640	1.4613	590532	581832	0.8365	0.9853	1.070	543768	0.9208	0.1860	0.7322
1994	740129	409085	0.5527	1.4567	617313	595906	0.8341	0.9653	1.070	556921	0.9022	0.3545	0.7345
1995	768580	422110	0.5492	1.4430	644468	609085	0.8385	0.9451	1.070	569238	0.8833	0.4703	0.7415
1996 1997	836864 882733	428792 453073	0.5124 0.5133	1.5196 1.5063	NA	651588 682451	#VALUE! 0.0000	#VALUE! #DIV/0!	1.070 1.070	608961 637805	#VALUE! #DIV/0!	#VALUE! #DIV/0!	0.7041 0.7104
1997	882733 914973	453073 475335	0.5133	1.5063		682451 710486	0.0000	#DIV/0! #DIV/0!	1.070	637805	#DIV/0! #DIV/0!	#DIV/0! #DIV/0!	0.7104
1998	982441	502726	0.5135	1.4858		746938	0.0000	#DIV/0!	1.070	698073	#DIV/0!	#DIV/0!	0.7202
2000	1076577	545204	0.5064	1.4602		796093	0.0000	#DIV/0!	1.070	744012	#DIV/0!	#DIV/0!	0.7328
2001	1108200	570008	0.5144	1.4632		834018	0.0000	#DIV/0!	1.070	779456	#DIV/0!	#DIV/0!	0.7313
2002	1157968	592692	0.5118	1.4864		880979	0.0000	#DIV/0!	1.070	823345	#DIV/0!	#DIV/0!	0.7199
2003	1218772	613718	0.5036	1.5095		926418	0.0000	#DIV/0!	1.070	865811	#DIV/0!	#DIV/0!	0.7088
2. The U S	la GDP		(For after 19 W/GDP		6a V	la C	V/GDP	CN	ρ/r=		1.08	[.]	w/w
	GDP	Wactual	W/GDP	(C/W)actual	Y	С	Y/GDP 0 9022	C/Y 0.8906	rho/r	$W=C/(\rho/r)$	W/Y	s/alpha	W _{actual} /W 0.7635
2. The U S 1967 1968							Y/GDP 0.9022 0.9022	0.8906					W _{actual} /W 0.7635 0.7702
1967	GDP 815094	W _{actual} 476214	W/GDP 0.5842	(C/W) _{actual} 1.3752	Y 735354	C 654901	0.9022	0.8906 0.8922	rho/r 1.050	W=C/(p/r) 623715	W/Y 0.8482	s/alpha 0.7207	0.7635
1967 1968 1969 1970	GDP 815094 889987 961091 1011563	W _{actual} 476214 525470 579180 619072	W/GDP 0.5842 0.5904 0.6026 0.6120	(C/W) _{actual} 1.3752 1.3633 1.3313 1.3328	Y 735354 802929 864980 906138	C 654901 716378 771057 825121	0.9022 0.9022 0.9000 0.8958	0.8906 0.8922 0.8914 0.9106	rho/r 1.050 1.050 1.050 1.050	W=C/(p/r) 623715 682265 734340 785830	W/Y 0.8482 0.8497 0.8490 0.8672	s/alpha 0.7207 0.7173 0.7189 0.6734	0.7635 0.7702 0.7887 0.7878
1967 1968 1969 1970 1971	GDP 815094 889987 961091 1011563 1098112	W _{actual} 476214 525470 579180 619072 660327	W/GDP 0.5842 0.5904 0.6026 0.6120 0.6013	(C/W) _{actual} 1.3752 1.3633 1.3313 1.3328 1.3426	Y 735354 802929 864980 906138 981903	C 654901 716378 771057 825121 886559	0.9022 0.9022 0.9000 0.8958 0.8942	0.8906 0.8922 0.8914 0.9106 0.9029	rho/r 1.050 1.050 1.050 1.050 1.050	W=C/(p/r) 623715 682265 734340 785830 844342	W/Y 0.8482 0.8497 0.8490 0.8672 0.8599	s/alpha 0.7207 0.7173 0.7189 0.6734 0.6931	0.7635 0.7702 0.7887 0.7878 0.7821
1967 1968 1969 1970 1971 1972	GDP 815094 889987 961091 1011563 1098112 1207916	W _{actual} 476214 525470 579180 619072 660327 727512	W/GDP 0.5842 0.5904 0.6026 0.6120 0.6013 0.6023	(C/W) _{actual} 1.3752 1.3633 1.3313 1.3328 1.3426 1.3358	Y 735354 802929 864980 906138 981903 1077597	C 654901 716378 771057 825121 886559 971834	0.9022 0.9022 0.9000 0.8958 0.8942 0.8921	0.8906 0.8922 0.8914 0.9106 0.9029 0.9019	rho/r 1.050 1.050 1.050 1.050 1.050 1.050	W=C/(p/r) 623715 682265 734340 785830 844342 925556	W/Y 0.8482 0.8497 0.8490 0.8672 0.8599 0.8589	s/alpha 0.7207 0.7173 0.7189 0.6734 0.6931 0.6956	0.7635 0.7702 0.7887 0.7878 0.7821 0.7860
1967 1968 1969 1970 1971 1972 1973	GDP 815094 889987 961091 1011563 1098112 1207916 1350495	W _{actual} 476214 525470 579180 619072 660327 727512 814663	W/GDP 0.5842 0.5904 0.6026 0.6120 0.6013 0.6023 0.6032	(C/W) _{actual} 1.3752 1.3633 1.3313 1.3328 1.3426 1.3358 1.3114	Y 735354 802929 864980 906138 981903 1077597 1213442	C 654901 716378 771057 825121 886559 971834 1068328	0.9022 0.9022 0.9000 0.8958 0.8942 0.8921 0.8985	0.8906 0.8922 0.8914 0.9106 0.9029 0.9019 0.8804	rho/r 1.050 1.050 1.050 1.050 1.050 1.050 1.050	W=C/(p/r) 623715 682265 734340 785830 844342 925556 1017455	W/Y 0.8482 0.8497 0.8490 0.8672 0.8599 0.8589 0.8589 0.8385	s/alpha 0.7207 0.7173 0.7189 0.6734 0.6931 0.6956 0.7404	0.7635 0.7702 0.7887 0.7878 0.7821 0.7860 0.8007
1967 1968 1969 1970 1971 1972 1973 1974	GDP 815094 889987 961091 1011563 1098112 1207916 1350495 1460627	W _{actual} 476214 525470 579180 619072 660327 727512 814663 893830	W/GDP 0.5842 0.5904 0.6026 0.6120 0.6013 0.6023 0.6032 0.6119	(C/W) _{actual} 1.3752 1.3633 1.3313 1.3328 1.3426 1.3358 1.3114 1.3133	Y 735354 802929 864980 906138 981903 1077597 1213442 1302655	C 654901 716378 771057 825121 886559 971834 1068328 1173848	0.9022 0.9022 0.9000 0.8958 0.8942 0.8921 0.8985 0.8918	0.8906 0.8922 0.8914 0.9106 0.9029 0.9019 0.8804 0.9011	rho/r 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050	W=C/(p/r) 623715 682265 734340 785830 844342 925556 1017455 1117950	W/Y 0.8482 0.8497 0.8490 0.8672 0.8599 0.8589 0.8385 0.8385	s/alpha 0.7207 0.7173 0.7189 0.6734 0.6931 0.6956 0.7404 0.6974	0.7635 0.7702 0.7887 0.7878 0.7821 0.7860 0.8007 0.7995
1967 1968 1969 1970 1971 1972 1973	GDP 815094 889987 961091 1011563 1098112 1207916 1350495	W _{actual} 476214 525470 579180 619072 660327 727512 814663	W/GDP 0.5842 0.5904 0.6026 0.6120 0.6013 0.6023 0.6032 0.6032 0.6119 0.5997	(C/W) _{actual} 1.3752 1.3633 1.3313 1.3328 1.3426 1.3358 1.3114	Y 735354 802929 864980 906138 981903 1077597 1213442 1302655 1398220	C 654901 716378 771057 825121 886559 971834 1068328	0.9022 0.9022 0.9000 0.8958 0.8942 0.8921 0.8985	0.8906 0.8922 0.8914 0.9106 0.9029 0.9019 0.8804	rho/r 1.050 1.050 1.050 1.050 1.050 1.050 1.050	W=C/(p/r) 623715 682265 734340 785830 844342 925556 1017455	W/Y 0.8482 0.8497 0.8490 0.8672 0.8599 0.8589 0.8385 0.8385 0.8385 0.83847	s/alpha 0.7207 0.7173 0.7189 0.6734 0.6931 0.6956 0.7404	0.7635 0.7702 0.7887 0.7878 0.7821 0.7860 0.8007
1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977	GDP 815094 889987 961091 1011563 1098112 1207916 1350495 1460627 1587563 1770353 1975357	Wachal 476214 525470 579180 619072 660327 727512 814663 893830 952118 1062353 1181813	W/GDP 0.5842 0.5904 0.6026 0.6120 0.6013 0.6023 0.6023 0.6119 0.5997 0.6001 0.5983	(Č/W) _{actual} 1.3752 1.3633 1.3313 1.3328 1.3426 1.3358 1.3114 1.3133 1.3641 1.3556 1.3485	Y 735354 802929 864980 906138 981903 1077597 1213442 1302655 1398220 1566721 1750703	C 654901 716378 771057 825121 886559 971834 1068328 1173848 1173848 1298800 1440128 1593626	0.9022 0.9022 0.9000 0.8958 0.8942 0.8921 0.8985 0.8918 0.8807 0.8850 0.8850 0.8863	0.8906 0.8922 0.8914 0.9106 0.9029 0.9019 0.8804 0.9011 0.9289 0.9192 0.9103	rho'r 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.080	W=C/(p/r) 623715 682265 734340 785830 844342 925556 1017455 1117950 1236952 1333452 1475580	W/Y 0.8482 0.8497 0.8490 0.8672 0.8599 0.8589 0.8585 0.8582 0.8582 0.8847 0.8511 0.8428	s/alpha 0.7207 0.7173 0.6734 0.6931 0.6956 0.7404 0.6974 0.6165 0.5427 0.5709	0.7635 0.7702 0.7887 0.7878 0.7821 0.7860 0.8007 0.7995 0.7697 0.7995 0.7697 0.7967
1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978	GDP 815094 889987 961091 1011563 1098112 1207916 1350495 1460627 1587563 1770353 1975357 2229544	Wachal 476214 525470 579180 619072 660327 727512 814663 893830 952118 1062353 1181813 1338406	W/GDP 0.5842 0.5904 0.6026 0.6013 0.6023 0.6032 0.6119 0.5997 0.6001 0.5983 0.6003	(Č/W) _{actual} 1.3752 1.3633 1.3313 1.3328 1.3426 1.3358 1.3114 1.3133 1.3641 1.3556 1.3485 1.3204	Y 735354 802929 864980 906138 981903 1077597 1213442 1302655 1398220 1566721 1750703 1971870	C 654901 716378 771057 825121 886559 971834 1068328 1173848 1298800 1440128 1593626 1767283	0.9022 0.9002 0.8958 0.8942 0.8921 0.8985 0.8918 0.8807 0.8850 0.8850 0.8863 0.8863	0.8906 0.8922 0.8914 0.9106 0.9029 0.9019 0.8804 0.9011 0.9289 0.9192 0.9192 0.9193 0.8962	rho/r 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.080 1.080	W=C/(p/r) 623715 682265 734340 785830 844342 925556 1017455 1117950 1236952 1333452 1475580 1636373	W/Y 0.8482 0.8497 0.8490 0.8672 0.8599 0.8589 0.8589 0.8385 0.8582 0.8847 0.8511 0.8428 0.8299	s/alpha 0.7207 0.7173 0.7189 0.6734 0.6931 0.6956 0.7404 0.6974 0.6165 0.5427 0.5709 0.6098	0.7635 0.7702 0.7887 0.7878 0.7821 0.7860 0.8007 0.7995 0.7697 0.7997 0.7967 0.7967 0.8009 0.8179
1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1978	GDP 815094 889987 961091 1011563 1098112 1207916 1350495 1460627 1587563 1770353 1975357 2229544 2485969	Wactual 476214 525470 579180 619072 660327 727512 814663 893830 952118 1062353 1181813 1338406 1502639	W/GDP 0.5842 0.5904 0.6026 0.6013 0.6013 0.6023 0.6032 0.6119 0.5997 0.6001 0.5983 0.6033 0.6044	(C/W) _{actual} 1.3752 1.3633 1.3313 1.3328 1.3426 1.3426 1.3358 1.3114 1.3133 1.3641 1.3556 1.3485 1.3204 1.3097	Y 735354 802929 906138 981903 1077597 1213442 1302655 1398220 1566721 1750703 1971870 2193635	C 654901 716378 771057 825121 886559 971834 1068328 1173848 1298800 1440128 1593626 1767283 1967950	0.9022 0.9022 0.9000 0.8958 0.8942 0.8921 0.8955 0.8918 0.8807 0.8850 0.8850 0.8863 0.8844 0.8824	0.8906 0.8922 0.8914 0.9106 0.9029 0.9019 0.8804 0.9011 0.9289 0.9192 0.9103 0.8962 0.8962 0.8971	rho/r 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.080 1.080 1.080	W=C/(p/r) 623715 682265 734340 785830 844342 925556 1017455 1117950 1236952 1333452 1475580 1636373 1822176	W/Y 0.8482 0.8497 0.8490 0.8672 0.8599 0.8589 0.8589 0.8582 0.8582 0.8582 0.85847 0.8511 0.8428 0.8299 0.8307	s/alpha 0.7207 0.7173 0.7189 0.6734 0.6931 0.6956 0.7404 0.6974 0.6165 0.5427 0.5709 0.6098 0.6076	0.7635 0.7702 0.7887 0.7878 0.7878 0.7821 0.7860 0.8007 0.7995 0.7697 0.7967 0.7967 0.8009 0.8179 0.8246
1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980	GDP 815094 889987 961091 1011563 1098112 1207916 1350495 1460627 1587563 1770353 1975357 2229544 2485969 2708148	Wactual 476214 525470 579180 619072 660327 727512 814663 893830 952118 1062353 1181813 1338406 1502639 1652530	W/GDP 0.5842 0.5904 0.6026 0.6120 0.6013 0.6023 0.6032 0.6012 0.5997 0.6001 0.5983 0.6003 0.6044 0.6102	(Č/W) _{actual} 1.3752 1.3633 1.3313 1.3328 1.3426 1.3358 1.3114 1.3133 1.3641 1.3556 1.3485 1.3204 1.3097 1.3220	Y 735354 802929 864980 906138 981903 1077597 1213442 1302655 1398220 1566721 1750703 1971870 2193635 2370275	C 654901 716378 771057 825121 886559 971834 1068328 1173848 1298800 1440128 1593626 1767283 1967950 2184620	0.9022 0.9002 0.8958 0.8942 0.8921 0.8985 0.8918 0.8850 0.8850 0.8850 0.8863 0.8844 0.8824 0.8824	0.8906 0.8922 0.8914 0.9106 0.9029 0.9019 0.8804 0.9011 0.9289 0.9192 0.9103 0.8962 0.8971 0.9217	rho/r 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.080 1.080 1.080 1.080 1.080 1.080	W=C/(p/r) 623715 682265 734340 785830 844342 925556 1017455 1117950 1236952 1333452 1475580 1636373 1822176 2022796	W/Y 0.8482 0.8497 0.8490 0.8672 0.8599 0.8589 0.8385 0.8582 0.8582 0.8581 0.8581 0.8581 0.8428 0.8299 0.8307 0.8534	s/alpha 0.7207 0.7173 0.7189 0.6734 0.6931 0.6956 0.7404 0.6165 0.5427 0.5709 0.6098 0.6076 0.5343	0.7635 0.7702 0.7887 0.7878 0.7821 0.7860 0.8007 0.7995 0.7697 0.7967 0.8009 0.8179 0.8246 0.8170
1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1978 1979 1980 1981	GDP 815094 889987 961091 1011563 1098112 1207916 1350495 1460627 1587563 1770353 1975357 2229544 2485969 2708148 3035796	Wactual 476214 525470 579180 660327 727512 814663 893830 952118 1062353 1181813 1338406 1502530 1652530	W/GDP 0.5842 0.5904 0.6026 0.6120 0.6013 0.6032 0.6119 0.5993 0.6001 0.5983 0.6003 0.6044 0.6102 0.6044	(Č/W) _{actual} 1.3752 1.3633 1.3313 1.3328 1.3426 1.3358 1.3114 1.3133 1.3641 1.3556 1.3485 1.3204 1.3209 1.3220 1.3229	Y 735354 802929 864980 906138 981903 1077597 1213442 1302655 1398220 1566721 1750703 1971870 2193635 2370275 2641610	C 654901 716378 771057 825121 886559 971834 1068328 1173848 1298800 1440128 1593626 1767283 1967950 2184620 2184620 2184620 2184620	0.9022 0.9022 0.9000 0.8958 0.8942 0.8921 0.8985 0.8918 0.8867 0.8850 0.8863 0.8863 0.8844 0.8824 0.8824 0.8852 0.8844	0.8906 0.8922 0.8914 0.9106 0.9029 0.9019 0.8804 0.9011 0.9289 0.9192 0.9192 0.9193 0.8962 0.8971 0.9217 0.9149	rho/r 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.080 1.080 1.080 1.080 1.080	W=C/(p/r) 623715 682265 734340 785830 844342 925556 1017455 1117950 1236952 1333452 1475580 1636373 1822176 2022796 2237697	W/Y 0.8482 0.8497 0.8490 0.8672 0.8599 0.8589 0.8585 0.8582 0.8547 0.8511 0.8428 0.8299 0.8307 0.8534 0.8534	s/alpha 0.7207 0.7173 0.7189 0.6734 0.6931 0.6956 0.7404 0.6165 0.5427 0.5709 0.6098 0.6076 0.5343 0.5568	0.7635 0.7702 0.7887 0.7878 0.7821 0.7860 0.8007 0.7995 0.7697 0.7997 0.7967 0.7967 0.8009 0.8179 0.8246 0.8170 0.8157
1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982	GDP 815094 889987 961091 1011563 1098112 1207916 1350495 1460627 1587563 1770353 1975357 2229544 2485969 2708148 3035796 3152497	W _{actual} 476214 525470 579180 619072 660327 727512 814663 893830 952118 1062353 1181813 1338406 1502639 1652530 1825399 1927107	W/GDP 0.5842 0.5904 0.6026 0.6120 0.6013 0.6023 0.6032 0.6119 0.5997 0.6001 0.5983 0.6003 0.6044 0.6102 0.6013 0.6043 0.6113 0.6013	(C/W) _{actual} 1.3752 1.3633 1.3313 1.3328 1.3426 1.3426 1.3426 1.3133 1.3641 1.3556 1.3464 1.3455 1.3204 1.3097 1.3220 1.3220 1.3220	Y 735354 802929 864980 906138 981903 1077597 1213442 1302655 1398220 1566721 1750703 1971870 2193635 2370275 2641610 2715075 2935981	C 654901 716378 771057 825121 886559 971834 1068328 1173848 1298800 1440128 1593626 1767283 1967950 2184620 2146713 2596216	0.9022 0.9022 0.9000 0.8958 0.8942 0.8921 0.8955 0.8918 0.8863 0.8863 0.8844 0.8824 0.8824 0.8824 0.8752 0.8752 0.8702	0.8906 0.8922 0.8914 0.9106 0.9029 0.9019 0.9019 0.9019 0.9103 0.8962 0.8971 0.9217 0.9149 0.9564	rho/r 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.080 1.080 1.080 1.080 1.080 1.080	W=C/(p/r) 623715 682265 734340 785830 844342 925556 1017455 1117950 1236952 1333452 1475580 1636373 1822176 2022796 2237697 2360196 2236617	W/Y 0.8482 0.8497 0.8490 0.8672 0.8589 0.8589 0.8582 0.8582 0.8582 0.8582 0.8582 0.8582 0.8582 0.8582 0.8582 0.8582 0.8584 0.8299 0.8307 0.8534 0.847 0.8693	s/alpha 0.7207 0.7173 0.7189 0.6734 0.6931 0.6954 0.7404 0.6165 0.5427 0.5709 0.6098 0.6076 0.5343 0.5568	0.7635 0.7702 0.7887 0.7887 0.7821 0.7821 0.7800 0.8007 0.7995 0.7697 0.7697 0.7697 0.8009 0.8179 0.8246 0.8170 0.8157 0.8165
1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1978 1979 1988 1983 1984	GDP 815094 885094 961091 1011563 1098112 1207916 1350495 1460627 1207916 135757 2229544 2485969 2708148 2485969 2152497 3152497 3394299 3763467	W _{actual} 476214 525470 579180 619072 660327 727512 814663 893830 952118 1062553 1181813 1338406 1502539 1652530 1825399 1927107 2041148 2237670	W/GDP 0.5842 0.5904 0.6026 0.6120 0.6013 0.6032 0.6119 0.5997 0.6001 0.5983 0.6003 0.6044 0.6102 0.6013 0.6013 0.6113 0.6113 0.5946	(C/W)actual 1.3752 1.3633 1.3313 1.3328 1.3426 1.3528 1.3114 1.3154 1.3558 1.3204 1.3097 1.3209 1.3209 1.3229 1.3239 1.3472 1.3277	Y 735354 802929 864980 906138 981903 1077597 1213442 130265721 1398220 1566721 1398220 1566721 1398220 2130635 2370275 241610 2715075 2935981 3280585	C 654901 716378 825121 886559 971834 1068328 1173848 1298800 1440128 1593626 1767283 1967950 2184620 2184620 2184620 2184620 2184620	0.9022 0.9022 0.9000 0.8958 0.8942 0.8921 0.8985 0.8918 0.8863 0.8863 0.8863 0.8844 0.8852 0.8702 0.8612 0.8612 0.8612 0.8612	0.8906 0.8922 0.8914 0.9106 0.9029 0.9019 0.8804 0.9011 0.9289 0.9103 0.8962 0.8971 0.9149 0.9562 0.9614 0.9664	rho/r 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.080 1.080 1.080 1.080 1.080 1.080 1.080 1.080 1.080 1.080 1.100 1.100	W-C/(p/r) 623715 682265 734340 785830 844342 925556 1017455 1117950 1236952 1333452 147558 11636373 1822176 22237697 2360196 2237697 2360196	W/Y 0.8482 0.8490 0.8672 0.8589 0.8589 0.8585 0.8582 0.8581 0.8581 0.8581 0.8581 0.8581 0.8581 0.8581 0.8534 0.8534 0.8534 0.8540 0.8540	s/alpha 0.7207 0.7173 0.7173 0.6734 0.6931 0.6956 0.7404 0.6974 0.6974 0.6974 0.6974 0.5709 0.6098 0.6078 0.5343 0.5568 0.3349 0.3062 0.4280	0.7635 0.7702 0.7887 0.7878 0.7821 0.7860 0.8007 0.7995 0.7697 0.7967 0.8009 0.8179 0.8165 0.8157 0.8165 0.7954 0.8016
1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1981 1983 1983	GDP 815094 889987 961091 1011563 1098112 1207916 1350495 1460627 1587563 1770353 1770353 1770353 1770353 1770353 197357 2229544 2485969 2708148 3035796 3152497 3394299 3763467 4016649	Wactual 476214 525470 579180 619072 660327 727512 814663 893830 952118 1062353 1181813 1338406 1502639 1652530 1825399 1927107 2041148 2237615	W/GDP 0.5842 0.5904 0.6026 0.6120 0.6013 0.6023 0.6032 0.6119 0.5997 0.6001 0.5983 0.6003 0.6044 0.6102 0.6013 0.6013 0.6113 0.6113 0.6113	(C,W) _{actual} 1,3752 1,3633 1,3313 1,3328 1,3426 1,3358 1,3114 1,3556 1,3485 1,3485 1,3220 1,320 1,320 1,320 1,320 1,320 1,320 1,320 1,320 1,320 1,320 1,320 1,	Y 735354 802929 864980 906138 981903 1077597 1213442 1302655 1398220 1566721 1750703 1971870 2193635 2370275 2641610 2715075 2935981 3280585 33498288	C 654901 716378 771057 825121 886559 971834 1068328 1173848 1298800 1440128 1593626 1767283 1967950 2184620 2146713 2596216 2822729 3071632 3326304	0.9022 0.9022 0.9002 0.8958 0.8942 0.8921 0.8958 0.8918 0.8807 0.8850 0.8863 0.8844 0.8824 0.8824 0.8824 0.8752 0.8612 0.8650 0.8717 0.8709	0.8906 0.8922 0.8914 0.9106 0.9029 0.9019 0.8804 0.9011 0.9289 0.9192 0.9103 0.8962 0.8971 0.92149 0.9562 0.9614 0.9562	rho/r 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.080 1.050 1.080 1.000 1.000 1.080 1.0000 1.0000 1.0000 1.0000 1.0000 1.00000 1.00000 1.00000	W=C/(p/r) 623715 682265 734340 785830 844342 925556 1017455 1017455 1017455 1017455 1117950 1236952 1333452 1333452 1333452 1475580 1636373 1822176 202796 223709 22360196 22360196 22360196	W/Y 0.8482 0.8497 0.8599 0.8589 0.8589 0.8589 0.8582 0.8581 0.8511 0.8428 0.8234 0.8337 0.8534 0.8534 0.8534 0.8542 0.8544	s/alpha 0.7207 0.7173 0.7189 0.6734 0.6956 0.7404 0.6965 0.5427 0.5709 0.6098 0.6076 0.5343 0.5568 0.3349 0.3062 0.3265	0.7635 0.7702 0.7887 0.7887 0.7887 0.7880 0.7807 0.7967 0.7967 0.7967 0.8009 0.8170 0.8170 0.8170 0.8165 0.7954 0.8165 0.7954 0.8165
1967 1968 1970 1971 1972 1973 1974 1975 1976 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985	GDP 815094 889987 961091 1011563 1098112 1207916 1350495 1460627 1587563 1770353 1973357 2229544 2485969 2708148 3035796 3152497 3394299 3763467 4016649 4230784	W _{actual} 476214 525470 579180 619072 660327 727512 814663 893830 9952118 1062353 1181813 1338406 1502639 1652530 1825399 1652530 1825399 1927107 2041148 2237670 2395159 2356519	W/GDP 0.5842 0.5904 0.6026 0.6120 0.6013 0.6023 0.6032 0.6139 0.5997 0.6001 0.5997 0.6001 0.5993 0.6003 0.6044 0.6102 0.6013 0.6043 0.6013 0.6043 0.59563 0.5956	(CW) _{loctual} 1.3752 1.3633 1.3313 1.3328 1.3426 1.3358 1.3114 1.3556 1.3464 1.3455 1.3204 1.3455 1.3204 1.3472 1.3229 1.3472 1.3828 1.3727 1.3888 1.3985	Y 73534 802929 864980 906138 981903 1077597 1213442 1302655 1398220 1213442 1302655 1398220 1213442 1302655 1398220 1213635 2370275 241610 2715075 235084 3280585 3498288 3679418	C 654901 716378 8771057 825121 886559 971834 1068328 1173848 1298800 1440128 1593626 1767283 1967950 2184620 2184650 2184620 2184620 2184620 2186600000000000000000000000000000000000	0.9022 0.9022 0.9000 0.8958 0.8942 0.8955 0.8918 0.8863 0.8863 0.8863 0.8844 0.8752 0.8752 0.8752 0.8752 0.8702 0.8650 0.8717 0.8709 0.8659	0.8906 0.8922 0.8914 0.9106 0.9029 0.9019 0.9019 0.9192 0.9103 0.8962 0.8971 0.9217 0.9149 0.9563 0.9614 0.9363	rho/r 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.080 1.050 1.080 1.000 1.080 1.0000 1.0000 1.0000 1.0000 1.0000 1.00000 1.00000 1.00000	W-C/(p/n) 623715 682265 734340 785830 844342 925556 1017455 1117950 1236952 1333452 1137950 1236952 1333452 1475580 1636373 1822176 2022796 2237697 2360196 2237697 2360196 2236117 2792293 3023913 3224242	W/Y 0.8482 0.8497 0.8672 0.8589 0.8589 0.8589 0.8582 0.8582 0.8582 0.8582 0.8582 0.85847 0.8511 0.8428 0.8299 0.8307 0.8534 0.8471 0.8693 0.8712 0.8644 0.8644 0.8763	s/alpha 0.7207 0.7173 0.7189 0.6734 0.6956 0.7404 0.6956 0.5427 0.5009 0.6098 0.6076 0.5343 0.5568 0.3349 0.3062 0.4280 0.3625 0.2916	0.7635 0.7702 0.7887 0.7878 0.7821 0.7860 0.8007 0.7967 0.7067 0.8007 0.8007 0.8179 0.8179 0.8157 0.8157 0.8157 0.8153 0.7054 0.8157 0.8153 0.7951 0.7054
1967 1968 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986	GDP 815094 889987 961091 1011563 1098112 1207916 1350495 1460627 1587563 1770353 1975357 2229544 2485969 2708148 3035796 216497 3394299 3763467 4016649 4230784 4496574	W _{actual} 476214 525470 579180 619072 660327 727512 814663 893830 952118 1062533 1181813 1338406 1502639 1622539 16225399 1927107 2041148 2237670 2395159 2536519 2536519 2536519	W/GDP 0.5842 0.5904 0.6026 0.6120 0.6013 0.6023 0.6032 0.613 0.5997 0.6001 0.5983 0.6003 0.6044 0.6103 0.6013 0.6013 0.5946 0.5963 0.5963	(C/W) _{kettal} 1.3752 1.3633 1.3313 1.3328 1.3426 1.3426 1.3458 1.3114 1.3556 1.3458 1.3114 1.3556 1.34541 1.3556 1.34541 1.3204 1.3204 1.3209 1.3214 1.3239 1.32472 1.3888 1.3982 1.3982 1.3982	Y 735354 802929 864980 906138 907597 1213442 1302655 1398220 1566721 1750703 1971870 2193635 2370275 241610 2193635 2370275 241610 2416105 235981 3280585 3498288 3679418 3917604	C 654901 716378 771057 825121 886559 971834 1068328 1173848 1298800 1440128 1593626 1767283 1967950 2184620 2416713 2596216 2822729 3071632 3326304 3546666 3791556	0.9022 0.9002 0.8058 0.8942 0.8942 0.8941 0.8985 0.8850 0.8850 0.8864 0.8824 0.8824 0.8752 0.8612 0.8612 0.8612 0.8717 0.8709 0.8671	0.8906 0.8922 0.8914 0.9106 0.9029 0.9019 0.8804 0.9019 0.9289 0.9192 0.9192 0.8804 0.8804 0.8804 0.8804 0.9604 0.9562 0.9614 0.9363 0.9508 0.9608	rho/r 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.050 1.080 1.080 1.080 1.080 1.080 1.080 1.080 1.080 1.100 1.100 1.100	W-C(pr) 623715 682265 734340 785830 844342 925556 1017455 1117950 1236952 1475580 1636373 1822176 2022796 2237697 2360196 2237697 2360196 3023913 3023913 3224242 3446869	W/Y 0.8482 0.8497 0.8490 0.8599 0.8589 0.8589 0.8582 0.8582 0.8582 0.8582 0.8582 0.8582 0.8582 0.8582 0.8582 0.8542 0.8534 0.8574 0.8534 0.85740 0.8574000000000000000000000000000000000000	s/alpha 0.7207 0.7173 0.7189 0.6734 0.6956 0.7404 0.6956 0.7404 0.6165 0.5427 0.5709 0.6098 0.6076 0.5548 0.3349 0.36568 0.3349 0.3625 0.4280 0.3625	0.7635 0.7702 0.7887 0.7878 0.7821 0.7860 0.8007 0.7995 0.7997 0.7967 0.8009 0.8179 0.8246 0.8157 0.8157 0.8165 0.7954 0.8157 0.8165 0.7954 0.8157 0.8165 0.7954 0.8157 0.7859
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Hideyuki Kamiryo: Empirics of A Function of Consumption Consistent with A Technology-Golden Rule: Using Three Dimensional Graphs

Tables A4-2	OECD data,	applying my	w method to	these data	by country (2)

3. Japan	la	2	(For after 19	96)	6a	1a			0/r-	0.96	0.99	1.02	1.04
oroupun	GDP	Wactual	W/GDP	(C/W) _{actual}	Y	C	Y/GDP	C/Y	rho/r	W=C/(p/r)	W/Y		Wactual/W
1967	44731	19286	0.4312	1.4941	38741	28815	0.8661	0.7438	0.960	30016	0.7748	1.1376	0.6425
1968	52975	22477	0.4243	1.4641	45639	32908	0.8615	0.7210	0.960	34279	0.7511	1.1207	0.6557
1969	62229	26453	0.4251	1.4311	53509	37858	0.8599	0,7075	0,960	39435	0,7370	1.1121	0,6708
1970	73345	31895	0.4349	1.3729	63510	43788	0.8659	0.6895	0.960	45613	0.7182	1.1019	0.6993
1971	80701	37817	0.4686	1.3129	69400	49651	0.8600	0.7154	0,960	51720	0.7452	1.1170	0.7312
1972	92394	44026	0.4765	1.3046	79962	57438	0.8654	0.7183	0.960	59831	0.7482	1.1189	0.7358
1973	112498	55180	0.4905	1.2621	98492	69644	0.8755	0.7071	0,960	72546	0.7366	1.1118	0,7606
1974	134244	70010	0.5215	1.2163	116153	85152	0.8652	0.7331	0.960	88700	0.7636	1.1292	0.7893
1975	148327	81581	0.5500	1.2215	128498	99653	0.8663	0.7755	0.960	103805	0.8078	1.1682	0.7859
1976	166573	92020	0.5524	1.2193	145748	112201	0.8750	0.7698	0.960	116876	0.8019	1.1619	0.7873
1977	185622	102795	0.5538	1.2191	161735	125319	0.8713	0.7748	0.960	130541	0.8071	1.1674	0.7875
1978	204404	111079	0.5434	1.2394	178649	137676	0.8740	0.7707	0.960	143413	0.8028	1.1628	0.7745
1979	221547	120062	0.5419	1.2624	193794	151564	0.8747	0.7821	0.960	157879	0.8147	1.1758	0.7605
1980	240176	130398	0.5429	1.2645	208918	164892	0.8699	0.7893	0.960	171763	0.8222	1.1849	0.7592
1981	257963	141490	0.5485	1.2409	222733	175582	0.8634	0.7883	0.960	182898	0.8212	1.1837	0.7736
1982	270601	149559	0.5527	1.2546	234116	187630	0.8652	0.8014	0.960	195448	0.8348	1.2022	0.7652
1983	281767	157357	0.5585	1.2563	243320	197684	0.8636	0.8124	0.960	205921	0.8463	1.2202	0.7642
1984	300543	166120	0.5527	1.2526	259918	208080	0.8648	0.8006	0.960	216750	0.8339	1.2008	0.7664
1985	320419	173892	0.5427	1.2620	277527	219445	0.8661	0.7907	0.960	228589	0.8237	1.1868	0.7607
1986	335457	181278	0.5404	1.2638	289921	229099	0.8643	0.7902	0.960	238645	0.8231	1.1862	0.7596
1987	349760	187757	0.5368	1.2726	303542	238932	0.8679	0.7871	0.960	248888	0.8199	1.1822	0.7544
1988	373973	198284	0.5302	1.2710	324665	252023	0.8682	0.7763	0.960	262524	0.8086	1.1690	0.7553
1989	399998	212422	0.5311	1.2671	345285	269165	0.8632	0.7795	0.960	280380	0.8120	1.1728	0.7576
1990	430040	230313	0.5356	1.2509	369463	288095	0.8591	0.7798	0.960	300099	0.8123	1.1731	0.7675
1991	458972	248301	0.5410	1.2213	393052	303241	0.8564	0.7715	0.960	315876	0.8036	1.1637	0.7861
1992	471797	256885	0.5445	1.2284	402253	315557	0.8526	0.7845	0.960	328705	0.8172	1.1788	0.7815
1993	475438	262899	0.5530	1.2304	404508	323475	0.8508	0.7997	0.990	326742	0.8078	1.0420	0.8046
1994	479072	268043	0.5595	1.2371	406384	331598	0.8483	0.8160	0.990	334947	0.8242	1.0469	0.8003
1995	481020	272412	0.5663	1.2334	408085	335994	0.8484	0.8233	0.990	339388	0.8317	1.0494	0.8027
1996	509984	276252	0.5417	1.2919	422003	356891	0.8275	0.8457	0.990	360496	0.8542	1.0586	0.7663
1997	520939	281432	0.5402	1.2785	427538	359814	0.8207	0.8416	0.990	363448	0.8501	1.0567	0.7743
1998	514595	276718	0.5377	1.3038	416769	360787	0.8099	0.8657	1.020	353713	0.8487	0.8878	0.7823
1999	507224	273030	0.5383	1.3343	410783	364306	0.8099	0.8869	1.020	357163	0.8695	0.8668	0.7644
2000 2001	511462 505847	275449	0.5386	1.3424	416198	369769 375342	0.8137 0.8017	0.8884 0.9256	1.020	362519 360906	0.8710 0.8900	0.8649	0.7598
2001 2002	505847 497897	271864 264742	0.5374 0.5317	1.3806	405527 399454	375342 379201	0.8017	0.9256	1.040	360906	0.8900	0.6765 0.5814	0.7533 0.7261
2002	497897	204/42			399434		0.8023		1.040				0.7261 0.0000
2003	497485		0.0000	#DIV/0!		380871	0.0000	#DIV/0!	1.040	366222	#DIV/0!	#DIV/0!	0.0000

4. Australia	1a	2	(For after 19	996)	6a	1a			ρ/r=	1.01	1.03	1.06	1.08
	GDP	Wactual	W/GDP	(C/W)actual	Y	С	Y/GDP	C/Y	rho/r	$W=C/(\rho/r)$	W/Y	s/alpha	Wactual/W
1967	25483	13212	0.5185	1.4675	21797	19388	0.8554	0.8895	1.010	19196	0.8807	0.9262	0.6883
1968	28721	14627	0.5093	1.4335	24658	20968	0.8585	0.8504	1.010	20760	0.8419	0.9467	0.7046
1969	31813	16452	0.5171	1.4061	27238	23133	0.8562	0.8493	1.010	22904	0.8409	0.9472	0.7183
1970	35111	18884	0.5378	1.3628	30027	25736	0.8552	0.8571	1.010	25481	0.8486	0.9439	0.7411
1971	39288	21077	0.5365	1.3646	33584	28761	0.8548	0.8564	1.010	28476	0.8479	0.9442	0.7402
1972	44793	23562	0.5260	1.3733	38306	32358	0.8552	0.8447	1.010	32038	0.8364	0.9489	0.7354
1973	53610	28894	0.5390	1.3388	46114	38684	0.8602	0.8389	1.010	38301	0.8306	0.9510	0.7544
1974	64750	37160	0.5739	1.2978	54996	48226	0.8494	0.8769	1.010	47749	0.8682	0.9341	0.7782
1975	76601	42830	0.5591	1.3571	64516	58123	0.8422	0.9009	1.030	56430	0.8747	0.7906	0.7590
1976	87594	48316	0.5516	1.3777	73615	66565	0.8404	0.9042	1.030	64626	0.8779	0.7843	0.7476
1977	95308	53066	0.5568	1.3984	79500	74205	0.8341	0.9334	1.030	72044	0.9062	0.7101	0.7366
1978	108459	57085	0.5263	1.4597	90527	83327	0.8347	0.9205	1.030	80900	0.8937	0.7479	0.7056
1979	123284	63616	0.5160	1.4765	102779	93926	0.8337	0.9139	1.060	88609	0.8621	0.6248	0.7179
1980	158722	85566	0.5391	1.2616	117134	107946	0.7380	0.9216	1.060	101836	0.8694	0.6006	0.8402
1981	172476	94949	0.5505	1.2960	131274	123051	0.7611	0.9374	1.060	116086	0.8843	0.5414	0.8179
1982	195827	100618	0.5138	1.3759	140901	138439	0.7195	0.9825	1.060	130603	0.9269	0.2391	0.7704
1983	217130	110983	0.5111	1.3748	161363	152582	0.7432	0.9456	1.060	143945	0.8921	0.5041	0.7710
1984	240477	121945	0.5071	1.3805	178276	168351	0.7413	0.9443	1.060	158822	0.8909	0.5102	0.7678
1985	264007	132926	0.5035	1.4173	195997	188402	0.7424	0.9612	1.080	174446	0.8900	0.3524	0.7620
1986	298395	145945	0.4891	1.4115	213920	205998	0.7169	0.9630	1.080	190739	0.8916	0.3417	0.7652
1987	339068	163780	0.4830	1.3890	243029	227486	0.7168	0.9360	1.080	210635	0.8667	0.4798	0.7776
1988	370070	182417	0.4929	1.3818	276274	252072	0.7465	0.9124	1.080	233400	0.8448	0.5645	0.7816
1989	378964	190002	0.5014	1.4656	298965	278462	0.7889	0.9314	1.080	257835	0.8624	0.4985	0.7369
1990	387164	193832	0.5006	1.5306	305413	296673	0.7888	0.9714	1.080	274697	0.8994	0.2845	0.7056
1991	405764	200766	0.4948	1.5634	314023	313883	0.7739	0.9996	1.080	290632	0.9255	0.0060	0.6908
1992	430424	210955	0.4901	1.5594	330010	328970	0.7667	0.9968	1.080	304602	0.9230	0.0409	0.6926
1993	455616	223960	0.4916	1.5356	351333	343922	0.7711	0.9789	1.080	318446	0.9064	0.2253	0.7033
1994	486054	239954	0.4937	1.5178	373482	364203	0.7684	0.9752	1.080	337225	0.9029	0.2559	0.7116
1995	481020	272412	0.5663	1.4224	401022	387474	0.8337	0.9662	1.080	358772	0.8946	0.3207	0.7593
1996	515767	250624	0.7787	1.6026	416770	401648	0.8081	0.9637	1.080	371896	0.8923	0.3370	0.6739
1997	543485	263257	0.7776	1.6054	441684	422624	0.8127	0.9568	1.080	391319	0.8860	0.3784	0.6727
1998	574571	278355	0.7780	1.6058	468907	446990	0.8161	0.9533	1.080	413880	0.8826	0.3983	0.6726
1999	602823	293159	0.7805	1.6050	490109	470513	0.8130	0.9600	1.080	435660	0.8889	0.3599	0.6729
2000	648626	311948	0.7770	1.6155	531283	503957	0.8191	0.9486	1.080	466627	0.8783	0.4226	0.6685
2001	689958	329432	0.7764	1.6261	561642	535704	0.8140	0.9538	1.080	496022	0.8832	0.3953	0.6641
2002	736731	348165	0.7767	1.6436	599190	572250	0.8133	0.9550	1.080	529861	0.8843	0.3886	0.6571
2003	784655	368764	0.7776	1.6545	640457	610119	0.8162	0.9526	1.080	564925	0.8821	0.4017	0.6528

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Tables A4-3	OECD data,	applying my	method to	these data	by country (3)

					, F F-3								
5. New Zeal	1a	2	(For after 19		6a	1a			ρ/r=	0.98	1	1.02	
	GDP	Wactual	W/GDP	(C/W)actual	Y	С	Y/GDP	C/Y	rho/r	$W=C/(\rho/r)$	W/Y	s/alpha	Wactual/W
1967	4358	2035	0.4670	1.6988	3919	3457	0.8993	0.8821	0.980	3528	0.9001	1.1802	0.5769
1968	4611	2144	0.4650	1.7062	4157	3658	0.9015	0.8800	0.980	3733	0.8979	1.1759	0.5744
1969	5127	2382	0.4646	1.6738	4623	3987	0.9017	0.8624	0.980	4068	0.8800	1.1467	0.5855
1970	5727	2870	0.5011	1.5721	5173	4512	0.9033	0.8722	0.980	4604	0.8900	1.1619	0.6234
1971	6739	3403	0.5050	1.5019	6174	5111	0.9162	0.8278	0.980	5215	0.8447	1.1088	0.6525
1972	7708	3827	0.4965	1.5132	7089	5791	0.9197	0.8169	0.980	5909	0.8336	1.1002	0.6476
1973	9025	4514	0.5002	1.4743	8345	6655	0.9247	0.7975	0.980	6791	0.8138	1.0874	0.6647
1974	9847	5439	0.5524	1.4106	8985	7672	0.9125	0.8539	0.980	7829	0.8713	1.1354	0.6948
1975	11106	6278	0.5653	1.4111	10022	8859	0.9024	0.8840	0.980	9040	0.9020	1.1841	0.6945
1976	13512	7072	0.5234	1.4328	12178	10133	0.9013	0.8321	0.980	10340	0.8491	1.1125	0.6840
1977	14970	8102	0.5412	1.4209	13472	11512	0.8999	0.8545	0.980	11747	0.8720	1.1362	0.6897
1978	16957	9415	0.5552	1.4027	15219	13206	0.8975	0.8677	0.980	13476	0.8854	1.1546	0.6987
1979	19795	10977	0.5545	1.3999	17878	15367	0.9032	0.8595	0.980	15681	0.8771	1.1427	0.7000
1980	22991	13066	0.5683	1.4008	20849	18303	0.9068	0.8779	0.980	18677	0.8958	1.1719	0.6996
1981	27891	15754	0.5648	1.3725	25382	21622	0.9100	0.8519	0.980	22063	0.8692	1.1330	0.7140
1982	31410	17248	0.5491	1.4253	28416	24584	0.9047	0.8651	0.980	25086	0.8828	1.1507	0.6876
1983	34839	17589	0.5049	1.5109	30998	26576	0.8897	0.8573	0.980	27118	0.8748	1.1398	0.6486
1984	39346	19250	0.4892	1.5541	34293	29916	0.8716	0.8724	1.000	29916	0.8724	1.0000	0.6435
1985	45282	22675	0.5008	1.5530	39125	35214	0.8640	0.9000	1.000	35214	0.9000	1.0000	0.6439
1986	54725	27095	0.4951	1.5461	47745	41892	0.8725	0.8774	1.000	41892	0.8774	1.0000	0.6468
1987	61642	30458	0.4941	1.5615	53374	47560	0.8659	0.8911	1.000	47560	0.8911	1.0000	0.6404
1988	66424	31869 32959	0.4798	1.6174	57579	51546	0.8668 0.8493	0.8952	1.000	51546	0.8952	1.0000	0.6183
1989 1990	70742	32959 33368	0.4659	1.6744 1.7397	60081	55188		0.9186	1.020	54106 56913	0.9005	0.8189	0.6092
1990 1991	72137 72145	33368 33001	0.4626 0.4574	1.7397 1.7599	61505 61085	58051 58079	0.8526 0.8467	0.9438 0.9508	1.020 1.020	56913 56940	0.9253 0.9321	0.7521 0.7252	0.5863 0.5796
1992 1993	74425 80298	33785 35072	0.4539 0.4368	1.7571	64199 68881	59362 61634	0.8626 0.8578	0.9247 0.8948	1.020 1.020	58198 60425	0.9065 0.8772	0.8060 0.8571	0.5805 0.5804
1993	80298 85875	35072	0.4368	1.7574 1.7421	72844	61634	0.8578	0.8948	1.020	60425 63937	0.8772	0.8571	0.5804 0.5855
1994	85875 91045	37435 39906	0.4359	1.7421	72844	69191	0.8483	0.8955	1.020	67834	0.8777	0.8585	0.5855
1995	91045	39900 NA	#VALUE!	#VALUE!	7.1423 NA		#VALUE!	#VALUE!	1.020	71800	#VALUE!	#VALUE!	#VALUE!
1990	100040	19/3	0.0000	#DIV/0!	INA	75672	0.0000	#DIV/0!	1.020	74188	#DIV/0!	#DIV/0!	0.0000
1998	101414		0.0000	#DIV/0!		77194	0.0000	#DIV/0!	1.020	75680	#DIV/0!	#DIV/0!	0.0000
1999	106641		0.0000	#DIV/0!		80535	0.0000	#DIV/0!	1.020	78956	#DIV/0!	#DIV/0!	0.0000
2000	113375		0.0000	#DIV/0!		81254	0.0000	#DIV/0!	1.020	79661	#DIV/0!	#DIV/0!	0.0000
2001	121954		0.0000	#DIV/0!		83617	0.0000	#DIV/0!	1.020	81977	#DIV/0!	#DIV/0!	0.0000
2002	128018		0.0000	#DIV/0!		86895	0.0000	#DIV/0!	1.020	85191	#DIV/0!	#DIV/0!	0.0000
2003	134977		0.0000	#DIV/0!		90811	0.0000	#DIV/0!	1.020	89030	#DIV/0!	#DIV/0!	0.0000
6. France	la	2	(For after 19	296)	6a	la			0/r=	0.96	0.99	1.02	1.05
6. France	la GDP		(For after 19 W/GDP	996) (C/W) _{actual}	6a Y	la C	Y/GDP	C/Y	p/r= rho/r	0.96 W=C/(p/r)	0.99 W/Y	1.02 s/alpha	1.05 Washad/W
6. France 1967	GDP	Wactual	W/GDP	(C/W) _{actual}	Y	С	Y/GDP 0.7803	C/Y 0.7993	rho/r	$W=C/(\rho/r)$	W/Y	s/alpha	Wactual/W
				996) (C/W) _{actual} 1.5555 1.5300			Y/GDP 0.7803 0.9172	C/Y 0.7993 0.8080					
1967 1968	GDP 673307 623123	W _{sctual} 269973 301803	W/GDP 0.4010 0.4843	(C/W) _{actual} 1.5555 1.5300	Y 525381 571503	C 419956 461762	0.7803 0.9172	0.7993	rho/r 0.960 0.960	W=C/(p/r) 437454 481002	W/Y 0.8326	s/alpha 1.1990 1.2126	W _{actual} /W 0.6171 0.6274
1967	GDP 673307	W _{actual} 269973	W/GDP 0.4010	(C/W) _{actual} 1.5555 1.5300 1.5162	Y 525381 571503 653320	C 419956 461762 523364	0.7803	0.7993 0.8080	rho/r 0.960	W=C/(p/r) 437454 481002 545171	W/Y 0.8326 0.8416	s/alpha 1.1990 1.2126 1.2016	W _{schall} /W 0.6171 0.6274 0.6332
1967 1968 1969	GDP 673307 623123 710501	W _{actual} 269973 301803 345178	W/GDP 0.4010 0.4843 0.4858 0.4933 0.4993	(C/W) _{actual} 1.5555 1.5300 1.5162 1.4720 1.4566	Y 525381 571503	C 419956 461762	0.7803 0.9172 0.9195 0.9114 0.9044	0.7993 0.8080 0.8011 0.7967 0.8042	rho/r 0.960 0.960 0.960 0.960 0.990	W=C/(p/r) 437454 481002 545171 600226 649549	W/Y 0.8326 0.8416 0.8345	s/alpha 1.1990 1.2126	W _{actual} /W 0.6171 0.6274
1967 1968 1969 1970 1971	GDP 673307 623123 710501 793519	W _{actual} 269973 301803 345178 391444 441486	W/GDP 0.4010 0.4843 0.4858 0.4933 0.4993	(C/W) _{actual} 1.5555 1.5300 1.5162 1.4720 1.4566	Y 525381 571503 653320 723246 799614	C 419956 461762 523364 576217 643054	0.7803 0.9172 0.9195 0.9114 0.9044	0.7993 0.8080 0.8011 0.7967	rho/r 0.960 0.960 0.960 0.960	W=C/(p/r) 437454 481002 545171 600226 649549	W/Y 0.8326 0.8416 0.8345 0.8299 0.8123	s/alpha 1.1990 1.2126 1.2016 1.1952 1.0433	W _{actual} /W 0.6171 0.6274 0.6332 0.6522 0.6797
1967 1968 1969 1970	GDP 673307 623123 710501 793519 884186	W _{scnal} 269973 301803 345178 391444	W/GDP 0.4010 0.4843 0.4858 0.4933	(C/W) _{actual} 1.5555 1.5300 1.5162 1.4720	Y 525381 571503 653320 723246	C 419956 461762 523364 576217	0.7803 0.9172 0.9195 0.9114	0.7993 0.8080 0.8011 0.7967 0.8042	rho/r 0.960 0.960 0.960 0.960 0.990	W=C/(p/r) 437454 481002 545171 600226	W/Y 0.8326 0.8416 0.8345 0.8299	s/alpha 1.1990 1.2126 1.2016 1.1952	W _{sctual} /W 0.6171 0.6274 0.6332 0.6522
1967 1968 1969 1970 1971 1972 1973 1974	GDP 673307 623123 710501 793519 884186 987947 1129835 1302978	W _{sctual} 269973 301803 345178 391444 441486 493521 566401 678946	W/GDP 0.4010 0.4843 0.4858 0.4933 0.4993 0.4995 0.5013 0.5211	(C/W) _{actual} 1.5555 1.5300 1.5162 1.4720 1.4566 1.4530 1.4348 1.3990	Y 525381 571503 653320 723246 799614 891444 1016110 1160853	C 419956 461762 523364 576217 643054 717103 812693 949819	0.7803 0.9172 0.9195 0.9114 0.9044 0.9023 0.8993 0.8909	0.7993 0.8080 0.8011 0.7967 0.8042 0.8044 0.7998 0.8182	rho/r 0.960 0.960 0.960 0.990 0.990 0.990 0.990 0.990	W=C/(p/r) 437454 481002 545171 600226 649549 724346 820902 959413	W/Y 0.8326 0.8416 0.8345 0.8299 0.8123 0.8126 0.8079 0.8265	s/alpha 1.1990 1.2126 1.2016 1.1952 1.0433 1.0433 1.0421 1.0476	W _{actual} /W 0.6171 0.6274 0.6332 0.6522 0.6797 0.6813 0.6900 0.7077
1967 1968 1969 1970 1971 1972 1973 1974 1975	GDP 673307 623123 710501 793519 884186 987947 1129835 1302978 1467884	Wscual 269973 301803 345178 391444 441486 493521 566401 678946 801764	W/GDP 0.4010 0.4843 0.4858 0.4933 0.4993 0.4995 0.5013 0.5211 0.5462	(C/W) _{actual} 1.5555 1.5300 1.5162 1.4720 1.4566 1.4530 1.4348 1.3990 1.3791	Y 525381 571503 653320 723246 799614 891444 1016110 1160853 1299141	C 419956 461762 523364 576217 643054 717103 812693 949819 1105696	0.7803 0.9172 0.9195 0.9114 0.9044 0.9023 0.8993 0.8909 0.8850	0.7993 0.8080 0.8011 0.7967 0.8042 0.8044 0.7998 0.8182 0.8511	rho/r 0.960 0.960 0.960 0.990 0.990 0.990 0.990 0.990 0.990 1.020	W=C/(p/r) 437454 481002 545171 600226 649549 724346 820902 959413 1084016	W/Y 0.8326 0.8416 0.8345 0.8299 0.8123 0.8126 0.8079 0.8265 0.8344	s/alpha 1.1990 1.2126 1.2016 1.1952 1.0433 1.0433 1.0421 1.0476 0.8992	W _{sctaal} /W 0.6171 0.6274 0.6332 0.6522 0.6797 0.6813 0.6900 0.7077 0.7396
1967 1968 1969 1970 1971 1972 1973 1974 1975 1976	GDP 673307 623123 710501 793519 884186 987947 1129835 1302978 1467884 1700553	Wscual 269973 301803 345178 391444 441486 493521 566401 678946 801764 932940	W/GDP 0.4010 0.4843 0.4858 0.4933 0.4993 0.4995 0.5013 0.5211 0.5462 0.5486	(C/W) _{actual} 1.5555 1.5300 1.5162 1.4720 1.4566 1.4530 1.4348 1.3990 1.3791 1.3734	Y 525381 571503 653320 723246 799614 891444 1016110 1160853 1299141 1505861	C 419956 461762 523364 576217 643054 717103 812693 949819 1105696 1281298	0.7803 0.9172 0.9195 0.9114 0.9044 0.9023 0.8993 0.8909 0.8850 0.8855	0.7993 0.8080 0.8011 0.7967 0.8042 0.8044 0.7998 0.8182 0.8511 0.8509	rho/r 0.960 0.960 0.960 0.990 0.990 0.990 0.990 0.990 1.020 1.020	W=C/(p/r) 437454 481002 545171 600226 649549 724346 820902 959413 1084016 1256175	W/Y 0.8326 0.8416 0.8345 0.8299 0.8123 0.8123 0.8126 0.8079 0.8265 0.8344 0.8344	s/alpha 1.1990 1.2126 1.2016 1.1952 1.0433 1.0433 1.0421 1.0476 0.8992 0.8994	Wnotal/W 0.6171 0.6274 0.6332 0.6522 0.6797 0.6813 0.6900 0.7077 0.7396 0.7427
1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977	GDP 673307 623123 710501 793519 884186 987947 1129835 1302978 1467884 1700553 1917803	Wscoal 269973 301803 345178 391444 441486 493521 566401 678946 801764 932940 1061181	W/GDP 0.4010 0.4843 0.4858 0.4933 0.4993 0.4993 0.5013 0.5211 0.5211 0.5462 0.5486 0.5533	(C/W) _{actual} 1.5555 1.5300 1.5162 1.4720 1.4566 1.4530 1.4348 1.3990 1.3791 1.3734 1.3632	Y 525381 571503 653320 723246 799614 891444 1016110 1160853 1299141 1505861 1691482	C 419956 461762 523364 576217 643054 717103 812693 949819 1105696 1281298 1446627	0.7803 0.9172 0.9195 0.9114 0.9044 0.9023 0.8993 0.8909 0.8850 0.8855 0.8820	0.7993 0.8080 0.8011 0.7967 0.8042 0.8044 0.7998 0.8182 0.8511 0.8509 0.8552	rho/r 0.960 0.960 0.960 0.990 0.990 0.990 0.990 1.020 1.020	W=C/(p/r) 437454 481002 545171 600226 649549 724346 820902 959413 1084016 1256175 1418262	W/Y 0.8326 0.8416 0.8345 0.8299 0.8123 0.8123 0.8126 0.8079 0.8265 0.8344 0.8342 0.8342	s/alpha 1.1990 1.2126 1.2016 1.1952 1.0433 1.0433 1.0421 1.0476 0.8992 0.8994 0.8962	W _{notedf} /W 0.6171 0.6274 0.6322 0.6522 0.6797 0.6813 0.6900 0.7077 0.7396 0.7427 0.7482
1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978	GDP 673307 623123 710501 793519 884186 987947 1129835 1302978 1467884 1700553 1917803 2182588	Wactual 269973 301803 345178 391444 441486 493521 566401 678946 801764 932940 1061181 1203113	W/GDP 0.4010 0.4843 0.4858 0.4933 0.4993 0.4995 0.5013 0.5211 0.5462 0.5486 0.5533 0.5512	(C/W) _{settual} 1.5555 1.5300 1.5162 1.4720 1.4566 1.4530 1.4348 1.3990 1.3791 1.3734 1.3632 1.3695	Y 525381 571503 653320 723246 799614 891444 1016110 1160853 1299141 1505861 1691482 1931544	C 419956 461762 523364 576217 643054 717103 812693 949819 1105696 1281298 1446627 1647683	0.7803 0.9172 0.9195 0.9114 0.9044 0.9023 0.8993 0.8909 0.8850 0.8855 0.8820 0.8850	0.7993 0.8080 0.8011 0.7967 0.8042 0.8044 0.7998 0.8182 0.8511 0.8559 0.8552 0.8552	rho/r 0.960 0.960 0.990 0.990 0.990 0.990 0.990 1.020 1.020 1.020	W=C/(p/r) 437454 481002 545171 600226 649549 724346 820902 959413 1084016 1256175 1418262 1615375	W/Y 0.8326 0.8416 0.8345 0.8299 0.8123 0.8126 0.8079 0.8265 0.8344 0.8345 0.8345 0.8385 0.8363	s/alpha 1.1990 1.2126 1.2016 1.1952 1.0433 1.0433 1.0421 1.0476 0.8992 0.8994 0.8962 0.8978	W _{notabl} /W 0.6171 0.6274 0.6332 0.6522 0.6797 0.6813 0.6900 0.7077 0.7396 0.7427 0.7482 0.7448
1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979	GDP 673307 623123 710501 793519 884186 987947 1129835 1302978 1467884 1700553 1917803 2182588 2481097	Wactual 269973 301803 345178 391444 441486 493521 566401 678946 801764 932940 1061181 1203113 1363245	W/GDP 0.4010 0.4843 0.4858 0.4933 0.4993 0.4995 0.5013 0.5211 0.5486 0.5533 0.5512 0.5486	(C/W)scnal 1.5555 1.5300 1.5162 1.4720 1.4566 1.4530 1.4348 1.3990 1.3791 1.3734 1.3632 1.3695 1.3781	Y 525381 571503 653320 723246 799614 891444 1016110 1160853 1299141 1505861 1691482 1931544 2197010	C 419956 461762 523364 576217 643054 717103 812693 949819 1105696 1281298 1446627 1647683 1878671	0.7803 0.9172 0.9195 0.9114 0.9044 0.9023 0.8993 0.8999 0.8850 0.8855 0.8820 0.8855	0.7993 0.8080 0.8011 0.7967 0.8042 0.8044 0.7998 0.8182 0.8511 0.8509 0.8552 0.8552 0.8530 0.8551	rho/r 0.960 0.960 0.960 0.990 0.990 0.990 0.990 1.020 1.020 1.020 1.020	W=C/(p/r) 437454 481002 545171 600226 649549 724346 820902 959413 1084016 1256175 1418262 1615375 1841834	W/Y 0.8326 0.8416 0.8345 0.8299 0.8123 0.8126 0.8079 0.8265 0.8344 0.8342 0.8342 0.8385 0.8363 0.8383	s/alpha 1.1990 1.2126 1.2016 1.1952 1.0433 1.0433 1.0433 1.0433 1.0433 1.0433 1.0421 1.0476 0.8992 0.8992 0.8996 0.8978 0.8963	W _{notedl} /W 0.6171 0.6274 0.6332 0.6522 0.6797 0.6813 0.6900 0.7077 0.7396 0.7427 0.7482 0.7448 0.7402
1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980	GDP 673307 623123 710501 793519 884186 987947 1129835 1302978 1467884 1700553 1917803 2182588 2481097 2808295	Wactual 269973 301803 345178 391444 441486 493521 566401 678946 801764 932940 1061181 1203113 1363245 1575784	W/GDP 0.4010 0.4843 0.4858 0.4933 0.4993 0.4995 0.5013 0.5211 0.5462 0.5462 0.5486 0.5533 0.5512 0.5611	(C/W) _{sctual} 1.5555 1.5300 1.5162 1.4720 1.4566 1.4530 1.4348 1.3990 1.3791 1.3734 1.3632 1.3695 1.3781 1.3724	Y 525381 571503 653320 723246 799614 891444 1016110 1160853 1299141 1505861 1691482 1931544 2197010 2479779	C 419956 461762 523364 717103 812693 949819 1105696 1281298 1446627 1647683 1878671 2162585	0.7803 0.9172 0.9195 0.9114 0.9044 0.9023 0.8993 0.8999 0.8850 0.8855 0.8820 0.8855 0.8850 0.8855 0.8855	0.7993 0.8080 0.8011 0.7967 0.8042 0.8044 0.7998 0.8182 0.8511 0.8509 0.8552 0.8550 0.8551 0.8721	rho/r 0.960 0.960 0.960 0.960 0.990 0.990 0.990 0.990 1.020 1.020 1.020 1.020 1.020	W=C/(p/r) 437454 481002 545171 600226 649549 724346 820902 959413 1084016 1256175 1418262 1615375 1841834 2120181	W/Y 0.8326 0.8416 0.8345 0.8299 0.8123 0.8126 0.8079 0.8265 0.8344 0.8342 0.8383 0.8383 0.8383 0.8550	s/alpha 1.1990 1.2126 1.2016 1.1952 1.0433 1.0433 1.0433 1.0476 0.8992 0.8994 0.8962 0.8963 0.8963 0.8863 0.8863	W _{sctual} /W 0.6171 0.6274 0.6332 0.6522 0.6797 0.6813 0.6900 0.7077 0.7396 0.7427 0.7482 0.7448 0.7402 0.7402
1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1978 1979 1981	GDP 673307 623123 710501 793519 884186 987947 1129835 1302978 1467884 1700553 1917803 2182588 2481097 3164804	Wacual 269973 301803 345178 391444 441486 493521 566401 678946 801764 932940 1061181 1203113 1363245 1575784 1792602	W/GDP 0.4010 0.4843 0.4858 0.4933 0.4993 0.5013 0.5013 0.5013 0.5486 0.5533 0.5512 0.5486 0.5533 0.5512 0.5495 0.5664	(C/W) _{sctual} 1.5555 1.5300 1.5162 1.4720 1.4566 1.4530 1.4348 1.3990 1.3791 1.3734 1.3632 1.3695 1.3781 1.3724 1.3959	Y 525381 571503 653320 723246 799614 891444 1016110 1160853 1299141 1505861 1691482 1931544 2197010 2479779 2772772	C 419956 461762 523364 576217 643054 717103 812693 949819 1105596 1281298 1446627 1647683 1878671 2162585 2502247	0.7803 0.9172 0.9195 0.9114 0.9023 0.8993 0.8909 0.8850 0.8855 0.8850 0.8855 0.8850 0.8855 0.8850 0.8855	0.7993 0.8080 0.8011 0.7967 0.8042 0.8044 0.7998 0.8182 0.8511 0.8509 0.8552 0.8530 0.8551 0.8551 0.8551	rho/r 0.960 0.960 0.960 0.960 0.990 0.990 0.990 1.020 1.020 1.020 1.020 1.020 1.020	W=C/(p/r) 437454 481002 545171 600226 649549 724346 820902 959413 1084016 1256175 1418262 1615375 1841834 2120181 2453183	W/Y 0.8326 0.8416 0.8345 0.8299 0.8123 0.8123 0.8123 0.8126 0.8079 0.8265 0.8344 0.8342 0.8385 0.8363 0.8383 0.8550 0.8847	s/alpha 1.1990 1.2126 1.2016 1.1952 1.0433 1.0433 1.0433 1.0421 1.0476 0.8994 0.8962 0.8978 0.8963 0.8863 0.8865	W _{sctubl} /W 0.6171 0.6274 0.6332 0.6522 0.6797 0.6813 0.6900 0.7077 0.7396 0.7427 0.7482 0.7448 0.7402 0.7448 0.7402 0.7307
1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982	GDP 673307 623123 710501 793519 884186 987947 1129835 1302978 1467884 1700553 1917803 2182588 2481097 2808295 3164804	W _{scual} 269973 301803 345178 391444 441486 493521 566401 678946 801764 932940 1061181 1203113 1363245 1575784 1792602 2054560	W/GDP 0.4010 0.4843 0.4853 0.4993 0.4993 0.4993 0.50211 0.5462 0.5512 0.5486 0.5512 0.5482 0.5512 0.5495 0.5611 0.5666	(C/W) _{actual} 1.5555 1.5300 1.5162 1.4720 1.4566 1.4530 1.4348 1.3990 1.3791 1.3734 1.3632 1.3781 1.3724 1.3695 1.3781 1.3724 1.3959 1.4125	Y 525381 571503 653320 723246 799614 891444 1016110 1160853 1299141 1505861 1691482 1931544 2197010 2479779 2772772 3161591	C 419956 461762 523364 576217 643054 717103 812693 949819 1105696 1281298 1446627 1647683 1878671 2162585 2502247 2502217	0.7803 0.9172 0.9195 0.9114 0.9044 0.9023 0.8993 0.8909 0.8855 0.8820 0.8855 0.8850 0.8855 0.8850 0.8855 0.8850 0.8855	0.7993 0.8080 0.8011 0.7967 0.8042 0.8044 0.8044 0.8094 0.8182 0.8511 0.8509 0.8552 0.8530 0.8551 0.8721 0.9024 0.9179	rho/r 0.960 0.960 0.960 0.990 0.990 0.990 0.990 1.020 1.020 1.020 1.020 1.020 1.020	W-C/(p/r) 437454 481002 545171 600226 649549 724346 820902 959413 1084016 1256175 1418262 1613375 1841834 2120181 2453183 2845215	W/Y 0.8326 0.8416 0.8345 0.8299 0.8123 0.8126 0.8079 0.8265 0.8344 0.8342 0.8363 0.8363 0.8383 0.8383 0.8580 0.8847 0.8999	s/alpha 1.1990 1.2126 1.2016 1.1952 1.0433 1.0421 1.0476 0.8992 0.8994 0.8963 0.8863 0.8863 0.8821 0.8465 0.8201	Wuchtal/W 0.6171 0.6274 0.6332 0.6522 0.6797 0.6813 0.6900 0.7077 0.7396 0.7427 0.7482 0.7448 0.7402 0.7448 0.7402 0.7432 0.7307 0.7221
1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983	GDP 673307 623123 710501 793519 884186 987947 1129835 1302978 1467884 1700553 1917803 2182588 2481097 2808295 3164804 3626021 4006498	Wacual 269973 301803 345178 391444 44186 493521 566401 678946 801764 932940 1061181 1203113 1363245 1575784 1792602 2054560 2259282	W/GDP 0.4810 0.4843 0.4858 0.4933 0.4993 0.4995 0.5013 0.5211 0.5486 0.5533 0.5512 0.5486 0.5533 0.5512 0.5486 0.56511 0.5664 0.5664	(C/W) _{actual} 1.5555 1.5300 1.5162 1.4720 1.4566 1.4530 1.4348 1.3990 1.3734 1.3632 1.3734 1.3632 1.3754 1.3724 1.3959 1.4125 1.4242	Y 525381 571503 653320 723246 7999614 891444 1016110 1160853 1299141 1505861 1691482 1931544 2197010 2479779 2772772 3161591 3472704	C 419956 461762 523364 576217 643054 717103 812693 949819 1105696 1281298 1446627 1647683 1281298 1245285 2502247 2902119 3217681	0.7803 0.9172 0.9195 0.9114 0.9044 0.9023 0.8993 0.8855 0.8855 0.8855 0.8855 0.8855 0.8855 0.8855 0.8855 0.8855 0.8857 0.8856 0.8761 0.8761 0.8719 0.8668	0.7993 0.8080 0.8011 0.7967 0.8042 0.8044 0.7998 0.8182 0.8511 0.8552 0.8550 0.8552 0.8550 0.8551 0.8721 0.9024 0.9179 0.9266	rho/r 0.960 0.960 0.960 0.990 0.990 0.990 0.990 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020	W-C/(p/r) 437454 481002 545171 600226 649549 724346 820902 959413 1084016 1256175 1418262 1615375 1418262 1615375 1418262 1251375 124184 22453183 2845215 3154589	W/Y 0.8326 0.8416 0.8345 0.8299 0.8123 0.8126 0.8079 0.8265 0.8344 0.8345 0.8385 0.8363 0.8385 0.8363 0.8385 0.8847 0.89847	s/alpha 1.1990 1.2126 1.2016 1.1952 1.0433 1.0433 1.0421 1.0476 0.8992 0.8962 0.8978 0.8963 0.8821 0.8465 0.8201 0.8015	Wiscould W 0.6171 0.6274 0.6332 0.6522 0.6797 0.6813 0.6900 0.7077 0.7396 0.7482 0.7482 0.7482 0.7448 0.7402 0.7402 0.7402 0.7307 0.7221 0.7162
1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1988 1981 1982 1983 1984	GDP 673307 623123 710501 793519 884186 987947 1129835 1302978 1467884 1700553 2182588 2481097 2182588 2481097 2182588 3164804 3626021 4006493	Wacual 269973 301803 345178 391444 441486 493521 566401 678946 801764 932940 1061181 1203113 1363245 1575784 1792602 2259282 2425773	W/GDP 0.4010 0.4483 0.4858 0.4933 0.4993 0.4993 0.5013 0.5211 0.5462 0.5462 0.5462 0.5465 0.5533 0.5512 0.5465 0.5664 0.5666 0.5669 0.5561	(C/W) _{ortual} 1.5555 1.5300 1.5162 1.4720 1.4530 1.4348 1.3990 1.3734 1.3734 1.3734 1.3734 1.3734 1.3738 1.3781 1.37781 1.3781 1	Y 525381 571503 653320 723246 7799614 1016110 1160853 1299141 1505861 1691482 1931544 2197010 2477772 3161591 3472704 3781426	C 419956 461762 523364 576217 643054 717103 812693 949819 1105696 1281298 1446627 1647683 1878671 2162585 2502247 2902119 321768	0.7803 0.9172 0.9195 0.9114 0.9044 0.8093 0.8850 0.8850 0.8850 0.8850 0.8855 0.8820 0.8855 0.8850 0.8855 0.8850 0.8761 0.8719 0.86689	0.7993 0.8080 0.8011 0.7967 0.8042 0.8042 0.8511 0.8552 0.8551 0.85551 0.85551 0.8751 0.9024 0.9179 0.9264 0.9271	rho/r 0.960 0.960 0.960 0.990 0.990 0.990 0.990 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020	W-C/(p/r) 437454 481002 545171 600226 649549 724346 820902 959413 1084016 1256175 141862 959413 1084016 1256175 141834 2120181 2453183 2453183 2453183 245385	W/Y 0.8326 0.8416 0.8345 0.8299 0.8123 0.8123 0.8126 0.8079 0.8265 0.8344 0.8342 0.8385 0.8363 0.8385 0.8363 0.8847 0.8999 0.9089	s/alpha 1.1990 1.2126 1.2016 1.1952 1.0433 1.0433 1.0421 1.0476 0.8992 0.8962 0.8978 0.8962 0.8978 0.8465 0.8201 0.8017 0.8017	Wiscould/W 0.6171 0.6274 0.6332 0.6522 0.6797 0.6813 0.6900 0.7077 0.7396 0.7427 0.7482 0.7442 0.7442 0.7442 0.7442 0.7307 0.7221 0.7722
1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1979 1980 1981 1982 1983 1984	GDP 673307 623123 710501 793519 884186 987947 1129835 1302978 1467884 1700553 1917803 2182588 2481097 2808295 3164804 43661913	Wacnad 269973 301803 345178 391444 441486 493521 566401 678946 801764 932940 1061181 1203113 1363245 1575784 1792602 2054560 2259282 2425773 258246	W/GDP 0.4010 0.4843 0.4858 0.4933 0.4995 0.5013 0.5211 0.5462 0.5486 0.5533 0.5512 0.5611 0.5666 0.5639 0.5561 0.5649	(C/W) _{actual} 1.5555 1.5300 1.5162 1.4720 1.4562 1.4720 1.4530 1.4348 1.3991 1.3734 1.3632 1.3692 1.3781 1.3724 1.3724 1.3724 1.4255 1.4242 1.4453	Y 525381 571503 653320 723246 799614 891444 801444 1016100 11608533 1299141 1505863 1299141 1505863 1299141 1505864 191482 1931544 2197010 2479779 2772772 3161591 3472704 3781426 4081836	C 419956 461765 523364 576217 643054 717103 812693 949819 105596 1281298 1446627 105766 1281298 1446627 1647683 1878671 2162585 2502247 2902119 3217681 3505605 3781412	0.7803 0.9172 0.9195 0.9114 0.9044 0.8909 0.8850 0.8850 0.8850 0.8855 0.8850 0.8855 0.8850 0.8855 0.8850 0.8855 0.8850 0.8855 0.8850 0.8719 0.8668	0.7993 0.8080 0.8011 0.7967 0.8042 0.8042 0.8044 0.7998 0.8182 0.8519 0.8559 0.8552 0.8551 0.8721 0.9024 0.9179 0.9266 0.9271 0.9266	rho/r 0.960 0.960 0.960 0.990 0.990 0.990 0.990 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020	W-C/(p/r) 437454 481002 545171 600226 649549 724346 820902 959413 1084016 1256175 1418262 1615375 1841834 2120181 2453183 2445215 3154589 3436668 3707267	W/Y 0.8326 0.8416 0.8345 0.8299 0.8123 0.8126 0.8079 0.8265 0.8344 0.8342 0.8383 0.8383 0.8383 0.8383 0.8383 0.88550 0.8845 0.8899 0.9084 0.9084	s/alpha 1.1990 1.2126 1.2016 1.1952 1.0433 1.0421 1.0476 0.8992 0.8994 0.8962 0.8963 0.8821 0.8463 0.8821 0.8463 0.8201 0.8017 0.8002	Wactual/W 0.6171 0.6274 0.6332 0.6522 0.6797 0.6813 0.690 0.7396 0.7396 0.7482 0.7482 0.7482 0.7482 0.7307 0.7307 0.7307 0.7307 0.7212 0.7162 0.6966
1967 1968 1970 1971 1972 1973 1974 1975 1976 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985	GDP 673307 623123 710501 793519 884186 987947 1129835 1302978 1467884 1700553 1917803 2182588 2481097 2808295 3164804 3626021 4006498 4361913 4700143 5062296	Wacnail 269973 301803 345178 391444 441486 493521 566401 678946 801764 932940 1061181 1203113 1363245 1575784 1792602 2054560 2259282 2425773 2582446 2708114	W/GDP 0.4010 0.4843 0.4858 0.4933 0.4995 0.5013 0.5211 0.5462 0.55486 0.5533 0.5512 0.5646 0.5666 0.5639 0.5561 0.5666 0.5666 0.5659 0.5561 0.5561 0.5494 0.5549	(C/W) _{ortual} 1.5555 1.5300 1.5162 1.4566 1.4566 1.4530 1.4566 1.4530 1.3791 1.3734 1.3939 1.3781 1.3784 1.3959 1.4255 1.4242 1.4451 1.4643 1.4853	Y 525381 571503 653320 723246 799614 891444 891444 1016100 1160853 1299141 1505861 1691432 1931544 2197010 2479779 2772772 3161591 3472704 3781426 4081836	C 419954 461762 523364 576217 643054 717103 812693 949819 1105696 1281298 1446627 1647683 1878671 2162585 2502247 2002119 3217681 3305605 3781412 4022317	0.7803 0.9172 0.9195 0.9114 0.9044 0.9023 0.8993 0.8809 0.8855 0.8850 0.8855 0.8850 0.8855 0.8850 0.8856 0.8856 0.8856 0.88761 0.8668 0.86684 0.86684	0.7993 0.8080 0.8011 0.7967 0.8042 0.8044 0.7998 0.8182 0.8511 0.8551 0.8551 0.8551 0.9024 0.9179 0.9266 0.9271 0.9224	rho/r 0.960 0.960 0.960 0.990 0.990 0.990 0.990 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020	W-C/(p/r) 437454 481002 545171 600226 649549 724346 820902 959413 1084016 1256175 148262 1615375 1841834 2120181 2453183 2845215 3154589 3436868 3707267 3943448	W/Y 0.8326 0.8416 0.845 0.8299 0.8123 0.8126 0.8079 0.8265 0.8344 0.8342 0.8345 0.8363 0.8363 0.8363 0.8363 0.8847 0.8999 0.9084 0.9089 0.9082 0.8942	s/alpha 1.1990 1.2126 1.2016 1.2016 1.1952 1.0433 1.0421 1.0476 0.8992 0.8994 0.8963 0.8863 0.8863 0.8863 0.8863 0.88201 0.8005 0.8021 0.8021	Waccual W 0.6171 0.6274 0.6332 0.6522 0.6797 0.6813 0.6900 0.7077 0.7396 0.7427 0.7482 0.7482 0.7076 0.7307 0.7216 0.7307 0.7307 0.7307 0.7306 0.7307 0.7306 0.7307 0.758 0.69667
1967 1968 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985	GDP 673307 623123 710501 793519 884186 987947 1129835 1302978 1467884 1700553 1917803 2182588 2481097 2808295 3164804 3626021 4361913 4700143 5069296 5336652	Wacnal 269973 301803 345178 391444 441486 493521 566401 678946 801764 932940 1061181 1203113 1363245 1575784 1792602 2054560 2259282 2425773 2582446 2708114 2821197	W/GDP 0.4010 0.4843 0.4858 0.4933 0.4995 0.5013 0.5211 0.5462 0.5542 0.5512 0.5495 0.5614 0.5664 0.5666 0.5669 0.55561 0.5494 0.5561 0.5494 0.5561	(C/W) _{ketual} 1.5555 1.5300 1.5162 1.4766 1.4366 1.4348 1.3990 1.3734 1.3632 1.3781 1.3724 1.3757 1.4242 1.4242 1.4456 1.4242 1.4242 1.4242 1.4242 1.4242 1.4242 1.4242 1.4242 1.4566 1.4566 1.4578 1.4578 1.5778 1.5779 1.57788 1.5778 1.5778 1.57788 1.57788 1.57788 1.57	Y 525381 571503 653320 722246 739614 801444 1016110 1160853 1299141 1505861 1691482 1931544 2197010 2479779 2772772 3161591 3472704 3781426 4081836 4081836 408891 40466614	C 419956 461762 523364 576217 643054 717103 812693 949819 105696 1281298 144662 1281298 145666 1281298 145667 1281298 1281298 1281298 128129 210567 2502247 2502119 3217681 3505605 3781412 42254171	0.7803 0.9172 0.9195 0.9114 0.9044 0.9023 0.8893 0.8855 0.8855 0.8855 0.8855 0.8855 0.8855 0.8855 0.8855 0.8856 0.8871 0.8669 0.8684 0.8667	0.7993 0.8080 0.8011 0.7967 0.8042 0.8044 0.7998 0.8182 0.8511 0.8552 0.8551 0.8551 0.8551 0.8551 0.9624 0.9179 0.9264 0.9271 0.9264 0.9123 0.9153	rho/r 0.960 0.960 0.960 0.990 0.990 0.990 0.990 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020	W-C/(p/r) 437454 481002 545171 649549 724346 820902 959413 1084016 1256175 1418262 1615375 1441834 1226175 1441834 2120181 2245215 3154589 3436868 3707267 3943448 4170756	W/Y 0.8326 0.8416 0.8415 0.8299 0.8126 0.8079 0.8265 0.8344 0.8342 0.8363 0.8363 0.8363 0.8363 0.8383 0.85847 0.8899 0.9084 0.9089 0.9082 0.8944 0.8976	s/alpha 1.1990 1.2126 1.2016 1.1952 1.0433 1.0421 1.0476 0.8992 0.8994 0.8963 0.8863 0.88201 0.8005 0.8005 0.8021 0.8005 0.8021 0.80247	$\begin{array}{c} W_{\rm scalar}/W \\ 0.6174 \\ 0.6274 \\ 0.6332 \\ 0.6522 \\ 0.6797 \\ 0.6813 \\ 0.6900 \\ 0.7077 \\ 0.6813 \\ 0.6900 \\ 0.7077 \\ 0.7482 \\ 0.7427 \\ 0.7482 \\ 0.6966 \\ 0.6867 \\ 0.6766 \\ 0.6867 \\ 0.6766 \\ 0.000 $
1967 1968 1970 1971 1972 1973 1974 1975 1976 1977 1978 1976 1977 1978 1978 1980 1981 1982 1983 1984 1985 1984	GDP 673307 623123 710501 793519 884186 987947 1129835 1302978 1467884 1700553 2182588 2481097 2808295 3164804 3626021 4006498 4361913 4700143 5069296 5336652 5735092	Wacnal 269973 301803 345178 391444 441486 493521 566401 678946 801764 902181 1203113 1363245 1575784 1792602 2259282 2425773 258246 2708114 282197	W/GDP 0.4010 0.4843 0.4858 0.4933 0.4995 0.5021 0.5462 0.5462 0.5462 0.5462 0.5462 0.5462 0.5462 0.5462 0.5664 0.5664 0.5664 0.5664 0.5561 0.5561 0.5542 0.5561	(C/W) _{ortual} 1.5555 1.5300 1.5162 1.4766 1.4530 1.4366 1.4530 1.3791 1.3794 1.3794 1.3632 1.3655 1.3781 1.3724 1.3555 1.4242 1.4451 1.4451 1.4451 1.4453 1.4853 1.5055 1.5128	Y 525381 571503 653320 723246 799614 891444 1016110 1160853 1299141 1505861 1691482 1931544 2197010 24792779 2172772 3161591 3472704 3781426 44081836 44088891 4646614 4988629	C 419956 461762 523364 576217 643054 717103 812693 949819 1105696 1281298 1446627 1647683 1878671 2162585 2502247 2902119 3217681 3305605 3781412 4022317 4254171 4502807	0.7803 0.9172 0.9195 0.9114 0.9044 0.9023 0.8809 0.8855 0.8855 0.8855 0.8855 0.8855 0.8855 0.8850 0.8855 0.8830 0.8719 0.8668 0.8668 0.86697 0.8684 0.8697	0.7993 0.8080 0.8011 0.7967 0.8042 0.8044 0.7998 0.8182 0.8551 0.8551 0.8551 0.8551 0.8551 0.8551 0.8551 0.9024 0.9179 0.9266 0.9271 0.9024 0.9123 0.9155 0.9025	rho/r 0.960 0.960 0.990 0.990 0.990 0.990 0.990 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020	W-C/(p/r) 437454 481002 545171 600226 649549 724346 820902 959413 1084016 820902 959413 1084016 1256175 1418262 1151375 1841834 2253183 2845215 3154589 3436868 3707267 3943448 4170756	W/Y 0.8326 0.8416 0.845 0.8213 0.8123 0.8126 0.8079 0.8265 0.8344 0.8342 0.8345 0.83843 0.8383 0.8550 0.8847 0.9089 0.9084 0.9089 0.9084 0.9084 0.9089 0.9084 0.8849	s/alpha 1.1990 1.2126 1.2016 1.2016 1.1952 1.0433 1.0433 1.0433 1.0433 1.0433 1.0421 1.0476 0.8992 0.8994 0.8962 0.8978 0.8862 0.8878 0.8865 0.8201 0.8005 0.8005 0.8005 0.8005 0.8005 0.8005 0.8005 0.8026 0.8005 0.805 0.8005	W 0.6171 0.6274 0.6274 0.6274 0.6332 0.6522 0.6797 0.6813 0.6900 0.7077 0.7482 0.7396 0.7427 0.7482 0.7396 0.7442 0.7307 0.7221 0.7075 0.7165 0.7005 0.6966 0.6867 0.6966 0.6867 0.6764 0.6764
1967 1968 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1985 1986 1985 1986	GDP 673307 623123 710501 793519 884186 987947 1129835 1302978 1467884 1700553 1917803 2182588 2481097 2808295 3164804 3626021 40064913 4700143 5062296 5336652 5735092 6159680	Wacnal 269973 301803 345178 391444 441486 493521 566401 678946 801764 932940 1061181 1203113 1203113 1363245 1575784 1792602 2054560 2259282 2054560 2259282 2054560 2259282 2054560 2259282 2054560 21927814 2425773 2582446 2708114 2821197 2976425 3151514	W/GDP 0.4010 0.4843 0.4858 0.4933 0.4993 0.4993 0.4993 0.5211 0.5486 0.5533 0.5211 0.5486 0.5533 0.5512 0.5486 0.5666 0.5659 0.5561 0.5	(C/W) _{ketual} 1.5555 1.5300 1.5162 1.4566 1.4530 1.4348 1.3990 1.3731 1.3731 1.3734 1.3632 1.3695 1.4125 1.3781 1.3724 1.3724 1.3724 1.4255 1.4125 1.4255 1.4255 1.4255 1.4255 1.4255 1.4255 1.4255 1.4255 1.4255 1.4255 1.4255 1.425555 1.425555 1.42555 1.42555	Y 525381 571503 653320 723246 799614 891444 1016110 1160853 1299141 1505861 1691482 2197010 2479779 23161591 3472704 3781426 4081836 4408831 4646614 4988629 5342204	C 419956 461762 523364 576217 643054 717103 812693 949819 1105696 1281298 1446627 1647683 1878671 2162885 2502247 2902119 3217681 3505605 3781412 4022317 4254171 4502807 4777823	0.7803 0.9172 0.9195 0.9114 0.9023 0.8993 0.8893 0.8855 0.8850 0.8855 0.8850 0.8855 0.8850 0.8855 0.8850 0.8856 0.8856 0.8856 0.8856 0.8669 0.8668 0.8669 0.8668 0.8669 0.8707 0.8707	$\begin{array}{c} 0.7993\\ 0.8081\\ 0.8011\\ 0.7967\\ 0.8042\\ 0.8044\\ 0.79867\\ 0.8044\\ 0.7986\\ 0.8182\\ 0.8511\\ 0.8520\\ 0.8551\\ 0.8521\\ 0.8521\\ 0.9721\\ 0.9026\\ 0.9271\\ 0.9264\\ 0.9125\\ 0.9026\\ 0.9251\\ 0.9026\\ 0.9251\\ 0.9026$	rho/r 0.960 0.960 0.960 0.990 0.990 0.990 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020	W-C/(p/r) 437454 481002 545171 600276 649549 724346 820902 959413 1084016 1256175 1418262 1615375 1418262 1615375 1418262 1615375 1418262 1615375 1345889 31358688 3107267 31345889 31345889 31345889 31345889 31345889 31345889 31345889 31345889 31345889 31345889 31345889 31345889 31345889 31345889 3135888 3137868 3145889 3135888 3145889 3145889 3145889 3145889 314588 3141888 314588 314588 314588 314588 3145888 3145888 3145888 31458688 3145888 3145888 314588 3145868 314588 314	W/Y 0.8326 0.8416 0.8345 0.8299 0.8123 0.8123 0.8126 0.8354 0.8354 0.8355 0.8364 0.8385 0.8363 0.8383 0.8383 0.8383 0.8383 0.8383 0.8389 0.9082 0.9082 0.9082 0.8097 0.9082 0.80849 0.8766	s/alpha 1.1990 1.2126 1.2016 1.952 1.0433 1.0435 1.0433 1.0435 1.0435 1.0435 1.0435 1.0435 1.0435 1.0435 1.0435 1.0435 1.0435 1.0435 1.0435 1.0435 1.0435 1.0435 1.0435 1.0435 1.0435 1.0435 1.0421 1.0476 0.8992 0.8976 0.8055 0.8005 0.8021 0.8045 0.8021 0.8045 0.8022 0.8046 0.8045 0.8055	$\begin{array}{c} \overline{W}_{schard}/W\\ 0.6(7)4\\ 0.6274\\ 0.6332\\ 0.6522\\ 0.6797\\ 0.6523\\ 0.6797\\ 0.6813\\ 0.6900\\ 0.7073\\ 0.7396\\ 0.7482\\ 0.7482\\ 0.7482\\ 0.7482\\ 0.7482\\ 0.7483\\ 0.7402\\ 0.7483\\ 0.7402\\ 0.7162\\ 0.7052\\ 0.7062\\ 0.6966\\ 0.6867\\ 0.6764\\ 0.6742\\ 0.6728\\ \end{array}$
1967 1968 1970 1971 1972 1973 1974 1975 1976 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1984 1985	GDP 673307 623123 710501 793519 884186 987947 1129835 2182588 2481097 2808295 3164804 3626021 4006498 4361913 3626021 4006498 4361913 5060296 5336652 5735092 6159680 6509488	Wacnal 269973 301803 345178 391444 441486 493521 566401 1061181 1203113 1363245 1575784 1792602 2054560 2259282 2252733 2582446 2708114 2821197 2976425 3151514 3371797	W/GDP 0.4010 0.4843 0.4858 0.4933 0.4993 0.4993 0.5011 0.5462 0.5121 0.5462 0.5462 0.5462 0.5462 0.5461 0.5664 0.5639 0.5561 0.5494 0.5494 0.5494 0.5494 0.5494 0.5494 0.5494 0.5494 0.51100 0.51100 0.5110000000000	(CWW) _{kettal} 1.5555 1.5530 1.5162 1.4566 1.4500 1.4348 1.3990 1.3734 1.3734 1.3734 1.3734 1.3734 1.3734 1.3695 1.3781 1.3781 1.3959 1.41242 1.4451 1.4643 1.4853 1.4853 1.5079 1.5128 1.5160 1.4974	Y 52531 571503 653320 723246 799614 891444 1016110 1160853 1299141 1505861 1691482 1931544 2197010 2479779 2772772 3161597 24792779 24792779 24792779 24792779 24792779 24792779 24792779 24792779 24792779 247927979 24797979 2479797979 24797979 247979797979797979797977979	C 419956 461762 523364 576217 643054 717103 812699 1105696 1281298 1446627 1647683 1878671 2162585 2502247 2902119 3217681 3505605 3781412 4022317 4522317 4502807 4777823 5049015	0.7803 0.9172 0.9195 0.9114 0.9044 0.9023 0.8893 0.8850 0.8850 0.8850 0.8850 0.8850 0.8850 0.8850 0.8850 0.8850 0.8850 0.8850 0.8850 0.8850 0.8850 0.8850 0.8850 0.8850 0.8684 0.8697 0.8684 0.8673 0.8673	0.7993 0.8080 0.8011 0.7967 0.8042 0.8044 0.7998 0.8551 0.8551 0.8551 0.8551 0.8551 0.8551 0.8551 0.9024 0.9179 0.9024 0.9123 0.9123 0.9123 0.9123 0.9123	rho/r 0.960 0.960 0.960 0.990 0.990 0.990 0.990 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020	WC(pr) 437454 481002 545171 600226 649549 724346 820902 959413 1084016 1256175 1418626 1256175 1418627 1615375 1841834 2120181 2453183 2845215 3154589 3336868 3707267 3943448 4170736 4170756 4170756	WY 0.8326 0.8416 0.8345 0.8299 0.8123 0.8123 0.8126 0.8079 0.8265 0.8344 0.8342 0.8383 0.8363 0.8383 0.8383 0.8580 0.9084 0.9089 0.9084 0.9089 0.9084 0.8946 0.8849 0.8766 0.8849 0.8768	s/alpha 1.1990 1.2126 1.2016 1.9016 1.9016 1.9017 1.0433 1.0435 1.0435 1.0435 1.0435 1.0435 1.0435 1.0435 1.0435 1.0435 1.0435 1.0435 1.0435 1.0435 1.0435 1.0435 1.0435 1.0435 1.0435 1.04555 1.04555 1.04555 1.04555 1.04555 1.04555 1.04555 1.04555 1.04555 1.04555 1.04555 1.04555 1.04555 1.04555 1.045555 1.04555555555 1.045555555555555555555555555555555555	$\begin{array}{c} W_{\rm setup} W\\ 0.6171\\ 0.6274\\ 0.6332\\ 0.6522\\ 0.6797\\ 0.6813\\ 0.6900\\ 0.7077\\ 0.7396\\ 0.7482\\ 0.7482\\ 0.7482\\ 0.7482\\ 0.7482\\ 0.7482\\ 0.7482\\ 0.7482\\ 0.7482\\ 0.7482\\ 0.7482\\ 0.7482\\ 0.7306\\ 0.7462\\ 0.6782\\ 0.6867\\ 0.6764\\ 0.6782\\ 0.6728\\ 0.6728\\ 0.6728\\ 0.6728\\ 0.6782\\ 0.6728\\ 0.6728\\ 0.6728\\ 0.6728\\ 0.6728\\ 0.6728\\ 0.6728\\ 0.6812\\ 0.6728\\ 0.6812\\ 0.6728\\ 0.6812\\ 0.6728\\ 0.6812\\ 0.6728\\ 0.6812\\ 0.6728\\ 0.6812\\ 0.6728\\ 0.6812\\ 0.6728\\ 0.6812\\ 0.6728\\ 0.6812\\ 0.6728\\ 0.6812\\ 0.6728\\ 0.6812\\ $
1967 1968 1970 1971 1973 1974 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988	GDP 673307 623123 710501 793519 884186 987947 1129835 1302978 1467884 1467884 1467884 2481097 2808295 3164804 3626021 4006498 4361913 4700143 5069296 5336652 5735092 6159680 6509488 6776231	Wacual 269973 301803 345178 391444 441486 493521 566401 678946 801764 932940 1061181 1203113 1363245 1575784 1792602 2425773 2582446 2259282 2425773 2582446 2259282 2425773 2582446 2259282 2425773 2582446 2708114 2821197 2976425 3151514 3371797	W/GDP 0.4010 0.4843 0.4858 0.4933 0.4993 0.4993 0.4993 0.5011 0.5462 0.5486 0.5533 0.5512 0.5486 0.5533 0.5512 0.5661 0.5666 0.5666 0.5561 0.5542 0.5561 0.5492 0.5561 0.5492 0.5561 0.5492 0.5561 0.5492 0.5561 0.5492 0.5516 0.5180 0.5180	(CW) _{0,ettal} 1,5555 1,5300 1,5162 1,4720 1,4566 1,4330 1,4348 1,3991 1,3734 1,3734 1,3734 1,3734 1,3724 1,4252 1,4252 1,4252 1,4252 1,4252 1,4254 1,4254 1,4254 1,4254 1,4254 1,4254 1,4454	Y 525381 571503 653320 7299614 891444 1016110 1160853 1299141 1505861 1691482 2197010 2479779 2772772 3161591 3472704 3781426 4408813 4408851 4408861 4468614 44088629 5542204 5532298	C 419956 461762 523364 576217 643054 717103 812693 949819 1105698 1281298 1446627 1647683 1878671 22162847 2302119 3505605 3781412 4022317 4254171 4252807 4777823 5049015 5294647	0.7803 0.9172 0.9195 0.9114 0.9023 0.8993 0.8890 0.8850 0.8650 0.85500 0.85500 0.85500 0.8550000000000	0.7993 0.8080 0.8011 0.7967 0.8042 0.8044 0.7998 0.8182 0.8511 0.8509 0.8551 0.8551 0.8551 0.9024 0.9179 0.9264 0.9175 0.9264 0.9155 0.9155 0.9155 0.9155	rho/r 0.960 0.960 0.960 0.990 0.990 0.990 0.990 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020	WC(p(r) 437454 481002 545171 600226 649549 724346 820902 959413 959413 959413 1084016 1256175 1418262 1615375 161402 1418262 3154589 3436488 3707267 343688 3707267 343688 4170756 4414517 4684140 4950015 5190830	W/Y 0.8326 0.8416 0.8345 0.8345 0.8345 0.8345 0.8342 0.8379 0.8365 0.8344 0.8385 0.8342 0.8385 0.8343 0.8383 0.8383 0.8383 0.83847 0.8999 0.9082 0.9082 0.8847 0.9082 0.8847 0.8976 0.8847 0.8976 0.8847 0.8848 0.8846 0.8847 0.8846 0.8847 0.8846 0.8847 0.8846 0.8847 0.8846 0.8847 0.8846 0.8847 0.8846 0.8847 0.8846 0.8847 0.8846 0.8846 0.8847 0.8846 0.8847 0.8846 0.8847 0.8846 0.8847 0.8846 0.88470000000000000000000000000000000000	s/alpha 1.1990 1.2126 1.2016 1.952 1.0433 1.0433 1.0433 1.0433 1.0433 1.0433 1.0433 1.0421 1.0476 0.8994 0.8962 0.8978 0.8963 0.8201 0.8465 0.8201 0.8306 0.8247 0.8326 0.8576 0.8522 0.8328	$\begin{split} & W_{sound} W \\ & 0.6171 \\ & 0.6171 \\ & 0.6224 \\ & 0.6522 \\ & 0.6797 \\ & 0.6812 \\ & 0.6900 \\ & 0.7077 \\ & 0.7396 \\ & 0.7077 \\ & 0.7482 \\ & 0.7482 \\ & 0.7442 \\ & 0.7307 \\ & 0.7442 \\ & 0.7307 \\ & 0.742 \\ & 0.6867 \\ & 0.6764 \\ & 0.6764 \\ & 0.6764 \\ & 0.6764 \\ & 0.6784 \\ & 0.6812 \\ & 0.6801 \end{split}$
1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1976 1977 1978 1979 1981 1982 1983 1984 1985 1986 1987 1988 1989 1989	GDP 673307 710501 793519 884186 987048 1129835 1302978 1467884 1700553 3164804 3626021 4006498 4361913 4700143 5069296 5336652 5336652 5535092 6159680 6500488 6776231 6999546	W _{senal} 269973 301803 345178 391444 441486 493521 566401 678946 801764 932940 1061181 1203113 1363245 1575784 1792602 2259282 2425773 258246 2708114 282197 2976425 3151514 3371797 3531792	W/GDP 0.4010 0.4843 0.4858 0.4933 0.4993 0.4993 0.5013 0.5211 0.5495 0.5512 0.5495 0.5664 0.5532 0.5495 0.5664 0.5664 0.5664 0.5664 0.5664 0.5664 0.5664 0.5664 0.5180 0.5116 0.5116 0.5121 0.5212	(CW) _{kettal} 1.5555 1.5300 1.5162 1.4720 1.4566 1.4530 1.4348 1.3990 1.3734 1.3734 1.3734 1.3734 1.3738 1.3781 1.3724 1.3959 1.41242 1.4643 1.4595 1.4242 1.4643 1.4595 1.4242 1.4643 1.4595 1.4242 1.4643 1.4595 1.4242 1.4453 1.4595 1.4242 1.4453 1.4595 1.4242 1.4453 1.4595 1.4242 1.4453 1.4595 1.4242 1.4595 1.4242 1.4453 1.4595 1.4242 1.4453 1.4595 1.4242 1.4453 1.4595 1.4242 1.4453 1.4595 1.4242 1.4453 1.4595 1.4242 1.4453 1.4595 1.4242 1.4453 1.4595 1.4242 1.4453 1.4595 1.4242 1.4453 1.4595 1.4242 1.4453 1.4595 1.4242 1.4595 1.5728 1.5728 1.5728 1.5728 1.5758	Y 52531 571503 653320 723246 799614 891444 1016110 1106853 1299141 1505861 1691482 2193754 2193754 2193754 2193754 2193754 2193754 2193754 2193754 2499779 277272 2172771 3472704 3781426 44081836 4408891 44081836 44088891 44081836 44088891 44646614 44988891 552020 5532208 66007364	C 419956 461762 523364 576217 643054 717103 812693 949819 1055096 1281298 1446627 1647683 1878671 2162585 2502247 2902119 3217681 3505605 3781412 4022317 4254171 4502807 4254171 4502807	0.7803 0.9172 0.9195 0.9114 0.9044 0.9023 0.8993 0.8850 0.8855 0.8820 0.8855 0.8830 0.8855 0.8830 0.8855 0.8830 0.8719 0.8668 0.8719 0.8668 0.8697 0.8669 0.8663 0.8673 0.8673	0.7993 0.8080 0.8011 0.7967 0.8042 0.8044 0.7998 0.8182 0.8551 0.8551 0.8551 0.8551 0.8551 0.9024 0.9024 0.9123 0.90271 0.9264 0.9123 0.9123 0.9026 0.99271 0.9264 0.9123 0.9026	rho/r 0.960 0.960 0.960 0.990 0.990 0.990 0.990 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020 1.020	WC(pr) 437454 481002 545171 600226 649549 724346 820902 959413 1084016 1256175 1418262 1084016 1256175 1418262 1212181 245215 3154589 3336868 3307267 3943448 4170756 4414517 4684140 4950015 5190830 5265369	WY 0.8326 0.8416 0.8345 0.829 0.8123 0.8123 0.8123 0.8123 0.8326 0.8342 0.8383 0.8363 0.8383 0.8383 0.8847 0.9082 0.9084 0.9082 0.8944 0.9082 0.8848 0.8849 0.8849 0.8849 0.8868 0.8868	s/alpha 1.1900 1.2126 1.2016 1.1952 1.0433 1.0433 1.0421 1.0476 0.8992 0.8994 0.8963 0.8863 0.8863 0.8863 0.8861 0.8865 0.8201 0.8017 0.8021 0.8021 0.8306 0.8222 0.8389 0.6452 0.6452	$\begin{split} & \mathbb{W}_{sctual} \mathbb{W} \\ & 0.6171 \\ & 0.6274 \\ & 0.6332 \\ & 0.6522 \\ & 0.6797 \\ & 0.6522 \\ & 0.6797 \\ & 0.6813 \\ & 0.6813 \\ & 0.6813 \\ & 0.7077 \\ & 0.7396 \\ & 0.7077 \\ & 0.7396 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7306 \\ & 0.742 \\ & 0.7058 \\ & 0.6867 \\ & 0.6764 \\ & 0.6742 \\ & 0.6728 \\ & 0.6804 \\ & 0.6804 \\ & 0.6804 \\ & 0.6804 \\ \end{split}$
1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1984 1985 1986 1985 1988 1985 1988 1989 1987	GDP 673307 710501 793519 884186 987947 1129835 1302978 1467884 1700553 1917803 2182588 2481097 2808295 3164804 4361913 4700143 3506229 6159680 6509488 6576231 6999546 7077087	W _{senal} 269973 301803 345178 391444 441486 493521 566401 678946 801764 932940 061181 1203113 1363245 1575784 1792602 2054560 2259282 2425773 2582446 229282 2425773 2582446 2708114 2821197 2976425 3151514 331797 3531792 3668567 3738938	W/GDP 0.4010 0.4843 0.4858 0.4933 0.4993 0.4993 0.4995 0.5013 0.5212 0.5462 0.5486 0.5533 0.5512 0.5462 0.5486 0.5533 0.5512 0.5461 0.5666 0.5539 0.5561 0.5494 0.5386 0.512 0.5386 0.5116 0.512 0.5212 0.5212	(CW) _{0,emal} 1,5555 1,5300 1,5162 1,4720 1,4566 1,4330 1,4348 1,3391 1,3734 1,3695 1,3781 1,3724 1,3695 1,3781 1,3724 1,3695 1,3781 1,3724 1,3695 1,3781 1,3724 1,3695 1,3781 1,3724 1,3695 1,3781 1,3724 1,3695 1,3781 1,3724 1,3695 1,3781 1,3724 1,3695 1,3781 1,3724 1,3695 1,3781 1,3724 1,3695 1,3781 1,3724 1,3695 1,3781 1,3724 1,3695 1,3781 1,3724 1,3695 1,3781 1,3724 1,3695 1,3781 1,3724 1,3695 1,3784 1,3791 1,3724 1,3695 1,3784 1,3795 1,3784 1,3695 1,3784 1,3795 1,3784 1,3795 1,3784 1,3795 1,3784 1,3795 1,3784 1,3795 1,3784 1,3795 1,3784 1,3795 1,3785 1,3784 1,3795 1,3784 1,3795 1,3785	Y 525381 771503 653320 7299614 891444 1016110 1160853 1299141 1505861 1691482 1931544 2197010 2479779 23161591 3472704 3781426 4081836 4408891 3472704 3781426 95342204 5620020 5835298 6007364	C 419956 461762 523364 776217 643054 717103 812693 1281298 1281298 1281298 1281298 1281298 1281298 124655 2502247 2902119 3217681 3505605 3781412 2162585 2502247 2902119 3505605 3781415 55294647 55294647 55294647	0.7803 0.9172 0.9195 0.9114 0.9044 0.9023 0.8909 0.8850 0.8855 0.8850 0.8855 0.8850 0.8855 0.8850 0.8855 0.8850 0.8856 0.8856 0.8856 0.8856 0.8856 0.8856 0.8856 0.8856 0.8857 0.8669 0.8650 0.8650 0.8650 0.8855 0.8850 0.8950 0.8950 0.8950 0.8950 0.8950 0.8950 0.8950 0.8950 0.8950 0.8950 0.8950 0.8950 0.8950 0.8950 0.89500 0.89500 0.89500000000000000000000000000000000000	$\begin{array}{c} 0.7993\\ 0.8080\\ 0.8011\\ 0.7964\\ 0.8042\\ 0.8044\\ 0.7998\\ 0.8182\\ 0.8510\\ 0.8520\\ 0.8530\\ 0.8552\\ 0.8530\\ 0.8552\\ 0.8521\\ 0.9024\\ 0.9175\\ 0.92266\\ 0.9271\\ 0.92266\\ 0.9271\\ 0.9226\\ 0.9155\\ 0.9024\\ 0.9155\\ 0.9024\\ 0.9155\\ 0.9024\\ 0.9155\\ 0.9026\\ 0.9251\\ 0.9256\\ 0.9251\\ 0.9256\\ 0.9256\\ 0.9271\\ 0.9226\\ 0.925$	rho/r 0.960 0.960 0.960 0.990 0.990 0.990 1.020	W-C(p(r) 437454 481002 545171 600226 649549 724346 820902 959413 1084016 1256175 1418262 959413 1084016 1256175 1418262 1615375 1418262 1418262 3154589 3154589 31345488 3107267 31345489 31345489 31345489 31345489 31345489 31345489 31345489 313568 3107267 31345489 31345489 31345489 313568 31345489 313568 3135767 3135767 313576 3135767 31357777 31357777 313577777 3135777777 313577777777 31357777777777	WY 0.8326 0.8416 0.8345 0.8299 0.8123 0.8123 0.8126 0.8365 0.8344 0.8365 0.8364 0.8363 0.8383 0.8383 0.8383 0.8383 0.8383 0.8383 0.8384 0.8899 0.9082 0.9082 0.9082 0.9082 0.9082 0.9082 0.8896 0.8876 0.8876 0.8880 0.8765 0.8876	s/alpha 1.1990 1.2126 1.2016 1.1952 1.0433 1.0421 1.0475 0.8992 0.8994 0.8962 0.8963 0.8963 0.8863 0.8861 0.8465 0.8201 0.8005 0.8201 0.8005 0.8201 0.8005 0.8201 0.8005 0.8201 0.8005 0.8247 0.8306 0.8247 0.8362 0.8376 0.857	$\begin{split} & W_{setum} W \\ & 0.6171 \\ & 0.6171 \\ & 0.6274 \\ & 0.6522 \\ & 0.6787 \\ & 0.6813 \\ & 0.6900 \\ & 0.7077 \\ & 0.7396 \\ & 0.7077 \\ & 0.7482 \\ & 0.7482 \\ & 0.7482 \\ & 0.7482 \\ & 0.7307 \\ & 0.7482 \\ & 0.7307 \\ & 0.7482 \\ & 0.7307 \\ & 0.7482 \\ & 0.7307 \\ & 0.7482 \\ & 0.7307 \\ & 0.7482 \\ & 0.7307 \\ & 0.7482 \\ & $
1967 1968 1969 1970 1971 1971 1973 1974 1974 1974 1974 1976 1981 1981 1982 1983 1984 1985 1986 1987 1988 1989 1989 1991	GDP 673307 623123 710501 793519 884186 987947 1129835 1302978 1467884 1700553 1917803 2182588 2481097 2480295 3164804 3626021 4006498 4361913 3506296 5336652 5335092 6159680 6509488 6776231	W _{senal} 269973 301803 345178 391444 441486 493521 493521 493521 493521 493521 493521 4935240 1061181 1203113 1363240 12054560 2259282 2054560 2259282 2054560 2259282 2054560 2259282 2054560 2259282 2054560 2151514 317197 3151792 3151514 3371797 3531792	W/GDP 0.4010 0.4843 0.4858 0.4933 0.4993 0.4993 0.5013 0.5211 0.5462 0.5486 0.5533 0.5512 0.5451 0.5664 0.5639 0.5561 0.5664 0.5639 0.5561 0.5494 0.5494 0.5492 0.5282 0.5110 0.5283 0.5110 0.5283 0.5110 0.5283 0.5110 0.5283 0.5110 0.5283 0.5110 0.5283 0.5110 0.5283 0.5110 0.5283 0.5110 0.5283 0.5110 0.5283 0.5110 0.5283 0.5110 0.5283 0.5110 0.5283 0.5110 0.5283 0.5110 0.5283 0.5110 0.5283 0.5110 0.5110 0.5110 0.5490 0.5510 0.5540 0.55210 0.55210 0.5540 0.55210 0.5540 0.55210 0.5540 0.55210 0.5540 0.55100 0.55100 0.55100 0.5510000000000	(CW) _{setual} 1,5555 1,5300 1,5165 1,4720 1,4566 1,4720 1,4366 1,4348 1,3990 1,3791 1,3791 1,3791 1,3791 1,3724 1,3632 1,3695 1,4242 1,4451 1,4645 1,4245 1,4245 1,4245 1,4245 1,4245 1,4245 1,4245 1,4451 1,4656 1,4276 1,5079 1,5077 1,5077 1,5077 1,5077 1,5077 1,5077 1,5077 1,507	Y 525581 571503 653320 723246 7999614 891444 1016110 1160853 1299141 1505861 1601482 1931540 2479779 2172772 3161591 3472704 2479779 3161591 3472704 44081836 4408891 44268614 44088891 44266614 44988529 5342204 5520202 5332298 6007364 60071120 6346339	C 419956 461762 523364 576217 443054 717103 812693 949819 1105596 1281298 1446627 1647683 187867 12162585 2502247 2902119 3217681 3505605 3781412 402237 4254171 4502807 4254171 4502807 4254177 5528637 5528637 5528637	0.7803 0.9172 0.9195 0.9114 0.9044 0.9023 0.8993 0.8850 0.8855 0.8850 0.8855 0.8850 0.8855 0.8850 0.8856 0.8850 0.8856 0.8850 0.8719 0.8668 0.8668 0.8668 0.8668 0.8668 0.8668 0.8668 0.8668 0.8653 0.8570 0.8538	$\begin{array}{c} 0.7993\\ 0.8081\\ 0.8011\\ 0.7967\\ 0.8044\\ 0.7996\\ 0.8182\\ 0.8519\\ 0.8552\\ 0.8551\\ 0.9024\\ 0.8551\\ 0.9024\\ 0.9179\\ 0.9266\\ 0.9274\\ 0.9123\\ 0.9026\\ 0.9264\\ 0.9123\\ 0.9026\\ 0.8844\\ 0.8884\\ 0.8038\\ 0.8884\\ 0.9079\\ 0.9203\\ 0.9203\\ 0.9409\\ 0.9203\\ 0.910$	rho/r 0.960 0.960 0.960 0.960 0.990 0.990 0.990 0.990 1.020	W-C(p(r) 437454 481002 545171 600226 649549 724346 820902 955413 1084016 1256175 1418262 1615375 1418262 1615375 144834 2120181 2453183 2445215 3154589 3436868 3707267 3943448 4170756 4414517 4684140 4950015 5190830 5265369 5440025 5540830	WY 0.8326 0.8416 0.8416 0.8345 0.8299 0.8123 0.8123 0.8123 0.8126 0.8079 0.8265 0.8344 0.8342 0.8385 0.8363 0.8550 0.8847 0.9084 0.9084 0.9084 0.9084 0.9084 0.9084 0.8944 0.8849 0.8849 0.8765 0.8765 0.8860	s/alpha 1.1900 1.2126 1.2016 1.1952 1.0433 1.0433 1.0433 1.0421 1.0476 0.8992 0.8994 0.8962 0.8978 0.8963 0.8821 0.8465 0.8021 0.8021 0.8021 0.8024 0.8024 0.8522 0.8520 0.8522 0.8520 0.8522 0.85452 0.85452 0.5690 0.6139 0.61452 0.6590 0.6199 0.	$\begin{split} & W_{\rm securit}/W \\ & 0.6171 \\ & 0.6171 \\ & 0.6322 \\ & 0.6522 \\ & 0.6522 \\ & 0.6797 \\ & 0.6813 \\ & 0.79077 \\ & 0.7848 \\ & 0.7407 \\ & 0.7427 \\ & 0.7427 \\ & 0.7427 \\ & 0.7427 \\ & 0.7422 \\ & 0.7427 \\ & 0.7422 \\ & 0.7307 \\ & 0.7422 \\ & 0.7307 \\ & 0.7422 \\ & 0.7162 \\ & 0.7728 \\ & 0.6966 \\ & 0.6752 \\ & 0.6752 \\ & 0.6752 \\ & 0.6752 \\ & 0.6752 \\ & 0.6752 \\ & 0.6814 \\ & 0.6813 \\ & 0.6815 \\ & 0.6813 \\ & 0.6813 \\ & 0.6813 \\ & 0.6815 \\ & 0.6813 \\ & 0.6815$
1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1984 1985 1986 1985 1988 1985 1988 1989 1987	GDP 673307 623123 710501 793519 884186 987947 1129835 1302978 1467884 1700553 1917803 2182588 2481097 2808295 3164804 43661913 43064918 4361913 3164804 43661913 5336652 6539488 6599488 6599486 6776231 6599546	W _{senal} 269973 301803 345178 391444 441486 493521 566401 678946 801764 932940 061181 1203113 1363245 1575784 1792602 2054560 2259282 2425773 2582446 229282 2425773 2582446 2708114 2821197 2976425 3151514 331797 3531792 3668567 3738938	W/GDP 0.4010 0.4843 0.4858 0.4933 0.4993 0.4993 0.4993 0.5013 0.5013 0.5013 0.5013 0.5013 0.5512 0.5462 0.5462 0.5462 0.5462 0.5464 0.55610000000000000000000000000000000000	(CW) _{netual} 1,5555 1,5572 1,5752 1,4720 1,4720 1,4720 1,4720 1,4720 1,4720 1,4720 1,4720 1,4720 1,4720 1,4720 1,4720 1,3791 1,3724 1,3632 1,3695 1,3781 1,3724 1,3655 1,3781 1,3724 1,3655 1,3781 1,3724 1,3655 1,3781 1,3724 1,3655 1,3781 1,3724 1,3655 1,3781 1,3784 1,3787 1,3781 1,3784 1,3787	Y 525381 771503 653320 7299614 891444 1016110 1160853 1299141 1505861 1691482 1931544 2197010 2479779 23161591 3472704 3781426 4081836 4408891 3472704 3781426 95342204 5620020 5835298 6007364	C 419956 461762 523364 776217 643054 717103 812693 1281298 1281298 1281298 1281298 1281298 1281298 124655 2502247 2902119 3217681 3505605 3781412 2162585 2502247 2902119 3505605 3781415 55294647 55294647 55294647	0.7803 0.9172 0.9192 0.9014 0.9004 0.9023 0.8909 0.8855 0.8855 0.8855 0.8850 0.8855 0.8850 0.8855 0.8850 0.8856 0.8856 0.8856 0.8856 0.8856 0.8857 0.8669 0.8669 0.8669 0.8669 0.8669 0.8669 0.8663 0.8663 0.8663 0.8663 0.8653 0.8653 0.8653 0.8653 0.8651 0.88579 0.8858 0.8559	$\begin{array}{c} 0.7993\\ 0.8080\\ 0.8011\\ 0.7964\\ 0.8042\\ 0.8044\\ 0.7998\\ 0.8182\\ 0.8510\\ 0.8520\\ 0.8530\\ 0.8552\\ 0.8530\\ 0.8552\\ 0.8521\\ 0.9024\\ 0.9175\\ 0.92266\\ 0.9271\\ 0.92266\\ 0.9271\\ 0.9226\\ 0.9155\\ 0.9024\\ 0.9155\\ 0.9024\\ 0.9155\\ 0.9024\\ 0.9155\\ 0.9026\\ 0.9251\\ 0.9256\\ 0.9251\\ 0.9256\\ 0.9256\\ 0.9271\\ 0.9226\\ 0.925$	rho/r 0.960 0.960 0.960 0.990 0.990 0.990 1.020	W-C(p(r) 437454 481002 545171 600226 649549 724346 820902 959413 1084016 1256175 1418262 959413 1084016 1256175 1418262 1615375 1418262 1418262 3154589 3154589 31345488 3107267 31345489 31345489 31345489 31345489 31345489 31345489 31345489 313568 3107267 31345489 31345489 31345489 313568 31345489 313568 3135767 3135767 313576 3135767 31357777 31357777 313577777 3135777777 313577777777 31357777777777	WY 0.8326 0.8416 0.8345 0.8299 0.8123 0.8123 0.8126 0.8365 0.8344 0.8365 0.8364 0.8363 0.8383 0.8383 0.8383 0.8383 0.8383 0.8383 0.8384 0.8899 0.9082 0.9082 0.9082 0.9082 0.9082 0.9082 0.8896 0.8876 0.8876 0.8880 0.8765 0.8876	s/alpha 1.1990 1.2126 1.2016 1.1952 1.0433 1.0433 1.0433 1.0433 1.0433 1.0433 1.0433 1.0432 0.8992 0.8994 0.8962 0.8978 0.8956 0.8201 0.8017 0.8017 0.8017 0.8021 0.8306 0.8247 0.8306 0.8247 0.8367 0.8452 0.8576 0.8576 0.8576 0.8576 0.8247 0.8452 0.8576 0.8576 0.8576 0.8576 0.8576 0.8576 0.8576 0.8576 0.8576 0.8576 0.8677 0.8675 0.867	$\begin{split} & W_{setum} W \\ & 0.6171 \\ & 0.6171 \\ & 0.6274 \\ & 0.6522 \\ & 0.6787 \\ & 0.6813 \\ & 0.6900 \\ & 0.7077 \\ & 0.7396 \\ & 0.7077 \\ & 0.7482 \\ & 0.7482 \\ & 0.7482 \\ & 0.7482 \\ & 0.7307 \\ & 0.7482 \\ & 0.7307 \\ & 0.7482 \\ & 0.7307 \\ & 0.7482 \\ & 0.7307 \\ & 0.7482 \\ & 0.7307 \\ & 0.7482 \\ & 0.7307 \\ & 0.7482 \\ & $
1967 1968 1969 1970 1971 1973 1974 1975 1976 1977 1977 1978 1978 1978 1978 1978 1980 1981 1985 1984 1985 1984 1985 1985 1986 1987 1988	GDP 673307 623123 710501 793519 884186 987947 1129835 1302978 1467884 1700553 1917803 2182588 2481097 2480295 3164804 3626021 4006498 4361913 3506296 5336652 5335092 6159680 6509488 6776231	W _{senal} 269973 301803 345178 391444 441486 493521 566401 566401 578946 801764 932940 1061181 1203113 1363245 1575784 1792500 2054560 22592873 2582446 22455773 2582446 22455773 2582446 2371977 3531514 3371977 3531792 3668567 3738938 3829366	W/GDP 0.4010 0.4843 0.4843 0.4843 0.4993 0.4993 0.4995 0.5013 0.5013 0.5013 0.5013 0.5013 0.5013 0.5342 0.5462 0.5464 0.5664 0.5664 0.5561 0.5492 0.5561 0.5492 0.5561 0.5492 0.5561 0.5492 0.5283 0.5190 0.5116 0.5283 0.5186 0.5281	(CW) _{setual} 1,5555 1,5300 1,5165 1,4720 1,4566 1,4330 1,4348 1,3990 1,3791 1,3791 1,3791 1,3791 1,3791 1,3795 1,3781 1,3781 1,3755 1,4242 1,4451 1,4645 1,4451 1,4656 1,4257 1,4245 1,4451 1,4656 1,4757 1,5277 1,5307 1,5321 1,5521 1,5341 1,5341 1,5341 1,5341 1,5341 1,5341 1,5341 1,5341 1,5341 1,5341 1,5341 1,5341 1,5441	Y 525381 571503 653320 723246 7999614 891444 101610 1160853 1299141 1505861 1691482 13931544 2499779 2772772 3161591 3422704 3781426 4081836 4408814 4466614 4408814 4466814 4466814 4520020 5342204 55342204 6071120 6346349 6627876	C 419956 461762 523364 576217 43054 717103 812693 949819 1105696 1281293 949819 1105696 1281293 949819 1105696 1281293 1446627 1647683 1878671 2162585 2502247 2502247 2502247 3505605 3781412 4502807 4777823 35049015 5294647 5528637 5712026 5899721 6098329	0.7803 0.9172 0.9195 0.9114 0.9044 0.9023 0.8909 0.8850 0.8855 0.8850 0.8855 0.8850 0.8855 0.8850 0.8855 0.8850 0.8856 0.8856 0.8856 0.8856 0.8856 0.86684 0.8697 0.8609 0.86684 0.8697 0.8608 0.8634 0.8634 0.8634 0.8583 0.8588 0.8636	$\begin{array}{c} 0.7993\\ 0.8080\\ 0.8081\\ 0.7967\\ 0.8042\\ 0.8042\\ 0.8042\\ 0.998\\ 0.8182\\ 0.8510\\ 0.8530\\ 0.8552\\ 0.8530\\ 0.8552\\ 0.8530\\ 0.8552\\ 0.90271\\ 0.9024\\ 0.9123\\ 0.9026\\ 0.9271\\ 0.9264\\ 0.9123\\ 0.9026\\ 0.9026\\ 0.8944\\ 0.9073\\ 0.9026\\ 0.8944\\ 0.9073\\ 0.9026\\ 0.8944\\ 0.9073\\ 0.9201\\ 0.92201\\ 0.92201\\ 0.9231\\ 0.9231\\ 0.92201\\ 0.9231\\ 0.92$	rho/r 0.960 0.960 0.960 0.990 0.990 0.990 0.990 1.020	W-C(p(r) 437454 481002 545171 600226 649549 724346 820902 959413 1084016 1256175 1418262 1615375 1618275 1618375 1618375 15183 245328 2453183 245328 2453183 245328 2453183 245328 2453183 245328 2453183 245328 2453183 245328 245326 245328 245528 245528 245528 245528 245528 245528 245528 245528 245528 2455568 245566	WY 0.8326 0.8416 0.8345 0.8299 0.8123 0.8123 0.8126 0.8345 0.8344 0.8342 0.8363 0.8363 0.8363 0.8363 0.8847 0.8999 0.9082 0.9082 0.9089 0.9082 0.9089 0.9082 0.9089 0.9082 0.8847 0.8896 0.8765 0.8854 0.8854 0.8854	s/alpha 1.1900 1.2126 1.2016 1.2016 1.1952 1.0433 1.0421 1.0433 1.0421 1.0433 1.0421 1.0433 0.8992 0.8992 0.8994 0.8962 0.8978 0.88017 0.8465 0.8201 0.8017 0.8021 0.8017 0.8021 0.8306 0.8247 0.8462 0.8522 0.8529 0.6452 0.6399 0.6458 0.5793 0.6458 0.5793 0.5793 0.56458 0.5793 0.5793 0.56458 0.5793 0.5793 0.56458 0.5793 0.5793 0.56458 0.5793	$\begin{split} W_{scale}^{W} W_{scale} & W \\ 0.6(7)1 \\ 0.6(7)1 \\ 0.6(3)2 \\ 0.6522 \\ 0.6522 \\ 0.6707 \\ 0.6813 \\ 0.6707 \\ 0.7306 \\ 0.7306 \\ 0.7306 \\ 0.7306 \\ 0.7342 \\ 0.7448 \\ 0.7442 \\ 0.7448 \\ 0.7442 \\ 0.7448 \\ 0.7448 \\ 0.7448 \\ 0.7448 \\ 0.7707 \\ 0.7221 \\ 0.7307 \\ 0.7221 \\ 0.7058 \\ 0.6867 \\ 0.6867 \\ 0.6867 \\ 0.6867 \\ 0.6867 \\ 0.6861 \\ 0.6967 \\ 0.6881 \\ 0.6967 \\ 0.6815 \\ 0.6815 \\ 0.6815 \\ 0.6851 \\ 0.6855 \end{split}$
1967 1968 1969 1970 1971 1971 1973 1975 1976 1976 1981 1981 1982 1983 1984 1985 1986 1987 1988 1989 1991 1992	GDP 673307 792519 884186 987947 1129835 1302978 1467884 1700553 1917803 2182588 2481097 2280292 2182588 2481097 2280292 3164804 33666021 4006498 4361913 4700143 5069296 5336652 5735092 6159680 6509488 6776231 6159680 6509488 6777087 7389654 7077087 7389654 76784811 1212178	Wernal 269973 301803 345178 391444 441486 493521 566401 578946 801764 932940 1061181 1203113 1363245 1575784 1575784 1792602 2259282 2425773 2582446 2708114 2259282 2425773 2582446 2708114 371797 3581792 3668567 3738938 3829366 382956 382956 382956 382956 382956 382956 382956 382956 382956 382956 385956 382956 382956 382956 382956 382956 382956 382956 382956 382956 382956 382956 382956 382956 38595656 38595656 38595656 38595656 38595656565656565656565656565656565656565	W/GDP 0.4010 0.4843 0.4858 0.4933 0.4993 0.4993 0.4993 0.5013 0.5013 0.5013 0.5013 0.5013 0.5512 0.5462 0.5462 0.5462 0.5462 0.5464 0.55610000000000000000000000000000000000	(CW) _{netual} 1,5555 1,5572 1,5752 1,4720 1,4720 1,4720 1,4720 1,4720 1,4720 1,4720 1,4720 1,4720 1,4720 1,4720 1,4720 1,3791 1,3724 1,3632 1,3695 1,3781 1,3724 1,3655 1,3781 1,3724 1,3655 1,3781 1,3724 1,3655 1,3781 1,3724 1,3655 1,3781 1,3724 1,3655 1,3781 1,3784 1,3787 1,3781 1,3784 1,3787	Y 525381 571503 653320 723246 7999614 891444 1016110 1160853 1299141 1505861 1601482 2197010 2479779 21971572 3161591 3472704 4081836 4408891 4426614 44088891 4426664 44088891 4426664 5332298 6007364 6007565 6007565 600756 600756 600756 600756 600756 600756 600756 60075	C 419956 461762 523664 576217 643054 717103 812693 949819 1105696 1281298 1446627 1647683 1878671 22162584 2302247 2302119 3205605 3781412 2302247 2002119 3205605 5294247 4022317 4254171 4502807 4254171 45528637 5528657 5528657 5528657 5528657 5528657 5528657 5528657 5528657 5528657 555867 555867 555867 555867 555867 555867 555867 555867 555867 555	0.7803 0.9172 0.9192 0.9014 0.9004 0.9023 0.8909 0.8855 0.8855 0.8855 0.8850 0.8855 0.8850 0.8855 0.8850 0.8856 0.8856 0.8856 0.8856 0.8856 0.8857 0.8669 0.8669 0.8669 0.8669 0.8669 0.8669 0.8663 0.8663 0.8663 0.8663 0.8653 0.8653 0.8653 0.8653 0.8651 0.88579 0.8858 0.8559	$\begin{array}{c} 0.7993\\ 0.8080\\ 0.8011\\ 0.7904\\ 0.8042\\ 0.8044\\ 0.7998\\ 0.8182\\ 0.8510\\ 0.8520\\ 0.8521\\ 0.8520\\ 0.8522\\ 0.8531\\ 0.9024\\ 0.9175\\ 0.9266\\ 0.9271\\ 0.9266\\ 0.9271\\ 0.9266\\ 0.9271\\ 0.9266\\ 0.9915\\ 0.9155\\ 0.9926\\ 0.9933\\ 0.9155\\ 0.9024\\ 0.9155\\ 0.9226\\ 0.9226\\ 0.9033\\ 0.9203\\ 0.9203\\ 0.9203\\ 0.9203\\ 0.9296\\ 0.9226\\$	rho'r 0.960 0.960 0.960 0.960 0.990 0.990 0.990 0.990 1.020	W-C(p(r) 4374544 43745546 437455567 4375675676776776776776776776777777777777	W/Y 0.8326 0.8416 0.8416 0.8416 0.8416 0.8416 0.8299 0.8123 0.8123 0.8126 0.8344 0.8342 0.8385 0.8363 0.8383 0.8583 0.85844 0.9089 0.9089 0.9084 0.9089 0.9089 0.9084 0.8946 0.8847 0.8948 0.8846 0.8868 0.8868 0.8868 0.8868 0.8868 0.8868 0.8765 0.8866 0.8765 0.8876 0.8876 0.8876 0.8876 0.8876 0.8876 0.8876 0.8876 0.8876 0.8876 0.8876 0.8876 0.8876 0.8876 0.8876 0.8765 0.8876 0.8765 0.8876 0.8765 0.8755 0.8755 0.8755 0.8755 0.8755 0.8755 0.87555 0.87555 0.87555 0.875555 0.87555555555555555555555555555555555555	s/alpha 1.1990 1.2126 1.2016 1.1952 1.0433 1.0433 1.0433 1.0433 1.0433 1.0433 1.0433 1.0432 0.8992 0.8994 0.8962 0.8978 0.8956 0.8201 0.8017 0.8017 0.8017 0.8021 0.8306 0.8247 0.8306 0.8247 0.8367 0.8452 0.8576 0.8576 0.8576 0.8576 0.8247 0.8452 0.8576 0.8576 0.8576 0.8576 0.8576 0.8576 0.8576 0.8576 0.8576 0.8576 0.8677 0.8675 0.867	$\begin{split} & W_{\rm second} W \\ & 0.6171 \\ & 0.6171 \\ & 0.6332 \\ & 0.6522 \\ & 0.6522 \\ & 0.6797 \\ & 0.6813 \\ & 0.7907 \\ & 0.7848 \\ & 0.7407 \\ & 0.7448 \\ & 0.7407 \\ & 0.7448 \\ & 0.7402 \\ & 0.7448 \\ & 0.7427 \\ & 0.7448 \\ & 0.7427 \\ & 0.7448 \\ & 0.7427 \\ & 0.7448 \\ & 0.7427 \\ & 0.7448 \\ & 0.7427 \\ & 0.7448 \\ & 0.7427 \\ & 0.7217 \\$
1967 1968 1969 1970 1971 1973 1974 1975 1976 1977 1977 1978 1978 1978 1978 1980 1981 1985 1984 1985 1984 1985 1985 1986 1987 1988 1989 1997 1993	GDP 673307 623123 710501 793519 884186 987947 1129835 1302978 1467884 1700582 1302978 1467884 1700582 1302978 2481097 2808295 3164804 3626021 4700143 50692954 5056292 6159680 6509488 6776231 6999546 6509488 6776231 6999546 2735092 6159680 6509488 6776231 6999546 2735092 6159680 6509488 6776231 6999546 2737087 77389654 7077087 7389654 7077087 7074811 1212178 1251163	W _{senal} 269973 301803 345178 391444 441486 493521 566401 566401 578946 801764 932940 1061181 1203113 1363245 1575784 11792602 2059282 2425773 2582446 2259282 2425773 2582446 2259282 2425773 2582446 2259282 2425773 2582446 25708114 287197 257645 2708114 287197 257645 2708114 287197 270815 27085 270815	W/GDP 0.4010 0.4843 0.4858 0.4933 0.4993 0.4993 0.5013 0.5013 0.5013 0.5013 0.5013 0.5512 0.5462 0.5462 0.5462 0.5462 0.5462 0.5462 0.5462 0.5561 0.5666 0.5583 0.5561 0.5462 0.5561 0.5462 0.5561 0.5182 0.5182 0.5182 0.5182	(CW) _{bettal} 1.5555 1.5555 1.5555 1.5555 1.5555 1.4720 1.4720 1.4748 1.4720 1.4748 1.4300 1.3791 1.3734 1.3732 1.3695 1.3781 1.3734 1.3759 1.4125 1.3784 1.3759 1.4242 1.4451 1.4512 1.4512 1.4515 1.5128 1.5162 1.5128 1.5162 1.5128 1.5162 1.5128 1.5248	Y 525381 571503 653320 723246 7999614 891444 101610 1160853 1299141 1505861 1691482 13931544 2197010 2479779 2772772 3161591 3472704 3781426 4081836 4091120 4071100 4071120 407110000000000	C 419956 461762 523364 576217 643054 717103 812693 949819 1105696 1281298 1446627 1647683 1878671 12162582 5202247 2502247 2502247 2502247 2502247 2502247 2502247 2502247 2502247 250247 5528637 55294647 5528637 5512026 5899721 6098329 970135 990476	0.7803 0.9172 0.9195 0.9114 0.9044 0.9023 0.8890 0.8850 0.8855 0.8850 0.8855 0.8850 0.8855 0.8850 0.8855 0.8850 0.8855 0.8850 0.8855 0.8850 0.8855 0.8850 0.8850 0.8719 0.8668 0.8673 0.8673 0.8673 0.8673 0.8673 0.8673 0.8673 0.8673 0.8673 0.8673 0.8579 0.8588 0.8579	0.7993 0.8080 0.8011 0.7967 0.8042 0.8042 0.8042 0.8042 0.8812 0.8851 0.8552 0.8551 0.8551 0.8551 0.9027 0.9264 0.9123 0.9026 0.9276 0.9264 0.9123 0.9026 0.9202 0.9203 0.9202 0.93884 0.9026 0.9296 0.9296 0.9296	rho/r 0.960 0.960 0.960 0.960 0.990 0.990 0.990 1.020 1.050 1.050 1.050	W-C(p(r) 4374544 4374544 43745454 43745454 43745454 4374545454545454545454545454545454545454	W/Y 0.8326 0.8416 0.8415 0.8245 0.8299 0.8126 0.8079 0.8265 0.8344 0.8342 0.8385 0.8383 0.8383 0.8383 0.8847 0.8990 0.9084 0.9084 0.9089 0.9084 0.8084 0.8846 0.8876 0.8854 0	s'alpha 1.1990 1.2126 1.2016 1.2016 1.1952 1.0433 1.0433 1.0433 1.0433 1.0433 1.0433 1.0433 0.8962 0.8978 0.8962 0.8978 0.8962 0.8978 0.8821 0.8465 0.8201 0.8015 0.8247 0.8305 0.8247 0.8305 0.8247 0.8305 0.8247 0.8365 0.8247 0.8365 0.8247 0.8365 0.8247 0.8365 0.8247 0.8365 0.8247 0.8365 0.8247 0.8365 0.8247 0.8365 0.8247 0.8365 0.8576 0.8579 0.65793 0.6579 0.6579 0.6579 0.6579 0.6579 0.6578 0.5793 0.6579 0.6579 0.6579 0.6578 0.5793 0.6579 0.6578 0.5793 0.6579 0.6578 0.5793 0.6579 0.6578 0.5793 0.6579 0.6578 0.5793 0.6579 0.6579 0.6578 0.5793 0.6579 0.5779 0.6579 0.57	$\begin{split} & W_{scale} W \\ & 0.6(77) \\ & 0.6(77) \\ & 0.632 \\ & 0.6522 \\ & 0.6522 \\ & 0.6797 \\ & 0.6813 \\ & 0.6707 \\ & 0.7396 \\ & 0.7427 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.745 \\ & 0.6867 \\ & 0.6867 \\ & 0.6867 \\ & 0.6861 \\ & 0.6967 \\ & 0.6881 \\ & 0.6884 \\ & 0.6899 \\ & 0.6975 \\ & 0.6975 \\ & 0.6975 \\ & 0.6975 \\ & 0.6975 \\ & 0.6999 \\ & 0.6975 \\ & 0.6975 \\ & 0.6999 \\ & 0.6975 \\ & 0.6975 \\ & 0.6999 \\ & 0.6975 \\ & 0.6975 \\ & 0.6999 \\ & 0.6975 \\ & 0.6975 \\ & 0.6999 \\ & 0.6975 \\ & 0.6975 \\ & 0.6999 \\ & 0.6975 \\ & 0.6975 \\ & 0.6995 \\ & 0.6999 \\ & 0.6975 \\ & 0.6975 \\ & 0.6975 \\ & 0.6975 \\ & 0.6975 \\ & 0.6975 \\ & 0.6995 \\ & 0.6975 \\ & $
1967 1968 1969 1970 1971 1971 1973 1975 1976 1976 1981 1981 1982 1983 1984 1985 1986 1987 1988 1989 1991 1992 1993 1994	GDP 673307 710501 793519 884186 987047 1129835 1129835 1129835 1129835 2182588 24810953 1017803 2182588 24810953 1017803 2182588 24810953 3164804 3062621 4006498 4361913 306622 5735092 6159680 6509488 6776231 6699546 7077087 7389654 77389654 77389674811 1212178	Wsenal 260973 301803 345178 391444 41486 493521 5664011 678946 493521 5664011 678946 801764 414186 493524 566401 1061181 1203113 1363245 11203113 1363245 11203113 1363245 112032452703 12452773 32582446 2259282 2425773 351514 32708114 2821197 35311797 3531514 3371797 3531792 352936 3980485 632152 649535 632152 702218 738127 702218 738128 3382936 3582936 738127 338137 3381378 33815788 33815788 33815788 33815788 33815788 3381578815788 3381578815788157881578815788157881578815	W/GDP 0.4010 0.4510 0.4513 0.4583 0.4583 0.4593 0.5011 0.5664 0.5512 0.5664 0.5512 0.5664 0.5664 0.5633 0.5512 0.5664 0.5664 0.5664 0.5680 0.5512 0.5511 0.5512 0.5212 0.5283 0.5116 0.5186 0.5186	(CW) _{semi} (CSW) _{semi} 1,5555 1,5555 1,5556 1,4556 1,4556 1,4458 1,4458 1,4458 1,4458 1,3990 1,3734 1,3734 1,3734 1,3734 1,3734 1,3734 1,3724 1,3724 1,4453 1,5475 1,4453 1,5479 1,5128 1,5160 1,4974 1,4991 1,5070 1,5277 1,5407 1,5321 1,5324 1,5344	Y 525381 571503 6533200 723246 6739514 801444 801444 801444 1016110 106110 1099141 1505861 1299141 1505861 1299141 1505862 131544 2479779 2772772 3781426 4408893 3781426 4408891 3781426 4408895 3781426 378146 3781426 378146 378146 378146 378146 378146 378146 378146 378146 378146 378146 378146 378146 378146 37786 378146 377866 37786 37786 37786 37786 3	C 419956 461762 523364 576217 643054 812698 1105696 1105696 1281298 114647683 1878671 22162585 2302219 2217681 3305605 3781412 4402317 45284171 4502807 4777823 5049015 5294647 5528637 5512026 8899721 6098329 970135	$\begin{array}{l} 0.7803\\ 0.9172\\ 0.9195\\ 0.9114\\ 0.9044\\ 0.9023\\ 0.8893\\ 0.8893\\ 0.8850\\ 0.8855\\ 0.8850\\ 0.8855\\ 0.8850\\ 0.8856\\ 0.8856\\ 0.8856\\ 0.8856\\ 0.8669\\ 0.8668\\ 0.8668\\ 0.8636\\ 0.8636\\ 0.8779\\ 0.8698\\ 0.8634\\ 0.8634\\ 0.8634\\ 0.8634\\ 0.8533\\ 0.8554\\ 0.8564\\ 0.8564\\ 0.8668\\ 0.8586\\ 0.8564\\ 0.8564\\ 0.8668\\ 0.8586\\ 0.8586\\ 0.8586\\ 0.8588\\$	$\begin{array}{c} 0.7993\\ 0.8080\\ 0.8081\\ 0.7967\\ 0.8042\\ 0.7998\\ 0.8512\\ 0.8511\\ 0.8552\\ 0.8551\\ 0.8552\\ 0.8551\\ 0.9024\\ 0.9155\\ 0.9266\\ 0.9271\\ 0.9266\\ 0.9271\\ 0.9266\\ 0.9271\\ 0.9266\\ 0.9271\\ 0.9266\\ 0.9271\\ 0.9226\\ 0.9274\\ 0.9155\\ 0.9226\\ 0.9244\\ 0.9073\\ 0.9201\\ 0.9221\\ 0.9224\\ 0.9073\\ 0.9224\\ 0.9073\\ 0.9224\\ 0.9073\\ 0.9224\\ 0.9007\\ 0.9224\\ 0.9007\\ 0.9007\\ 0.9053\\ 0.9244\\ 0.9107\\ 0.9007\\$	thoir 0.960 0.960 0.960 0.960 0.960 0.900 0.0000 0.000 0.00000 0.0000 0.00000 0.00000 0.00000 0.00000 0.000000	W-C(p(r) 437454 437554 43755647554 4375564 4375664 4375664 4375666666666666666666666666666666666666	W/Y 0.8326 0.8346 0.8345 0.8345 0.8345 0.8123 0.8123 0.8123 0.8362 0.8342 0.8342 0.8342 0.8343 0.8353 0.8343 0.8343 0.8343 0.8343 0.9084 0.9084 0.9082 0.9084 0.9082 0.9084 0.9082 0.8896 0.8896 0.8896 0.8896 0.8884 0.8886 0.8856 0.8856 0.8856 0.8856 0.8856 0.8857 0.8557 0.855	singhum 1,199000 1,2016 1,2	$\begin{split} & \mathbb{W}_{score} \mathbb{W} \\ 0, 6(7)1 \\ 0, 6(7)1 \\ 0, 6(7)2 \\ 0, 6(7)2 \\ 0, 6(7)2 \\ 0, 6(7)2 \\ 0, 6(7)2 \\ 0, 70077 \\ 0, 748 \\ 0, 7407 \\ 0, 748 \\ 0, 7407 \\ 0, 7448 \\ 0, 7402 \\ 0, 7448 \\ 0, 7442 \\ 0, 7427 \\ 0, 7448 \\ 0, 7442 \\ 0, 7427 \\ 0, 7448 \\ 0, 7442 \\ 0, 7427 \\ 0, 7448 \\ 0, 7448 \\ 0, 7442 \\ 0, 7327 \\ 0, 7142 \\ 0, 7142 \\ 0, 7142 \\ 0, 7142 \\ 0, 7142 \\ 0, 7078 \\ 0, 6784 \\ 0, 6784 \\ 0, 6784 \\ 0, 6784 \\ 0, 6784 \\ 0, 6784 \\ 0, 6784 \\ 0, 6784 \\ 0, 6885 \\ 0, 6885 \\ 0, 6885 \\ 0, 6885 \\ 0, 6885 \\ 0, 6885 \\ 0, 6885 \\ 0, 68975 \\ 0, 7026 \\ 0, $
1967 1968 1969 1970 1971 1973 1974 1975 1976 1977 1977 1978 1978 1978 1978 1980 1981 1985 1984 1985 1984 1985 1984 1985 1985 1987 1995 1996 1997 1994 1995	CDP 673307 673307 710501 710501 710570 884186 987947 1129835 987947 1129835 987947 1129835 987947 1129835 987947 1129835 1917803 1917803 1917803 1917803 1917803 1917803 1917803 1917803 1917803 1917803 1917803 1917803 1917803 1917803 1917803 1917803 1917803 1917803 1917803 1917805	W _{mut} 269973 301803 391444 44186 566401 493521 566401 49352 566401 49352 5678946 494552 5678946 801764 49352 578946 801764 20313 136285 2259282 2259284 173528 2259284 225928 255928 255925 255928 255928 2559259 255925 255925 255925 255925 255925 255925 2	W(GDP) 0.40101 0.4413 0.44030 0.4455 0.4555 0.4545 0.4555 0.5556 0.5556 0.5556 0.5556 0.5556 0.5556 0.5556 0.5556 0.5556 0.55570 0.55570 0.55570000000000	(CW) _{bernal} (CW) _{bernal} 1,5555 1,5555 1,5556 1,5566 1,4566 1,4566 1,4566 1,4566 1,4566 1,4568 1,4578 1,4578 1,37844 1,3784 1,3784 1,37844 1,37844 1,37844 1,37844 1,3784	Y 525381 571503 653320 723246 739614 801444 801444 801451 1016110 11601482 1331544 2197010 2497979 2472772 3161591 3472704 7772772 3161591 3472704 7772772 3161591 3472704 7772772 3161591 3472704 7772772 3161591 3472704 7772772 3161591 3472704 7772772 3161591 3472704 7772772 3161591 3472704 7772772 3161591 3472704 7772772 3161591 3472704 7772772 3161591 3472704 7772772 3161591 3472704 7772772 3161591 3472704 7772772 3161591 3472704 7772772 3161591 3472704 7772772 3161591 3472704 7772772 3161591 3472704 7772777 3472704 77727772 3161591 3472704 7772777 3472704 7772777 3472704 7772777 3472704 777777 3472704 777777 3472704 777777 3472704 777777 3472704 777777 3472704 777777 3472704 777777 3472704 777777 3472704 777777 3472704 777777 3472704 7777772 3472704 7777772 3472704 7777772 3472704 7777772 3472704 7777772 3472704 7777772 3472704 7777772 3472704 7777777 3472704 7777777 3472704 7777777 3472704 7777777 3472704 7777777 3472704 7777777 3472704 7777777 3472704 7777777 3472704 7777777 3472704 7777777 3472704 77777777 3472704 7777777 3472704 7777777 3472704 7777777 3472704 7777777 3472704 7777777 3472704 7777777 3472704 7777777 3472704 7777777 3472704 7777777 7777777 7777777 7777777 777777	C 419956 441762 523614 419756 5237614 149956 5237614 149956 5237614 1717103 381269 24376 2	0.780.3 0.9172 0.9195 0.9184 0.9046 0.9044 0.9046 0.9046 0.9046 0.9046 0.9046 0.9046 0.9046 0.9046 0.9046 0.9046 0.9046 0.9046 0.9046 0.9046 0.9046 0.90560 0.90560 0.9056	$\begin{array}{c} 0.7993\\ 0.8080\\ 0.8081\\ 0.7967\\ 0.8042\\ 0.7998\\ 0.8511\\ 0.8512\\ 0.8512\\ 0.8552\\ 0.8552\\ 0.8551\\ 0.8552\\ 0.8551\\ 0.9024\\ 0.9271\\ 0.9024\\ 0.9123\\ 0.9026\\ 0.92271\\ 0.9026\\ 0.92271\\ 0.9026\\ 0.92271\\ 0.9026\\ 0.92271\\ 0.9026\\ 0.92271\\ 0.9026\\ 0.92271\\ 0.9026\\ 0.92271\\ 0.9026\\ 0.92271\\ 0.9026\\ 0.92271\\ 0.9026\\ 0.92271\\ 0.9026\\ 0.92271\\ 0.9026\\ 0.92271\\ 0.9026\\ 0.9027\\ 0.9038\\ 0.9016\\ 0.9017\\ 0.9053\\ 0.9013\\ 0.9110\\ 0.9053\\ 0.9110\\ 0.9053\\ 0.9110\\ 0.9053\\ 0.9110\\ 0.9053\\ 0.9110\\ 0.9053\\ 0.9110\\ 0.9053\\ 0.9111\\ 0.9053\\ 0.9110\\ 0.9053\\ 0.9111\\ 0.9053\\ 0.9$	thoir 0.960 0.960 0.960 0.960 0.990 0.900 0.900 0.900 0.900 0.900 0.0200 0.0200 0.0200 0.0200 0.0200000000	W-C(pr) 437454 481002 545171 600226 649549 724346 820902 959413 1084016 820902 959413 1084016 1256175 1141826 1084016 1256175 1141826 114186 11	W/Y 0.8326 0.8416 0.8416 0.8415 0.8299 0.8123 0.8126 0.8379 0.8275 0.8344 0.8342 0.8365 0.8344 0.8365 0.8344 0.9089 0.9089 0.9084 0.9089 0.9084 0.9089 0.9084 0.9089 0.9084 0.9089 0.9084 0.8765 0.8849 0.8765 0.8849 0.8765 0.8854 0.8858 0.885	s alpha 1,1990 1,2126 1,2016 1,2016 1,2016 1,2016 1,0433 1,0453 1,0455 1,0453 1,0455 1,0453 1,0455 1,0453 1,0455 1,045	$\begin{split} & W_{scale} W \\ & 0.6(77) \\ & 0.6(77) \\ & 0.632 \\ & 0.6522 \\ & 0.6522 \\ & 0.6797 \\ & 0.6813 \\ & 0.6707 \\ & 0.7077 \\ & 0.7427 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.768 \\ & 0.7058 \\ & 0.6867 \\ & 0.6867 \\ & 0.6867 \\ & 0.6867 \\ & 0.6867 \\ & 0.6861 \\ & 0.6967 \\ & 0.6884 \\ & 0.6899 \\ & 0.6975 \\ & 0.7026 \\ & $
1967 1968 1969 1970 1971 1971 1973 1973 1974 1975 1976 1980 1981 1982 1983 1984 1985 1984 1985 1986 1987 1991 1992 1993 1994 1995 1996	CDP 673307 673307 710501 710501 710511 130278 884186 884186 895704 1129855 130278 2182582 2481087 2182582 2481087 2182582 2481087 2182582 2481087 2182582 2481087 2182582 2481087 2182582 21825582 2185582 21855582 21855582 21855582 21855582 21855582 21	W _{end} 269973 301803 301812 301418 40486 5564101 555784 40486 556410 120311 3063245 55784 40582 91290 404181 120311 3163245 55784 40582 5229282 222928 222928 315151 405925 315154 2229282 222928 222928 315154 222928 225927 225927 225927 225927 225927 225927 225927 225927 225927 225977 2559777 2559777775	W(CDP) 0.40101 0.4843 0.4903 0.4903 0.4903 0.5013 0.5013 0.5013 0.5013 0.5013 0.5512 0	(CW) _{semi} (CV) _{semi} 1,555 1,555 1,555 1,555 1,555 1,4556 1,456 1,456 1,458 1,458 1,458 1,3754 1,3754 1,3754 1,3754 1,3754 1,3754 1,3754 1,3754 1,3754 1,3754 1,4555 1,4991 1,5128 1,5160 1,4974 1,5107 1,5547 1,5544 1,554 1,554 1,554 1,554 1,554 1,554 1,554 1,554 1,554 1,554 1,554 1,554 1,554 1,554 1,555 1,555 1,557 1,554 1,557 1,554 1,557 1,554 1,557 1,554 1,557 1,554 1,557 1,554 1,557 1,554 1,557 1,554 1,557 1,554 1,557 1,554 1,557 1,554 1,557 1,577 1,557 1,577 1	Y 525381 571503 633320 723246 633320 729614 801444 801444 801444 1016110 10053 1299141 1505861 1691452 1299141 1505861 1691452 1291454 1299141 1505861 1691452 2479779 2772772 3161591 3472704 3781426 4088802 3781426 4088802 3781426 4088802 3781426 4088802 3781426 4088802 3781426 4088802 5342204 5620202 5342204 532258 5342204 534	C 419956, 461762, 576217, 777017, 1105606, 1105606, 1105606, 1105606, 1105606, 1105606, 1105606, 1105606, 1105606, 1105606, 1105606, 1105607, 11056	$\begin{array}{c} 0.7803\\ 0.9172\\ 0.9195\\ 0.9172\\ 0.910\\ 0.9114\\ 0.9044\\ 0.903\\ 0.8993\\ 0.8993\\ 0.8893\\ 0.8850\\ 0.850\\ 0.8550\\ 0.$	$\begin{array}{c} 0.7993\\ 0.8080\\ 0.8011\\ 0.7967\\ 0.8042\\ 0.8042\\ 0.8044\\ 0.7998\\ 0.811\\ 0.8511\\ 0.8510\\ 0.8551\\ 0.8551\\ 0.8551\\ 0.8551\\ 0.9024\\ 0.9175\\ 0.9266\\ 0.9271\\ 0.9266\\ 0.9271\\ 0.9266\\ 0.9271\\ 0.9266\\ 0.9271\\ 0.9226\\ 0.9274\\ 0.9155\\ 0.9226\\ $	thoir 0.960 0.960 0.960 0.960 0.960 0.960 0.990 0.900 0.0000 0.000 0.00000 0.00000 0.00000 0.000000	W-C(p(r) 437454 437554 437555454 4375545455454	$\begin{array}{c} WY \\ WY \\ 0.8326 \\ 0.8326 \\ 0.8345 \\ 0.8345 \\ 0.8345 \\ 0.8345 \\ 0.8345 \\ 0.8345 \\ 0.8365 \\ 0.8344 \\ 0.8365 \\ 0.8344 \\ 0.8365 \\ 0.8344 \\ 0.8365 \\ 0.8346 \\ 0.9384 \\ 0.93$	s'alpha 1,1990 1,2126 1,1990 1,2126 1,1992 1,2016 1,1992 1,0433 1,0452 1	$\begin{split} & \mathbb{W}_{scaled} \mathbb{W} \\ & 0.6171 \\ & 0.6171 \\ & 0.6322 \\ & 0.6522 \\ & 0.6522 \\ & 0.6797 \\ & 0.6813 \\ & 0.7077 \\ & 0.7848 \\ & 0.7407 \\ & 0.7427 \\ & 0.7427 \\ & 0.7427 \\ & 0.7427 \\ & 0.7427 \\ & 0.7427 \\ & 0.7427 \\ & 0.7427 \\ & 0.7427 \\ & 0.7427 \\ & 0.7427 \\ & 0.7427 \\ & 0.7427 \\ & 0.7427 \\ & 0.7077 \\ & 0.764 \\ & 0.6764 \\ & 0.6764 \\ & 0.6764 \\ & 0.6764 \\ & 0.6764 \\ & 0.6764 \\ & 0.6881 \\ & 0.6884 \\ & 0.6897 \\ & 0.7070 \\ & 0.707$
1967 1968 1969 1970 1971 1973 1974 1975 1976 1977 1977 1978 1978 1978 1978 1980 1981 1985 1984 1985 1984 1985 1984 1985 1985 1987 1995 1996 1997 1994 1995	CDP 673307 673307 710501 710501 710570 884186 987947 1129835 987947 1129835 987947 1129835 987947 1129835 987947 1129835 1917803 1917803 1917803 1917803 1917803 1917803 1917803 1917803 1917803 1917803 1917803 1917803 1917803 1917803 1917803 1917803 1917803 1917803 1917803 1917805	W _{mut} 269973 301803 391444 44186 566401 493521 566401 49352 566401 49352 5678946 494552 5678946 801764 49352 578946 801764 20313 136285 2259282 2259284 173528 2259284 225928 225929 225929 225929 2259297 225929 2259297 2259297 2259297 22592977 2259297 2259297 2	W(GDP) 0.40101 0.4413 0.44030 0.4455 0.4555 0.4545 0.4555 0.5556 0.5556 0.5556 0.5556 0.5556 0.5556 0.5556 0.5556 0.5556 0.55570 0.55570 0.55570000000000	(CW) _{bernal} (CW) _{bernal} 1,5555 1,5555 1,5556 1,5566 1,4566 1,4566 1,4566 1,4566 1,4566 1,4568 1,4578 1,4578 1,37844 1,3784 1,3784 1,3784 1,3784 1,3784 1,3784 1,3784 1,3	Y 525381 571503 653320 723246 739614 801444 801444 801451 1016110 11601482 1331544 2197010 2497979 2472772 3161591 3472704 7772772 3161591 3472704 7772772 3161591 3472704 7772772 3161591 3472704 7772772 3161591 3472704 7772772 3161591 3472704 7772772 3161591 3472704 7772772 3161591 3472704 7772772 3161591 3472704 7772772 3161591 3472704 7772772 3161591 3472704 7772772 3161591 3472704 7772772 3161591 3472704 7772772 3161591 3472704 7772772 3161591 3472704 7772772 3161591 3472704 7772772 3161591 3472704 7772777 3472704 77727772 3161591 3472704 7772777 3472704 7772777 3472704 7772777 3472704 777777 3472704 777777 3472704 777777 3472704 777777 3472704 777777 3472704 777777 3472704 777777 3472704 777777 3472704 777777 3472704 777777 3472704 7777772 3472704 7777772 3472704 7777772 3472704 7777772 3472704 7777772 3472704 7777772 3472704 7777772 3472704 7777777 3472704 7777777 3472704 7777777 3472704 7777777 3472704 7777777 3472704 7777777 3472704 7777777 3472704 7777777 3472704 7777777 3472704 7777777 3472704 77777777 3472704 7777777 3472704 7777777 3472704 7777777 3472704 7777777 3472704 7777777 3472704 7777777 3472704 7777777 3472704 7777777 3472704 7777777 7777777 7777777 7777777 777777	C 419956 441762 523614 419756 5237614 149956 5237614 149956 5237614 1717103 381269 23376 14978 13978 12978 1	0.780.3 0.9172 0.9195 0.9184 0.9046 0.9044 0.9046 0.9046 0.9046 0.9046 0.9046 0.9046 0.9046 0.9046 0.9046 0.9046 0.9046 0.9046 0.9046 0.9046 0.9046 0.90560 0.90560 0.9056	$\begin{array}{c} 0.7993\\ 0.8080\\ 0.8081\\ 0.7967\\ 0.8042\\ 0.7998\\ 0.8511\\ 0.8512\\ 0.8512\\ 0.8552\\ 0.8552\\ 0.8551\\ 0.8552\\ 0.8551\\ 0.9024\\ 0.9271\\ 0.9024\\ 0.9123\\ 0.9026\\ 0.92271\\ 0.9026\\ 0.92271\\ 0.9026\\ 0.92271\\ 0.9026\\ 0.92271\\ 0.9026\\ 0.92271\\ 0.9026\\ 0.92271\\ 0.9026\\ 0.92271\\ 0.9026\\ 0.92271\\ 0.9026\\ 0.92271\\ 0.9026\\ 0.92271\\ 0.9026\\ 0.92271\\ 0.9026\\ 0.92271\\ 0.9026\\ 0.9027\\ 0.9053\\ 0.9014\\ 0.91100\\ 0.9007\\ 0.9053\\ 0.91100\\ 0.9053\\ 0.9110\\ 0.9053\\ 0.91100\\ 0.9053\\ 0.9110\\ 0.9053\\ 0.9110\\ 0.9053\\ 0.9110\\ 0.9053\\ 0.9110\\ 0.9053\\ 0.9110\\ 0.9053\\ 0.9110\\ 0.9053\\ 0.9110\\ 0.9053\\ 0.9111\\ 0.9053\\ $	thoir 0.960 0.960 0.960 0.960 0.990 0.900 0.900 0.900 0.900 0.900 0.0200 0.0200 0.0200 0.0200 0.0200000000	W-C(pr) 437454 481002 545171 600226 649549 724346 820902 959413 1084016 820902 959413 1084016 1256175 11418262 1615375 11418262 1615375 11418262 1615375 11418262 1615375 11418262 11418262 11418262 11418262 11418262 11418262 11418262 11418262 11418262 11418262 11418262 11418262 11418262 1141826 11418262 1141826 114186	W/Y 0.8326 0.8416 0.8416 0.8415 0.8299 0.8123 0.8126 0.8379 0.8275 0.8344 0.8342 0.8365 0.8344 0.8365 0.8344 0.9089 0.9089 0.9084 0.9089 0.9084 0.9089 0.9084 0.9089 0.9084 0.9089 0.9084 0.8765 0.8849 0.8765 0.8849 0.8765 0.8854 0.8858 0.885	s alpha 1,1990 1,2126 1,2016 1,2016 1,2016 1,2016 1,0433 1,0453 1,0455 1,0453 1,0455 1,0453 1,0455 1,0453 1,0455 1,045	$\begin{split} & W_{scale} W \\ & 0.6(77) \\ & 0.6(77) \\ & 0.632 \\ & 0.6522 \\ & 0.6522 \\ & 0.6797 \\ & 0.6813 \\ & 0.6707 \\ & 0.7077 \\ & 0.7427 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.7442 \\ & 0.768 \\ & 0.7058 \\ & 0.6867 \\ & 0.6867 \\ & 0.6867 \\ & 0.6867 \\ & 0.6867 \\ & 0.6861 \\ & 0.6967 \\ & 0.6884 \\ & 0.6899 \\ & 0.6975 \\ & 0.7026 \\ & $

Tables A4-4	OECD data,	applying my	method to	these data	by country (4)

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7. Germany	la	2	(For after 19		6a	la			p/r=	0.96	0.99	1.02	
	GDP	Wactual	W/GDP	(C/W)actual	Y	С	Y/GDP	C/Y	rho/r	$W=C/(\rho/r)$	W/Y	s/alpha	Wactual/W
1967	494350	250350	0.5064	1.4487	436750	362680	0.8835	0.8304	0.960	377792	0.8650	1.2563	0.6627
1968	533280	268840	0.5041	1.4264	472600	383470	0.8862	0.8114	0.960	399448	0.8452	1.2184	0.6730
1969	596950	302620	0.5069	1.4012	530530	424020	0.8887	0.7992	0.960	441688	0.8325	1.1989	0.6851
1970	675300	359290	0.5320	1.3229	597320	475320	0.8845	0.7958	0.960	495125	0.8289	1.1938	0.7257
1971	749750	406820	0.5426	1.3169	661140	535740	0.8818	0.8103	0.990	541152	0.8185	1.0451	0.7518
1972	823120	450560	0.5474	1.3161	724600	593000	0.8803	0.8184	0.990	598990	0.8266	1.0477	0.7522
1973	917250	512630	0.5589	1.2849	807740	658680	0.8806	0.8155	0.990	665333	0.8237	1.0467	0.7705
1974	983930	566600	0.5759	1.2774	859360	723750	0.8734	0.8422	0.990	731061	0.8507	1.0570	0.7750
1975	1026630	591240	0.5759	1.3421	891740	793530	0.8686	0.8899	1.020	777971	0.8724	0.8632	0.7600
1976	1120500	637940	0.5693	1.3383	978560	853730	0.8733	0.8724	1.020	836990	0.8553	0.8818	0.7622
1977	1195290	685410	0.5734	1.3383	1042390	917260	0.8721	0.8800	1.020	899275	0.8627	0.8743	0.7622
1978	1283550	731740	0.5701	1.3379	1124990	979030	0.8765	0.8703	1.020	959833	0.8532	0.8838	0.7624
1979	1388440	791660	0.5702	1.3325	1214030	1054850	0.8744	0.8689	1.020	1034167	0.8518	0.8850	0.7655
1980	1472040	860880	0.5848	1.3185	1279120	1135040	0.8689	0.8874	1.020	1112784	0.8700	0.8662	0.7736
1981	1534970	902550	0.5880	1.3317	1322820	1201910	0.8618	0.9086	1.020	1178343	0.8908	0.8369	0.7659
1982	1588090	929750	0.5855	1.3364	1359380	1242540	0.8560	0.9140	1.020	1218176	0.8961	0.8275	0.7632
1983	1668540	949030	0.5688	1.3653	1434470	1295720	0.8597	0.9033	1.020	1270314	0.8856	0.8452	0.7471
1984	1750890	983690	0.5618	1.3741	1505480	1351640	0.8598	0.8978	1.020	1325137	0.8802	0.8530	0.7423
1985	1823180	1021420	0.5602	1.3728	1567870	1402250	0.8600	0.8944	1.020	1374755	0.8768	0.8576	0.7430
1986	1925290	1074440	0.5581	1.3486	1663920	1448980	0.8642	0.8708	1.020	1420569	0.8537	0.8832	0.7563
1987	1990480	1119350	0.5624	1.3448	1720550	1505300	0.8644	0.8749	1.020	1475784	0.8577	0.8794	0.7585
1988	2095980	1163780	0.5552	1.3457	1812330	1566070	0.8647	0.8641	1.020	1535363	0.8472	0.8891	0.7580
1989	2224440	1216250	0.5468	1.3482	1931870	1639770	0.8685	0.8488	1.020	1607618	0.8322	0.9008	0.7566
1990	2426000	1315520	0.5423	1.3415	2066080	1764780	0.8516	0.8542	1.020	1730176	0.8374	0.8970	0.7603
1991	2853600	1607970	0.5635	1.3601	2460700	2187050	0.8623	0.8888	1.020	2144167	0.8714	0.8645	0.7499
1992	3075600	1739250	0.5655	1.3632	2647680	2370950	0.8609	0.8955	1.020	2324461	0.8779	0.8562	0.7482
1993	3158100	1776710	0.5626	1.3868	2687850	2464010	0.8511	0.9167	1.020	2415696	0.8987	0.8225	0.7355
1994	3320400	1820740	0.5483	1.4022	2817300	2553100	0.8485	0.9062	1.020	2503039	0.8885	0.8407	0.7274
1995	3457400	1877020	0.5429	1.4118	2935020	2650030	0.8489	0.9029	1.020	2598069	0.8852	0.8458	0.7225
1996	1833700	1006170	0.5487	1.3897	1536430	1398320	0.8379	0.9101	1.020	1370902	0.8923	0.8344	0.7339
1997	1871600	1010300	0.5398	1.3914	1565740	1405720	0.8366	0.8978	1.020	1378157	0.8802	0.8531	0.7331
1998	1929400	1031420	0.5346	1.3875	1610140	1431120	0.8345	0.8888	1.020	1403059	0.8714	0.8645	0.7351
1999	1978600	1058710	0.5351	1.3917	1654590	1473440	0.8362	0.8905	1.020	1444549	0.8731	0.8625	0.7329
2000	2030000	1099950	0.5418	1.3636	1698000	1499860	0.8365	0.8833	1.020	1470451	0.8660	0.8708	0.7480
2001	2074000	1121380	0.5407	1.3583	1730560	1523140	0.8344	0.8801	1.020	1493275	0.8629	0.8741	0.7510
2002	2107300	1129800	0.5361	1.3482	1746530	1523140	0.8288	0.8721	1.020	1493275	0.8550	0.8821	0.7566
2003	2128200	1132280	0.5320	1.3444	1769860	1522210	0.8316	0.8601	1.020	1492363	0.8432	0.8924	0.7587

8. Italy	1a	2	(For after 19	996)	6a	1a			p/r=	0.96	0.99	1.01	1
	GDP	Wactual	W/GDP	(C/W) _{actual}	Y	С	Y/GDP	C/Y	rho/r	$W=C/(\rho/r)$	W/Y	s/alpha	Wactual/W
1967	49851	21800	0.4373	1.6969	45117	36992	0.9050	0.8199	0.960	38533	0.8541	1.2341	0.5657
1968	54035	23704	0.4387	1.6719	49000	39630	0.9068	0.8088	0.960	41281	0.8425	1.2139	0.5742
1969	59653	26118	0.4378	1.6606	54205	43371	0.9087	0.8001	0.960	45178	0.8335	1.2002	0.5781
1970	67133	30541	0.4549	1.5942	60539	48689	0.9018	0.8043	0.990	49181	0.8124	1.0433	0.6210
1971	73003	35012	0.4796	1.5520	65881	54338	0.9024	0.8248	0.990	54887	0.8331	1.0499	0.6379
1972	79750	39056	0.4897	1.5396	71960	60132	0.9023	0.8356	0.990	60739	0.8441	1.0541	0.6430
1973	96601	47051	0.4871	1.5401	86546	72463	0.8959	0.8373	0.990	73195	0.8457	1.0548	0.6428
1974	121988	58692	0.4811	1.5403	107800	90404	0.8837	0.8386	0.990	91317	0.8471	1.0554	0.6427
1975	138590	70854	0.5112	1.4914	120761	105674	0.8714	0.8751	1.010	104628	0.8664	0.9351	0.6772
1976	174584	86915	0.4978	1.4943	152845	129876	0.8755	0.8497	1.010	128590	0.8413	0.9470	0.6759
1977	212707	106315	0.4998	1.4830	186175	157664	0.8753	0.8469	1.010	156103	0.8385	0.9481	0.6811
1978	251000	123164	0.4907	1.4990	220169	184620	0.8772	0.8385	1.010	182792	0.8302	0.9511	0.6738
1979	307823	149607	0.4860	1.5282	273507	228626	0.8885	0.8359	1.010	226362	0.8276	0.9520	0.6609
1980	385327	184063	0.4777	1.5876	342766	292221	0.8895	0.8525	1.010	289328	0.8441	0.9459	0.6362
1981	461051	224032	0.4859	1.5886	403370	355904	0.8749	0.8823	1.010	352380	0.8736	0.9309	0.6358
1982	542125	260859	0.4812	1.6136	471969	420915	0.8706	0.8918	1.010	416748	0.8830	0.9245	0.6259
1983	631610	300156	0.4752	1.6276	551646	488533	0.8734	0.8856	1.035	483696	0.8768	0.9288	0.6205
1984	722811	334994	0.4635	1.6715	631747	559948	0.8740	0.8863	1.035	554404	0.8776	0.9283	0.6042
1985	810081	374051	0.4617	1.6879	705629	631351	0.8711	0.8947	1.035	625100	0.8859	0.9224	0.5984
1986	898289	404065	0.4498	1.7245	781142	696806	0.8696	0.8920	1.035	689907	0.8832	0.9244	0.5857
1987	982763	438837	0.4465	1.7525	857769	769073	0.8728	0.8966	1.035	761458	0.8877	0.9209	0.5763
1988	1090023	482553	0.4427	1.7702	951591	854229	0.8730	0.8977	1.035	845771	0.8888	0.9201	0.5705
1989	1191961	528340	0.4433	1.7763	1035852	938485	0.8690	0.9060	1.070	929193	0.8970	0.9129	0.5686
1990	1310659	592391	0.4520	1.7451	1134057	1033782	0.8653	0.9116	1.070	1023547	0.9026	0.9074	0.5788
1991	1427571	647792	0.4538	1.7495	1228543	1133339	0.8606	0.9225	1.070	1122118	0.9134	0.8946	0.5773
1992	1502493	681573	0.4536	1.7746	1286384	1209512	0.8562	0.9402	1.070	1197537	0.9309	0.8652	0.5691
1993	1550296	688223	0.4439	1.7943	1320298	1234845	0.8516	0.9353	1.070	1222619	0.9260	0.8748	0.5629
1994	1638506	697996	0.4260	1.8588	1399275	1297415	0.8540	0.9272	1.070	1284569	0.9180	0.8880	0.5434
1995	1770949	728444	0.4113	1.8888	1520431	1375903	0.8585	0.9049	1.070	1362280	0.8960	0.9139	0.5347
1996	982443	417714	0.4252	1.7967	838236	750511	0.8532	0.8953	1.070	743080	0.8865	0.9219	0.5621
1997	1026285	437780	0.4266	1.8072	880351	791152	0.8578	0.8987	1.070	783319	0.8898	0.9193	0.5589
1998	1073019	435444	0.4058	1.9051	918348	829565	0.8559	0.9033	1.070	821351	0.8944	0.9153	0.5302
1999	1107994	451350	0.4074	1.9220	952186	867486	0.8594	0.9110	1.070	858897	0.9020	0.9079	0.5255
2000	1166548	474075	0.4064	1.9395	1000772	919482	0.8579	0.9188	1.070	910378	0.9097	0.8993	0.5207
2001	1218535	499512	0.4099	1.9236	1043964	960856	0.8567	0.9204	1.070	951343	0.9113	0.8973	0.5251
2002	1260428	521283	0.4136	1.9113	1075336	996311	0.8532	0.9265	1.070	986447	0.9173	0.8890	0.5284
2003	1300926	543817	0.4180	1.9117	1102465	1039618	0.8474	0.9430	1.070	1029325	0.9337	0.8593	0.5283

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1967 134971 80510 0.5965 1.2580 118612 101278 0.8788 0.8359 0.970 104410 0.8803 1968 143228 86762 0.6058 1.2545 12616 108840 0.8805 0.8630 0.970 112206 0.8897 1969 155543 94542 0.6078 1.2484 137631 118022 0.8848 0.8875 0.970 12206 0.8897	1.04 1 'alpha W _{actual} /W 1.2206 0.77 1.2420 0.77 1.2287 0.77 1.2080 0.78 1.0000 0.80 1.0000 0.78 1.0000 0.78 1.0000 0.78	11 32 70 58 01 45
1967 134971 80510 0.5965 1.2580 118612 101278 0.8788 0.8539 0.970 104410 0.8803 1968 143228 86762 0.6058 1.2545 12616 0.8840 0.8805 0.8630 0.970 112266 0.8897 1969 155543 9452 0.6078 1.2484 137631 118022 0.8848 0.8375 0.970 121267 0.8849	1.2206 0.77 1.2420 0.77 1.2287 0.77 1.2080 0.78 1.0000 0.81 1.0000 0.80 1.0000 0.78	11 32 70 58 01 45
1967 134971 80510 0.5965 1.2580 118612 101278 0.8788 0.8539 0.970 104410 0.8803 1968 143228 86762 0.6058 1.2545 126116 108840 0.8805 0.8630 0.970 112206 0.8897 1969 15543 94542 0.6078 1.2484 118022 0.8848 0.8755 0.970 112067 0.8849	1.2420 0.77 1.2287 0.77 1.2080 0.78 1.0000 0.81 1.0000 0.80 1.0000 0.78	32 70 58 01 445
1969 155543 94542 0.6078 1.2484 137631 118022 0.8848 0.8575 0.970 121672 0.8840	1.2287 0.77 1.2080 0.78 1.0000 0.81 1.0000 0.80 1.0000 0.78	70 58 01 45
	1.2080 0.78 1.0000 0.81 1.0000 0.80 1.0000 0.78	158 01 145
1970 174179 105829 0.6076 1.2345 154130 130657 0.8849 0.8477 0.970 134698 0.8739	1.0000 0.81 1.0000 0.80 1.0000 0.78	01 145
1710 174177 105057 0.0070 1.2545 154150 150057 0.8847 0.8477 0.770 154078 0.8737	1.0000 0.80 1.0000 0.78	45
1971 188327 115754 0.6146 1.2343 166675 142880 0.8850 0.8572 1.000 142880 0.8572	1.0000 0.78	
		28
	1.0000 0.79	
		101
	1.0000 0.81	
	0.7641 0.86	
	0.6605 0.86	
	0.6443 0.85	
	0.6522 0.84	
	0.6454 0.84	
	0.5052 0.82	
	0.3277 0.78	
	0.5078 0.78	
	0.6394 0.78	
	0.6135 0.78	
	0.6500 0.78	
	0.6522 0.78	
	0.6654 0.79	
	0.6757 0.82	
	0.4123 0.87	
	0.2785 0.83	
	0.0024 0.81	
	0.4587 0.78	
	0.0230 0.78	
	0.3787 0.79	
	0.7477 0.74	
	0.7529 0.74	
	0.7631 0.74	
	0.7664 0.72	
	0.7769 0.76	
	0.7631 0.78	
	0.7589 0.77	
2003 2438447 1390128 0.5701 1.3516 2112642 1878828 0.8664 0.8893 1.040 1806565 0.8551	0.7639 0.76	95

 Tables A4-5
 OECD data, applying my method to these data by country (5)

10. The U K	1a	2	(For after 19	996)	6a	la			p/r=	1.01	1.03	1.05	1.09
	GDP	Wactual	W/GDP	(C/W) _{actual}	Y	С	Y/GDP	C/Y	rho/r	$W=C/(\rho/r)$	W/Y	s/alpha	Wactual/W
1967	40302	23851	0.5918	1.3719	36911	32722	0.9159	0.8865	1.010	32398	0.8777	0.9282	0.7362
1968	43671	25518	0.5843	1.3735	39916	35050	0.9140	0.8781	1.010	34703	0.8694	0.9334	0.7353
1969	46997	27295	0.5808	1.3703	42989	37403	0.9147	0.8701	1.010	37033	0.8614	0.9378	0.7371
1970	51607	30627	0.5935	1.3389	47163	41008	0.9139	0.8695	1.010	40602	0.8609	0.9381	0.7543
1971	57583	33570	0.5830	1.3624	52439	45737	0.9107	0.8722	1.010	45284	0.8636	0.9367	0.7413
1972	64478	37945	0.5885	1.3851	58473	52557	0.9069	0.8988	1.010	52037	0.8899	0.9192	0.7292
1973	74077	43972	0.5936	1.3556	67091	59609	0.9057	0.8885	1.010	57873	0.8626	0.8117	0.7598
1974	83711	52503	0.6272	1.3202	75025	69317	0.8962	0.9239	1.030	67298	0.8970	0.7387	0.7802
1975	105599	68630	0.6499	1.2782	93646	87721	0.8868	0.9367	1.030	85166	0.9094	0.6987	0.8058
1976	124991	78196	0.6256	1.2909	110420	100941	0.8834	0.9142	1.030	98001	0.8875	0.7633	0.7979
1977	145657	86776	0.5958	1.3331	128025	115677	0.8789	0.9036	1.050	110169	0.8605	0.6915	0.7877
1978	168143	99050	0.5891	1.3424	147344	132964	0.8763	0.9024	1.050	126632	0.8594	0.6943	0.7822
1979	197826	116072	0.5867	1.3611	174543	157981	0.8823	0.9051	1.050	150458	0.8620	0.6877	0.7715
1980	231233	137970	0.5967	1.3557	201523	187047	0.8715	0.9282	1.050	178140	0.8840	0.6191	0.7745
1981	254273	149923	0.5896	1.3908	221702	208507	0.8719	0.9405	1.050	198578	0.8957	0.5706	0.7550
1982	278241	159060	0.5717	1.4425	243521	229451	0.8752	0.9422	1.050	218525	0.8974	0.5629	0.7279
1983	303519	170094	0.5604	1.4751	267348	250900	0.8808	0.9385	1.050	238952	0.8938	0.5792	0.7118
1984	324842	181685	0.5593	1.4818	285878	269217	0.8801	0.9417	1.050	256397	0.8969	0.5651	0.7086
1985	356172	197168	0.5536	1.4773	312076	291270	0.8762	0.9333	1.050	277400	0.8889	0.6000	0.7108
1986	383632	212735	0.5545	1.5084	337371	320899	0.8794	0.9512	1.050	305618	0.9059	0.5188	0.6961
1987	421891	230590	0.5466	1.5210	369866	350723	0.8767	0.9482	1.090	321764	0.8699	0.3980	0.7166
1988	469760	256564	0.5462	1.5255	411459	391397	0.8759	0.9512	1.090	359080	0.8727	0.3830	0.7145
1989	514241	284487	0.5532	1.5022	449779	427366	0.8746	0.9502	1.090	392079	0.8717	0.3884	0.7256
1990	549386	313462	0.5706	1.4631	476501	458624	0.8673	0.9625	1.090	420756	0.8830	0.3207	0.7450
1991	573909	331159	0.5770	1.4727	502119	487695	0.8749	0.9713	1.090	447427	0.8911	0.2637	0.7401
1992	597012	342382	0.5735	1.4995	527041	513402	0.8828	0.9741	1.090	471011	0.8937	0.2434	0.7269
1993	628835	352133	0.5600	1.5397	555600	542179	0.8835	0.9758	1.090	497412	0.8953	0.2306	0.7079
1994	665570	365161	0.5486	1.5578	590498	568844	0.8872	0.9633	1.090	521875	0.8838	0.3156	0.6997
1995	698199	378095	0.5415	1.5724	617620	594499	0.8846	0.9626	1.090	545412	0.8831	0.3202	0.6932
1996	762610	405835	0.5322	1.5725	NA		#VALUE!	#VALUE!	1.090	585466	#VALUE!	#VALUE!	0.6932
1997	810136	433306	0.5349	1.5478		670692	0.0000	#DIV/0!	1.050	638754	#DIV/0!	#DIV/0!	0.6784
1998	858616	465854	0.5426	1.5265		711125	0.0000	#DIV/0!	1.050	677262	#DIV/0!	#DIV/0!	0.6878
1999	903167 950561	495596	0.5487	1.5543		770286	0.0000	#DIV/0! #DIV/0!	1.050	733606 765359	#DIV/0! #DIV/0!	#DIV/0! #DIV/0!	0.6756
2000 2001	950561 994309	532318 565313	0.5600	1.5097 1.5030		803627 849652	0.0000	#DIV/0! #DIV/0!	1.050 1.050	765359 809192	#DIV/0! #DIV/0!	#DIV/0! #DIV/0!	0.6955 0.6986
2001 2002	994309 1044145	565313	0.5685	1.5030		849652 901121	0.0000	#DIV/0! #DIV/0!	1.050	809192 858210	#DIV/0! #DIV/0!	#DIV/0! #DIV/0!	0.6986
2002 2003	1044145	616955	0.5652	1.5269		901121 951520	0.0000	#DIV/0! #DIV/0!	1.050	858210 906210	#DIV/0! #DIV/0!	#DIV/0! #DIV/0!	0.6877
2003	1101241	010955	0.5602	1.5423		951520	0.0000	#D1V/0!	1.050	906210	#DIV/0!	#DIV/0!	0.6808