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What Explains the Great Recession of the Japanese Economy?*

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Ⅰ Introduction

Since the bursting of the asset price bubble in 1991, the Japanese economy has plunged into the long slump of growing at the average annual rate around one percent up to the present, as contrasted with the renowned "high-growth economy" during the 1960s through the 1980s. Against this stagnant economy, of course, the successive Japanese Governments have taken various expansionary measures of conventional type , such as tax-cuts, increase in the public investment by issuing the government bonds, and easing the monetary policy variables. However, unlike in the pre-bubble period, the effects of these stimulative policy packages turned out only modest and temporary, so they could not have succeeded in restoring the Japanese economy back to its normal growth track. As evidenced by the fact that the average price index (i.e., GDP deflator) began falling from 1995 onwards, making the Nominal GDP growth rate negative ever since 1998 except only in 2000, the Japanese economy has been beset with stubborn deflationary pressures.

Prime Minister Koizumi took office in April 2001 and hence has resorted to the structural reform policies in order to revitalize the Japanese economy, because there's not much room left for the ordinary fiscal and monetary policy operations. He claims that the Japanese economy must go through a slow or even negative growth phase of 2～3 years due to structural adjustments, before it can start growing vigorously again. It remains to be seen whether his policy prescription will work out as he planned.

The purpose of this paper is not to discuss about policy measures to solve the current impasse of the Japanese economy, but rather to investigate why and how the Great Recession has come into being in the 1990s of Japan from a somewhat long-run perspective. It is well-known that generally speaking, the GDP growth rate of a country tends to slow down as its economy achieves industrial development and catches up with the advanced economies. In the case of Japan, too, its average growth rate has been declining from the high 10% in the 1960s to the medium 3～5% in the 1970s and the 1980s, before reaching the extreme low 1%

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during the post-bubble period. It is no doubt that some compound factors such as the globalization of the economy (i.e. appreciation of yen and increasing direct investment abroad), the declining labor force with the population aging, the shortening of the working hours and changes in the work ethos of the youth, etc. have all contributed to this declining the growth trend of Japan besides the recessinary impacts caused from bursting the asset market bubble of 1990-91. However, this paper intends to take up the assets price changes, or the land price changes, among others, as the most fundamental factor in explaining the long economic slump of the post-bubble Japan. At the same time, it will give suggestions as to how the pre-bubble economic growth of Japan had been supported by the steady land price hikes, as its monetary transmission mechanism was often called " the land standard system"

The remainder of this paper is organized as follows : In the next section Ⅱ, we review how the growth performance of the Japanese economy has changed since the mid-1950s until 2001, and see to what extent each of the demand components has contributed in that process. In section Ⅲ, the asset market bubble and its burst are looked into. In particular, how the land price and stock prices have gone up and down, and consequently what mount of capital gains and losses has been generated during the period 1970 to 2001 in Japan. Then in Section Ⅳ, we present some tentative results of our regression analysis examining the direct impacts of the capital gains and losses on the demand components of GDP (i.e., private consumption, business investment and private residential investment). Section Ⅴ gives some concluding remarks and directions for further study.

Ⅱ Changes of the GDP Growth Rates: 1956-2001

Figure I presents the real GDP growth rates and its decomposition into demand components during the period from 1956 to 2001. By comparing the average growth rates of the following three periods, i.e. 9.10 % (1956－73), 3.91 % (1974－90) and 1.09 % (1991－2001), one can see how the long-run economic growth rate has declined in Japan. In that Figure, demand side of GDP is decomposed into private final consumption (C), private business investment (I), private residential investment (H), Government expenditure (i.e., the sum of consumption and capital formation) (G), and net exports of goods and services (NE), and their contributions to GDP growth rate are graphically shown.

Let's go over briefly how demand factors contributed to GDP growth in each of the three periods mentioned above.

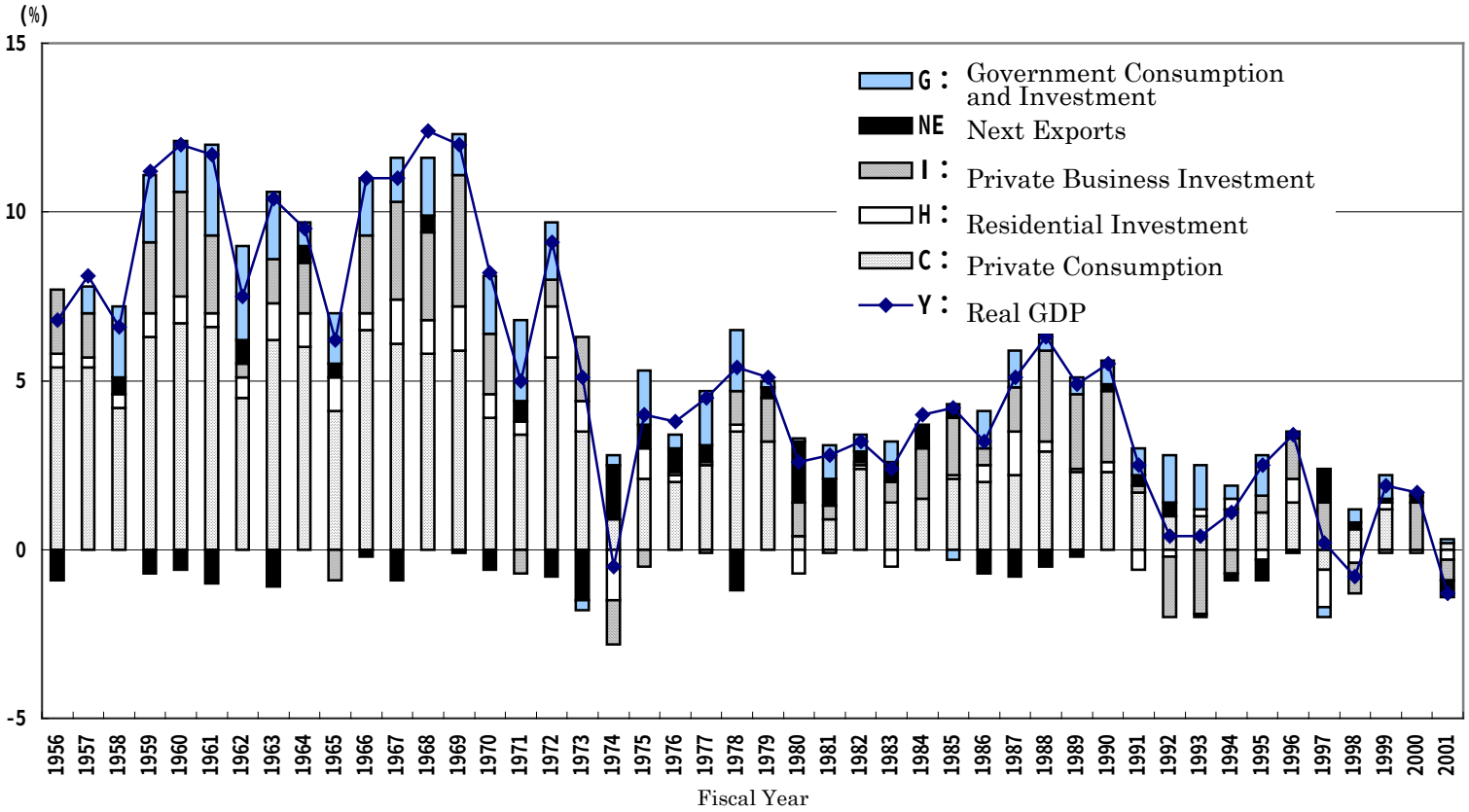
(i) High Growth period (1956－73): It is clear that private consumption (C) which

kept roughly more than 5% contribution throughout this period played the leading role. Government expenditure (G) also showed quite stable contributions, though with their magnitudes around 1~2%. Business investment (I) fluctuated widely and often pushed up the GDP growth rate higher than 10% during the boom periods. Contributions by net exports (NE), on the other hand, are shown negative more often than positive. This is because, during this period, Japanese exports grew very fast, almost twice as fast as the world trade, but its imports grew even faster. Therefore, the high growth of the Japanese economy during this period may be characterized as the business investment-led growth rather than export-led.

(ii) Moderate Growth Period (1974－90): The first and second oil crisis in 1974 and 1980, the sudden appreciation of yen after the Plaza Accord in September 1985 and the consequent bubble economy from 1987 to 1990 characterize the Japanese economy of this period. Due to the severe recession after the two oil crises and the government budget deficits during the late 1970s and early 1980s, both private consumption (C) and Government expenditure (G) ceased to be a stable growth factor any more but net exports (NE) often took their place (See, for example, its sizable contributions to growth in 1974 and 1980). However, the accumulation of huge trade balance of Japan caused bitter trade frictions with the U.S and EU countries, which led to the readjustments of the foreign exchange rates among major currencies by the Plaza Accord. Worrying the adverse impacts from the drastic appreciation of yen, the Japanese Government (Nakasone Cabinet) enforced a series of stimulative fiscal policy packages (October 1985, September 1986 and May 1987) and the easy monetary policy (by keeping the official discount rate at the record low level of 2.5% from March 1987 through April 1989). Buoyed by the accelerated increase in the land prices and stock prices, the business investment (I) again had a big boom during the 1987 to 1990 period with the result of keeping the GDP growth rate higher than 5 % for the consecutive four years, which, however, later turned out “bubble” years (to be explained in detail below).

(iii) Low Growth Period (1991－2001): The Japanese stock market crash at the end of 1989 and the consequent collapse of the land market caused the business investment (I) keep falling down for the three years in row (1992 to 1994) and growth contributions of private consumption (C) hover around barely at 1 %. During the period from 1992 to 1995, in order to cope with the economic slump, the Japanese Government introduced six emergency policy packages totaling 66 trillion yen and their impacts on GDP growth through Government expenditure (G) can be clearly observed in Fig 1. From 1995 to 1996, both the private consumption (C) and business investment (I) seemed to be recovering from the post-bubble recession, for GDP achieved a fairly respectable growth performance of at 2.5 and 3.4 %, which was then the highest among G-7 countries. Under the supposition that by the year 1996 the Japanese economy had already got over the recession caused by the bubble burst in

Figure1：The Annual Growth Rate of Real GDP and Its Decomposition into Demand Factors



the asset markets, the Japanese Government (Hashimoto Cabinet) shifted the policy gear from stimulative one to tight budgeting, so that the cumulative debts of the government might be curtailed. However, the introduction of the austerity policy such as raising the consumption tax rate from 3 % to 5 %, abolition of temporary income tax cuts, and increase in the medical insurance burden, coupled with the financial crisis happened both in Japan and Asia caused the GDP growth back to zero or negative in 1997 and 1998. Again from 1998 to 2000, the emergency stimulative measures comprising of public investments and tax cuts etc. were introduced four times by the Government with the total amount reaching 65 trillion yen. However, inspite of these large scale injection of the government money, the GDP growth rate stayed less than 2 %. The upshot of all this is the huge government bonds outstanding (about 1.5 times GDP in 2001) left and the misallocation of resources such as abnormal flourishing of the construction industry which hires more than 7 million workers or 10 % of the total labor force during the late 1990s.

Now, we turn our attention and focus on the price changes in the land and stock market in the next section.

III The Asset Market Bubble and Burst

1. Changes in land prices and the average stock price from 1955 to 2001 are depicted in Figure 2. In Japan, there exist four kinds of land price date, each of which is surveyed and published by different institutions. Here, we use the one by the Japan Real Estate Institute, because it is available since 1955 in the semi-annual form. Figure 2 shows two land price indexes, i.e., the average price of the nation-wide city area and that of the 6 largest city area. The stock price is taken from the average price index of the Tokyo Stock Market, 1st Section. Both of the price date are made semi-annual and adjusted to take 100 at the base point of 1st half of 1968.

Let's focus on the stock price movements first. During the 1950s and 1960s, it has fluctuated with a moderate upward trend. Then, around 1970 it began a strong upward movement which lasted for 20 years except temporary dips after the two oil crises, until hitting its peak of 2859.6 in the 2nd half of 1989. In particular, the extremely rapid hike during the late 1980s looks abnormal judging from hindsight. While it is generally agreed among Japanese economists that the stock market bubble occurred during the period from 1987 through 1990, one can realize that the bubble-like bull market had already started in the early 1980s. After bursting the bubble, however, the tide of the market has changed, so

the stock price index kept falling with large fluctuations until it reached the level in 2002 which is below the one third of the peak value in 1989. Turning to the two land price indexes, we find that both of them also showed similar steady upward trend until it reached the peak of 581 (for the nation-wide city area) and 1222 (for the 6 largest city area) in 1991. During the period from 1955 to 1990, they fell only once in 1974 at the time of the first oil crisis.

Learning from this record of steady land price hike, Japanese people got convinced of " the land myth " saying that the land price in Japan will never drop but keep on just rising. This kind of people's attitude toward land put a high collateral value on it in the bank financing. Therefore, the Japanese banking system which was supported by the steady increase in land prices had seemingly worked so well as was called " the land standard system", until the land price bubble burst in 1991.

After the land market collapse, however, the land prices have been falling for 12 consecutive years until even today (in 2003). The fact that the average land price in the 6 largest city area has fallen down to less than 40% from its 1990 peak value and still shows no sign of turning upward has generated the huge bad loans in the Japanese banking sector with its financial intermediation mechanism in dysfunction.

2. In examining the impact of the asset price changes on the total Japanese economy, the rate of price changes itself is not the relevant variable to focus. This is because the same rate of asset price changes may give a different impact to the economy if the stock value of the asset differs. In this connection, one is reminded that the land stock value is more than three times as large as the total stock market value in Japan. Therefore, if the land price and stock price have changed at the same rate of say, 1 %, the impact of the former would be more than 3 times as large as the latter because of the difference in their stock values. What matters to the economic activity is the capital gains and losses of the assets rather than the rate of asset price changes.

As Annual Report on National Accounts published by Cabinet Office of the Japanese Government gives capital gains and losses due to the asset price changes in the Reconciliation Account of the national balance sheet, Figure 3 presents these values both for the total land and the total stock market in Japan. To visualize the size of their impacts, their ratios to the GDP at current prices instead of its absolute values are graphed. From this figure, one can be convinced of the much larger impacts expected from the land price changes in comparison with the stock price changes. Furthermore, capital gains from land price hikes are observed to have risen up to more than the amount of GDP in 1972, and around 50% of it in 1979-1980, before generating more than GDP capital gains again in the bubble year of 1978. The cumulative sum total of capital gains of land from 1970 until 1990 can be computed as 2,000

Figure 2 : Price Indexes of Land and Stock : 1955-2001 (1968.1-6=100)

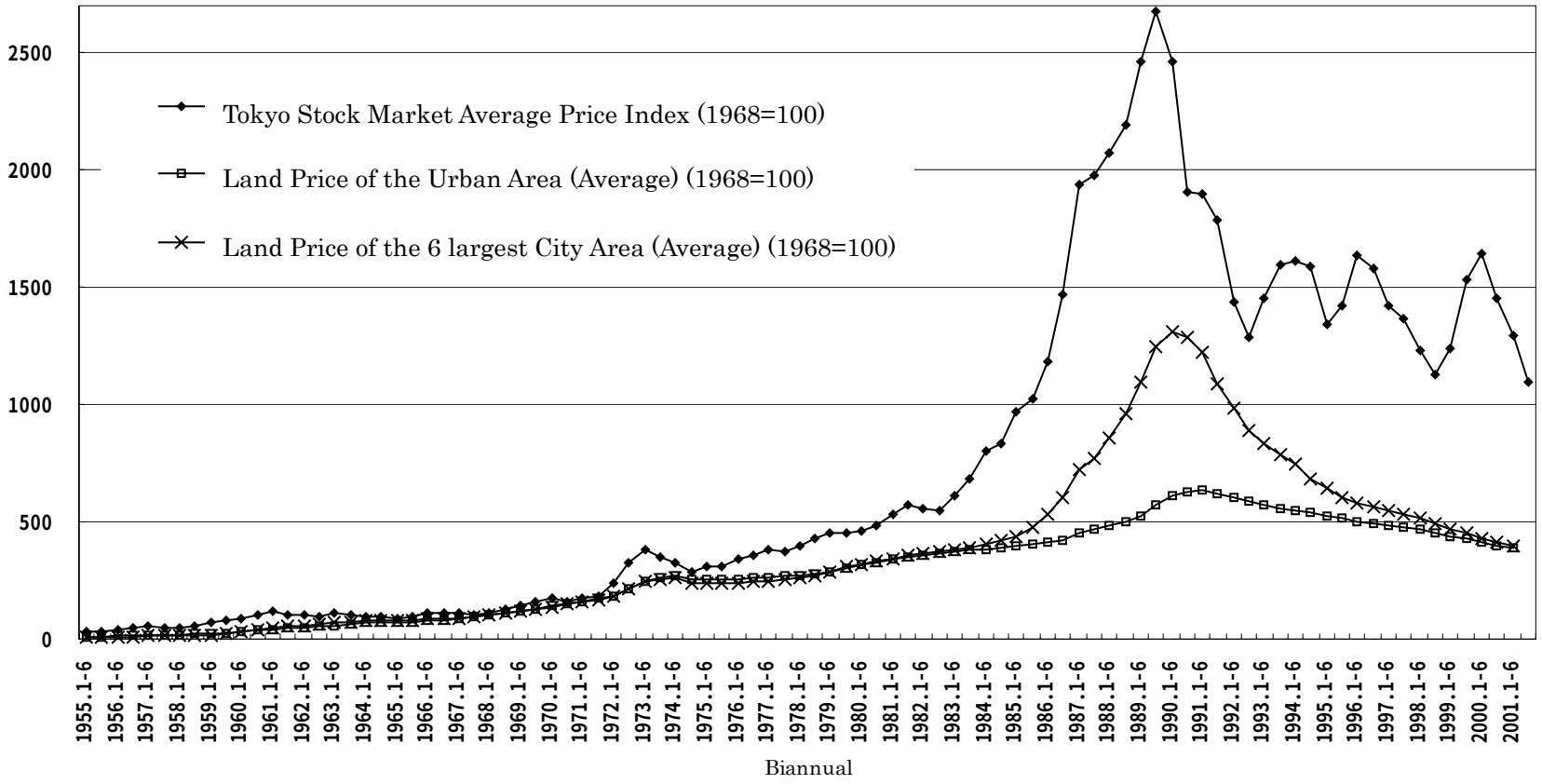
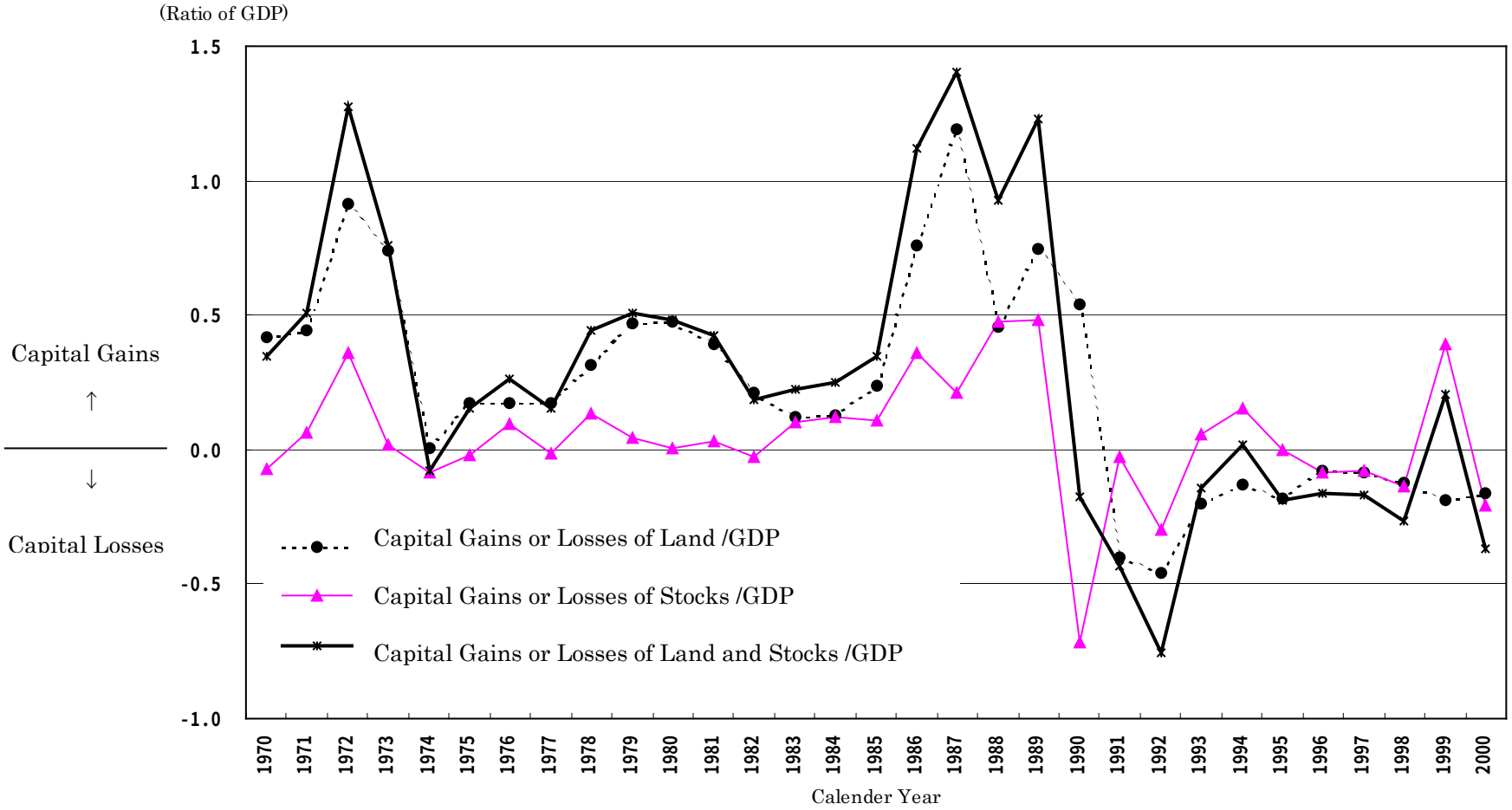


Figure3：Capital Gains of Losses of Land and Stocks As a Ratio of Nominal GDP



trillion yen, as contrasted with that of stock market from 1970 to 1989 being 700 trillion yen. On the other hand after the collapse of the asset market in 1990-91, continuous declines in land prices and stock price both began to generate huge capital losses. Here again the capital losses of the land stock are shown much larger in size than those of the stock market. The sum total of capital losses of land from 1991 until 2001 amounted to 1,000 trillion yen in comparison with 500 trillion yen for that of stocks in the period from 1990 until 2001.

In the next section, we present our tentative results of regression studies as to what impacts these capital gains and losses have given to the demand side of the Japanese economy. But, before doing so, some remarks may be added with regard to the changing size of the stock values of land and stocks in the national balance sheet. According to the SNA data, the ratio of the total land stock value to the nominal GDP has become lager than 3 in 1972 and since then stayed around 3.3 until early in the 1980s. However, after 1986 it increased rapidly up to the peak value of 5.7 in 1990, and then began declining until it reached 3.1 in 2000.

The total stock market value also have increased up to almost twice as large as the nominal GDP in 1989, but after the bubble bursting it drops below the nominal GDP in 1992, and kept fluctuating more or less horizontally since then. How much further from now the land price will fall down is of critical importance for the Japanese economy, a challenging topic which is beyond the scope of this paper.

Ⅳ Some Tentative Results of Regression Analysis

In this section, we present the regression results of our simple model to investigate the impacts of capital gains and losses due to asset price changes on the total Japanese economy. We test our hypothesis that the slowdown of the Japanese economy after the bubble burst in 1990-91 is mainly due to the insufficient growth of demand which have been caused by the capital losses in the asset markets. Therefore, we take up three demand components i.e., private final consumption (C), private business investment (I) and private residential investment (H) and estimate how much they have been affected by the capital gains or losses of the land and stocks.

1. Model

Let's begin by presenting the model specification for C, I and H in turn.

(a) Private Final Consumption (C) : After some preliminary tests, the following specification is chosen for estimation.

$$\Delta C_t = \beta_0 + \beta_1 \Delta \overline{Ydh}_t + \beta_2 (CGih / Ydh)_{t-1} \qquad (4.1)$$

where C = Domestic household final consumption at constant prices

$\Delta C = C_t - C_{t-1}$

Ydh = Disposable income of household including proprietors at current prices

$\overline{Ydh}$ = Ydh deflated by the GDP deflator

$\Delta \overline{Ydh} = \overline{Ydh}_t - \overline{Ydh}_{t-1}$

CGih = Capital gains or losses of the *i* th asset accrued to household including proprietors , with *i* =*s* (stocks),*l* (land) and *sl* (the sum of stocks and land)

t , t-1 = the period of time t and t-1

Since we are concerned about their impacts on demand growth, ΔC is chosen as the dependent variable. Then, $\Delta \overline{Ydh}$ is quite natural selection for the first explanatory variable. To take the size of capital gains or losses into account, the ratio of CGih relative to Ydh , or their ratio (CGih / Ydh)is used as the second explanatory variable with one period lag.

(b) Private Business Investment (I) : This variable plays the key role in the growth performance of a country, and thus numerous models have been studied so far in formulating the business investment behavior. There exist some standard models to follow, but for the purpose of focusing on their direct impact on the GDP growth, we used the following form.

$$GI_t = \beta_0 + \beta_1 G\overline{CF}_t + \beta_2 (CGic / CF)_{t-1} + \beta_3 ri_{t-1} \quad (4.2)$$

where I = Private business investment at constant prices

GI = Growth Rate of I

CGic = Capital gains or losses of the *i* th asset accrued to the corporate sector, with *i* = *s* (stocks), *l* (land) and *sl* (the sum of stocks and land)

CF = Cash flow, i.e., the sum of corporate income and the capital consumption allowances

$\overline{CF}$ = CF deflated by the GDP deflator

$G\overline{CF}$ = Growth Rate of $\overline{CF}$

ri = the real rate of interest for business investment (average nominal rate of bank lending minus the growth rate of business investment deflator)

(c) Private Residential Investment (H): Supposedly, because this demand component has close connections with the land price movements as well as with various policy decisions by the government such as tax cuts for housing loans or, anti-recession emergency policy measures, it is not easy to formulate the behavior accurately. After some experimentations, we found the

following specification meaningful.

$$GH_t = \beta_0 + \beta_1 (CGi/Yd)_t + \beta_2 \left(\frac{1}{2} \left(\overline{GYd_t} + \overline{GYd}_{t-1} \right) \right) + \beta_3 \left(\frac{1}{2} \left(r h_t + r h_{t-1} \right) \right) \qquad (4.3)$$

where H = Private residential investment at constant prices

GH = the growth rate of H

CGi=capital gains or losses of the i th asset in the whole economy , with

$i = s$ (stocks), l (land) and sl (the sum of stocks and land)

Yd = National disposable income at current prices

$\overline{Yd}$= Yd deflated by the GDP deflator

$G\overline{Yd}$=the growth rate of $\overline{Yd}$

rh= the real rate of interest for residential investment (average nominal rate of bank lending minus the growth rate of residential investment deflator)

2. Regression Results

Estimation results of Equation (4. 1), (4. 2) and (4. 3) above by OLS are demonstrated in Table 1 to 3 with their corresponding time series data in Figure 4 to 6. The sample period for estimation is selected both for the period up to the bubble (1970－1990) and the one (1970－1998) covering the pre-and the post-bubble period. Now, we give a short comment on each of the three demand components in turn.

Private Final Consumption (C): See Table1 and Figure 4

First of all, judging from the large t-values for the coefficient of CGsh variable, a significant positive role of CGsh is noticeable. We can conclude that the capital gains and losses of stocks held by households had both positive and negative impacts on consumers' spending. It means that not only CGsh affected C in the negative direction during the post-bubble period, it also had contributed to keep its upward trend from 1970 until 1991. By contrast, CGlh variable turned out statistically non-significant, indicating no impacts of land price bubble on household consumption. In passing, the high t-values attached to ΔYdh variable and consequent large $\overline{R^2}$ values of the regressions seem to assure this specification meaningful.

Private Business Investment (I): See Table 2 and Figure 5

The estimated equations of I for the period from 1972 to 1990 seem to give some conflicting results with regard to the capital gains effects on I. Namely, the high t-values estimated for the capital gains variable in the equation without the real interest rate variable (i.e.,r_{i-1}) have been changed to the low non-significant level in the regression with the r_{i-1}

variable. How to interpret these contrasting estimation results is not clear for the present, but in any case it makes evident that the effects of capital gains on I is not secure enough. However, in the regression for the longer time span covering the post bubble period (1972-98), highly significant coefficients are estimated for the variable of the capital gains or losses. As in the case of consumption, the above results clearly indicate that capital gains and losses from land and stocks have given strong impacts on business investments both in the positive and the negative direction. In other words, as capital gains had contributed to the rapid growth of the Japanese economy through fueling the business investment until the bubble burst, capital losses have been affecting conversely to cool it down during the post-bubble period. While in this specification the GCF variable exhibits strong positive impact on GI as expected, the real interest rate variable (r_{i-1}) seems to play nearly no role in the investment decision. This is certainly the important point which needs to be pursued further.

Private Residential Investment (H): See Table 3 and Figure 5

Only on this variable, the capital gains and losses term is assumed to give impacts with no time lag. The estimated results confirm that those from land (CG_l) rather than stock (CGs) have significant positive impact on H. However, as pointed out above, there are some possibility of reverse causations running from the residential investment activity towards the land price changes. Other variables such as the disposable income growth and the real rate of interest are found to have no explanatory power in this form of regression. Though this equation of GH does not present particularly good results in explaining the residential investment behavior, we are content with the fact that the capital gains or losses of land and the residential investment have close corrlations with each other in Japan. This also has the same implications as to the important role of the capital gains and losses of the asset market in contributing both to the high growth of Japan until the bubble burst and to the long recession thereafter.

Ⅴ Concluding Remarks and Directions for Further Research

1. In this paper we have demonstrated the following points :

(i) Both the land and stock prices in Japan started to rise in the midst of high growth during the 1960's and kept rising acceleratively until the bursting the asset market bubble in 1990-91, and since then have been on the downward trend even at the time of writing this paper in the mid-2003. Consequently, the amounts of capital gains and losses accrued to those asset holders each year are estimated enormous, sometimes surpassing even the nominal GDP of Japan.

(ii) When the capital gains and losses variable is taken into account in the regression analysis of private consumption, private business investments and private residential investment, a significantly positive coefficient is estimated in each case both for the sample period of 1970 to 1990 and for that of 1970 to 1998. This finding implies that the slowdown of the Japanese economy is largely due to the slow growth of demand components under the negative impacts incurred from large capital losses of the land and stocks. But, at the same time, it also suggests that the superior growth performance of the Japanese economy since the 1960s up to the bubble burst in 1991 had been similarly, but positively influenced by the still larger capital gains of the land and stocks.

2. So far, this study has focused only on the direct link between the capital gains or losses of the assets and the GDP components, without regard to the mechanism through which the former affects the latter. In the case of private consumption, their link is direct and simple, in the sense that they would affect only through the wealth effects of the household because at the macro level the capital gains or losses from land and stocks are supposed to comprise the major part of the yearly changes in the household wealth.

In the case of business investment, however, their link becomes much complicated. First of all, the capital gains or losses accrued to firms may affect directly the firms' investment decision by changing their position towards the risk premium of the investment project. Secondly, they affect also the amount of bank loans available to firms because in Japan the land is often used as collateral for the bank lending, particularly, to small and medium sized firms. But this lending system which worked quite well as far as the capital gains could be expected from land or stocks, had run into deep trouble, seized with the huge amount of bad loans, when the asset prices started to fall precipitously. As a result of this the amount of total loans outstanding by all private banks has been declining until even today since the late 1990s at the annual rate of around –5%. How to reduce the banks' burden from the bad loans (which still amount to around 8% of total loans by all private banks in March, 2003) and to revive the bank's lending activity is of utmost importance for the genuine recovery of the Japanese economy. Therefore, in the further study on the impact of capital gains or losses in Japan their direct link to the firms' investment decisions as well as the indirect ones through the banks' lending behavior need to be taken into consideration.

Table 1 Regression Results of Private Final Consumption : Δ C

NO.	Dep. Var.	Sample period	$(CGsh/Ydh)_{-1}$	(t)	$(CGlh/Ydh)_{-1}$	(t)	$(CGslh/Ydh)_{-1}$	(t)	$\Delta\overline{Ydh}$	(t)	CON	(t)	$\bar{R}^2$	DW	NO
1	Δ C	71～90	16268.1	(2.50)[b]					.518	(2.88)[a]	1706.6	(1.17)	.519	1.52	20
2	Δ C	71～90			1213.3	(.61)			.638	(3.09)[a]	1090.1	(.64)	.357	1.28	20
3	Δ C	71～90					1744.0	(1.04)	.602	(2.94)[a]	1058.3	(.64)	.382	1.35	20
4	Δ C	71～98	11017.7	(2.86)[a]					.656	(5.38)[a]	704.3	(.71)	.639	1.22	28
5	Δ C	71～98			1889.0	(1.61)			.676	(4.93)[a]	256.1	(.24)	.566	1.35	28
6	Δ C	71～98					2077.6	(2.10)[b]	.650	(4.86)[a]	362.8	(.35)	.593	1.34	28

(Note) CON : constant term t : t-values in the bracket $\bar{R}^2$: the coefficient of determination adjusted for the degrees of freedom
DW : Durbin-Watson Statistics NO : number of samples
(for other variables, see in the text)
* a, b and c denote the level of significance by t-test at 1%, 5% and 10%, respectively

Figure 4 : Private Final Consumpsion (ΔC/C)

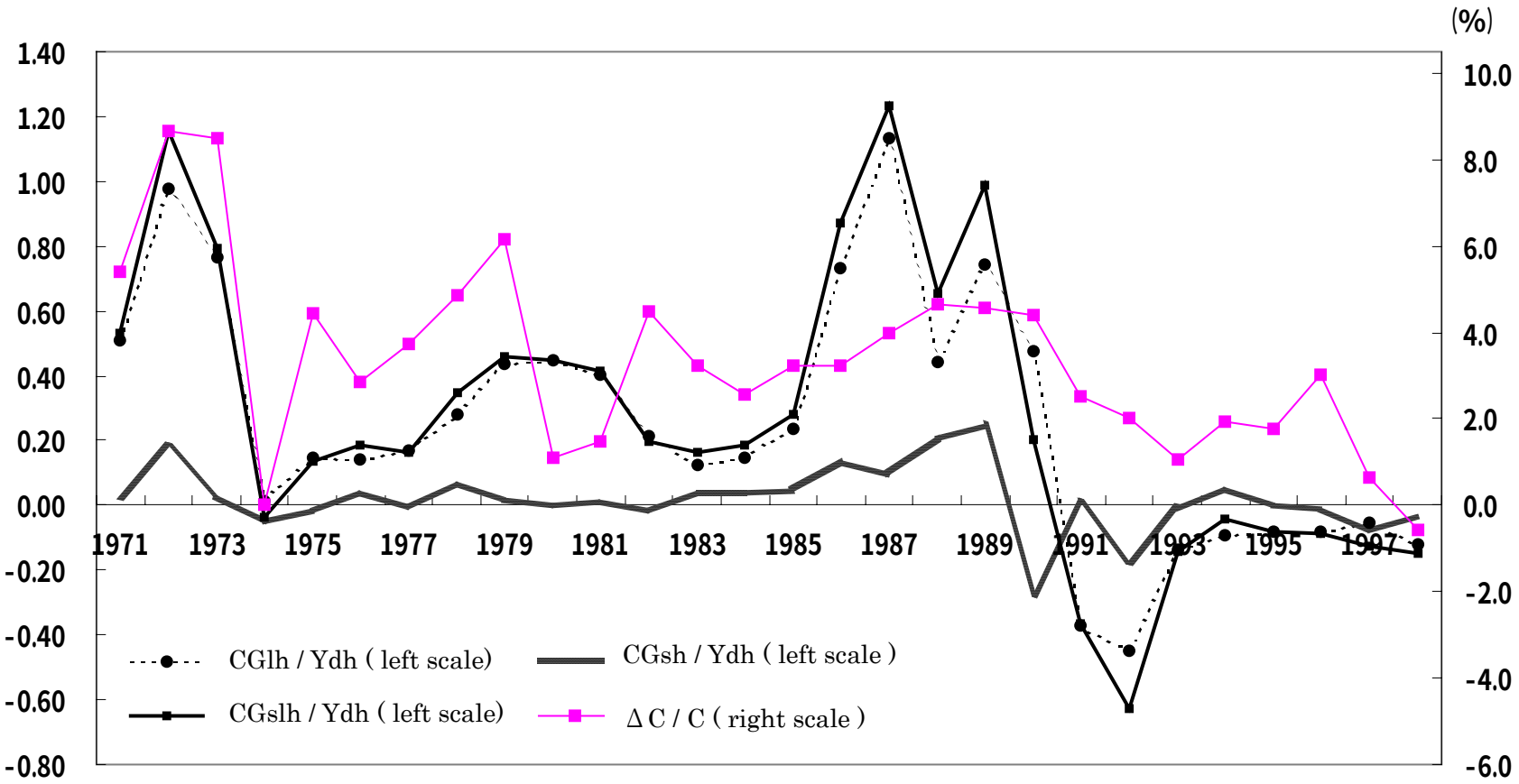


Table 2 Regression Results of Private Business Investment : GI

NO.	Dep. Var.	Sample period	$(CGsc/CF)_{-1}$	(t)	$(CGlc/CF)_{-1}$	(t)	$(CGslc/CF)_{-1}$	(t)	$\Delta G\overline{CF}$	(t)	$\bar{r}i_{-1}$	(t)	$D_{96,97}$	(t)	CON	$\bar{R}^2$	DW	NO
1	GI	72～90	.064	(3.80)[a]					.499	(3.67)[a]					.013	.674	1.87	19
2	GI	72～90			.053	(2.09)[c]			.579	(3.56)[a]					.010	.514	1.91	19
3	GI	72～90					.040	(3.65)[a]	.504	(3.63)[a]					.004	.662	1.80	19
4	GI	72～90	.032	(1.34)					.439	(3.31)[a]	-0.02	(1.75)			.163	.711	2.28	19
5	GI	72～90			.004	(.14)			.436	(3.09)[a]	-0.03	(3.01)[a]			.262	.677	2.69	19
6	GI	72～90					.016	(.86)	.445	(3.24)[a]	-0.02	(1.60)			.174	.692	2.37	19
7	GI	72～98	.031	(2.61)[b]					.700	(5.08)[a]	-0.01	(.78)	.034	(.87)	.048	.635	1.81	27
8	GI	72～98			.062	(3.50)[a]			.600	(4.47)[a]	-.005	(.84)	.063	(1.66)[c]	.033	.693	2.19	27
9	GI	72～98					.032	(4.12)[a]	.584	(4.66)[a]	-.003	(.64)	.060	(1.72)	.030	.730	2.01	27

(Note) $D_{96,97}$: A dummy variable which takes 1.0 in 1996 and 1997 and zero otherwise, to account for the Great Hanshin Earthquale occurred in 1995
(See also Note to Table 1)

Figure 5 : Private Business Investment (ΔI /I)

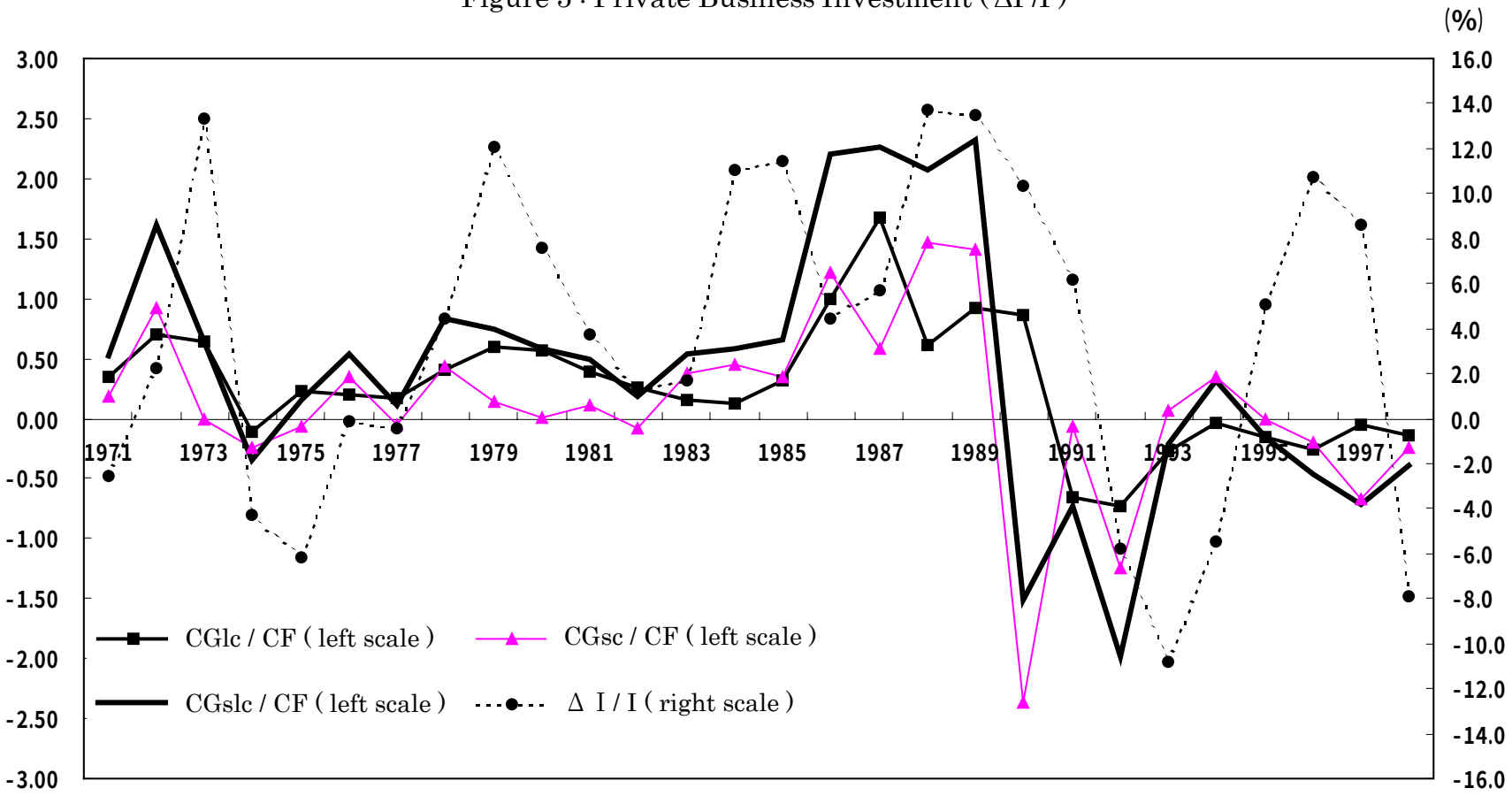
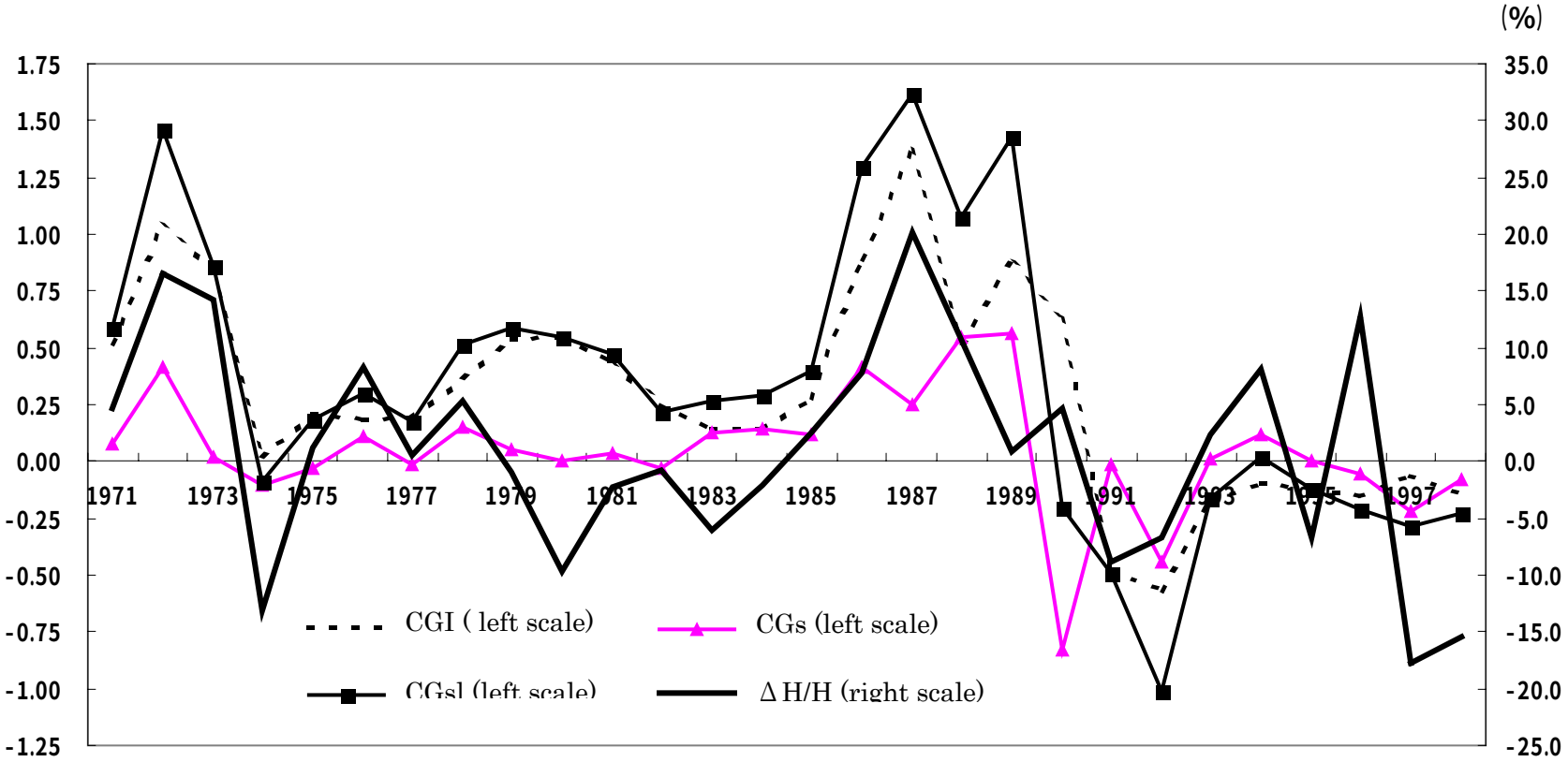


Table 3 Regression Results of Private Residential Investment : GH

No	Dep. Var.	Sample period	CGs/Yd	(t)	CGl/Yd	(t)	CGls/Yd	(t)	$\frac{1}{2}(G\bar{Y}d + G\bar{Y}d_{-1})$	(t)	$\frac{1}{2}(rh + rh_{-1})$	(t)	D_{96}	(t)	CON	$\bar{R}^2$	DW/NO
1	GH	72～90	.030	(.45)					1.48	(1.30)	-.020	(1.44)			.111	.233	1.85/19
2	GH	72～90			.142	(2.58)[b]			.861	(.88)	-.004	(.28)			-.049	.462	1.71/19
3	GH	72～90					0.80	(2.00)[c]	1.153	(1.12)	-.005	(.36)			-.027	.385	2.02/19
4	GH	72～98	.114	(1.83)[c]					1.620	(1.83)[c]	.0014	(.17)	.140	(1.50)	-.064	.226	1.92/27
5	GH	72～98			.135	(3.46)[a]			.271	(.30)	.001	(.13)	.187	(2.27)[b]	-.050	.423	1.30/27
6	GH	72～98					0.93	(3.46)[a]	.469	(.54)	.002	(.28)	.182	(2.23)[b]	-.056	.423	1.66/27

(Note) D_{96} : A dummy variable which takes 1.0 in 1996 and zero otherwise to account for the Great Hanshin Earthquake occurred in 1995
(See also Note to Table 1)

Figure 6 : Private Residential Investment (ΔH/ H)



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＊Date used in this paper are taken from NIKKEI Comprehensive Economic File of the Research Institute of Economics and Business Administration, Kobe University.