

Table 1 Change of the Corporate Governance Structure in the 1990s

Institutional Investor is the percentage of the share held by foreign investors, investment trust accounts and pension investment fund trust accounts of trust banks, and separate accounts of life insurance companies. *Foreign investor* is the percentage of the share held by foreign investors. *Financial Institution* is the percentage of the share held by financial institutions, and *Corporation* is by other corporations. *Individual* is the percentage of the share held by individual investors minus directors' ownership. *Debt-Asset Ratio* is the book value of total debt divided by the market value of assets. *Main Bank Ratio* is borrowing from main bank divided by total assets. This figure includes all firms (except financial institutions) listed in Tokyo Ttock Exchange First Section [about 1100 firms].

(%)

	<i>Institutional Investor</i>		<i>Foreign Investor</i>		<i>Financial Institution</i>		<i>Corporation</i>		<i>Individual</i>		<i>Debt-Asset Ratio</i>		<i>Main Bank Ratio</i>	
	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev	Mean	Std.Dev
1990	9.28	6.87	4.38	6.79	20.86	9.61	28.00	15.72	20.62	8.43	51.57	17.77	4.61	4.92
1991	10.03	7.42	5.21	7.19	20.90	9.66	27.78	15.85	20.80	8.62	50.74	18.00	4.78	5.37
1992	10.06	7.32	5.23	7.34	20.78	9.62	27.46	15.77	22.10	9.27	50.30	18.66	5.02	5.72
1993	11.07	7.62	6.18	7.83	20.63	9.51	26.71	15.59	22.14	9.51	49.84	19.16	5.29	5.66
1994	11.36	7.49	6.74	7.82	20.31	9.48	26.24	15.57	22.14	9.86	49.74	19.33	5.28	5.78
1995	11.79	8.52	7.80	8.51	19.43	9.31	26.02	15.67	22.49	10.10	50.00	19.49	5.29	5.77
1996	12.32	8.80	8.05	8.82	19.02	9.48	26.02	15.89	23.03	10.95	49.70	19.58	5.52	6.08
1997	11.76	9.42	7.62	9.15	18.20	9.35	26.29	16.13	25.11	11.97	48.97	20.19	5.79	6.30
1998	11.22	9.73	7.09	9.28	17.38	9.11	26.23	16.51	26.63	12.75	48.87	20.93	6.40	6.89
1999	11.96	11.04	8.17	10.19	16.26	9.16	26.26	16.91	28.48	13.68	49.47	27.50	6.58	7.95
2000	12.89	11.76	8.13	10.13	14.96	9.20	25.87	17.36	29.18	14.28	49.60	23.55	N.A.	N.A.

Table 2 Firms with High Institutional Investors' Shareholding

Institutional Investor is the percentage of the share held by foreign investors, investment trust accounts and pension investment fund trust accounts of trust banks, and separate accounts of life insurance companies. *Foreign Investor* is the percentage of the share held by foreign investors. Rank depends on the percentage of the share held by institutional investors in 2000.

Rank	Firm	<i>Institutional Investor</i>			<i>Foreign Investor</i>		
		1990	2000	% Changes	1990	2000	% Changes
1	Mitsumi Electronics	16.0	56.0	40.0	3.7	29.9	26.2
2	ROHM	11.1	55.7	44.7	6.0	39.5	33.4
3	Yamanouchi Pharmaceutica	30.2	54.1	23.9	18.8	42.8	24.0
4	TDK	31.2	52.2	21.0	12.1	36.1	23.9
5	Canon	26.5	50.7	24.2	15.5	39.6	24.0
6	Tokyo Electron	20.3	50.3	30.0	14.9	36.2	21.3
7	FUJIFILM	21.5	49.8	28.3	9.7	37.4	27.7
8	Chugai Pharmaceutical	22.6	49.4	26.7	16.7	42.1	25.4
9	SONY	29.5	49.2	19.7	18.8	39.7	20.9
10	Pionner	31.7	48.7	17.0	12.7	31.6	18.9
11	HOYA	14.7	48.6	34.0	5.0	32.4	27.4
12	Kao Corporation	18.8	48.4	29.6	9.0	31.9	22.9
13	Minebea	6.4	47.0	40.6	6.4	35.3	28.9
14	TAIYO YUDEN	10.0	46.5	36.5	3.8	29.0	25.1
15	Mitsui Kinzoku	10.3	46.4	36.1	1.7	16.3	14.6
16	NIHON COMSYS	17.7	46.1	28.4	10.9	14.7	3.8
17	Shimachu	27.3	45.0	17.7	14.6	33.4	18.8
18	SANKYO	26.8	45.0	18.2	15.2	35.3	20.1
19	Hirose Electric	27.9	44.1	16.2	15.8	34.2	18.4
20	Murata Manufacturing	22.7	43.6	20.9	14.9	30.8	15.9
21	NICHICON	17.2	42.9	25.6	5.4	34.5	29.0
22	KURARAY	25.1	42.8	17.7	11.0	19.7	8.7
23	KYOCERA	30.4	42.8	12.4	19.5	29.1	9.7
24	SECOM	29.1	42.7	13.6	12.2	25.8	13.6
25	KOMATSU	16.8	42.6	25.8	10.3	35.1	24.9
26	Shionogi	10.8	42.5	31.7	2.6	38.4	35.9
27	Anritsu	15.7	42.1	26.5	2.2	19.0	16.8
28	ADVANTEST	24.9	41.8	16.9	14.2	29.4	15.1
29	Toyo Technical	16.2	41.6	25.4	7.5	10.6	3.2
30	NIPPON SHEET GLASS	16.8	41.4	24.6	3.1	24.2	21.0

(%)

Table 3 Descriptive Statistics

I is investment ratio, the change in tangible fixed assets plus depreciation, divided by tangible fixed assets(year t-1). *Q* is Tobin's Q of the firm, calculated as the ratio of the market value of the firm(the market value of stock plus the book value of total debt) divided by the market value of the assets. *CF* is after tax profit plus depreciation minus dividend and bonus, divided by the market value of the assets(year t-1). *DA* is bonds and borrowings, divided by the market value of the assets. *FRGN* is the percentage of the share held by foreign investors. *MBD* is dummy variable which equals one if the main bank has not changed for five years and the ratio of main bank loan to the assets is higher than 5.1%, which is sample means.

Panel A : All Firms

	Full		HQ		LQ	
	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
<i>I</i>	0.109	0.194	0.119	0.236	0.093	0.142
<i>Q</i>	1.048	0.640	1.258	0.771	0.837	0.305
<i>CF</i>	0.021	0.041	0.021	0.049	0.022	0.034
<i>DA</i>	0.225	0.171	0.207	0.192	0.230	0.149
<i>FRGN</i>	7.118	8.698	8.431	10.629	7.067	8.301
<i>INST</i>	11.737	9.436	12.911	10.488	11.657	8.522
<i>MBD1</i>	0.412	0.492	0.332	0.471	0.427	0.495
<i>MBD</i>	0.321	0.467	0.265	0.442	0.318	0.466
Obs.	8891		2720		2672	

Panel B : Manufacturing Firms

<i>I</i>	0.100	0.124	0.110	0.164	0.090	0.090
<i>Q</i>	1.028	0.594	1.283	0.795	0.831	0.337
<i>CF</i>	0.024	0.042	0.022	0.053	0.026	0.031
<i>DA</i>	0.199	0.151	0.192	0.177	0.199	0.125
<i>FRGN</i>	7.593	9.552	9.211	11.880	7.501	8.911
<i>INST</i>	12.303	9.606	13.669	10.963	12.175	8.600
<i>MBD1</i>	0.371	0.483	0.313	0.464	0.382	0.486
<i>MBD</i>	0.283	0.450	0.244	0.430	0.282	0.450
Obs.	5818		1752		2064	

Panel C : Non-Manufacturing Firms

<i>I</i>	0.127	0.282	0.136	0.327	0.106	0.247
<i>Q</i>	1.088	0.718	1.212	0.724	0.858	0.156
<i>CF</i>	0.016	0.039	0.019	0.040	0.008	0.039
<i>DA</i>	0.274	0.194	0.234	0.213	0.335	0.176
<i>FRGN</i>	6.216	6.700	7.020	7.681	5.596	5.522
<i>INST</i>	10.665	9.009	11.540	9.419	9.898	8.011
<i>MBD1</i>	0.497	0.500	0.367	0.482	0.583	0.494
<i>MBD</i>	0.400	0.490	0.304	0.460	0.442	0.497
Obs.	3073		968		608	

Table 4 Base Regression

The dependent variable is I , the change in tangible fixed assets plus depreciation, divided by tangible fixed assets(year t-1). Q is Tobin's Q of the firm, calculated as the ratio of the market value of the firm(the market value of stock plus the book value of total debt) divided by the market value of the assets. CF is after tax profit plus depreciation minus dividend and bonus, divided by the market value of the assets(year t-1). DA is bonds and borrowings, divided by the market value of the assets. Model 1 and 2 of Panel A, Model 1 of Panel B, and Model 1 and 2 of Panel C include the firm fixed effects. t-statistics are reported in parenthesis. ***, ** and * denote significance at the 0.01, 0.05 and 0.1 levels respectively.

PANEL A : 1993-2000

	Model 1	Model 2	Model 3
	Manufacturing	Manufacturing	Non-Manufacturing
Sample	Firms	Firms	Firms
$Qt-1$	0.016 *** (2.923)	0.015 *** (3.287)	0.026 *** (3.846)
CFt		0.327 *** (7.089)	0.801 *** (5.392)
$DAt-1$	-0.073 * (1.741)	-0.134 *** (4.070)	0.035 (1.131)
Year Dummy	Yes	Yes	Yes
Adj. R ²	0.114	0.198	0.029
Obs.	8891	5818	3073
Hausmann	40.179 [.0000]	51.610 [.0000]	13.385 [.2030]

PANEL B : 1993-1996

	Model 1	Model 2	Model 3
	Manufacturing	Non-Manufacturing	Construction and Real Estate
Sample	Firms	Firms	Real Estate
$Qt-1$	0.039 *** (3.084)	0.060 *** (2.755)	0.045 (1.006)
CFt	0.203 (1.388)	0.114 (0.369)	1.900 *** (3.837)
$DAt-1$	-0.140 * (1.957)	0.082 * (1.668)	0.180 *** (3.096)
Year Dummy	Yes	Yes	Yes
Adj. R ²	0.178	0.010	0.102
Obs.	2837	1447	498
Hausmann	37.286 [.0000]	4.171 [.6535]	7.573 [.2711]

PANEL C : 1997-2000

	Model 1	Model 2	Model 3
	Manufacturing	Non-Manufacturing	Construction and Real Estate
Sample	Firms	Firms	Real Estate
$Qt-1$	0.015 *** (3.662)	0.016 *** (2.841)	0.026 (0.891)
CFt	0.158 *** (4.324)	-0.049 (0.494)	0.179 (1.305)
$DAt-1$	-0.256 *** (6.483)	-0.135 * (1.921)	-0.053 ** (2.025)
Year Dummy	Yes	Yes	Yes
Adj. R ²	0.374	0.404	0.011
Obs.	2958	1583	523
Hausmann	62.549 [.0000]	37.929 [.0000]	4.005 [.6760]

Table 5 Difference between HQ Firms and LQ Firms (1993-2000)

The dependent variable is I , the change in tangible fixed assets plus depreciation, divided by tangible fixed assets(year t-1). Q is Tobin's Q of the firm, calculated as the ratio of the market value of the firm(the market value of stock plus the book value of total debt) divided by the market value of the assets. CF is after tax profit plus depreciation minus dividend and bonus, divided by the market value of the assets(year t-1). DA is bonds and borrowings, divided by the market value of total assets. HQ is dummy variable which equals one if Tobin's Q(beginning of the period, three years average) of the firm is higher than one third of whole samples. LQ is dummy variable which equals one if Tobin's Q(beginning of the period, three years average) of the firm is lower than one third of whole samples. All Models include the firm fixed effects. t-statistics are reported in parenthesis. ***, ** and * denote significance at the 0.01, 0.05 and 0.1 levels respectively.

	Model 1	Model 2	Model 3	Model 4	Model 5
Period	1993-2000	1993-1996	1997-2000	1993-2000	1993-2000
	Manufacturing	Manufacturing	Manufacturing	Non-Manufacturing	Construction and Real Estate
Sample	Firms	Firms	Firms	Firms	Real Estate
$Qt-I$	0.021 *** (2.643)	0.039 *** (3.003)	0.014 *** (3.348)	0.025 (1.129)	-0.048 (0.876)
CFt	0.302 *** (5.556)	0.221 (1.481)	0.165 *** (4.516)	0.539 ** (2.404)	0.617 * (1.945)
DA_{t-1}	-0.159 ** (2.189)	-0.044 (0.335)	-0.066 (0.747)	-0.436 ** (2.396)	-0.384 * (1.951)
$HQ*DA_{t-1}$	0.109 (1.132)	-0.178 (1.063)	-0.219 ** (2.098)	0.509 ** (2.055)	0.332 (1.124)
$LQ*DA_{t-1}$	0.052 (0.475)	-0.050 (0.247)	-0.270 ** (2.359)	1.448 *** (4.901)	3.279 *** (8.106)
Year Dummy	Yes	Yes	Yes	Yes	Yes
Adj. R ²	0.156	0.177	0.350	0.073	0.122
Obs.	4797	2756	2788	2653	898
Hausmann	40.899 [.0000]	37.720 [.0000]	60.827 [.0000]	46.263 [.0000]	68.422 [.0000]

Table 6 Effects of Corporate Governance Structure (HQ Firms)

Samples are limited to firms with high growth opportunities, that is defined as firms whose Tobin's Q(beginning of the period, three years average) is higher than one third of whole samples. The dependent variable is I , the change in tangible fixed assets plus depreciation, divided by tangible fixed assets(year t-1). Q is Tobin's Q of the firm, calculated as the ratio of the market value of the firm(the market value of stock plus the book value of total debt) divided by the market value of the assets. CF is after tax profit plus depreciation minus dividend and bonus, divided by the market value of the assets(year t-1). DA is bonds and borrowings, divided by the market value of the assets. $FRGN$ is the percentage of the share held by foreign investors. MBD is dummy variable which equals one if the main bank has not changed for five years and the ratio of main bank loan to the assets is higher than 5.1%, which is sample means. Model 1, 2 and 4 include the firm fixed effects. t-statistics are reported in parenthesis. ***, ** and * denote significance at the 0.01, 0.05 and 0.1 levels respectively.

	Model 1	Model 2	Model 3	Model 4
Period	1993-2000	1993-2000	1997-2000	1997-2000
	Manufacturing	Manufacturing	Manufacturing	Manufacturing
	Firms with	Firms with	Firms with	Firms with
Sample	High Q-ratio	High Q-ratio	High Q-ratio	High Q-ratio
$Qt-1$	0.010 (1.313)	0.014 * (1.952)	0.012 *** (2.943)	0.008 (1.496)
CFt	0.394 *** (4.447)	0.392 *** (4.650)	0.285 *** (5.975)	0.221 *** (3.888)
$DAt-1$	-0.143 ** (1.973)	-0.081 (0.902)	-0.114 *** (4.511)	-0.442 *** (4.441)
$FRGNt-1$		0.000 (0.270)		0.001 (0.877)
$MBDt-1$		0.022 (0.717)		-0.033 (0.936)
$FRGNt-1*DAt-1$		-0.003 (0.656)		0.007 * (1.787)
$MBDt-1*DAt-1$		-0.051 (0.563)		0.195 ** (1.938)
Year Dummy	Yes	Yes	Yes	Yes
Adj. R ²	0.137	0.155	0.111	0.370
Obs.	1752	1712	919	911
Hausmann	27.856 [.0005]	24.517 [.0396]	9.478 [.1484]	26.037 [.0037]

Table 7 Effects of Corporate Governance Structure (LQ Firms)

Samples are limited to firms with low growth opportunities, that is defined as firms whose Tobin's Q(beginning of the period, three years average) is lower than one third of whole samples. The dependent variable is I , the change in tangible fixed assets plus depreciation, divided by tangible fixed assets(year t-1). Q is Tobin's Q of the firm, calculated as the ratio of the market value of the firm(the market value of stock plus the book value of total debt) divided by the market value of the assets. CF is after tax profit plus depreciation minus dividend and bonus, divided by the market value of the assets(year t-1). DA is bonds and borrowings, divided by the market value of the assets. $FRGN$ is the percentage of the share held by foreign investors. MBD is dummy variable which equals one if the main bank has not changed for five years and the ratio of main bank loan to the assets is higher than 5.1%, which is sample means. All Models include the firm fixed effects. t-statistics are reported in parenthesis. ***, ** and * denote significance at the 0.01, 0.05 and 0.1 levels respectively.

	Model 1	Model 2	Model 3	Model 4
Period	1993-2000	1993-2000	1997-2000	1997-2000
	Manufacturing	Manufacturing	Manufacturing	Manufacturing
	Firms with	Firms with	Firms with	Firms with
Sample	Low Q-ratio	Low Q-ratio	Low Q-ratio	Low Q-ratio
$Qt-1$	0.000 (0.057)	0.001 (0.102)	0.031 (1.401)	0.035 (1.490)
CFt	0.187 *** (2.644)	0.186 *** (2.620)	-0.042 (0.733)	-0.038 (0.677)
$DAt-1$	-0.180 *** (3.731)	-0.199 *** (3.069)	-0.340 *** (5.566)	-0.300 *** (3.620)
$FRGNt-1$		-0.001 (1.396)		-0.001 (1.021)
$MBDt-1$		0.030 * (1.748)		0.043 ** (2.257)
$FRGNt-1*DAt-1$		0.007 ** (2.162)		0.007 * (1.858)
$MBDt-1*DAt-1$		-0.115 * (1.699)		-0.174 ** (2.181)
Year Dummy	Yes	Yes	Yes	Yes
Adj. R ²	0.185	0.188	0.213	0.221
Obs.	2064	2039	1019	1009
Hausmann	64.279 [.0000]	61.687 [.0000]	48.283 [.0000]	47.097 [.0000]

Table 8 PBR of City Banks and Long-Term Credit Banks

PBR is Price Book-Value Ratio, which is defined as stock price divided by the book value of net assets per stock. 10 banks consist of Industrial Bank of Japan, Daiichi Kangyo Bank, Sakura(Mitsui) Bank, Fuji Bank, Tokyo Mitsubishi(Mitsubishi) Bank, Asahi(Kyowa) Bank, Sanwa Bank, Sumitomo Bank and Daiwa Bank. Additional to these banks, 13 Banks include Long-Term Credit Bank of Japan, Nippon Credit Bank, and Hokkaido Takushoku Bank.

	Year	1889	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
13 banks	Median	4.38	3.90	2.49	2.67	2.48	2.36	3.51	2.33	.	.	.
	Mean	4.66	3.96	2.62	2.67	2.83	2.41	3.38	2.30	.	.	.
	Std.dev	1.10	0.99	0.60	0.80	1.11	0.82	1.23	1.14	.	.	.
	C.V.	0.24	0.25	0.23	0.30	0.39	0.34	0.36	0.50	.	.	.
10 banks	Median	4.34	3.90	2.51	2.79	2.96	2.59	3.71	2.41	2.12	1.17	1.40
	Mean	4.60	4.08	2.73	2.94	3.18	2.71	3.84	2.31	2.28	1.43	1.49
	Std.dev	1.09	1.01	0.57	0.69	1.00	0.63	0.93	0.54	0.95	0.77	0.61
	C.V.	0.24	0.25	0.21	0.23	0.31	0.23	0.24	0.23	0.42	0.54	0.41

Table 9 Effects of the Performance of Main Bank (1997-2000)

The Samples of PANEL A are limited to firms with high growth opportunities, that is defined as firms whose Tobin's Q(beginning of the period, three years average) is higher than one third of whole samples. The Samples of PANEL B are limited to firms with low growth opportunities, that is defined as firms whose Tobin's Q(beginning of the period, three years average) is lower than one third of whole samples. The dependent variable is I_t , the change in tangible fixed assets plus depreciation, divided by tangible fixed assets(year t-1). Q is the market-book ratio of the firm, calculated as the ratio of the market value of the firm(the market value of stock plus the book value of total debt) divided by the market value of the assets. CF is after tax profit plus depreciation minus dividend and bonus, divided by the market value of the assets(year t-1). DA is bonds and borrowings, divided by the market value of the assets. $FRGN$ is the percentage of the share held by foreign investors. GMB is dummy variable which equals one if the PBR of the main bank is higher than the median of PBR of each year and MBD equals one. BMB is dummy variable which equals one if the PBR of the main bank is lower than the median of PBR of each year and MBD equals one. PBR is Price Book-Value Ratio, which is defined as stock price divided by the book value of net assets per stock. All Models include the firm fixed effects. t-statistics are reported in parenthesis. ***, ** and * denote significance at the 0.01, 0.05 and 0.1 levels respectively.

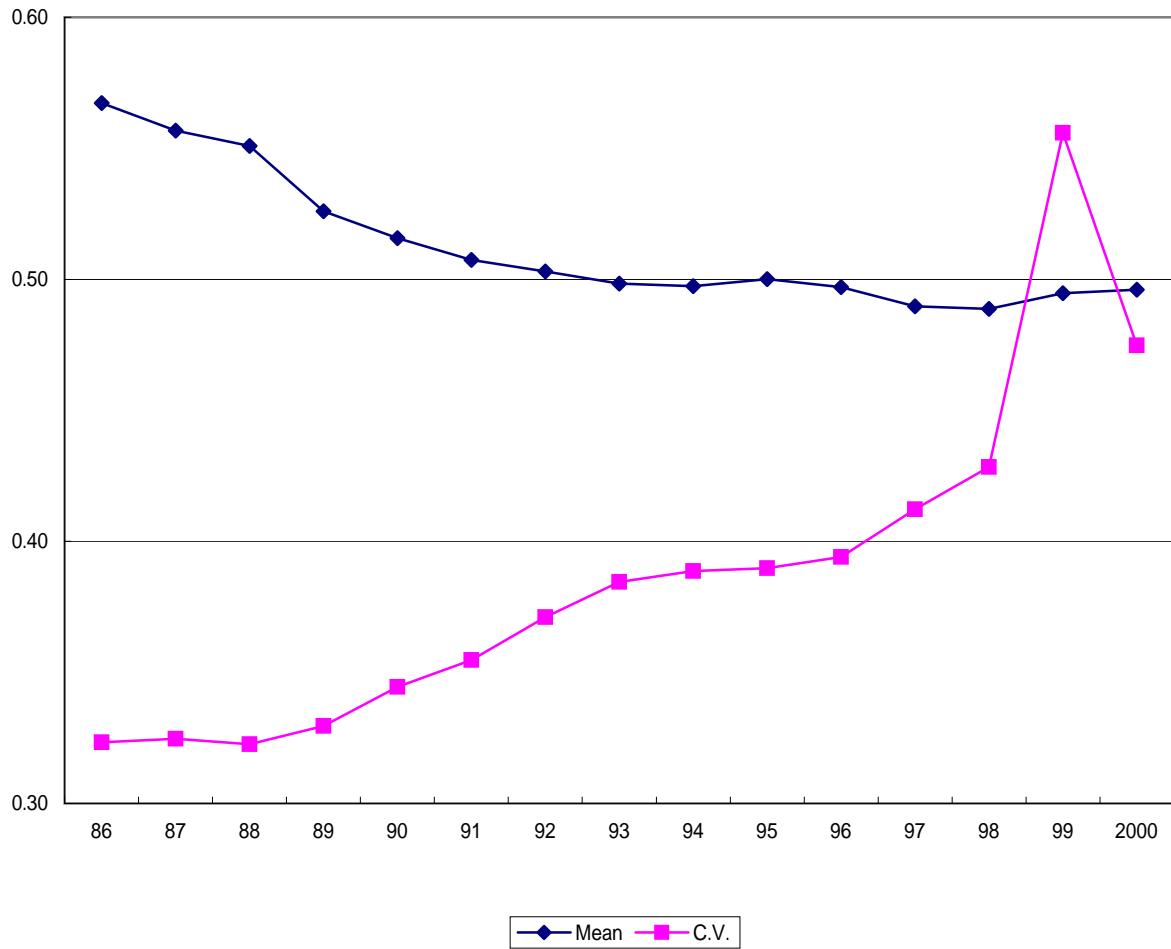
PANEL A: HQ firms

Sample	Model 1	Model 2	Model 3
	Manufacturing	Manufacturing	Manufacturing
	Firms with High Q-ratio	Firms with High Q-ratio	Firms with High Q-ratio
Q_{t-1}	0.008 (1.482)	0.009 * (1.661)	0.008 (1.493)
CF_t	0.224 *** (3.884)	0.213 *** (3.690)	0.213 *** (3.716)
DA_{t-1}	-0.339 *** (3.784)	-0.380 *** (4.275)	-0.428 *** (4.519)
$FRGN_{t-1}$	0.002 (1.280)	0.002 (1.297)	0.002 (1.120)
$FRGN_{t-1} * DA_{t-1}$	0.007 * (1.650)	0.008 * (1.919)	0.008 * (1.935)
$GMB_{t-1} * DA_{t-1}$	-0.013 (0.414)		0.109 ** (2.010)
$BMB_{t-1} * DA_{t-1}$		0.064 ** (1.988)	0.153 *** (2.782)
Year Dummy	Yes	Yes	Yes
Adj. R ²	0.366	0.369	0.372
Obs.	864	865	864
Hausmann	25.673 [.0023]	26.299 [.0018]	28.574 [.0015]

PANEL B: LQ firms

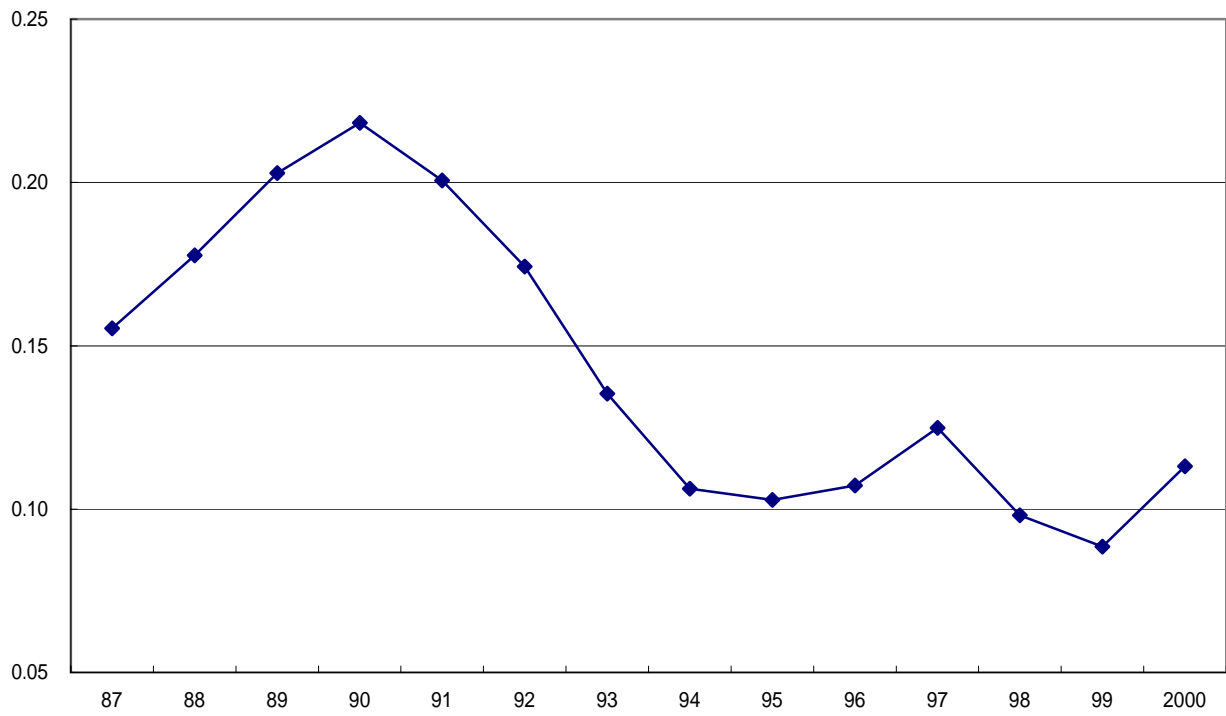
Sample	Model 1	Model 2	Model 3
	Manufacturing	Manufacturing	Manufacturing
	Firms with Low Q-ratio	Firms with Low Q-ratio	Firms with Low Q-ratio
Q_{t-1}	0.028 (1.174)	0.025 (1.049)	0.026 (1.103)
CF_t	0.146 ** (2.256)	0.147 ** (2.269)	0.150 ** (2.324)
DA_{t-1}	-0.422 *** (5.356)	-0.370 *** (4.663)	-0.373 *** (4.439)
$FRGN_{t-1}$	-0.001 (1.067)	-0.001 (1.045)	-0.001 (1.007)
$FRGN_{t-1} * DA_{t-1}$	0.007 * (1.743)	0.007 * (1.739)	0.007 (1.630)
$GMB_{t-1} * DA_{t-1}$	0.063 ** (2.424)		0.014 (0.365)
$BMB_{t-1} * DA_{t-1}$		-0.080 *** (2.858)	-0.070 * (1.646)
Year Dummy	Yes	Yes	Yes
Adj. R ²	0.223	0.219	0.224
Obs.	973	978	972
Hausmann	38.295 [.0000]	36.056 [.0000]	36.171 [.0001]

Figure 1 Debt-Asset Ratio



Debt-Asset Ratio is defined as the book value of total debt divided by the market value of assets. This figure includes all firms (except financial institutions) listed in Tokyo Ttock Exchange [about 1100 firms].

Figure 2 Investment Ratio



Investment Ratio is defined as increase of book value of tangible fixed assets plus depreciation, divided by the market value of tangible fixed assets. This figure includes all firms (except financial institutions) listed in Tokyo Ttock Exchange [about 1100 firms].