A Study on the Effects and Necessity of Introducing Flag of Convenience

Chul-Hwan Han

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Abstract : Flag of convenience(FOC) is one of the general management tools in the modern international shipping industry. However, the Korean government do not allow Korean shipping lines to use the FOC according to the Customs Law.

Thus the main objective of this paper is to examine some practical applications of FOC in terms of strengthening national shipping companies' international competitiveness. To this aim, this paper examined the current situation and some problems, when national shipping companies use the FOC. And an estimation for current FOC fleets of the Korean shipping lines was executed to evaluate the extent that how much they use the FOC system. Especially, two-sector general equilibrium model for international shipping industry was introduced as a theoretical background for application of FOC. Futhermore, the expected effects of FOC are also examined by comparing various flag

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systems.

As a conclusion, this paper gave some policy suggestions for introducing FOC to the Korean shipping industry.

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(BBC/HP)

18   ,

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7   5,000   (G/T)

2   4   8,700   (G/T)   65%

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70%

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(two- sector general equilibrium

model)   . 5

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1990

1996   , 1998

377   , 1,087   G/ T   .   1998

1997   200%

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1998

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		G/T		G/T		G/T
1994	369	9,715	54	1,473	52	612
1995	372	10,536	42	1,330	39	514
1996	389	11,529	29	1,352	13	360
1997	392	11,554	51	1,137	53	1281
1998	377	10,872	23	808	37	1382
1999	398	11,131	44	569	19	304
2000. 11	431	12,119	49	1,118	8	29

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    1990

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            149   , 745   ,
                        30   , 100   .
                        (KFX)
        ,   BBCHP
109   , 96   .

< - 2>   (1990   2000   )

			(G/T)	( )
	BBCHP	149	7,445	9,594
		30	1,003	1093
		109	964	-

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2000   7   29,550   , 7   5,323   (DWT)
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    4   4,209   (DWT)   61.8%   .
                10   68%
    .   1990
                              , 1996
    53.7%   2000   62%
    .   2000   2,500
72%   .

<   -3>   10   (2000. 7. 1   )

						DWT	%
		DWT		DWT			
	745	40.8	2,422	90.9	3,167	131.7	69.0
	735	18.0	2,128	77.3	2,863	95.2	81.1
	701	28.0	623	25.6	1,324	53.6	47.8
	266	11.1	659	35.2	925	64.4	76.0
	1,435	21.5	517	17.0	1,952	38.4	44.1
	119	5.8	427	25.3	546	31.1	81.4
	468	7.5	1,432	21.7	1,900	29.2	74.3
	383	7.0	431	18.0	814	25.0	72.0
	153	7.6	337	12.4	490	20.0	62.1
	435	11.4	254	7.0	689	18.4	38.0
	5,440	158.7	9,230	330.4	14,670	489.1	67.6

    : ISL, Shipping Statistics Yearbook, 2000.

32.9%   ,

(17.6%),   (9.6%),   (9.4%),   (7.4%)   .

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88.3%   ,

,   .

< -4>   10   (2000. 7. 1   )

							DWT
18.5	12.2	27.5	8.8	26.2	6.9	100	90.9
77.7	7.0	0.6	1.0	0.4	13.3	100	77.3
5.2	23.9	14.3	32.3	1.6	22.8	100	25.6
6.2	25.4	2.0	29.4	0.2	36.9	100	35.2
50.0	20.6	1.9	-	1.2	26.3	100	17.0
62.3	14.2	1.9	2.1	0.5	19.1	100	25.3
3.5	41.9	5.0	1.0	16.7	32.0	100	21.7
88.3	8.3	0.6	-	0.3	2.5	100	18.0
77.1	7.1	0.1	-	-	15.7	100	12.4
7.6	12.7	0.1	13.2	0.1	66.4	100	13.0
32.9	17.6	9.6	9.4	7.4	23.0	100	404.3

: ISL, Shipping Statistics Yearbook, 2000.

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Paper company

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UNCTAD   2000   1

440   , 1,838   DWT

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167   , 706   G/T   .3)

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UNCTAD

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$$= \qquad -$$

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(1)   UNCTAD   (DWT)

,   (G/T)   ,

G/T   DWT

.

(DWT)   (G/T) ×   1.47 .... (2)4)

Stopford(1999)   (G/T)

2) UNCTAD, Review of Maritime Transport, 2000. p. 32.
3)   ,   , 2000.
4) Martin Stopford, Maritime Economics, 2nd edition, 1999. p.526.

(DWT)   (average conversion factors)

　　　　　4   (1.79),   (1.70),

(0.96),   (1.44)   1.47   . (2)

                (DWT)

           .

　　　7,046,000 G/T × 1.47 = 10,357,620 ·· (3)

        .

　　　18,383,000 DWT - 10,357,620 DWT = 8,025,380DWT

                              800   DWT (546 G/T)

           .   44%

        ,   -   -   32%

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          800   DWT

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Paper Company (   )

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Paper company

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(mechanism)

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Porter

(diamond model)   (determinants)

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(globalization),

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(market strategies)

.   Sletmo   Holste(1993)

M. Porter   (generic strategies)

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-5>   ).   (market segmentation)   '

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'   ', '   ,

'   (needs)   ,   .5)

(absolute cost advantages)
(service differentiation)   .

(specific services)

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< -5>

		( )
(Niche markets)	(, ,)

: G. K. Sletmo & S. Holste, *Shipping and the competitive advantage of nations: the role of international ship registers*, Maritime Policy and Management, Vol. 20, No. 3., 1993.

'   ', '   ,

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5) G. K. Sletmo & S. Holste, *Shipping and the competitive advantage of nations: the role of international ship registers*, Maritime Policy and Management, Vol. 20, No. 3., 1993.

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(2)

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. (performance)

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. (capital

costs), (running costs) , (voyage costs)
(administration costs) .
(fixed costs) , , ,
,
(variable costs) .

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70 84%

16 30%

(< -6>).

20% , 1999

22.2%

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<   - 6>

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		1995		1996		1997		1998		1999	
			%		%		%		%		%
		2,866	74.1	3,391	69.5	4,752	73.6	7,183	83.6	6,899	83.4
	1)	441	11.4	547	11.2	698	10.8	1,137	13.2	803	9.7
	2)	1,975	51.1	2,259	46.3	3,205	49.7	5,182	60.3	5,281	63.8
	3)	451	11.6	585	12.0	849	13.1	865	10.1	815	9.9
		1,000	25.9	1,487	30.5	1,701	26.4	1,410	16.4	1,374	16.6
	1)	248	6.4	260	5.3	312	4.8	316	3.7	305	3.7
	2)	82	2.1	79	1.6	77	1.2	90	1.0	60	0.7
	3)	165	4.3	161	3.3	175	2.7	184	2.1	180	2.2
	4)	353	9.1	415	8.5	420	6.5	546	6.4	517	6.2
	5)	152	4.0	572	11.8	717	11.2	274	3.2	312	3.8
		3,866	100	4,878	100	6,453	100	8,594	100	8,274	100

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(national costs)

(international costs)   .

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.   (taxes)

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< -7>

(cost elements)	(market pricing)
(non-equity finance)	/
(equity finance)	/
	/

: ESCAP, *Framework for the Development of National Shipping Policies*, 1999. p. 53. T.P. Mayr & R. H. McGrath(1997), *'Tramp Shipping : The role of taxation in international resource allocation'*, Maritime Policy and Management, Vol. 24., No. 3., p.263.   .

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1980

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.   1998

(regulatory regimes)

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	( )	×	×	×	( )

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, 2001.

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6) Department of the Environment, Transport and the Regions, *British Shipping: Charting a New Course*, 1998, 12.

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(tax haven)

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(cash flow)

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(flagging out)

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1997 EU 'Community Guideline on State Aids to Maritime Transport' EU EU

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(tonnage tax)

. 1996 ,

1999 , 2000

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7) Commission of the European Communities, Community Guideline on State Aids to Maritime Transport, 1997.

8) (2001) '

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. <   -9>   3,360   21

1   83

5,000   ,   2   65%

54   2,000   .

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(moral hazard)

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: US

	187	835	1,022	
	12	542	544	
NIS	18	542	560	

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(mechanism)

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(competitive advantage)

M. Porter(1990)   (diamond
model)   <   - 1>
.9)
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9)   Porter(1990)
(home   base)   ,   Rugman &
D'cruz(1993), Dunning(1997)
'double diamond model'   .

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< -1>
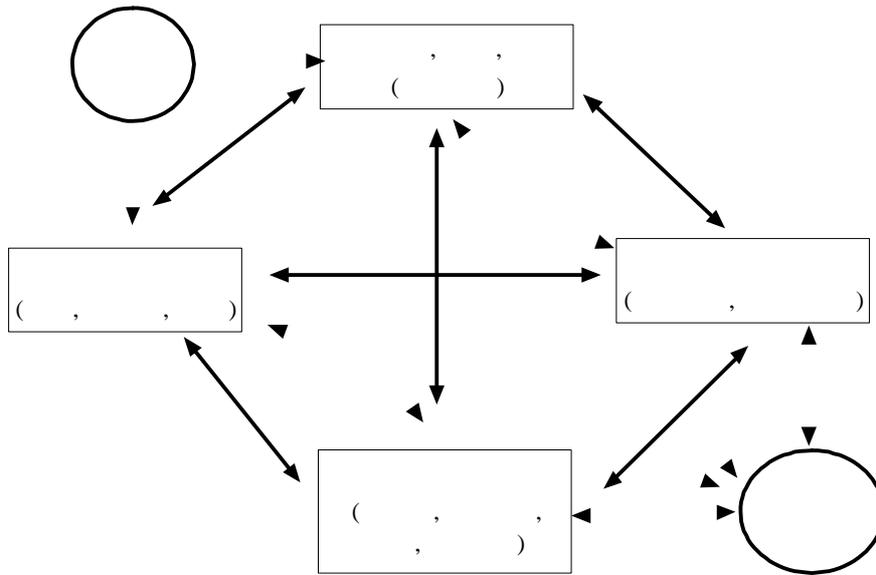
: M. Porter, *The Competitive Advantage of Nations*, The Free Press, 1990.
.

< -1>   (competitive
advantage)   )   ,   (a firm's strategy,
structure and rivalry),   )   (demand conditions),   )
(factor conditions),   )   (related and supporting
industries)   .

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Porter

,   (chance)   (government)

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,   ,   ,   (political development)

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(factor conditions)   .10)

(2)

Porter

(factor conditions)

(government role)   .

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.11)

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10) M. Porter, *The Competitive Advantage of Nations*, The Free Press, 1990. p. 127.

11)   6   .

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28%

30   35%

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Porter   ,

<   - 2>   (mechanism)   ．

Porter

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┌─────────────────────────┐
│  Porter                 │
└─────────────────────────┘

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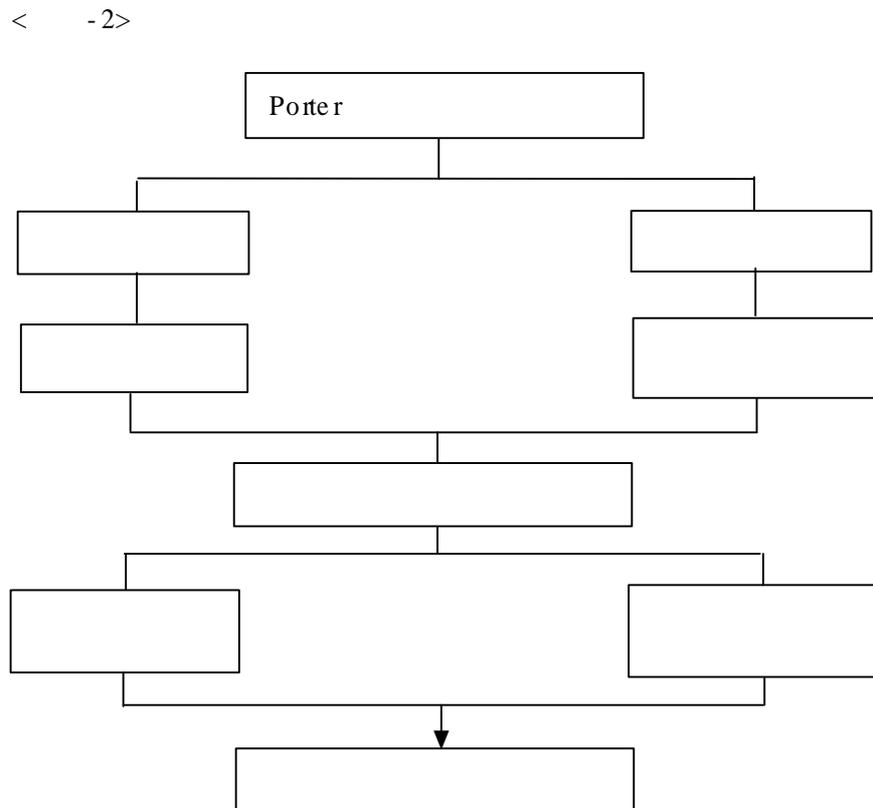
.12)

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(flagging‐out   flagging‐in)

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(balanced equilibrium)

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,   (two‐sector general
equilibrium model)   ·

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12)

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1.

(labor costs)   (conditions for efficiency)

(dualistic market)   .

(established flag sector)

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(flag of convenience sector)   .

(crew cost),   ,   ,

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(aggregate labor costs)

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(nominal wages)   ,

.   Goss(1985)

(non-wage costs)

.13)

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13) Goss, "Social cost, Transfer Payments and International Competition in Shipping", Maritime Policy and Management, Vol. 12, No. 2, 1985, pp. 135-143.

, (heterogeneous)

(average level of skills) .

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(ceteris paribus)

.

, (management

costs) . ,

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(flexibility)

.14)

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Jones(1965) (two-sector general

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equilibrium model)　　　　　Yannopoulos(1988)

.15)

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)　　　　　　　　'　　　　　　　　　(constant returns to scale)'

(homo-

geneous of the first degree)　　　　　　　　.

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) R. Jones, "The Structure of Simple General Equilibrium Models", Journal of Political Economy, , 1965　　G. N. Yannopoulos, "The Economics of Flagging Out", Journal of Transport Economics and Policy, Vol. XXII, No. 2, 1988.
.

.

$$M_e = G_e(K_e, L_e) \quad \text{..} \quad (1)$$

$$M_c = G_c(K_c, L_c) \quad \text{..} \quad (2)$$

, M =

K = , L = ,

e = (established flag sector), c =

,

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$$M_c = \quad G^e \quad \text{..} \quad (2\text{-}1)$$

, 0 < < 1

(real labor costs)

(w^*_e).

(reward)

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, $w_c < w^*_e$

(net wages)

. (h)

$h_e < h_c$.

, ,

. (x)

(level of net wages) .

$$x_e = h_e w_e \quad \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (3)$$

$$x_c = h_c w_c \quad \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (4)$$

x_e , h_c

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, x_e x_c , w_e $(h_c / h_e) w_c$

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(1)   (2)   (marginal factor
products)   (factor rewards)
.16)

$$dG^e / dL_e = w^*_e \quad \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (5)$$

$$dG^e / dK_e = r \quad \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (6)$$

$$dG^e / dL_c = w_c / \quad \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (7)$$

$$dG^e / dK_c = r / \quad \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (8)$$

r

, w_c r

-          (capital-labor ratios)   .

w_c, r , k_e, k_c dG^e / dK_e -

$r /$ > r $kc < ke$.

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16) $M_c =$ G^e $G^e = G^c$ $G^e = (1/ \quad) G^c$ L_c K_c
(7)   (8)   .

$$K = K_e + K_c = k_e L_e + k_c L_c \text{...} (9)$$

$$L = L_e + L_c \text{..} (10)$$

, K   , L

    (5)   (10)   .

    6                          $K_e, K_c, L_e, L_c, r, w_c$ 6
        .   (1)   (strictly convex)   K   L
            (asymptotic)

.[17)

(a) $k_c < k_e$

(b) k_e
     (w^{*}_e)

(c)   (2-1)
                -              (k_c) .
                                              w^{*}_e

            .

    $k_c = c k_e,$ $c < 1$ \text{...} (11)
     , c
            .

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                      . Me   Mc

                                        (isoquants)   .

                                  .   Mc

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17)   (convexity)   (asymptotes)   A.C.
    Chiang, Fundamental Methods of Mathematical Economics, 3rd Edition,
    McGraw-Hill, 1984   .

Me   .

(isocost curve) KLe   KLc

.   (crew costs)

Le

Lc   .

E_e , E_c

. K_e

L_e' .

K_c L_c'

.

- $(OK/OL_c$

$< OK/OL_e)$.

<   -3>

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(E_c)

$(E_c - E_o)$　　　　　　.　　　E_o

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$(E_c - E_o)/E_c$　　　　　.

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L_e

.　　　　　　　　E_o

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(flagging - out)　　　　　　　.　　　M_c

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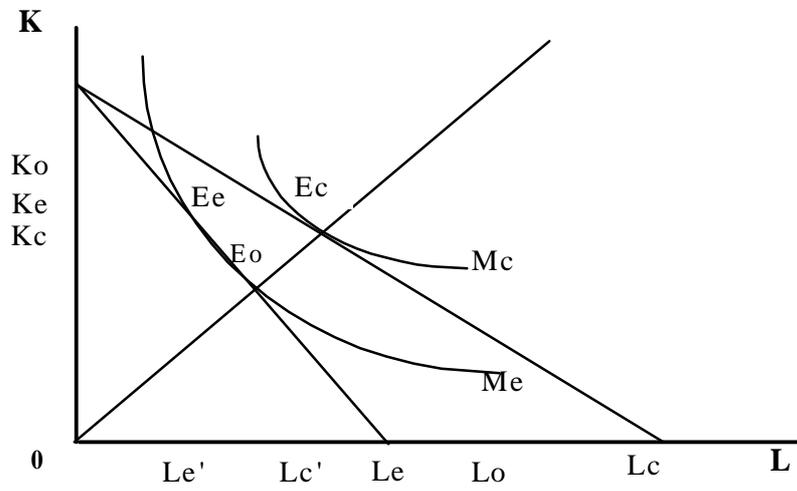
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(9), (10), (11)　　　　　　　　　　　　　　　.[18]

$$L_e = (K - c k_e L) / k_e (1 - c) \cdots\cdots\cdots (12)$$

L　1　　　　　　　　　　　.

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18) (10) $L = Le + Lc$ $Lc = L - Le$ (11) $K = Ke + Kc = k_e Le + ck_e(L - Le)$. Le (12)   .

$$dL_e/dL = -c/(1-c) \quad \text{..} (13)$$

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(flagging-out)

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$$L_e/L = l_e = \left[K-c k_e L \right] / \left[k_e(1-c) \right] / L$$
$$= 1/(1-c) \left[(k/k_e)-c \right] \quad \text{..} (14)$$

-

-                              -   .

(w^*_e) - (k_e)

.

k_e (14)   .

$$dl_e/dk_e = -k / \left[(1-c) k_e^2 \right] < 0 \text{ ....} (15)$$

(15)   (   )

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$h_e < h_c$ (3), (4)   .

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(l_e) ,   -

(K/L) (relative size)

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h_c -

(home pay)   -

. h_c

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w^*_e

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(redistribution)

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(animal spirit)'   .

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19)   UR   1995

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				×

: Tae-Woo Lee, *Flagging options for the future: A turning point in Korean shipping policy*, Maritime Policy and Management, Vol. 23, No. 2, 1996
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Bergantino Marlow
(1998)

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20) A. Bergantino and P. Marlow, Factors influencing the choice of flag : empirical evidence, Maritime Policy and Management, Vol. 25, No. 2, 1998.
.

.   Verbeke   Winkelmans(1990)

(country specific advantages)   ,
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                                                                    (cash

flow)   .

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                        OECD   WTO

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21) Verbeke   Winkelmans(1990)   (CSA)   ,   ,

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(Paper Company)

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WTO

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4.   ,   , 2000.

5. Bergantino, A., and Marlow, P., *Factors Influencing the Choice of Flag : Empirical Evidence*, Maritime Policy and Management, Vol. 25, No. 2, 1998.

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18. Tae-Woo Lee, *Flagging Options for the Future: A Turning Point in Korean Shipping Policy*, Maritime Policy and Management, Vol. 23, No. 2, 1996.

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