

2000-08

2000. 12

, ,

가

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가

가

가

가

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가

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가

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(Computable General Equilibrium Model)

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가

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(Cost-Benefit Analysis)

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가

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가

2000 12

韓國海洋水產開發院  
院長 李 廷 旭

< >	1
1	13
1.	13
1)	/ 13
2)	/ 14
2.	15
1)	/ 15
2)	/ 16
3)	/ 17
2	19
1.	19
1)	(public goods) / 19
2)	/ 19
3)	/ 20
4)	가 / 20
5)	/ 21
2.	21
1)	/ 21
2)	/ 24
3	27
1.	27
1)	/ 27

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2)	/ 28	
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1)	/ 31	
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1.	.....	41
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2.	.....	46
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2)	/ 50	
3)	/ 54	
4) 가	/ 58	
5)	/ 61	
6) 가	/ 64	
7)	/ 66	
5		78
1.	.....	78
2.	.....	80
1)	/ 80	
2)	/ 81	
3)	/ 83	
4)	/ 84	
5) 가가	/ 85	

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3.	.....	88
1)	/ 88	
2)	/ 90	
3)	/ 91	
4)	/ 93	
5) 가가	/ 94	
4.	.....	97
6	.....	100
1.	.....	100
1)	/ 100	
2)	/ 103	
2.	.....	105
1)	/ 105	
2)	/ 108	
3.	.....	109
1)	/ 109	
2)	/ 111	
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7	.....	114
1.	.....	114
2.	.....	116
	.....	118

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< 4-8> 1995	.....	57
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< 4-11> 가	.....	63
< 4-12>	.....	67
< 4-13>	.....	68
< 4-14> 1995	.....	70
< 4-15>	.....	77
< 5-1>	.....	78
< 5-2> 가 가	.....	80
< 5-3> 가 가	.....	82
< 5-4> 가 가	.....	83
< 5-5> 가	.....	84
< 5-6> 가 가가 가	.....	86
< 5-7> 가 가가 가	.....	87
< 5-8> 가 가가 가	.....	87
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< 5-14> 가가	.....	95
< 5-15> 가가	.....	96
< 5-16> 가가	.....	96
< 5-17> 가	.....	97
< 5-18>	.....	99
< 5-19> 가	.....	99
< 6-1> 가 가	.....	101
< 6-2> 가 가	.....	101
< 6-3> 가 가	.....	102



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< 6-4>	가	.....	103
< 6-5>	1%	.....	103
< 6-6>	가	.....	104
< 6-7>		.....	105
< 6-8>		.....	106
< 6-9>		.....	107
< 6-10>		.....	108
< 6-11>	가	.....	109
< 6-12>		.....	110
< 6-13>		.....	111
< 7-1>		.....	115

< 1-1>	.....	18
< 4-1>	.....	49
< 4-2>	.....	50
< 5-1>	.....	79
< 5-2>	가 가 .....	81
< 5-3>	가 가 .....	82
< 5-4>	가 가 .....	83
< 5-5>	가 .....	85
< 5-6>	가 가가 가 .....	86
< 5-7>	.....	90
< 5-8>	.....	91
< 5-9>	.....	92
< 5-10>	.....	93
< 5-11>	가가 .....	95
< 5-12>	가 .....	98

*I*

< >

1

1)

○ 10 9.39% 가  
- 1996 0.2%  
- .  
○ 가  
가  
- 가  
○ , , ,  
가  
-

2)

○  
(Computable General Equilibrium Model)  
○ ,  
, , , ,  
, ,  
○ 가  
1995 10

28

○

28

22 ,

○

가 ,

○

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-  
-  
-  
-

2

1)

○

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가

2)

○

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: 가  
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### 3

#### 1)

- 1999 28 22  
50 , 589 , 41,756 ,  
142km
- 1999 88.0%,  
70.5%
- 1999 3,341

#### 2)

- : 1990 3 4,555 1999 7 7,503 ,  
9.39% 가
- : 1991 276 TEU 1999 777 TEU,  
13.8% 가
- 2011 14 3,200 2,016 TEU

3)

○

- 0.2%

가

○

- 2000 가

14.75% , 1%

- 12 7,550 9,739

7.64%

○

- 1 , 3

14%

- 4 7.8 8%

○

- 0.25 0.4% , 0.3%

- 0.2%

4)

○

-

- 2000 9 8  
549 6,192

○

- 7 가  
(3.52%) 가 2011 67.7%  
32%

4

1)

○

-

1980

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○

-

가

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. 가

2)

(CGE Model)

○

CGE

0

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○

가

○

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가

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가가

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가

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가

○

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기

$$\begin{aligned}
 & : X D_i = A_i \cdot (\alpha_i \cdot K_i^{-\rho_i} + (1 - \alpha_i) \cdot L_i^{-\rho_i})^{-\frac{1}{\rho_i}} \\
 & : \\
 & WA \cdot wdist_i \cdot (\alpha_i \cdot K_i^{-\rho_i} + (1 - \alpha_i) \cdot L_i^{-\rho_i}) = PVA_i \cdot X D_i \cdot (1 - \alpha_i) \cdot L_i^{-(1+\rho_i)} \\
 & : \frac{M_i}{X X D_i} = \left( \frac{\delta_i}{1 - \delta_i} \cdot \frac{PD_i}{PM_i} \right)^{\frac{1}{1+\rho_i}} \\
 & : \frac{E_i}{X X D_i} = \left( \frac{1 - \gamma_i}{\gamma_i} \cdot \frac{PE_i}{PD_i} \right)^{\frac{1}{\rho_i - 1}}
 \end{aligned}$$

-

$$\begin{aligned}
 & : X_i = INT_i + CD_i + GD_i + ID_i + DST_i \\
 & 가 : YH = YHLAB + YHCAP + YHSUB \\
 & 가 : P_i \cdot CD_i = cles_i \cdot (1 - mps) \cdot YH \cdot (1 - htax) \\
 & : SAVINGS = INVEST + \sum_i PK_i \cdot DST_i \\
 & : SAVINGS = HHSAV + DEPRECIATION + FSAV \cdot ER \\
 & : GR = TARIFF + TITAX + HHTAX \\
 & : GR = GD TOT + \sum_{s=1}^4 G_s + GOVSUB
 \end{aligned}$$

- 가

$$\begin{aligned}
 & 가 : PM_i = pwm_i \cdot (1 + tm_i) \cdot ER \\
 & 가 : PE_i = pwe_i \cdot ER \\
 & 가 : P_i \cdot X_i = PD_i \cdot X X D_i + PM_i \cdot M_i \\
 & 가 : PX_i \cdot X D_i = PD_i \cdot X X D_i + PE_i \cdot E_i \\
 & 가가 가 : PX_i \cdot (1 - itax_i) = PVA_i + \sum_j io_{ji} \cdot P_j \\
 & 가 : PK_i = \sum_j P_j \cdot imat_{ji} \\
 & 가 : PINDEX = \sum_i pws_i \cdot P_i
 \end{aligned}$$



○ , 가 ,  
 , , , , ,  
 , , , 9

○ (Social Accounting Matrix) 1995

[illegible]

5

1)

○ 가 , , ,  
 가가  
 - : , , ( , , , )  
 - : 1996 2005 10  
 - 0.16% 가 가  
 - 1995 ,

2)

○

giii

- 0.6878%, 0.6866%, 0.6792%, 0.6680%  
가

○

- 가 가  
가 가

- 0.9250%, 0.7603%, 0.6389%,  
0.6112% 가

○

- 0.7014%, 0.6957%, 0.6864%,  
0.6853%

○

- 0.0919%, 0.0636%, 0.0548%,  
0.0522%

- 가

○

가가 가  
- 가가 가가 가 1.1353%(  
) 1.1461%( ) 가가 가

3)

○

가  
가 ,  
가 가 ,  
가 ,  
가 ,

○

-

- 0.0186% , 0.0198% ,  
0.0111%
- 
- 0.3129% , 0.0277% ,  
0.1490%
- 
- 0.0095% , 0.0151%  
가 0.0011%
- 
- 0.0285%  
- 0.0112% , 0.0090%  
가

4)

- 1% 0.0264%, 0.0295%,  
0.0371%, 0.0274%

6

1) 가 0.16% 가

- 
- 3 7,320 , 3 7,240 , 3 6,830  
 , 3 6,200 가
- 
- 가 가 가 가

40

- 16 49 , 13 91 , 12  
 , 9 19 가  
- 4 91

○

- 가  
- 13 9 ,  
13 8

○

- 가 가 가  
- 2,398 , 1,958 , 1,767 , 1,752

2) 1%

○ : 0.0265% (1,439 )

○ : 0.0295% (4,916 )

○ : 6,616

○ 가 : 0.0653% ( 가 0.081)

3)

○ : 1999 7 7,500 2011 14 3 ( 11 )

- : 1999 88.0% 가  
가 2011 45.8%

○ 2000

3

가

- 2011 : 36 733
- 59.3%(21 3,832 )
- 가 1 4,310

4)

- 
- 

- 
- 
- 

- 
- 가
- ,

7

- 가 가 가
- 가 가
- 가
- ,

42

○

가

가

○

10%

2001

9 2,491

10%

9,249

3,000

가

가

○

2011

1

7

가

0.3%

# 1

1.

1)

Capital : SOC) 가 (Social Overhead ,

가 .  
(World Trade Organization : WTO) 가가

가 가  
(World Bank)

가 1% 가 1% 가  
가 .<sup>1)</sup>

1980 가 1990  
2) 74.5% ,  
71.1%, 61.3%, 30.1%, 25.7%  
.3) 1980

1990

---

1) World Bank, *World Development Report*, 1994, p.2.

2) 가 .

3) . , 「 , 1996, p.66.

가 5 24%  
가 1980  
9.1%, 1990 10.4% 1998 14.2% 가  
가 가  
14% 1990 7.9% 1970  
1999 88% ,  
70.5% .  
1999  
3,341 .  
가  
가 ,  
가 65%(1999 ) 99.7%가  
가  
가 ,  
가 , , , 가  
2) .  
가



가

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가 .

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2.

1)

(Computable General Equilibrium : CGE)

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가

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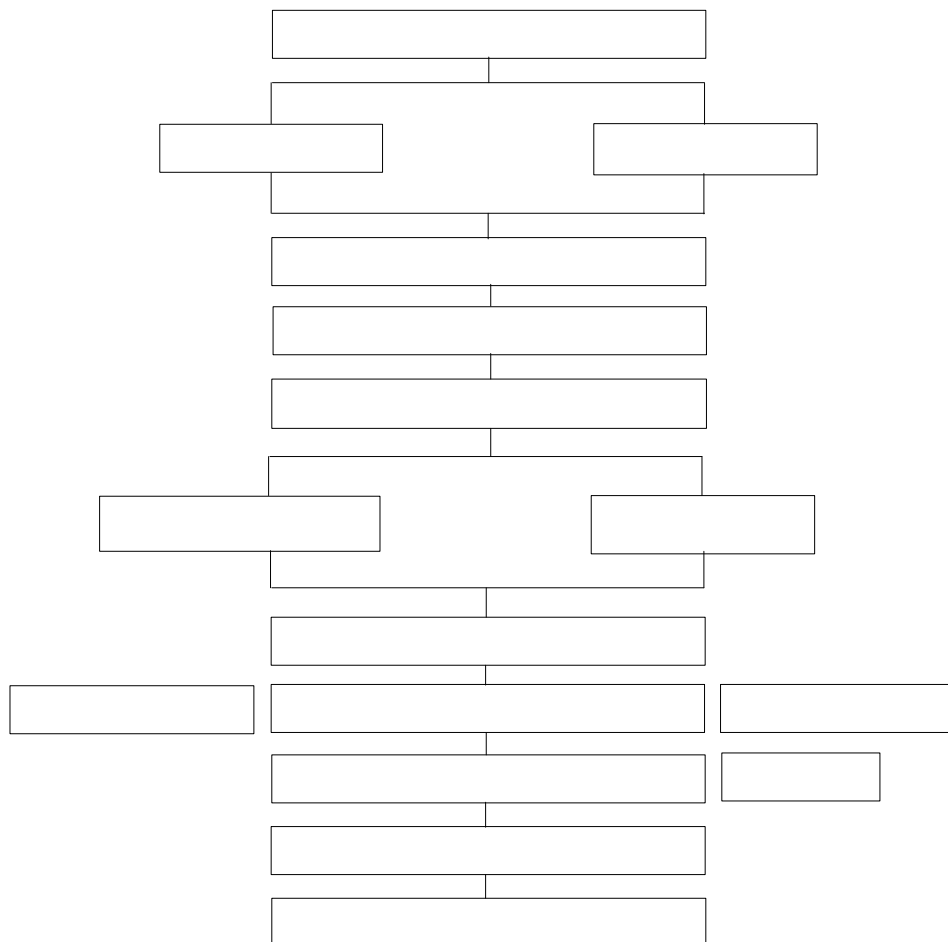
*xviii*

가 , 가 , , 가 , , . 6 가 , . 7

가

0.3%

< 1-1 >



## 2

1.

·  
·

가

.<sup>4)</sup>

1) (public goods)

가 가

가

· , · 가 ·

가

가

가

(pure public goods)

가

(congestable

public goods) ·

2)

가

---

4) · ,<sup>1)</sup>  
1991, pp.11 13.

1, ,

20

( )가

가 1

가 .

가

가

가

3)

가

가

가 (sunk cost)

가

가

4)

가

(captive cargo)

(footloose

cargo)

(hinterland)

가

가



(1)

가

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.7)

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(2)

가

.

.

가

.

.

가

.

, ,

3가

.8)

.

가

, ,

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7) B. S. Hoyle & D. Hiling, *Seaport Systems and Spatial Change*, John Wiley & Sons, 1984, p.43.

8) 金子彰, “港と地域經濟”, 「港灣」, 1988 1, p.41.







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， 가

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on-dock rail system

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가

가

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< 2-1>

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28vi

< 2-1>

	, , , , , , ,	, , , , , , , , , 가 , , ,
	, , , , , . , ( , , )	
	, , . ,	
	, , , CFS, , , CY	
	, , , , , ( ), ,	
	, ,	

### 3

1.

1)

13) 14) ,  
 , < 3-1> 1999  
 28 22 50 .

< 3-1>

		(28 )	(22 )
		,	,
		, , , ,	,
		,	, , , ,
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		, , , , ,	-
		, ,	
		( , )	-
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1999

589 , 142km

13) 가

14) . ( ‘ . , )가 .

28viii

(< 3-2> ).

1,800km 12.7 .

< 3-2>

	( )	( )	(A) (m)	(B) (m)	(A + B) (m)	(m)	( )
	589	417,561	89,381	52,587	141,968	49,818	137
	71	56,590	10,802	1,939	12,741	2,233	21
	24	7,596	2,434	1,239	3,673	0	16
	13	6,271	2,196	3,170	5,366	0	13
	54	73,805	8,748	160	8,908	0	5
	26	14,233	4,408	1,749	6,157	0	11
	108	84,764	20,730	9,087	29,817	3,919	3
	81	24,776	8,607	1,886	10,493	4,650	1
	44	44,542	9,516	1,988	11,504	3,610	0
	15	23,035	3,412	0	3,412	2,110	1
	17	3,589	2,416	608	3,024	2,956	0

: , 「 , 2000.

: 1) 10 18 22 .

2) 1999 12 .

2)

< 3-3> 1980 90.4%

1995 68.5% .

1 (96 TEU), 4 ( 120 TEU)

(22.8 TEU) ( 10 TEU, 24

TEU) 1999 88.0% 가 .

< 3-3>

: , %

	1980	1995	1996	1997	1998	1999	가
	132	660	719	770	701	775	9.76
	83	403	436	458	423	473	9.59
	75	276	285	295	357	416	9.44
	8	127	151	163	66	57	-
	90.4	68.5	65.4	64.4	84.4	88.0	-

: , 「 , .

: 1) : ÷

2) .

1980 140%  
1997 43.3%  
(< 3-4> ).  
가 가  
가 .

< 3-4>

: TEU, %

	1980	1995	1996	1997	1998	1999	가
	693	4,918	5,371	6,055	6,682	7,766	13.56
	970	2,420	2,420	2,620	5,348	5,478	9.54
	277	2,498	2,951	3,435	1,334	2,288	-
	140.0	49.2	45.1	43.3	80.0	70.5	-

: , 「 」, .

가  
가  
가 1980 1999  
9.6% ( 13.6%) 가  
9.4% ( 9.5%) 가  
가  
가

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, , ,  
, ,  
1989  
1990 5 , 1994 9  
(< 3-5> ).

30x

< 3-5>

: , %

(A)	87,774	56,730	14,268	24,834	71,865	21,057	44,785
(B)	98,900	72,776	9,375	40,795	65,834	16,445	48,119
(A/B)	88.8	78.0	152.2	60.9	109.2	128.0	93.1
(1999)	1.3	16.7	-	7.0	8.1	19.6	8.0
(1998)	2.6	16.7	-	5.4	7.2	18.3	1.1
(1997)	5.3	20.5	-	8.5	12.1	23.2	1.4

:

:

12

,

.

1998

16.7%(

1.5 ),

8.1%(

1.5 ),

1.3%(

2.3 ),

7.0%(

1.5 )

19.6%(

1.3 )

.

1999

3,341

(< 3-6>

).

< 3-6>

	( )	(%)		( )		
					1)	2)
	2,834	5.2	1.6	3,341	395	2,947
	276	1.3	2.3	499	57	442
	1,067	16.7	1.5	1,931	166	1,765
	531	8.1	1.5	322	60	262
	648	7.0	1.5	396	73	323
	69	19.6	1.3	41	7	34
	27	1.9	1.2	16	2	13
	214	8.0	1.9	136	30	106
	2	0.6	1.8	1.4	0.2	1.2

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, r

], 2000.

: 1)

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2)

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,

3) 1999

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2.

1)

1990 3 4,555 1999 7 7,503  
 9 2.2 (1970 18 ) 가 9.39%(1970  
 10.5%) 가 . 1990 2  
 1,978 1999 5 3,218 10.3% 가 .  
 , , 가  
 7.6% 가 (< 3-7> ).  
 9.5%가 ,  
 1999 1998 10.6% 가  
 1997 .

&lt; 3-7&gt;

가

: R/T

	1970	1980	1990	1997	1998	1999	가 (%)					
							'70	'80	'80	'90	'90	'99
	1,870	7,135	17,228	37,020	33,343	38,488	14.33		9.21		9.34	
	359	2,268	4,751	11,483	14,132	14,730	20.25		7.67		13.40	
	2,228	9,404	21,978	48,503	47,475	53,218	15.49		8.86		10.33	
	2,102	3,770	12,577	28,915	22,626	24,285	6.02		12.80		7.58	
	4,330	13,174	34,555	77,418	70,101	77,503	11.77		10.12		9.39	

: , 「 , .

: , .

23 (1976 1999 ) 14.0% 가  
 1999 777 TEU . 가 1988  
 1998 가 8.9% 1.5  
 가 (< 3-8> ).

32xii

< 3-8>

: TEU

			(%)
1988	7,293	236	3.2
1993	12,496	345	2.8
1998	17,153	673	3.9

: Drewry Shipping Consultants, *Container Market Outlook*, 1999.

1991 1999

13.8% 가

가 가

1998 673 TEU

11.2% 가

. 1999

( )

29 TEU

3.6%가

(< 3-9> ).

< 3-9>

가

: TEU

	1976	1981	1991	1997	1998	1999	가 (%)			
							'76 '81	'81 '91	'91 '99	
	179	360	1,135	2,307	2,508	2,852	15.00	12.17	12.21	
	204	464	1,431	2,404	2,650	2,895	17.86	11.92	9.21	
	383	824	2,566	4,711	5,158	5,747	16.56	12.03	10.60	
	0	0	141	1,172	1,268	1,725	0.00	0.00	36.76	
	0	0	54	172	306	295	0.00	0.00	23.65	
	383	824	2,761	6,055	6,732	7,767	16.56	12.85	13.80	

: , 「 」.

2)

(1)

(1999) 「 」

가 2001 8 7,500 , 2011

14 3,200 . 가 1999  
2001 6.3%, 2002 2006 5.3%, 2007 2011 4.8%  
( < 3-10 > ).

< 3-10 >

: R/T

						가 (%)				
	1998	1999	2001	2006	2011	‘99 ‘01	‘02 ‘06	‘07 ’11		
	33,343	38,488	40,870	52,924	64,040	3.0	5.3	3.9		
	14,132	14,730	15,989	19,219	25,190	4.2	3.7	5.6		
	22,626	24,285	30,638	40,978	53,957	12.3	6.0	5.7		
	70,101	77,503	87,497	113,122	143,186	6.3	5.3	4.8		

: , 「 」, 1999.

(2)

가

가

, < 3-11 > 2011  
가 .

< 3-11 >

: TEU

						가 (%)		
	1998	1999	2001	2006	2011	‘99 ’01	‘02 ’06	‘07 ’11
	2,508	2,853	3,174	4,316	6,289	5.5	7.1	6.2
	2,650	2,895	3,243	4,386	6,359	5.8	7.0	6.1
	306	295	836	1,828	2,796	68.3	12.8	8.0
	1,268	1,725	1,742	2,894	4,714	0.5	10.5	11.1
	6,732	7,768	8,995	13,424	20,158	7.6	8.4	7.7

: , 「 」, 1999.



3 xxx35

. 1997

1% .

가 . < 3-13>

1997 14% ,

1.30%, 9.19%

2000 1.13% 7.64% .

2000 4.9% .

가 . 1990

가 .

< 3-13> , , : , %

		1995	1996	1997	1998	1999	2000
(A)		548,239	629,626	714,006	807,629	849,376	864,740
(B)		66,270	81,482	101,301	115,002	121,916	127,550
(C)		4,900	6,253	9,307	10,170	10,240	9,739
	B/A	12.01	12.94	14.19	14.24	14.35	14.75
	C/A	0.89	0.99	1.30	1.26	1.21	1.13
	C/B	7.39	7.67	9.19	8.84	8.40	7.64

: , 「 , 2000.

(3)

1960 5

. 2 5

가 , , 가 (< 3-14> ).

5 1

53 14.9% . 2

가 가 .

3  
4 가  
7.8% 8.0% 1997  
가 ,  
( < 3-15 > ).

< 3-14 > 5 : , %

1 ( '62 '66)	61 (17.2)	215 (60.6)	- (-)	26 (7.3)	53 (14.9)	355 (100)	126 (26.2)	481
2 ( '67 '71)	1,147 (52.0)	634 (28.7)	83 (3.8)	76 (3.4)	267 (12.1)	2,207 (100)	166 (7.0)	2,373
3 ( '72 '76)	4,674 (51.6)	2,669 (29.4)	248 (2.7)	189 (2.1)	1,284 (14.2)	9,064 (100)	540 (5.6)	9,604
4 ( '77 '81)	16,302 (47.7)	7,434 (21.7)	5,532 (16.2)	1,469 (4.3)	3,451 (10.1)	34,188 (100)	3,652 (9.7)	37,840
5 ( '82 '86)	37,191 (46.7)	9,647 (12.1)	24,379 (30.6)	2,223 (2.8)	6,186 (7.8)	79,626 (100)	10,048 (11.2)	89,674
6 ( '87 '91)	115,225 (79.6)	14,620 (10.1)	789 (0.5)	2,538 (1.8)	11,538 (8.0)	144,710 (100)	11,890 (7.6)	156,600
7 ( '92 '96)	344,046 (58.3)	75,353 (12.8)	98,146 (16.6)	25,812 (4.4)	46,467 (7.9)	589,824 (100)	-	-

: , 「 2000.

< 3-15 > : , %

1997	50,822 (55.3)	25,727 (28.0)	6,099 (6.6)	9,292 (10.1)	91,940 (100)	7,557 (7.6)
1998	58,204 (55.0)	27,724 (26.2)	9,914 (9.4)	10,059 (9.5)	105,901 (100)	6,782 (6.0)
1999	71,556 (59.4)	28,414 (23.6)	10,283 (8.5)	10,170 (8.4)	120,423 (100)	10,600 (8.1)

: , 「 2000.  
: , 가  
, 가

1980 1998 10.8 가 , 4.77  
 , 1.85 , 1.47 , 1.11 가  
 (< 3-16> ).

< 3-16>

	( 가 )								( )	
	(10 )		( )		(km)		(km)		( )	
1980	36,857	1.00	87.2	1.00	46,951	1.00	6,007	1.00	1,407	1.00
1990	178,262	4.84	224.3	2.57	56,715	1.21	6,435	1.07	1,563	1.11
1995	348,979	9.47	285.2	3.27	74,237	1.58	6,554	1.09	1,680	1.19
1998	398,148	10.80	416.2	4.77	86,990	1.85	6,683	1.11	2,062	1.47

: , 「 , 2000.

(4)

0.25% 0.4% ,  
 0.3% 가 (<  
 3-17> ).

< 3-17>

: 10 , 10 , NT

1992	238,705	333	0.139	471,064	1,618	0.330	53,377	155	0.290
1993	265,518	356	0.134	475,381	1,862	0.392	58,745	160	0.272
1994	303,773	401	0.132	479,260	1,758	0.367	63,765	170	0.267
1995	348,979	490	0.140	482,930	2,070	0.429	68,921	194	0.281
1996	386,640	625	0.162	500,356	1,461	0.292	74,977	n.a	n.a
1997	416,018	931	0.224	507,271	1,317	0.260	n.a	n.a	n.a
1998	398,148	1,017	0.255	n.a	n.a	n.a	n.a	n.a	n.a

: , 「 , 1998.

가 . , 가  
IMD ,  
가 5.2  
7.44, 6.83  
가 (< 3-18> ).

< 3-18>

					가
(1998)		5.2	7.44	6.83	9.48( 가 )
(1997)	km per square km	0.85	3.04	0.56	4.78( )
(1997)	km per square km	0.0315	0.0534	0.0308	0.1194( )
(1998)	( )	27,109	101,701	27,480	588,212( )

: IMD, *The World Competitiveness Yearbook*, 2000.

2)

(1)

‘ ,  
‘ , ‘  
, ( 2 ) 65.5%, 18.2%,  
4.3%, 2.0%,  
10%

< 3-19>

, 가 가

2000

9

8

6,192

가



&lt; 3-19&gt;

:

		1997	1998	1999	2000	2001( )
		59,653	72,236	81,161	98,278	92,491
	가 (%)	-	21.1	13.0	20.3	-5.9
		5,965	6,665	6,741	6,192	6,555
	가 (%)	-	11.7	1.1	-8.1	5.9
(%)		10.0	8.8	8.3	6.3	7.1

:

.

,

가

(2)

1998 1999 84.4%

88.0% . ,

7 가 (3.52%) 가

2011 가 67.7% 32%

1999

70.5% 2011 45.8%

.15)

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15) 가 가 2011 44.7%

55% , 27.2%

40

가

(6 7 )

가,

.

.

가

.

가

가

.

가

.

( , )  
가 .

가

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가

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( ,

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## 4

### 1.

#### 1)

Aschauer(1989) 1970 가  
가  
· , ,  
·  
·  
Aschauer  
( )  
, , ,  
·  
Keeler and Ying(1988) 1950 1973  
·  
,  
·  
Nadri and Mamuneas(1994) R&D  
가 R&D  
·  
Dalenberg and Partridge(1995) , ,  
-  
· ,

Bergman and Sun(1996)

가

가 ,

Andrews and Swanson(1996)

48

1970

1986

가

Morrison and Schwartz(1996)

가

가

가

2)

(1)

1990

(1986),

(1992)

가

가

(1993a)

(1994)

(1993a)

가

가

가 1% 가  
 0.0144%, 0.0733% 가 .  
 (1994) 1970 1989 ,  
 , 가 1% 가  
 . 0.0124%,  
 0.0118%, 0.0062% 가  
 0.0268%, 0.0254%, 0.0134% 가 .  
 (1993) 1990  
 , 가 , , ,  
 ,  
 1 가 1.212 1.295 가  
 3.909 4.016 가  
 .  
 , 가 , ,  
 가 , 가  
 , 가 .  
 가  
 가  
 가 .  
 (1996) , , ,  
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 .  
 가 가  
 .  
 (1996b)  
 , 가  
 , , ,



가

, , , .

(2)

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2

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,

가 . 2

가

.

(1984),

(1986),

(1989),

(1989, 1993),

(1994)

.

(1984)

, 1983

144

, 2001

1,650

가

.

(1986)

. 1982

1984

7,285

7,560

가

8,112

가

. 1984

61,822

13%

.

(1989)

27.7%가

.

가

26.0%

22.0%

.

46vi

< 4-1>

: , %

				가가		
	3,654	27.7	20.7	34.2	-	1987
	61	22.0	-	-	-	1980
	2,915	26.0	23.0	32.0	29.0	1983
	403	19.0	28.0	46.0	39.0	1983
	1,381('83)	17.3	38.8	30.8	-	1984
	1,052('83)	30.0	32.2	50.0	51.0	1978

: 1) , 「 , 1989.

2) , 「21世紀の港」, 1986.

:

(1989)

, , ,  
1988 3.5%, 16.3%, 32.5%

(1994)

3

( ), 2

( ) 1991 10

가가 1.6%

가 .

-  
, 가가 가 , .

2.



model) . (multisectoral  
(partial equilibrium analysis) .

(optimality)

가

- (micro-macro system)  
(bottom-up approach)

가

가

가

가

(neoclassical CGE model),  
model)

(structuralist CGE  
가

가

(mark up)

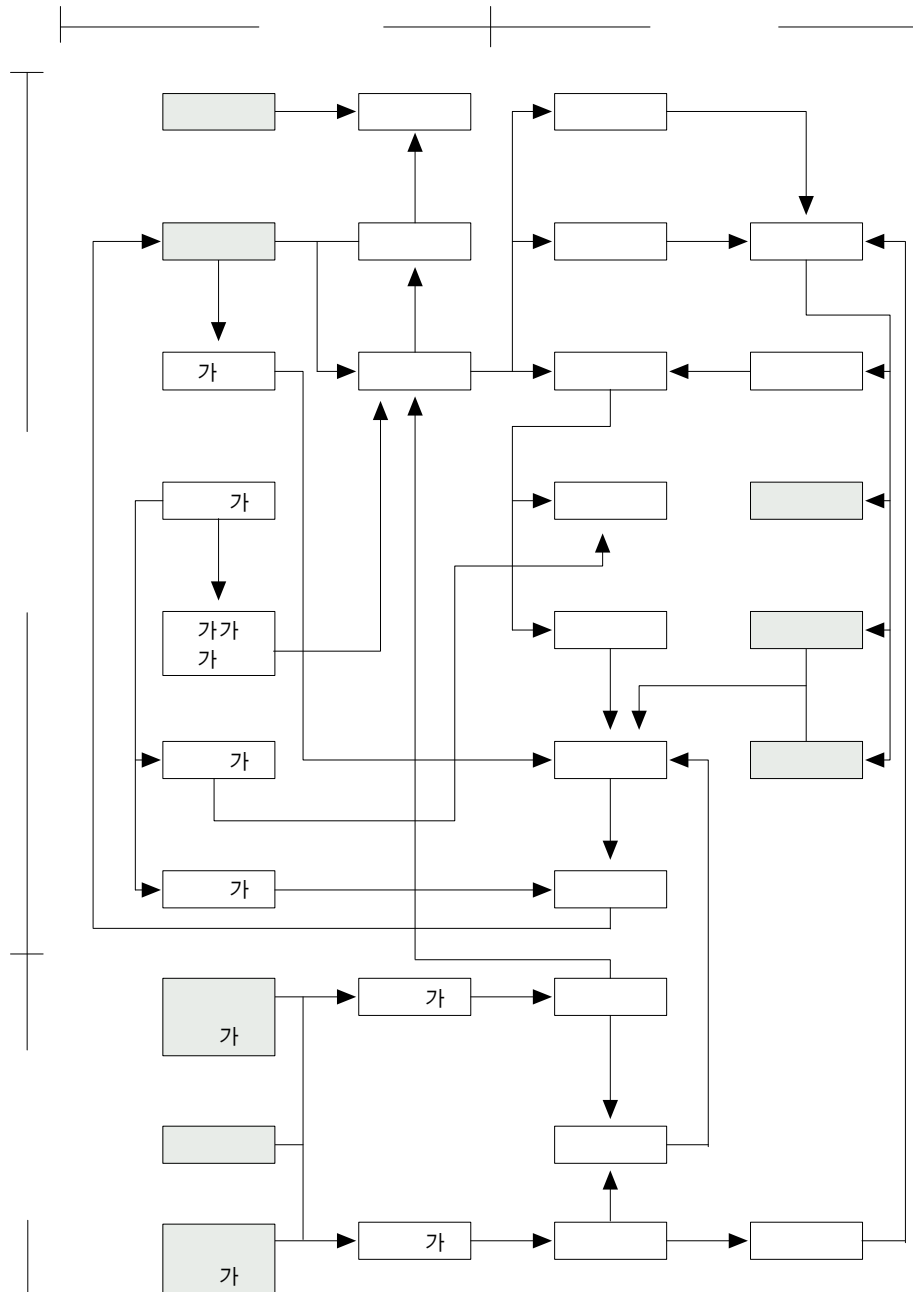
(elasticity structuralist) ,  
(macro structuralist)

(micro structuralist) ,  
가

(Robinson, 1989).



< 4-1>



50

가

가

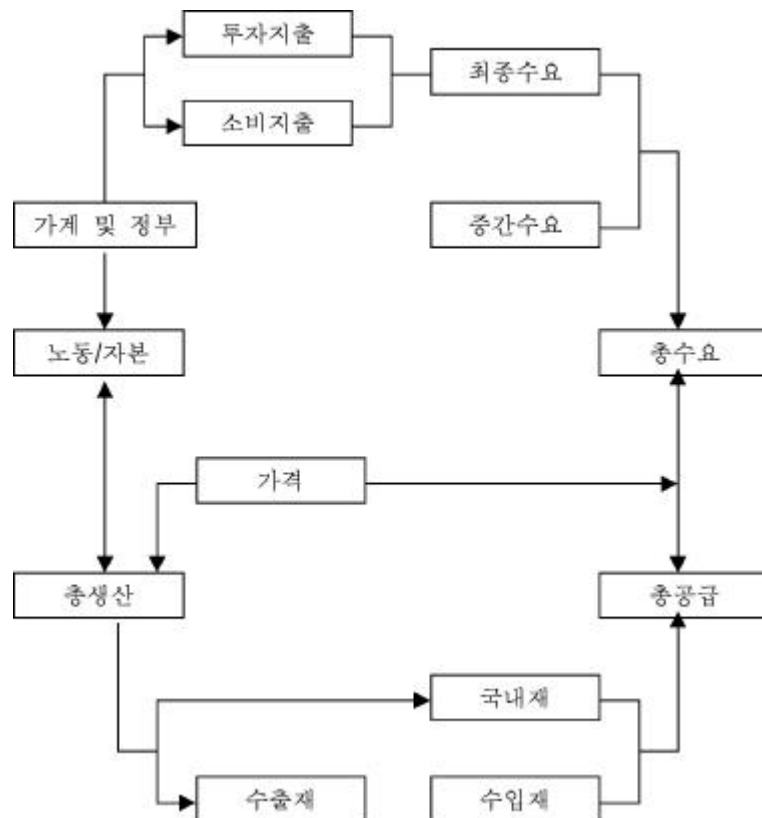
가

가

가

2)

< 4-2>



(Constant Elasticity of Substitution)

(Cobb-Douglas),

(Generalized Leontief)

, Berck, Robinson and Goldman(1990), Buckley(1992), West(1995)  
 , Gazel, Hewings and Sonis(1995), Harrigan and McGregor  
 (1989), Harrigan, McGregor and Swales(1996), Jones and Whalley(1990), Morgan,  
 Mutti and Rickman(1996), Rickman(1992), Hoffman,  
 Robinson and Subramanian(1996)

$$X D_i = A_i \cdot (\alpha_i \cdot K_i^{-\rho_i} + (1 - \alpha_i) \cdot L_i^{-\rho_i})^{-\frac{1}{\rho_i}} \quad (4-1)$$

$X D_i$  :

$K_i$  :

$L_i$  :

$A_i$  :

$\alpha_i$  :

$\rho_i$  :

Shin(1995)

(calibration)

< 4-2>

< 4-2>

	$A_i$	$\alpha_i$	$\rho_i$
	1.2599	0.9605	0.2674
	12.8209	0.3089	-0.3511
	16.7946	0.4221	-0.0775
	29.9908	0.2737	-0.0950
	13.1505	0.0802	-0.3137
	22.6267	0.1923	-0.3137
	21.2482	0.1883	-0.3137
	13.2821	0.2357	-0.3137
	9.7009	0.3514	-0.0800



$\Pi$  :  
 $PVA_i$  : 가가 가  
 $XD_i$  :  
 $WA$  :  
 $wdist_i$  :  
 $K_i$  :  
 $L_i$  :  
 $r_i$  : 가  
 $\alpha_i$  :  
 $\rho_i$  :

( 4-3) wdist

,

가

.

,

.

가

,

.

,

,

.

가

가

.

Berck, Robinson and Goldman(1990), Buckley(1992), West(1995), Gazel, Hewings and Sonis(1995), Harrigan and McGregor(1989), Jones and Whalley (1990), Morgan, Mutti and Rickman(1996)

, Conrad and Schroder(1993)

. Harrigan, McGregor and Swales

(1996), Rickman(1992), Hoffman, Robinson and Subramanian(1996)

. < 4-4> 1995

가가 가

.

54

< 4-4>

가 가

	(wdist)	가 가 (PVA)
	0.7100	0.6439
	1.1780	0.6743
	0.8588	0.2646
	0.9803	0.3645
	0.9682	0.5877
	1.0376	0.1947
	1.3363	0.2705
	1.4831	0.7255
	1.1055	0.5683

3)

가

가

가

(Armington)

( 4-5)

가

( 4-4),

( 4-6)

가 ,

. < 4-5>

Shin(1995), Deardoff and Stern(1986), Melo

and Tarr(1992)

가

$$\text{Min } PM_i M_i + PD_i X X D_i \dots \dots \dots (4-4)$$

$$s.t \ X_i = A C_i \cdot (\delta_i \cdot M_i^{\rho c_i} + (1 - \delta_i) \cdot X X D_i^{\rho c_i})^{-\frac{1}{\rho c_i}} \dots \dots (4-5)$$

$$\Rightarrow \frac{M_i}{X X D_i} = \left( \frac{\delta_i}{1 - \delta_i} \cdot \frac{PD_i}{PM_i} \right)^{\frac{1}{1 + \rho c_i}} \dots \dots \dots (4-6)$$



$PM_i$  : 가

$M_i$  :

$PD_i$  : 가

$XXD_i$ :

$X_i$  :

$AC_i$  :

$\delta_i$  :

$\rho c_i$  :

< 4-5>

	$AC_i$	$\delta_i$	$\rho c_i$
	1.5635	0.1788	-0.1220
	1.8127	0.6544	-0.5436
	1.8846	0.3911	-0.6208
	1.0270	0.0133	-0.5000
	1.4849	0.2055	-0.5000
	1.0911	0.0437	-0.5000
	1.9100	0.3914	-0.5000
	1.6459	0.2681	-0.5000
	1.3561	0.1555	-0.5000

가

(Constant Elasticity of Transformation)

. ( 4-8)

가

( 4-7),

가

( 4-9).

$$\text{Max} \quad PE_i E_i + PD_i XXD_i \dots \dots \dots (4-7)$$

$$s.t \quad XD_i = AT_i \cdot (\gamma_i \cdot E_i^{\rho_{ti}} + (1 - \gamma_i) \cdot XXD_i^{\rho_{ti}})^{\frac{1}{\rho_{ti}}} \dots \dots (4-8)$$

$$\Rightarrow \frac{E_i}{XXD_i} = \left( \frac{1 - \gamma_i}{\gamma_i} \cdot \frac{PE_i}{PD_i} \right)^{\frac{1}{\rho_{ti} - 1}} \dots \dots \dots (4-9)$$

56i

$PE_i$  : 가

$E_i$  :

$PD_i$  : 가

$XXD_i$ :

$XD_i$  :

$AT_i$  :

$\gamma_i$  :

$\rho t_i$  :

< 4-6>

	$AT_i$	$\gamma_i$	$\rho t_i$
	2.6950	0.7100	1.2564
	3.3023	0.7981	1.3448
	2.1255	0.6032	1.3448
	70.2437	1.0000	2.4286
	4.7133	0.9742	2.4286
	3.5976	0.0534	2.4286
	2.0004	0.5113	2.4286
	5.2869	0.9809	2.4286
	6.8331	0.9901	2.4286

·  
, 가 ,  
( 4-10). 1995  
( 4-11),  
가 ( 4-12). 1995  
< 4-7> .

$$X_i = INT_i + CD_i + GD_i + ID_i + DST_i \dots \dots \dots (4-10)$$

$X_i$

$INT_i$  :

$CD_i$  :

$ID_i :$  $DST_i :$ 

$$IN T_i = \sum_j io_{ij} \cdot X D_j \dots\dots\dots (4-11)$$

 $iO_{ij} :$ 

$$DST_i = dstr_i \cdot XD_i \cdot \dots \quad (4-12)$$

$dstr_i$  :       가

< 4-7>

1995

	0.0476	0.0017	0.0460	0.0015	0.0000	0.0000	0.0000	0.0000	0.0061
	0.0000	0.0000	0.0342	0.0090	0.0000	0.0000	0.0000	0.0000	0.0065
	0.2000	0.1155	0.4788	0.3903	0.2251	0.1506	0.3026	0.0414	0.1138
	0.0008	0.0027	0.0005	0.0003	0.0005	0.0000	0.0002	0.0025	0.0238
	0.0049	0.0147	0.0085	0.0127	0.0089	0.0812	0.0076	0.0061	0.0080
	0.0004	0.0011	0.0008	0.0009	0.0021	0.0019	0.0020	0.0014	0.0004
	0.0002	0.0003	0.0013	0.0004	0.0005	0.0013	0.0037	0.0041	0.0048
	0.0094	0.0060	0.0051	0.0038	0.0475	0.2073	0.2804	0.0297	0.0229
	0.0809	0.1730	0.1150	0.1682	0.1010	0.3502	0.1182	0.1392	0.2087

‘ , ‘

< 4-8> .

< 4-8>

1995

	0.002 1	0.0000	0.0011	0.0014
	0.0194	0.0337	0.0398	0.0070
	0.3769	0.3292	0.4689	0.3928
	0.0001	0.0001	0.0002	0.0004
	0.0188	0.0203	0.0109	0.0116
	0.0015	0.0029	0.0022	0.0008
	0.0006	0.0003	0.0012	0.0004
	0.0040	0.0053	0.0031	0.0037
	0.1825	0.1553	0.1815	0.1660

#### 4) 가

가 (representative)

. ( ) ( 4-13). , ( 4-14), 가가 가 , 가가 , 가 ( 4-15). 가 가 , 가 가 ( 4-16). 가 9 ( 4-17). 가 LES(Linear Expenditure System) , 가 - . ( 4-18). , Jones and Whalley(1990), Buckley(1992) LES , Gazel, Hewings and Sonis(1995) - (multi level Stone-Geary) . , West(1995) - , Harrigan and McGregor(1989), Morgan, Mutti and Rickman(1996), Rickman(1992)

$$YH = YHLA B + YHCA P + YHSUB \dots \dots \dots ( 4-13)$$

$YH$  : 가  
 $YHLA B$  :  
 $YHCA P$  :  
 $YHSUB$  : 가

$$YHLA B = \sum_i WA \cdot L_i \cdot wdist_i \dots \dots \dots ( 4-14)$$



, ( 4-23). ( 4-25)  
 ( 4-26) 가 ( 4-27) , ,  
 .

$$GR = TA RIFF + TITAX + HH TAX \cdot \cdot \cdot \cdot \cdot \cdot ( 4-19)$$

$GR$  :

$TA RIFF$  :

$TITAX$  :

$$TA RIFF = \sum_i^{HH TAX} tm_i \cdot M_i \cdot pwm_i \cdot ER \cdot \cdot \cdot \cdot \cdot \cdot ( 4-20)$$

$tm_i$  :

$M_i$  :

$pwm_i$  : 가

$ER$  :

$$TITAX = \sum_i itax_i \cdot PX_i \cdot XD_i \cdot \cdot \cdot \cdot \cdot \cdot ( 4-21)$$

$itax_i$  :

$PX_i$  : 가

$XD_i$  :

$$HH TAX = htax \cdot YH \cdot \cdot \cdot \cdot \cdot \cdot ( 4-22)$$

$htax$  :

$YH$  : 가

$$GR = GDTOT + \sum_{s=1}^4 G_s + GOVSUB \cdot \cdot \cdot \cdot \cdot \cdot ( 4-23)$$

$GDTOT$  :

$G_s$  :

$GOVSUB$  :

$g les_i :$

$isub_i :$

*tisu bp* :

*yhsu bp* : 가

2

5)

가

.

가

( 4-28). 가

가

가

2

b2ii

가 . 가 , 가  
( 4-30). 가 가  
, 가 .

( 4-31).  
( 4-29).  
( 4-32).

(sectoral investment by destination)

. ( 4-33)

,

. < 4-10> < 4-11>  
가 .

< 4-10>

1995

	0.0113	0.0001	0.0002	0.0001	0.0000	0.0000	0.0000	0.0001	0.0007
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.6437	0.6968	0.7503	0.6262	0.8660	0.8957	0.9467	0.6463	0.4237
	0.1443	0.1570	0.1363	0.0938	0.0670	0.0045	0.0263	0.2707	0.4650
	0.0063	0.0025	0.0030	0.0025	0.0005	0.0063	0.0004	0.0027	0.0021
	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0016	0.0007	0.0008	0.0006	0.0002	0.0011	0.0008	0.0006	0.0005
	0.1927	0.1429	0.1094	0.2768	0.0663	0.0924	0.0258	0.0795	0.1079



$$SA\ VINGS = HHSA\ V + DEPRE\ CIA + FSA\ V \cdot ER \cdot \cdot \cdot \cdot \cdot \cdot (4-28)$$

SA VINGS :

HHSA V : 가

DEPRE CIA : 가

FSA V :

ER :

$$SA\ VINGS = IN\ VEST + \sum_i PK_i \cdot DST_i \cdot \cdot \cdot \cdot \cdot \cdot (4-29)$$

IN VEST :

PK<sub>i</sub> : 가

DST<sub>i</sub> :

$$DEPRICIA = \sum_i depr_i \cdot PK_i \cdot K_i \cdot \cdot \cdot \cdot \cdot \cdot (4-30)$$

depr<sub>i</sub> : 가

$$\sum_i pwm_i \cdot M_i = \sum_i pwe_i \cdot E_i + FSA\ V \cdot \cdot \cdot \cdot \cdot \cdot (4-31)$$

pwm<sub>i</sub> : 가

M<sub>i</sub> :

pwe<sub>i</sub> : 가

E<sub>i</sub> :

< 4-11>

가

	가 (depr)	(kio)
	0.0274	0.0489
	0.1549	0.0026
	0.0882	0.4043
	0.0934	0.0294
	0.0083	0.0734
	0.0401	0.0190
	0.0547	0.0202
	0.1526	0.0641
	0.0384	0.3382

$$PK_i \cdot DK_i = kio_i \cdot (INVEST - \sum_{s=1}^4 P_s) \cdot \dots \cdot (4-32)$$

$DK_j$  :

$kio_i$  :

$P_s$  :

$$ID_i = \sum_j imat_{ij} \cdot DK_j \cdot \dots \cdot (4-33)$$

$ID_i$  :

$imat_{ij}$  :

## 6) 가

가 , 가 . 가  
 가 , 가 , 가 , 가 ,  
 가 , 가 가  
 , 가 (numeraire) 가 .  
 가 가 ( /\$)  
 ( 4-34). 가  
 가 ( ) ( /\$)  
 4-35). 가 가 가 가  
 ( 4-36), 가  
 ( 4-37).  
 가가 가 가  
 가 ( 4-38), 가  
 가 ( 4-39).  
 가 가 가 가 가  
 ( 4-40).

$$PM_i = pwm_i \cdot (1 + tm_i) \cdot ER \cdot \dots \cdot (4-34)$$

$PM_i$  : 가

$ER :$ 

[illegible]

$pwe_i$  : 가

$$P_i \cdot X_i = PD_i \cdot XXD_i + PM_i \cdot M_i \cdot \dots \quad (4-36)$$

 $M_i :$ 

$$PX_i \cdot XD_i = PD_i \cdot XXD_i + PE_i \cdot E_i \quad \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot \cdot (4-37)$$

 $E_i :$ 

$$PX_i \cdot (1 - itax_i) = PVA_i + \sum_j io_{ji} \cdot P_j \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad (4-38)$$

$P_j$  :                   가

68vi

$$PK_i = \sum_j P_j \cdot imat_{ji} \cdot \dots \dots \dots (4-39)$$

$PK_i$  : 가

$imat_{ji}$  :

$$PINDEX = \sum_i pws_i \cdot P_i \cdot \dots \dots \dots (4-40)$$

$PINDEX$  : 가 ,  $pws_i$  : 가

7)

(1)

가 .  
 . (1998)  
 .  
 , 가 ,  
 , , , ,  
 .  
 , 가 , (endogenous accounts)  
 , , (exogenous accounts)  
 .  
 , 가 , , ,  
 ,  
 .  
 ,  
 . (1998) , 1995 1995  
 , . ,  
 .  
 < 4-12> , 가



< 4-13>

	가										
가	<div> <div>T<sub>13</sub></div> <div>T<sub>21</sub></div> <div>T<sub>25</sub></div> </div>										
	<div> <div>T<sub>32</sub></div> <div>T<sub>33</sub></div> <div>T<sub>34</sub></div> <div>T<sub>35</sub></div> <div>T<sub>37</sub></div> <div>T<sub>39</sub></div> <div>T<sub>3 10</sub></div> </div>										
	<div> <div>T<sub>42</sub></div> <div>T<sub>43</sub></div> <div>T<sub>4 11</sub></div> </div>										
	<div> <div>T<sub>54</sub></div> <div>T<sub>64</sub></div> </div>										
	<div> <div>T<sub>78</sub></div> <div>T<sub>82</sub></div> <div>T<sub>83</sub></div> <div>T<sub>84</sub></div> <div>T<sub>86</sub></div> <div>T<sub>8 10</sub></div> <div>T<sub>98</sub></div> </div>										
	<div> <div>T<sub>10 3</sub></div> <div>T<sub>11 3</sub></div> </div>										
	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>	C <sub>6</sub>	C <sub>7</sub>	C <sub>8</sub>	C <sub>9</sub>	C <sub>10</sub>	C <sub>11</sub>

$T_{13} :$	$T_{21} :$	
$T_{25} :$ 가	$T_{32} :$	
$T_{33} :$	$T_{34} :$	
$T_{35} :$	$T_{37} :$	
$T_{39} :$	$T_{3 \ 10} :$	가
$T_{42} :$	$T_{43} :$	
$T_{4 \ 11} :$	$T_{54} :$	
$T_{64} :$	$T_{78} :$	
$T_{82} :$ 가	$T_{83} :$ 가	
$T_{84} :$	$T_{86} :$	
$T_{8 \ 10} :$	$T_{98} :$	가
$T_{10 \ 3} :$	$T_{11 \ 3} :$	

$T_{13}$   
 $(123 \quad 5,826 \quad )$  가  
 $T_{32}$   
 $(123 \quad 5,826 \quad )$

.  
 ,  
 .  $T_{34}$   
 .  $(T_{54})$  가  $(T_{25})$   $(T_{35})$   
 가  $(8 \quad 213 \quad )$  가  
 ,  
 $(T_{84})$   
 .  
 ,  
 .  $T_{43}$   
 .  $T_{4 \quad 11}$  (11  
 $4,387 \quad )$   $T_{11 \quad 3}$  .  $(T_{42})$   
 1995 「 」  $(88 \quad 7,734 \quad )$   
 $(34 \quad 1,944 \quad )$ ,  $(11 \quad 4,387 \quad )$   
 $43 \quad 1,403$  .  
 ,  
 ,  
 .  
 가 가가  $(T_{21})$   
 $(T_{25})$  . 가  $(T_{32})$ ,  $(T_{42})$   
 $(T_{82})$  .  
 가 가  
 $(T_{82})$  . , 가 가  $(311 \quad 1,137 \quad )$   
 ,  $(T_{42})$

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< 4-14>

1995

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				1	
	0	0	0	2,800,445	818,988
	0	0	0	16,732,742	1,086,090
	179,509,832	123,582,574	0	0	0
1	0	0	13,454,155	1,519,121	5,588
	0	0	0	710	0
	0	0	74,632,200	6,387,269	376,113
	0	0	0	24,312	8,770
	0	0	9,335,587	157,989	47,913
	0	0	223,689	12,072	3,625
	0	0	853,034	7,090	1,130
	0	0	4,806,654	300,583	19,646
	0	0	99,672,767	2,583,681	563,351
	0	0	42,775,104	381,976	34,249
	0	0	0	0	0
	0	0	0	0	0
1 ( )	0	0	0	0	0
( )	0	0	0	0	0
( )	0	0	0	0	0
( )	0	0	0	0	0
( )	0	0	0	0	0
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( )	0	0	0	0	0
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( )	0	0	0	0	0
( )	0	0	0	0	0
( )	0	0	0	0	0
( )	0	0	0	0	0
( )	0	0	0	0	0
	0	0	65,360,516	1,033,601	295,288
	0	0	0	0	0
	0	0	0	5,167,516	12,571,071
	0	0	0	293,165	373,629
	179,509,832	123,582,574	311,113,706	37,402,272	16,205,451



1995

( )

:

	53,283,918	20,354,621	6,671,757	548,923	431,891
	35,176,082	8,243,042	2,446,000	361,622	237,708
	0	0	0	0	0
1	18,452,857	120,515	0	0	0
	13,715,463	745,629	0	0	0
	191,930,543	32,205,845	3,949,614	1,057,908	1,188,321
	202,745	28,243	8,022	138	867
	3,396,779	1,046,174	155,748	570,362	29,898
	307,279	77,779	36,314	13,213	7,896
	501,688	32,218	8,711	9,014	14,533
	2,028,752	313,189	833,563	1,456,214	1,101,057
	46,116,683	13,878,815	1,772,941	2,459,881	464,212
	18,146,353	3,987,134	470,201	88,940	57,553
	0	0	0	0	0
	0	0	0	0	0
1 ( )	0	0	0	0	0
( )	0	0	0	0	0
( )	0	0	0	0	0
( )	0	0	0	0	0
( )	0	0	0	0	0
( )	0	0	0	0	0
( )	0	0	0	0	0
( )	0	0	0	0	0
( )	0	0	0	0	0
( )	0	0	0	0	0
( )	0	0	0	0	0
( )	0	0	0	0	0
( )	0	0	0	0	0
	17,613,918	1,475,013	1,251,088	464,700	392,629
	0	0	0	0	0
	85,499,846	15,038	1,088,190	1,725	825,131
	10,750,747	0	0	0	0
	497,123,653	82,523,255	18,692,149	7,032,640	4,751,696

1995

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	5,446,553	89,152,736	0	0	0
	3,799,918	55,499,370	0	0	0
	0	0	0	8,021,300	0
1	0	1,688,081	0	0	0
	0	1,817,189	0	5,152	0
	691,005	31,605,808	176,012	0	0
	41,446	6,610,234	0	0	0
	101,743	2,212,640	0	57,393	0
	23,511	109,052	0	7,432	0
	68,260	1,323,044	0	0	0
	495,485	6,365,048	0	0	0
	2,324,089	57,980,410	37,574,843	2,708,402	0
	836,727	10,191,316	0	0	0
	0	0	10,799,679	0	0
	0	0	39,857,696	0	0
1 ( )	0	0	0	0	0
( )	0	0	0	0	0
( )	0	0	0	0	0
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( )	0	0	0	0	0
( )	0	0	0	0	0
( )	0	0	0	0	0
( )	0	0	0	0	11,167,753
( )	0	0	0	0	353,668
( )	0	0	0	0	249,281
( )	0	0	0	0	28,086,994
	2,864,208	15,904,011	0	0	0
	0	0	0	0	0
	2,105,837	9,029,829	0	0	0
	0	21,136	0	0	0
	18,798,782	289,509,904	88,408,230	10,799,679	39,857,696

1995

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	1	( )	( )	( )	( )	( )
	0	0	0	0	0	0
	0	0	0	0	0	0
	0	0	0	0	0	0
1	52,681	19	7,610	151	0	0
	0	0	0	0	0	0
	2,992,387	173,700	28,858,719	1,748,907	6,043,141	
	670,653	39,149	5,242,199	261,865	467,895	
	29,201	628	113,536	7,001	3,785	
	253	6	984	61	71	
	30	1	119	7	4	
	7,543	163	29,331	1,808	1,115	
	896,006	35,630	4,208,766	773,052	462,606	
	0	0	0	0	0	
	0	0	0	0	0	
	0	0	0	0	0	
1 ( )	0	0	0	0	0	
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	0	0	0	0	0	
	0	0	0	0	0	
	0	0	0	0	0	
	0	0	0	0	0	
	4,648,754	249,296	38,461,264	2,792,852	6,978,617	

1995

( )

$$\vdots$$

	( )	( )	( )	( )	( )
1	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	500	23,932	0
	0	0	0	0	0
	1,618,661	1,818,201	3,938,376	13,632,277	0
	8,049	50,569	1,649,701	14,962,641	11,167,753
	11,438	780	16,434	66,629	0
	26	15	170	608	0
	4	6	20	68	0
	1,947	1,472	3,845	17,611	0
	166,927	49,542	484,582	3,472,430	0
	0	0	0	0	0
1	( )	0	0	0	0
	( )	0	0	0	0
	( )	0	0	0	0
	( )	0	0	0	0
	( )	0	0	0	0
	( )	0	0	0	0
	( )	0	0	0	0
	( )	0	0	0	0
	( )	0	0	0	0
	( )	0	0	0	0
	( )	0	0	0	0
	( )	0	0	0	0
	( )	0	0	0	0
	( )	0	0	0	0
	( )	0	0	0	0
	( )	0	0	0	0
	( )	0	0	0	0
	1,807,052	1,920,585	6,093,628	32,176,196	11,167,753

1995

( )

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	( )	( )	( )		
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
1	0	0	0	0	1,133,702
	0	0	0	0	-138,017
	0	0	0	0	377,025
	7 18,838	249,281	40,050,006	0	0
	0	0	0	0	49,671
	0	0	0	0	13,054
	0	0	0	0	534
	0	0	0	0	16,136
	0	0	0	0	198,242
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
1 ( )	0	0	0	4,648,754	0
( )	0	0	0	249,296	0
( )	0	0	0	38,461,264	0
( )	0	0	0	2,792,852	0
( )	0	0	0	6,978,617	0
( )	0	0	0	1,807,052	0
( )	0	0	0	1,920,585	0
( )	0	0	0	6,093,628	0
( )	0	0	0	32,176,196	0
( )	0	0	0	0	0
( )	0	0	0	365,170	0
( )	0	0	0	0	0
( )	0	0	0	11,963,012	0
	0	0	0	0	0
	0	0	0	1,650,347	0
	0	0	0	0	0
	0	0	0	0	0
	7 18,838	249,281	40,050,006	109,106,773	1,650,347

1995

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	0	0	179,509,832
	0	0	123,582,574
	0	0	3 11, 113,706
1	943,360	0	37,402,272
	59,325	0	16,205,45 1
	91,721,621	0	497, 123,653
	59,879	0	82,523,255
	1,280,820	0	18,692, 149
	6,195,530	0	7,032,640
	1,932,181	0	4,751,696
	997,620	0	18,798,782
	10,662,046	0	289,509,904
	0	11438677	88,408,230
	0	0	10,799,679
	0	0	39,857,696
1 ( )	0	0	4,648,754
( )	0	0	249,296
( )	0	0	38,461,264
( )	0	0	2,792,852
( )	0	0	6,978,617
( )	0	0	1,807,052
( )	0	0	1,920,585
( )	0	0	6,093,628
( )	0	0	32,176,196
( )	0	0	11,167,753
( )	0	0	718,838
( )	0	0	249,281
( )	0	0	40,050,006
	2,451,801	0	109,106,773
	0	0	1,650,347
	0	0	116,304,183
	0	0	11,438,677
	116,304,183	11,438,677	

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가

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1995

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&lt; 4-15&gt;

		가 , 가 , 가 , 가 , 가 , 가 , 가 , 가가 가 , 가 , , , , , , , , , , , , 가 ,	20
		, 가 , , 가 , , , , 가 , , , , , , , , , , , , , , , ,	20
		가 , 가 , ,	4
			2
		, , 가	3

1.

가 , , ,  
 가가 .  
 , , ,  
 , , .  
 1996 2005 10  
 1990 1997  
 . 가 1.81% 2.23%  
 , 13% 가 가 . 가  
 가 1990 가  
 4.5% 가 가 .  
 가 3.3% 3.8%  
 가 가  
 가

< 5-1>

: %

	1998	1999	2000	2001	2002	2003	2004
	5.5	2.0	4.7	5.1	5.3	5.0	5.0
	0.7	4.2	7.8	8.9	9.0	9.0	8.5
가	13.1	5.2	6.5	6.0	6.0	6.0	6.0
가	6.6	2.2	3.0	3.6	3.5	3.8	3.3

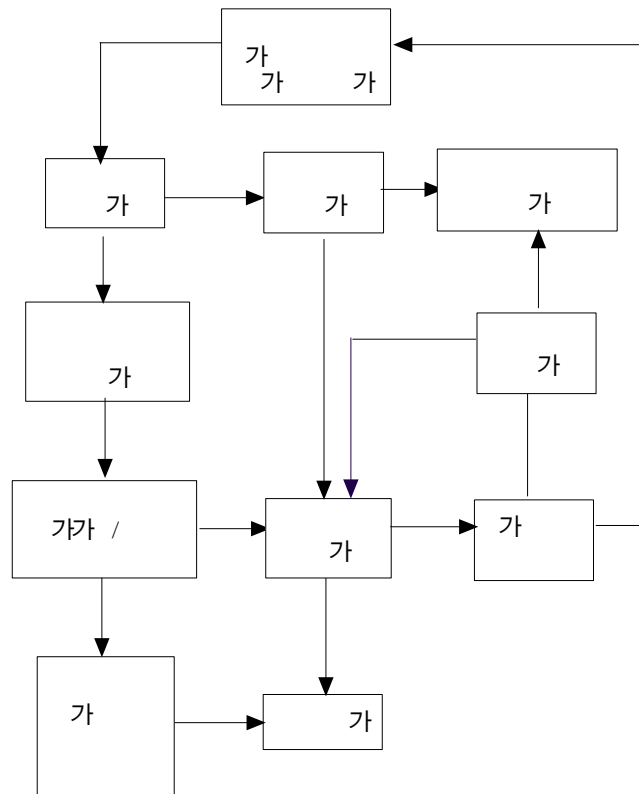
: , 「 , 1998.

10 0.16%  
 가 가  
 1995



가 ,  
 0.3%  
 가 가 ,  
 < 5-1>  
 ,  
 가  
 가 가 가 가  
 가  
 가 , 가  
 가 가가  
 가  
 가

< 5-1>



80xx

2.

1)

가 , , , , < 5-2>  
가가 가  
0.6878% . 0.6866%  
가 가 , 0.6792%, 0.6680%  
가 가 . 가 0.5  
8% 0.59% 0.70% 0.73% 0.67% 0.68%  
가 가 .  
1 3 가 가  
1 0.5917%, 2 0.6411%, 3 0.6712% ,  
가 0.5903%, 0.6401%, 0.6708% .  
가 가  
가 가  
가 .  
가 .

< 5-2>

가

가

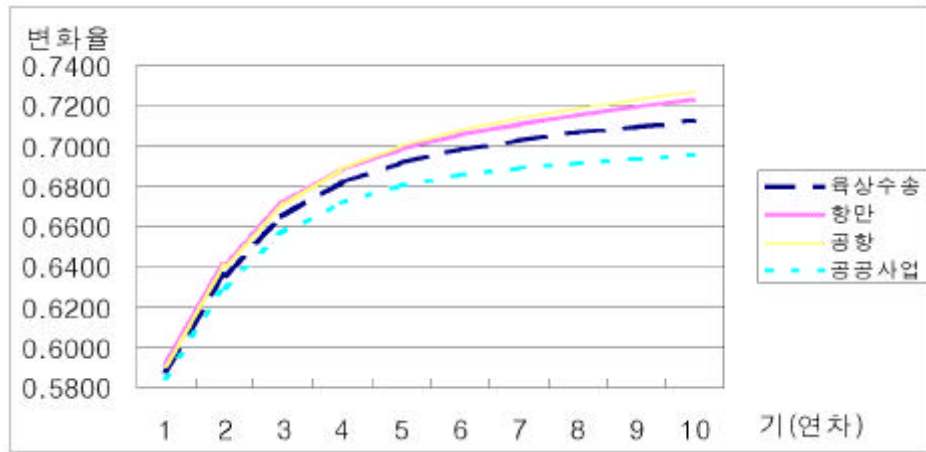
: %

( )				
1	0.5877	0.5917	0.5903	0.5843
2	0.6354	0.6411	0.6401	0.6295
3	0.6648	0.6712	0.6708	0.6568
4	0.6816	0.6882	0.6887	0.6720
5	0.6916	0.6983	0.6996	0.6804
6	0.6983	0.7057	0.7076	0.6859
7	0.7030	0.7111	0.7135	0.6894
8	0.7067	0.7156	0.7183	0.6919
9	0.7098	0.7195	0.7226	0.6940
10	0.7126	0.7232	0.7265	0.6959
	0.6792	0.6866	0.6878	0.6680

< 5-2>

가

가



2)

가가

가

0.16%

가

가

0.9250%

0.1647%    0.3138%

.

(0.7603%),

(0.6389%),

(0.6112%)

가

.

1999

( ,

(GNI) 65.5%

99.7%

0.3%

가

가

가

가

가

가

1

가

0.3178%    0.4406%

가

가

가

가

가

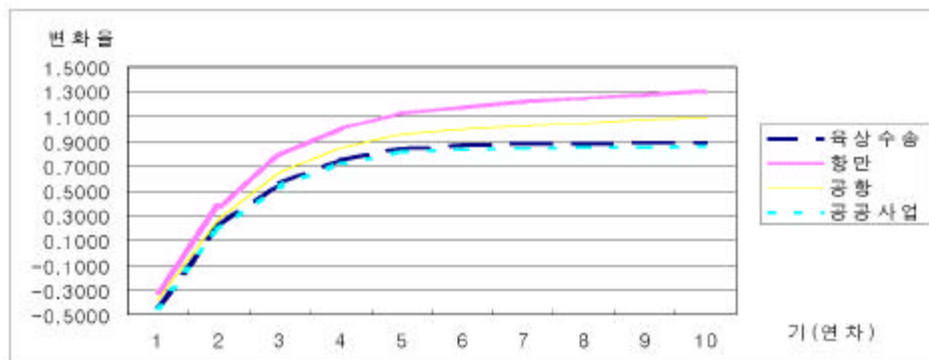
82xxii

2 0.1846% ( ) 0.3815% ( ), 3  
 0.5407% ( ) 0.7853% ( ) , 2  
 3 206% 293% . 가  
 9 10  
 0.3% 1.9% , 가 가  
 가 가 가 ,  
 .

< 5-3> 가 가 : %

( )				
1	-0.4297	-0.3178	-0.3775	-0.4406
2	0.2054	0.3815	0.2756	0.1846
3	0.5667	0.7853	0.6496	0.5407
4	0.7545	1.0071	0.8517	0.7260
5	0.8493	1.1329	0.9631	0.8196
6	0.8733	1.1837	1.0005	0.8425
7	0.8846	1.2224	1.0277	0.8534
8	0.8907	1.2556	1.0503	0.8587
9	0.8951	1.2856	1.0712	0.8620
10	0.8991	1.3135	1.0911	0.8646
	0.6389	0.9250	0.7603	0.6112

< 5-3> 가 가



3)

가 (0.6957%), (0.6864%), (0.7014%) 가 , (0.6853%) 0.0161%  
 . 1 0.6411% ( ) 0.6464%  
 ( ) 가 가 , 3 가  
 . 가  
 , 7 가 0.57%  
 .  
 가 .

&lt; 5-4&gt;

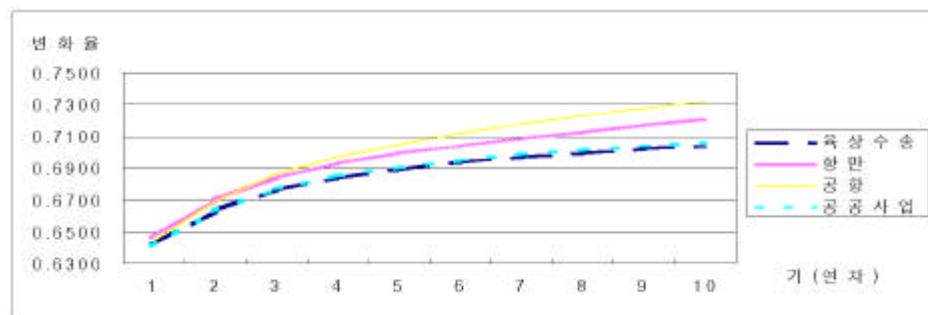
가 가

: %

( )				
1	0.6416	0.6464	0.6443	0.6411
2	0.6631	0.6697	0.6696	0.6631
3	0.6766	0.6842	0.6862	0.6771
4	0.6845	0.6932	0.6971	0.6853
5	0.6893	0.6994	0.7047	0.6904
6	0.6940	0.7044	0.7118	0.6954
7	0.6974	0.7088	0.7177	0.6990
8	0.7000	0.7129	0.7228	0.7017
9	0.7021	0.7169	0.7275	0.7041
10	0.7041	0.7210	0.7320	0.7062
	0.6853	0.6957	0.7014	0.6864

&lt; 5-4&gt;

가 가



xxiv

4)

가가 ,  
0.16%  
0.0919% .  
0.0636% ,  
0.0548% 0.0522% .  
, ,  
가 가 가  
.  
가  
,  
가 .  
가 1 0.1087%  
5 0.0790% , 1 5  
0.7268 . 0.1223  
가 0.2284 0.3013 ,  
.  
,  
가 가  
,  
가 , , 가 .

< 5-5>

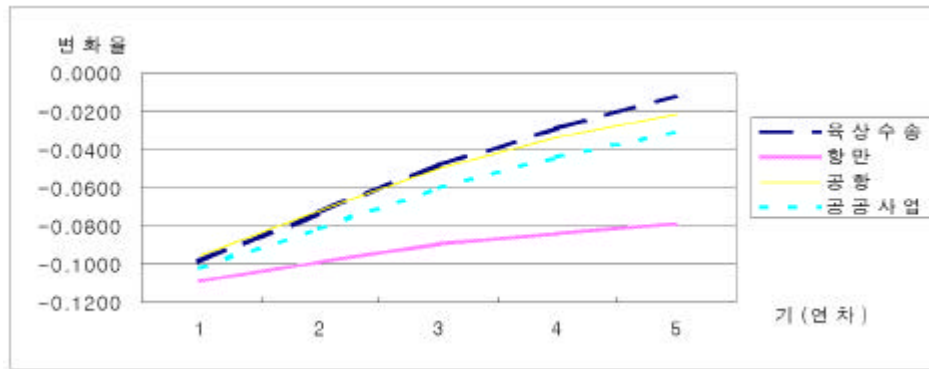
가

: %

( )				
1	-0.0989	-0.1087	-0.0959	-0.1019
2	-0.0729	-0.0985	-0.0720	-0.0812
3	-0.0483	-0.0893	-0.0501	-0.0601
4	-0.0290	-0.0840	-0.0340	-0.0440
5	-0.0121	-0.0790	-0.0219	-0.0307
	-0.0522	-0.0919	-0.0548	-0.0636

< 5-5>

가



5) 가가

[illegible]

< 5-6>

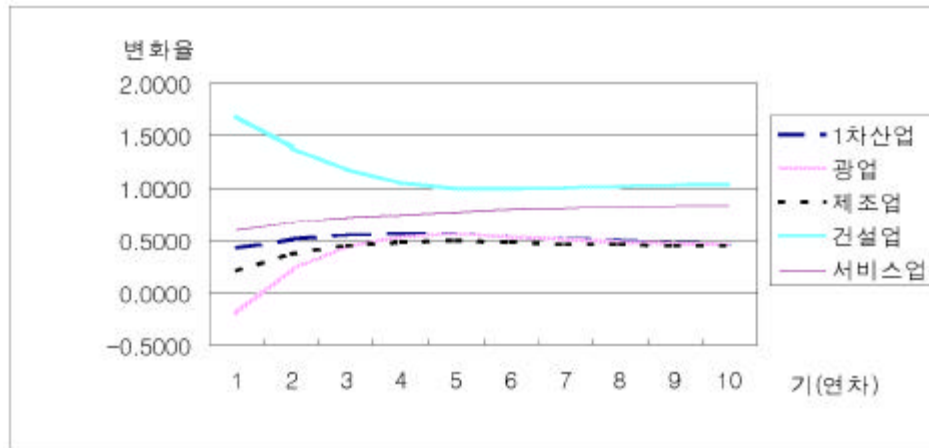
가 가가 가

: %

( )	1				
1	0.4329	-0.1994	0.2185	1.6934	0.6095
2	0.5104	0.2299	0.3763	1.3945	0.6733
3	0.5559	0.4438	0.4568	1.1788	0.7190
4	0.5711	0.5367	0.4924	1.0570	0.7490
5	0.5698	0.5722	0.5075	0.9949	0.7680
6	0.5396	0.5402	0.4866	1.0033	0.7973
7	0.5159	0.5143	0.4725	1.0137	0.8159
8	0.4975	0.4954	0.4640	1.0245	0.8281
9	0.4833	0.4810	0.4594	1.0349	0.8363
10	0.4722	0.4705	0.4577	1.0449	0.8421
	0.5149	0.4085	0.4392	1.1440	0.7638

< 5-6>

가 가가 가



가가 가가 가

1.1353% 가가 가가 가 . 1

(0.6972%), (0.6525%), (0.6506%), (0.6115%) .



&lt; 5-7&gt;

가 가가 가

: %

( )	1				
1	0.4547	-0.2169	0.2428	1.7000	0.5844
2	0.5697	0.2860	0.4520	1.4058	0.6091
3	0.6573	0.5751	0.5851	1.1846	0.6191
4	0.7096	0.7300	0.6642	1.0551	0.6216
5	0.7390	0.8127	0.7123	0.9869	0.6208
6	0.7520	0.8414	0.7382	0.9884	0.6185
7	0.7611	0.8583	0.7569	0.9948	0.6153
8	0.7687	0.8704	0.7720	1.0034	0.6119
9	0.7762	0.8797	0.7852	1.0126	0.6085
10	0.7841	0.8884	0.7972	1.0217	0.6053
	0.6972	0.6525	0.6506	1.1353	0.6115

가가 가가 가

1.1396% 가가 가가 .

(0.6485%), 1 (0.6363%), (0.6224%), (0.6210%)

가가 가가 .

&lt; 5-8&gt;

가 가가 가

: %

( )	1				
1	0.4508	-0.1604	0.2475	1.6781	0.5908
2	0.5534	0.3120	0.4460	1.3899	0.6259
3	0.6258	0.5733	0.5684	1.1784	0.6444
4	0.6637	0.7063	0.6388	1.0574	0.6536
5	0.6802	0.7730	0.6808	0.9950	0.6579
6	0.6804	0.7888	0.7012	1.0005	0.6617
7	0.6787	0.7965	0.7165	1.0093	0.6630
8	0.6771	0.8020	0.7296	1.0193	0.6631
9	0.6764	0.8067	0.7417	1.0294	0.6625
10	0.6769	0.8117	0.7532	1.0391	0.6616
	0.6363	0.6210	0.6224	1.1396	0.6485



, , 가 .<sup>17)</sup>

, 가

0.16% 가

0.0186%

0.0198% 0.0111%

. 1 3

가

, 4 가 가

, ,

, 0.01%

, ,

.

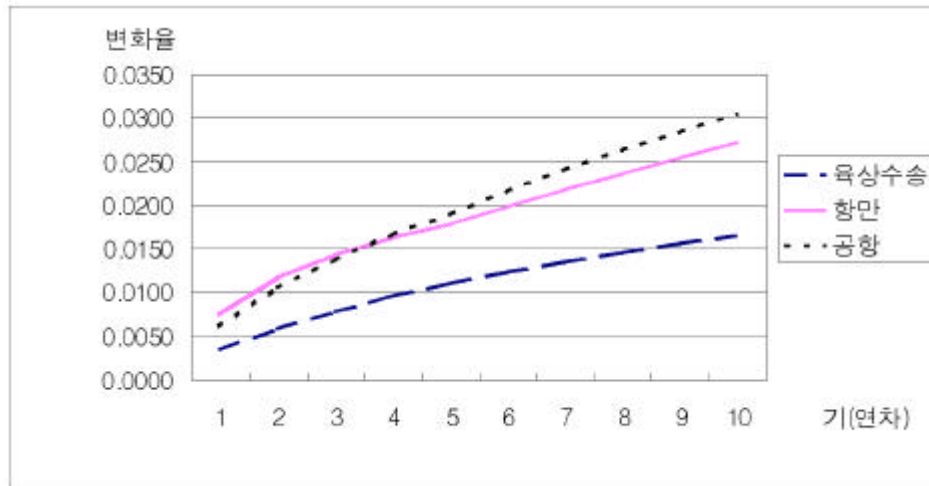
< 5-10>

: %

( )			
1	0.0035	0.0075	0.0061
2	0.0059	0.0117	0.0106
3	0.0079	0.0144	0.0139
4	0.0096	0.0163	0.0167
5	0.0111	0.0179	0.0191
6	0.0124	0.0199	0.0217
7	0.0136	0.0218	0.0241
8	0.0146	0.0237	0.0264
9	0.0157	0.0255	0.0285
10	0.0166	0.0273	0.0306
	0.0111	0.0186	0.0198

<sup>17)</sup>

< 5-7>



2)

가

0.1243% ( 1 ) 0.4471% ( 10 ) , 가

0.3129%

0.11%

0.41%

0.06%

0.22%

, 1 0.1243%

, 3 0.2439%

, 5 0.3121%

, 9 0.4218%

, 10 0.4471%

0.0634%

0.2263%

0.0109%

0.0346%

가

가

가 가

가

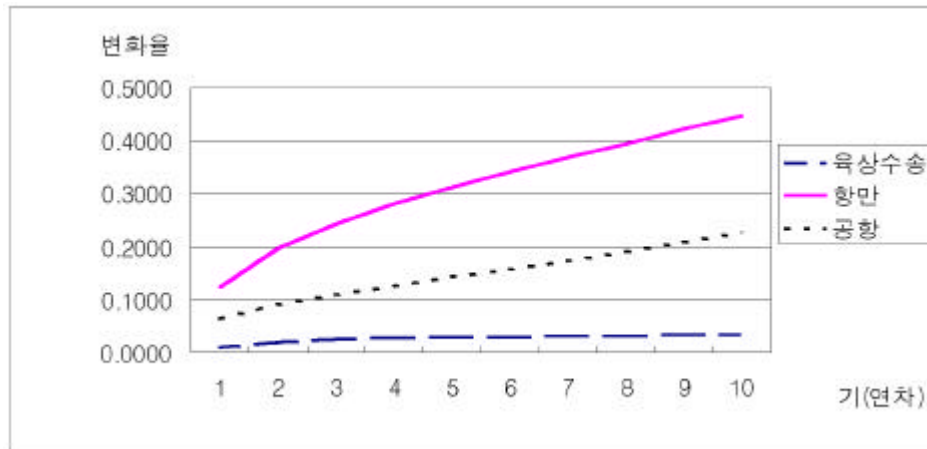
가

&lt; 5-11&gt;

: %

( )			
1	0.0109	0.1243	0.0634
2	0.0207	0.1971	0.0909
3	0.0258	0.2439	0.1086
4	0.0282	0.2802	0.1253
5	0.0296	0.3121	0.1432
6	0.0307	0.3399	0.1577
7	0.0312	0.3677	0.1740
8	0.0319	0.3953	0.1913
9	0.0331	0.4218	0.2089
10	0.0346	0.4471	0.2263
	0.0277	0.3129	0.1490

&lt; 5-8&gt;



3)

가

,

0.0151%

,

,

0.0056% 0.0162%

기

1

0.0001% ( 2 )

0.0022% ( 10 )

1 2

0.0052%

0.0065%

, 3

가

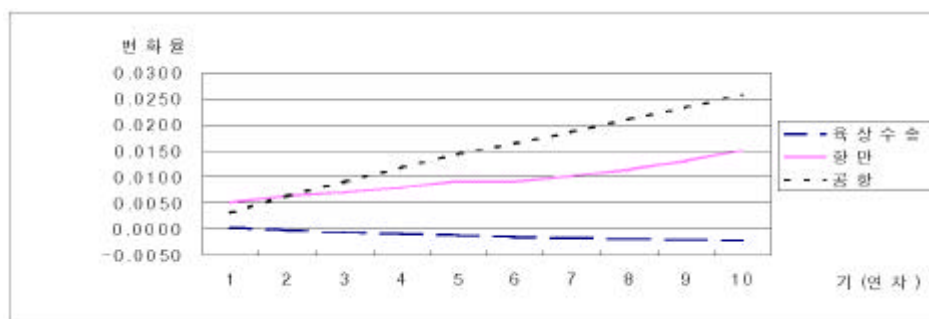
0.0095%

< 5-12>

: %

( )			
1	0.0004	0.0052	0.0031
2	-0.0001	0.0065	0.0065
3	-0.0005	0.0072	0.0092
4	-0.0009	0.0080	0.0118
5	-0.0011	0.0093	0.0144
6	-0.0014	0.0092	0.0165
7	-0.0017	0.0101	0.0187
8	-0.0018	0.0114	0.0211
9	-0.0020	0.0132	0.0235
10	-0.0022	0.0151	0.0258
	-0.0011	0.0095	0.0151

< 5-9>





## 5) 가가

가가  
 , 가가  
 , 0.0021% ( )  
 ) 0.1822% ( )  
 1 가가  
 , 1 -0.0141%  
 10 -0.2557%  
 , 1 2 가가  
 가 , 3 9  
 가가 0.3219% , 10  
 가 0.3391%  
 가가 1 가  
 가가 , 0.0236%  
 ( 1 ) 0.2904%  
 1 5 가가  
 0.0139% 0.0039% , 6  
 10 가가 가  
 0.0154%  
 가가  
 0.1542% . 1 0.00317%  
 , 10 가  
 0.2356% .



&lt; 5-14&gt;

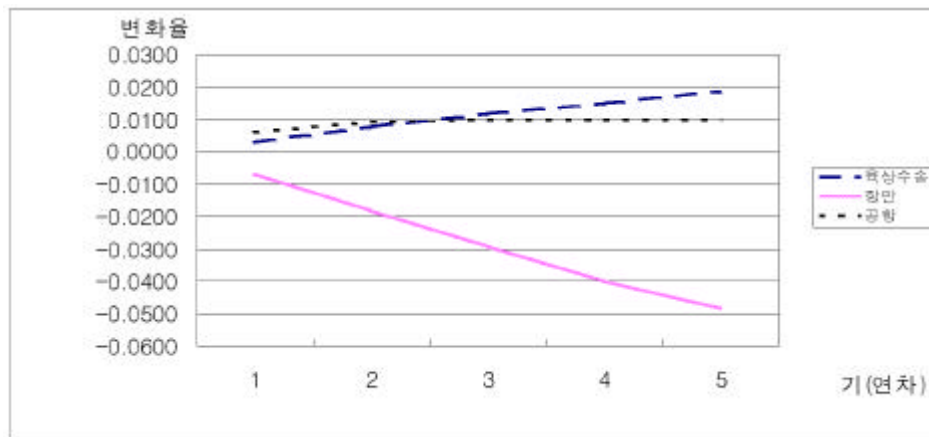
가가

: %

( )	1				
1	-0.0141	0.0650	-0.0236	-0.0139	0.0317
2	-0.0417	0.0000	-0.0658	-0.0232	0.0695
3	-0.0750	-0.0680	-0.1105	-0.0196	0.1037
4	-0.1051	-0.1256	-0.1473	-0.0116	0.1298
5	-0.1299	-0.1696	-0.1748	-0.0039	0.1486
6	-0.1687	-0.2281	-0.2171	0.0028	0.1795
7	-0.1980	-0.2697	-0.2460	0.0081	0.2008
8	-0.2209	-0.2996	-0.2660	0.0115	0.2158
9	-0.2397	-0.3219	-0.2801	0.0138	0.2270
10	-0.2557	-0.3391	-0.2904	0.0154	0.2356
	-0.1449	-0.1757	-0.1822	-0.0021	0.1542

&lt; 5-11&gt;

가가



가가

가가

가

0.0031%

( )

0.0658%

( )

1

, ,

가가

가

가

제6vi

< 5-15>

가가

: %

( )	1				
1	0.0083	0.0489	0.0018	-0.0070	0.0057
2	0.0179	0.0571	0.0104	-0.0120	0.0049
3	0.0256	0.0623	0.0171	-0.0139	0.0042
4	0.0318	0.0653	0.0225	-0.0135	0.0036
5	0.0369	0.0676	0.0272	-0.0118	0.0031
6	0.0410	0.0691	0.0313	-0.0119	0.0027
7	0.0442	0.0700	0.0349	-0.0108	0.0023
8	0.0472	0.0710	0.0384	-0.0095	0.0019
9	0.0501	0.0724	0.0419	-0.0085	0.0014
10	0.0529	0.0742	0.0454	-0.0078	0.0010
	0.0356	0.0658	0.0271	-0.0107	0.0031

가가

가가

,  
가 0.0346% , 0.0399% .  
1 , , 가가 가  
가가 가  
가가

< 5-16>

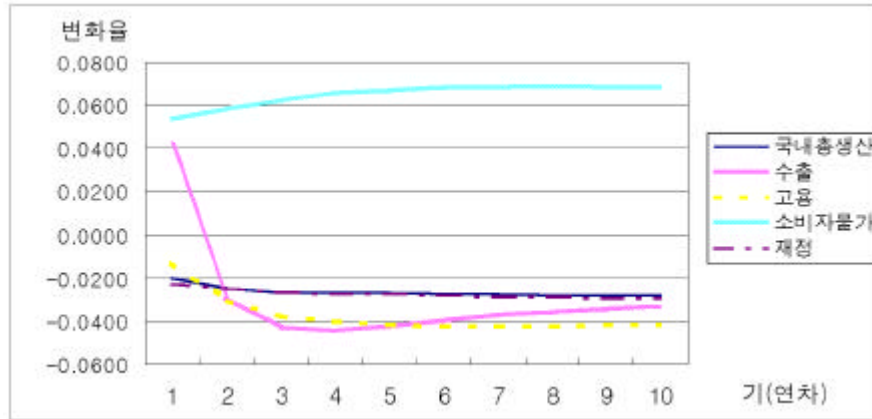
가가

: %

( )	1				
1	0.0045	0.1056	0.0065	-0.0290	0.0122
2	0.0017	0.0830	0.0045	-0.0279	0.0217
3	-0.0056	0.0608	0.0005	-0.0201	0.0294
4	-0.0137	0.0420	-0.0025	-0.0113	0.0354
5	-0.0213	0.0283	-0.0039	-0.0037	0.0400
6	-0.0302	0.0168	-0.0053	0.0003	0.0456
7	-0.0377	0.0087	-0.0051	0.0039	0.0497
8	-0.0439	0.0032	-0.0036	0.0065	0.0528
9	-0.0492	-0.0003	-0.0012	0.0084	0.0552
10	-0.0537	-0.0020	0.0018	0.0097	0.0572
	-0.0249	0.0346	-0.0008	-0.0063	0.0399



< 5-12> 가



가 1% . 4 10  
 -0.0371% , 7 (-0.0422)  
 -0.04  
 가 가 , 1 2  
 0.0538 0.0585 가 가  
 3 10  
 가 가 0.6 ,  
 가 가  
 , 1% 가 0.0230%( 1 ) 0.0296%  
 ( 10 ) . 가  
 , -0.0274  
 1996 가 60%  
 1995  
 15 9 14 16.5%  
 , 1.3% (< 5-18> ).

&lt; 5-18&gt;

: , %

1991	52,745	7,806 (14.8)	3,903 (7.4)	475 (0.9)	791 (1.5)	337 (0.7)	311 (0.6)	738 (1.4)	475 (0.9)	738 (1.4)
1993	65,984	10,620 (16.1)	5,477 (8.3)	264 (0.5)	924 (1.4)	594 (0.9)	462 (0.7)	990 (1.5)	1,122 (1.7)	792 (1.2)
1995	96,457	15,914 (16.5)	8,874 (9.2)	330 (0.5)	1,640 (1.7)	772 (0.8)	386 (0.4)	1,254 (1.3)	2,026 (2.1)	482 (0.5)

: , r  
: , 1996.

1% 가

3

0.014 . 1%

가 가

가 가 가

가 .

&lt; 5-19&gt;

가

: %

가		
	1991	0.095
	1993	0.096
	1995	0.079
		0.089
가	1991	0.014
	1993	0.015
	1995	0.013
		0.014

## 6

1.

1)

0.3%  
0.16% , 1995 10 가  
가  
가  
0.16% 가  
< 6-1> .  
가 1996 0.16% 6,700 2  
4,760 가  
가 가 1997  
17% 가  
가 가 1998 가 2%  
가 가  
가 가 3 7,320  
가 가 , 3 7,240 , 3  
6,830 , 3 6,200 가 . 가 가  
가 1,120  
80  
410 .  
 , , .

< 6-1> 가 가 : 10

		가				
1996	418,479	670	2,459	2,476	2,470	2,445
1997	453,276	725	2,880	2,906	2,901	2,853
1998	444,367	711	2,954	2,983	2,981	2,919
1999	483,778	774	3,297	3,329	3,332	3,251
2000	525,383	841	3,634	3,669	3,676	3,575
2001	552,177	883	3,856	3,897	3,907	3,787
2002	581,443	930	4,088	4,135	4,149	4,008
2003	610,515	977	4,315	4,369	4,385	4,224
2004	641,040	1,026	4,550	4,612	4,632	4,449
2005	673,092	1,077	4,796	4,868	4,890	4,684
	538,355	861	3,683	3,724	3,732	3,620

: 1) 가 가 「 」 .  
2) 가 .

가가 가 < 6-2>  
가 가 16 4,900  
가 13 9,100 ,  
12 , 9 1,900 가 .

< 6-2> 가 가 :

1996	129,715	-557	-412	-490	-572
1997	136,164	280	519	375	251
1998	132,313	750	1,039	860	715
1999	143,685	1,084	1,447	1,224	1,043
2000	153,743	1,306	1,742	1,481	1,083
2001	163,736	1,430	1,938	1,638	1,185
2002	174,052	1,540	2,128	1,789	1,262
2003	181,014	1,612	2,273	1,901	1,333
2004	188,254	1,685	2,420	2,017	1,405
2005	195,784	1,760	2,572	2,136	1,480
	159,846	1,200	1,649	1,391	919

: 1) 1999 「 」 .  
2) 가 .

qü2

가 가  
4 9,100 . 가 가 가 가 2 3  
100% 가 가  
.  
< 6-3> . , ,  
0.16% 가  
가  
13 9 ,  
13 8  
,18)

< 6-3> 가 가 :

1996	20,817	134	135	134	133
1997	21,106	140	141	141	140
1998	19,994	135	137	137	135
1999	20,281	139	141	141	139
2000	20,313	140	142	143	140
	20,502	138	139	139	138

< 6-4> . 0.16%  
가  
가 1996 3  
0.16% 가  
2,397  
.  
가 1,958  
가 440 .  
630 646 .  
18) 360  
, 80 가 .



&lt; 6-4&gt;

가

:

1996	227,737,753	225,233	247,551	218,401	232,065
1997	253,809,612	185,027	250,002	182,743	206,093
1998	248,277,445	119,918	221,712	124,387	149,215
	243,274,937	176,726	239,755	175,177	195,791

2)

가

.

가

.

1%

&lt; 6-5&gt;

&lt; 6-5&gt;

1%

	( )	( )	( )	가	( )
1996	-83,277	53,961	-2,644	0.0564	-26,853
1997	-112,413	-39,624	-6,395	0.0641	-32,600
1998	-117,757	-56,895	-7,478	0.0742	-37,949
1999	-130,620	-63,221	-8,173	0.0783	-42,299
2000	-141,853	-64,880	-8,389	0.0812	-45,187
2001	-150,744	-64,185	-	0.0853	-
2002	-160,478	-64,225	-	0.0888	-
2003	-170,334	-63,717	-	0.0923	-
2004	-180,132	-64,006	-	0.0951	-
2005	-191,158	-64,805	-	0.0979	-
	-143,877	-49,160	-6,616	0.0810	-36,978

:

,

가

.

가

. 1% 1,439  
가 , 1996 2005  
538 3,550 0.0265%  
0.0295%  
4,916 . 가 가 5 2000  
6,488 가  
6,616 .  
가 < 5-17>  
10 0.0653% 가 가 ,  
가 가 가 0.081  
가 가  
19) 가  
10%  
가 1.7%, 가 1.5%  
가 가 가 (<  
6-6> ).  
가 .

< 6-6>

가

	가		가	
	가	(%)	가	(%)
	131.4	1.73	93.9	1.45
. 가	25.6	0.43	32.8	0.54
	28.7	0.35	31.3	0.39
.	19.9	0.28	22.5	0.31
가	24.6	0.25	-	-
	17.4	0.17	-	-
	15.2	0.25	6.7	0.20

: , 「 1995 가 , 1998.

19)

가

, . 가 47 .

2.

1)

1999 7 7,500 2011 14 3  
가 ,  
11 (< 6-7> ).

< 6-7>

: , %

		1999	2001	2006	2011
		775,030	874,974	1,131,216	1,431,860
	(A)	472,886	540,678	716,827	934,766
	(B)	416,254	417,561	417,561	417,561
	(C)	416,254	447,475	531,973	632,428
	(B) - (A)	-56,632	-123,117	-299,266	-517,205
	(C) - (A)	-56,632	-93,203	-184,854	-302,338
	(B) / (A)	88.0	77.2	58.3	44.7
	(C) / (A)	88.0	82.8	74.2	67.7

: 1) 1999 1998

2001

1999

.

2) (C) 1999 7 가  
(1991 248,365, 1996 295,257 , 1991  
1996 가 : 3.52%).

1999 88.0%

2011 44.7%

7 가

67.7% . 2000

906

3 가 .  
 1999 777 2011  
 2,016 1999  
 548  
 (< 6-8> ).

< 6-8>

: TEU, %

		1999	2001	2006	2011
(A)		7,766	8,995	13,424	20,158
	1999 (B)	5,478	5,478	5,478	5,478
	(C)	5,478	5,982	7,869	9,238
	(D)	5,478	5,982	13,607	20,365
	(B) - (A)	-2,288	-3,517	-7,946	-14,680
	(C) - (A)	-2,288	-3,013	-5,555	-10,920
	(D) - (A)	-2,288	-3,013	183	207
	(B) / (A)	70.5	60.9	40.8	27.2
	(C) / (A)	70.5	66.5	58.6	45.8
	(D) / (A)	70.5	66.5	101.4	101.0

가 ,  
 4  
 가 ,  
 2005 10 , 2011 24  
 1997 1 4 , 2003 2 8  
 , 2011 24 .

&lt; 6-9&gt;

: TEU

			1999	2001	2006	2011
	( BCTOC)	5 × 4('82)	900	1,000	1,000	1,000
		1 × 1('96.8)	100			
	PECT	5 × 3('91)	960	1,200	1,200	1,200
		5 × 1('97.8)	240			
	( 4 )	5 × 4('97)	1,200	1,200	1,200	1,680
		5 × 2,5 × 1 (2002. 1)	-	-	480	
	7	2 × 1,5 × 2	200	200	265	265
		1,5 × 1, 6 × 1, 5 × 2	-	65		
		5 × 2	228	228	228	228
			360	360	360	-
		-	4,188	4,253	4,733	4,373
		5 × 9, 2 × 5	-	-	2,695	2,695
		5 × 6, 2 × 4	-	-	-	1,868
		-	4,188	4,253	7,428	8,936
	1	5 × 4	960	960	960	960
	2	5 × 4, 2 × 4 (2003 )	-	-	1,388	1,388
	3	5 × 4	-	-	960	960
	4	5 × 12	-	-	-	2,880
		5 × 20, 2 × 4	960	960	3,308	6,188
	9		330	769	2,871	5,241
	(A)	-	5,478	5,478	5,478	5,478
	(B)	-	-	504	2,391	3,760
	(A+B)	-	5,478	5,982	7,869	9,238
	(C)	-	-	-	5,738	11,127
	(A+B+C)	-	5,478	5,982	13,607	20,365

: , ' , 1999.

:

(pp. -52 55) .

2)

< 6-10>

: 1) 2000 2011 (12 ) '99

2) 100% .

6 609

.

/ , ,

,

,

,

,

,

2011 37

, 21 16 .

37

< 6-11> . 가 2011

100% 37 2001 10

3 7 ,

145 가 593 가 가 .

< 6-11>

가

	( )	( )
2001	12.2927	-38.8234
2002	13.5548	15.0939
2003	14.2273	45.1086
2004	14.5944	61.8552
2005	14.8125	71.8863
2006	14.9587	78.6121
2007	15.0697	83.7088
2008	15.1629	87.9893
2009	15.2464	91.8500
2010	15.3242	95.4866
	145.2435	592.7673

3.

1)

1994 2003 10

940

가

,

.

, 1998

.

< 6-12>

: %

	1995	1997	1998	1999	2000
	62.2	63.8	62.3	60.9	61.2
	21.9	19.8	19.0	20.1	23.2
	6.8	6.8	7.4	8.8	5.9
	-	-	-	1.5	1.8
	9.1	9.6	11.3	8.7	7.9

: , 「

」, 2000.

가

가

.

가

가

.

가

가

.

,

가

가

가

가

2000

,

64.5% 가

,

.

가

10%

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	75,331	28,591	7,248	2,227	9,739	123,136
(%)	100	100	100	100	100	100
	74,490	27,909	6,743	2,220	6,282	117,645
(%)	98.9	97.6	93.0	99.7	64.5	95.5
,	50	-	853	-	2,638	3,541
(%)	0.1	0.0	11.8	0.0	27.1	2.9
	790	682	-347	7	818	1,950
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0.0264%가 , 0.0295%,  
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2000年 12月 26日 印刷  
2000年 12月 30日 發行

編輯兼 李 廷 旭  
發行人  
發行處 韓 國 海 洋 水 產 開 發 院  
11-6  
2105-2700 FAX : 2105-2800  
1984 8 6 16-80

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組版・印刷/ (株) 精 印 社 3486-6791 4 가 15,000

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