

## 附錄一 單向轉乘優惠運量成長模式

THE SCA STATISTICAL SYSTEM ( RELEASE VI.3 )  
 SCA PRODUCT IDENTIFICATION: GSA, UTS, MTS & ECON/M  
 SCA PRODUCT IDENTIFICATION: EXTENDED-UTS & EXPERT  
 SCA SOFTWARE IDENTIFICATION: NCTU-IT&T ( 1060418 )  
 SCA SOFTWARE RELEASE DATE: 5/ 1/2001  
 SCA SOFTWARE RENEWAL DATE: 12/ 2/2006  
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SIZE OF WORKSPACE IS 2000000 SINGLE PRECISION WORDS

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call ALLMACRO. file 'STR.mac'

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ASSIGN FILE 12. EXTERNAL 'STR.mad'.

--

CALL DATA. FILE 12.

--

INPUT BP,ML1,ML2,ML3,ML4,ND1,ND2,NO,TL,TP1,TP2,YM. @  
 PREC DOUB,DOUB,DOUB,DOUB,DOUB,DOUB,DOUB,DOUB,DOUB,DOUB,DOUB,DOUB. @  
 FORMAT FREE(1,132).

BP , A 52 BY 1 VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION  
 ML1 , A 52 BY 1 VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION  
 ML2 , A 52 BY 1 VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION  
 ML3 , A 52 BY 1 VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION  
 ML4 , A 52 BY 1 VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION  
 ND1 , A 52 BY 1 VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION  
 ND2 , A 52 BY 1 VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION  
 NO , A 52 BY 1 VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION  
 TL , A 52 BY 1 VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION  
 TP1 , A 52 BY 1 VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION  
 TP2 , A 52 BY 1 VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION  
 YM , A 52 BY 1 VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION

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Return

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C BP may be referenced by positional variable: &V\_1 @  
 C ML1 may be referenced by positional variable: &V\_2 @  
 C ML2 may be referenced by positional variable: &V\_3 @  
 C ML3 may be referenced by positional variable: &V\_4 @  
 C ML4 may be referenced by positional variable: &V\_5 @  
 C ND1 may be referenced by positional variable: &V\_6 @  
 C ND2 may be referenced by positional variable: &V\_7 @  
 C NO may be referenced by positional variable: &V\_8 @  
 C TL may be referenced by positional variable: &V\_9 @  
 C TP1 may be referenced by positional variable: &V\_10 @  
 C TP2 may be referenced by positional variable: &V\_11 @  
 C YM may be referenced by positional variable: &V\_12.

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# CALL ANALYSIS

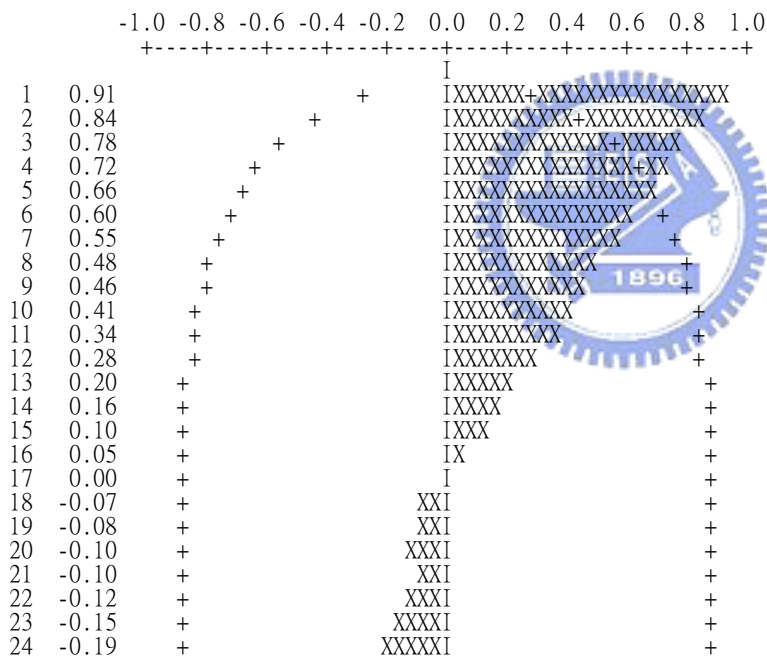
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ACF TL.

NAME OF THE SERIES . . . . . TL  
TIME PERIOD ANALYZED . . . . . 1 TO 52  
MEAN OF THE (DIFFERENCED) SERIES . . . 2610359.7500  
STANDARD DEVIATION OF THE SERIES . . . 1801318.5000  
T-VALUE OF MEAN (AGAINST ZERO) . . . . 10.4499

## AUTOCORRELATIONS

1- 12	.91	.84	.78	.72	.66	.60	.55	.48	.46	.41	.34	.28
ST.E.	.14	.23	.28	.32	.35	.37	.39	.40	.42	.43	.43	.44
Q	45.7	85.5	120	150	176	198	217	232	246	257	265	271
13- 24	.20	.16	.10	.05	-.00	-.07	-.08	-.10	-.10	-.12	-.15	-.19
ST.E.	.44	.44	.44	.44	.44	.44	.45	.45	.45	.45	.45	.45
Q	274	276	277	277	277	277	278	279	279	281	283	286



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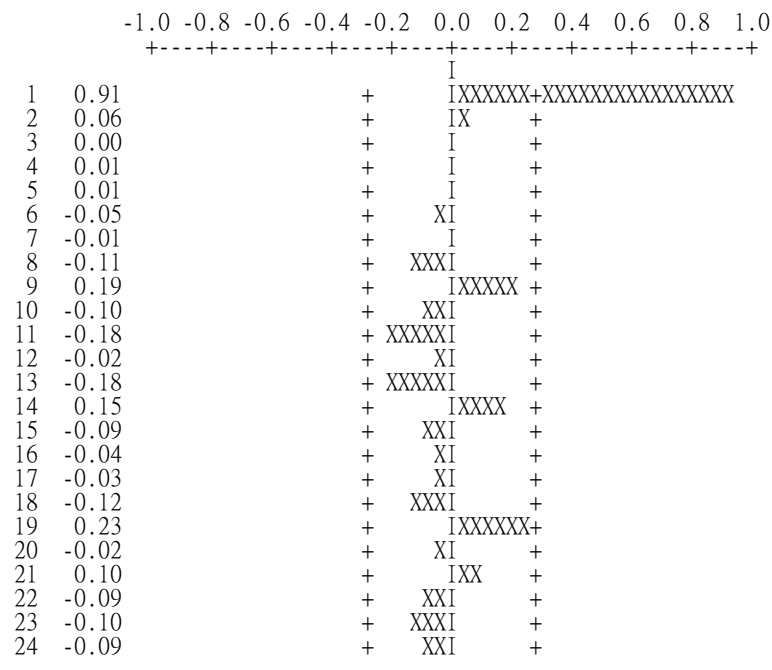
PACF TL.

NAME OF THE SERIES . . . . . TL  
TIME PERIOD ANALYZED . . . . . 1 TO 52  
MEAN OF THE (DIFFERENCED) SERIES . . . 2610359.7500  
STANDARD DEVIATION OF THE SERIES . . . 1801318.5000  
T-VALUE OF MEAN (AGAINST ZERO) . . . . 10.4499

## PARTIAL AUTOCORRELATIONS

1- 12	.91	.06	-.00	.01	.01	-.05	-.01	-.11	.19	-.10	-.18	-.02
ST.E.	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14
13- 24	-.18	.15	-.09	-.04	-.03	-.12	.23	-.02	.10	-.09	-.10	-.09

ST.E. .14 .14 .14 .14 .14 .14 .14 .14 .14 .14 .14 .14 .14



EACF TL.

NAME OF THE SERIES . . . . . TL  
 TIME PERIOD ANALYZED . . . . . 1 TO 52  
 MEAN OF THE (DIFFERENCED) SERIES . . . 2610359.7500  
 STANDARD DEVIATION OF THE SERIES . . . 1801318.5000  
 T-VALUE OF MEAN (AGAINST ZERO) . . . . 10.4499



THE EXTENDED ACF TABLE

(Q-->)	0	1	2	3	4	5	6	7	8	9	10	11	12
(P= 0)	.91	.84	.78	.72	.66	.60	.55	.48	.46	.41	.34	.28	.20
(P= 1)	-.11	.03	-.08	-.00	.01	-.23	.08	-.26	.02	.16	-.00	.24	-.25
(P= 2)	.40	-.09	-.08	.03	.00	-.18	-.15	-.25	.05	.15	-.04	.10	-.11
(P= 3)	.43	-.37	-.11	-.06	-.01	-.13	-.01	-.24	.06	.13	.06	.09	-.09
(P= 4)	.30	-.02	-.08	-.03	-.01	-.10	-.07	-.25	.04	.10	-.06	.05	-.19
(P= 5)	-.33	.02	-.08	-.03	.00	-.10	-.06	-.12	-.11	.02	.07	.12	-.29
(P= 6)	.16	.04	-.17	.16	.00	-.12	-.08	-.18	-.11	.04	.05	.17	-.08

SIMPLIFIED EXTENDED ACF TABLE (5% LEVEL)

(Q-->)	0	1	2	3	4	5	6	7	8	9	10	11	12
(P= 0)	X	X	X	X	0	0	0	0	0	0	0	0	0
(P= 1)	0	0	0	0	0	0	0	0	0	0	0	0	0
(P= 2)	X	0	0	0	0	0	0	0	0	0	0	0	0
(P= 3)	X	X	0	0	0	0	0	0	0	0	0	0	0
(P= 4)	0	0	0	0	0	0	0	0	0	0	0	0	0
(P= 5)	X	0	0	0	0	0	0	0	0	0	0	0	0
(P= 6)	0	0	0	0	0	0	0	0	0	0	0	0	0

IARIMA TL.

THE FOLLOWING ANALYSIS IS BASED ON TIME SPAN 1 THRU 52

THE CRITICAL VALUE FOR SIGNIFICANCE TESTS OF ACF AND ESTIMATES IS 1.661

SUMMARY FOR UNIVARIATE TIME SERIES MODEL -- UTSMODEL

VARIABLE	TYPE OF VARIABLE	ORIGINAL OR CENTERED	DIFFERENCING					
TL	RANDOM	ORIGINAL	(1-B <sup>1</sup> )					
PARAMETER LABEL	VARIABLE NAME	NUM./ DENOM.	FACTOR	ORDER	CONS- TRAINT	VALUE	STD ERROR	T VALUE
TOTAL NUMBER OF OBSERVATIONS . . . . .						52		
EFFECTIVE NUMBER OF OBSERVATIONS . . . . .						51		
RESIDUAL STANDARD ERROR. . . . .						0.560275E+06		

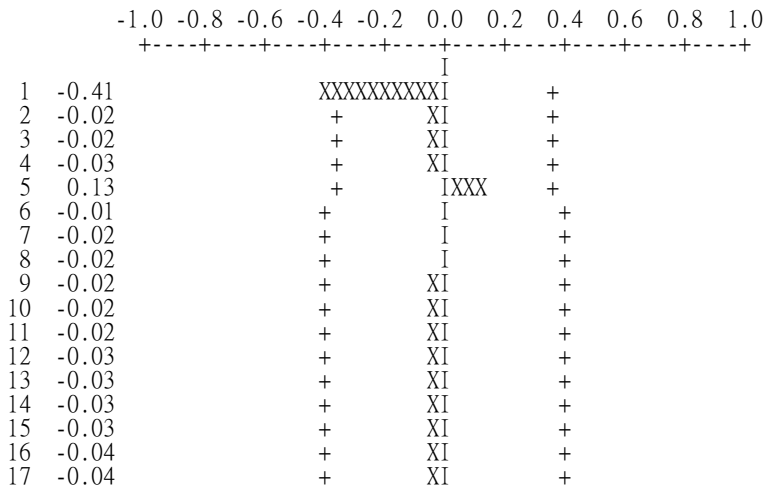
tsm m1. model TL(1)=C+noise.

ACF m1.

NAME OF THE SERIES . . . . . M1  
 TIME PERIOD ANALYZED . . . . . 1 TO 28  
 MEAN OF THE (DIFFERENCED) SERIES . . . . .  
 STANDARD DEVIATION OF THE SERIES . . . . .  
 T-VALUE OF MEAN (AGAINST ZERO) . . . . . 1.3210

AUTOCORRELATIONS

1- 12	-.41	-.02	-.02	-.03	.13	-.01	-.02	-.02	-.02	-.02	-.02	-.02	-.03
ST.E.	.19	.19	.19	.19	.19	.21	.21	.21	.21	.21	.21	.21	.21
Q	.0	.0	.0	.1	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.8	3.8
13- 24	-.03	-.03	-.03	-.04	-.04	-.04	-.04	-.04	-.05	-.05	-.03	-.04	
ST.E.	.21	.21	.21	.21	.21	.21	.21	.21	.21	.21	.21	.21	
Q	3.8	3.9	4.0	4.1	4.2	4.3	4.5	4.7	4.9	5.3	5.5	5.8	



18	-0.04	+	XI	+
19	-0.04	+	XI	+
20	-0.04	+	XI	+
21	-0.05	+	XI	+
22	-0.05	+	XI	+
23	-0.03	+	XI	+
24	-0.04	+	XI	+

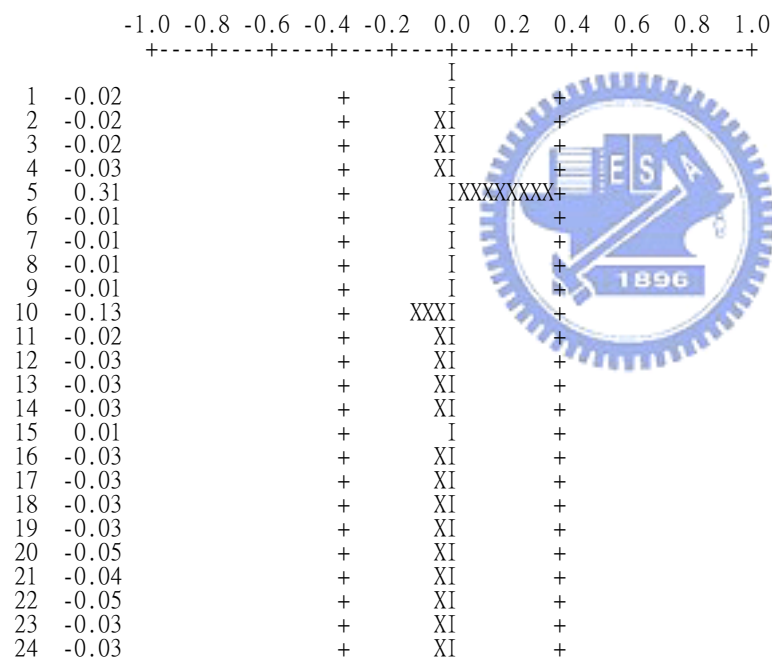
--

PACF m1.

NAME OF THE SERIES . . . . . M1  
 TIME PERIOD ANALYZED . . . . . 1 TO 28  
 MEAN OF THE (DIFFERENCED) SERIES . . . \*\*\*\*\*  
 STANDARD DEVIATION OF THE SERIES . . . \*\*\*\*\*  
 T-VALUE OF MEAN (AGAINST ZERO) . . . . 1.3210

PARTIAL AUTOCORRELATIONS

1- 12	-.02	-.02	-.02	-.03	.31	-.01	-.01	-.01	-.01	-.13	-.02	-.03
ST.E.	.19	.19	.19	.19	.19	.19	.19	.19	.19	.19	.19	.19
13- 24	-.03	-.03	.01	-.03	-.03	-.03	-.03	-.05	-.04	-.05	-.03	-.03
ST.E.	.19	.19	.19	.19	.19	.19	.19	.19	.19	.19	.19	.19



--

EACF m1.

NAME OF THE SERIES . . . . . M1  
 TIME PERIOD ANALYZED . . . . . 1 TO 28  
 MEAN OF THE (DIFFERENCED) SERIES . . . \*\*\*\*\*  
 STANDARD DEVIATION OF THE SERIES . . . \*\*\*\*\*  
 T-VALUE OF MEAN (AGAINST ZERO) . . . . 1.3210

\*\* THE AR COEFFICIENTS BECOME UNDEFINED WHEN P IS GREATER THAN 7

THE EXTENDED ACF TABLE

(Q-->)	0	1	2	3	4	5	6	7	8	9	10	11	12
--------	---	---	---	---	---	---	---	---	---	---	----	----	----

```
(P= 0) -.02 -.02 -.02 -.03 .31 -.01 -.02 -.02 -.02 -.02 -.02 -.03 -.03
(P= 1) -.10 -.00 -.00 -.00 -.01 -.01 U U U U U U U
(P= 2) -.51 .08 -.01 -.00 .00 U U U U U U U U
(P= 3) -.51 -.00 -.00 .00 U U U U U U U U U
(P= 4) -.06 -.46 .00 U U U U U U U U U U
(P= 5) .19 .00 U U U U U U U U U U U
(P= 6) -.00 U U U U U U U U U U U U
```

SIMPLIFIED EXTENDED ACF TABLE (5% LEVEL)

```
(Q-->) 0 1 2 3 4 5 6 7 8 9 10 11 12
-----
(P= 0) 0 0 0 0 0 0 0 0 0 0 0 0 0
(P= 1) 0 0 0 0 0 0 0 U U U U U U U
(P= 2) X 0 0 0 0 U U U U U U U U
(P= 3) X 0 0 0 U U U U U U U U
(P= 4) 0 X 0 U U U U U U U U
(P= 5) 0 0 U U U U U U U U
(P= 6) 0 U U U U U U U U U
--
```

esti ml. hold resi(r1).

THE FOLLOWING ANALYSIS IS BASED ON TIME SPAN 1 THRU 52

NONLINEAR ESTIMATION TERMINATED DUE TO:  
RELATIVE CHANGE IN EACH ESTIMATE LESS THAN 0.1000D-02

SUMMARY FOR UNIVARIATE TIME SERIES MODEL --

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VARIABLE TYPE OF ORIGINAL DIFFERENCING
VARIABLE OR CENTERED
TL RANDOM ORIGINAL (1-B1)
-----
```

PARAMETER LABEL	VARIABLE NAME	NUM./ DENOM.	FACTOR	ORDER	CONS- TRAIT	VALUE	STD ERROR	T VALUE
1	C	CNST	1	0	NONE	103134.588277113	5197	1.34

```
EFFECTIVE NUMBER OF OBSERVATIONS . . . . . 51
R-SQUARE . . . . . 0.907
RESIDUAL STANDARD ERROR. . . . . 0.550701E+06
--
```

ACF r1.

```
NAME OF THE SERIES . . . . . R1
TIME PERIOD ANALYZED . . . . . 2 TO 52
MEAN OF THE (DIFFERENCED) SERIES . . . . . 0.0020
STANDARD DEVIATION OF THE SERIES . . . . . 550700.9380
T-VALUE OF MEAN (AGAINST ZERO) . . . . . 0.0000
```

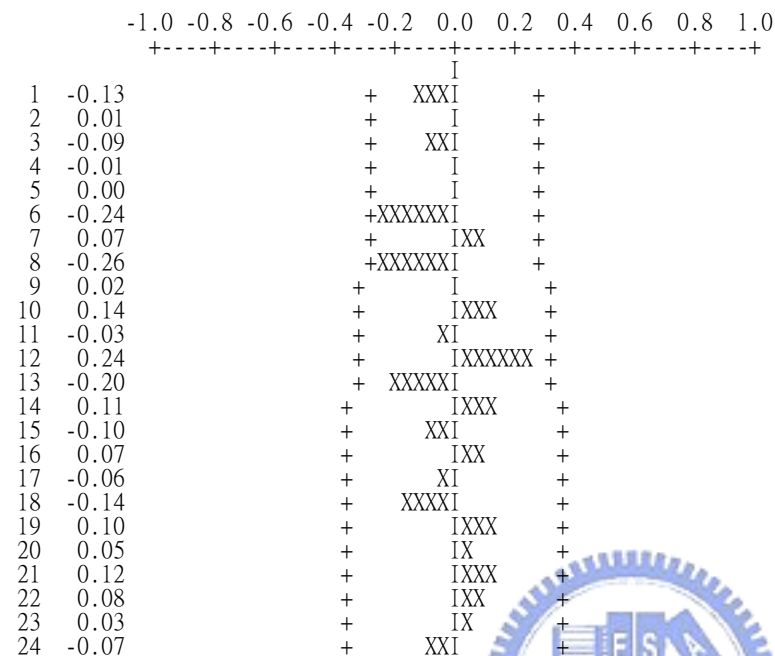
AUTOCORRELATIONS

附錄.txt

1- 12	-.13	.01	-.09	-.01	.00	-.24	.07	-.26	.02	.14	-.03	.24
ST.E.	.14	.14	.14	.14	.14	.14	.15	.15	.16	.16	.16	.16
Q	.9	.9	1.3	1.3	1.3	4.7	5.0	9.2	9.2	10.4	10.5	14.6

13- 24	-.20	.11	-.10	.07	-.06	-.14	.10	.05	.12	.08	.03	-.07
ST.E.	.17	.18	.18	.18	.18	.18	.18	.19	.19	.19	.19	.19
Q	21.1	22.0	22.8	23.1	23.4	25.0	25.9	26.1	27.5	28.0	28.1	28.6



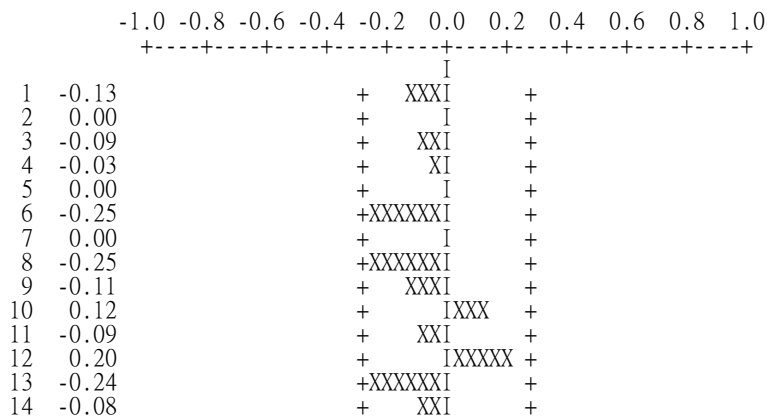
NAME OF THE SERIES . . . . . R1  
 TIME PERIOD ANALYZED . . . . . 2 TO 52  
 MEAN OF THE (DIFFERENCED) SERIES . . . . . 0.0020  
 STANDARD DEVIATION OF THE SERIES . . . . . 550700.9380  
 T-VALUE OF MEAN (AGAINST ZERO) . . . . . 0.0000

PARTIAL AUTOCORRELATIONS

1- 12	-.13	-.00	-.09	-.03	-.00	-.25	.00	-.25	-.11	.12	-.09	.20
ST.E.	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14

13- 24	-.24	-.08	-.09	-.05	-.09	-.08	-.10	.15	-.07	.08	.09	-.23
ST.E.	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14



附錄.txt

```

15 -0.09      +   XXI      +
16 -0.05      +    XI      +
17 -0.09      +   XXI      +
18 -0.08      +   XXI      +
19 -0.10      +   XXI      +
20  0.15      +   IXXXX     +
21 -0.07      +    XXI      +
22  0.08      +     IXX      +
23  0.09      +     IXX      +
24 -0.23      +XXXXXXI     +
--

```

EACF r1.

```

NAME OF THE SERIES . . . . . R1
TIME PERIOD ANALYZED . . . . . 2 TO 52
MEAN OF THE (DIFFERENCED) SERIES . . . 0.0020
STANDARD DEVIATION OF THE SERIES . . . 550700.9380
T-VALUE OF MEAN (AGAINST ZERO) . . . . 0.0000

```

# THE EXTENDED ACF TABLE

(Q-->)	0	1	2	3	4	5	6	7	8	9	10	11	12
(P= 0)	-.13	.01	-.09	-.01	.00	-.24	.07	-.26	.02	.14	-.03	.24	-.30
(P= 1)	-.05	-.01	-.09	-.03	.03	-.23	-.07	-.26	.04	.15	.05	.08	-.25
(P= 2)	-.08	-.43	-.09	.00	.05	-.14	.03	-.30	.01	.12	.06	.07	-.25
(P= 3)	-.35	.10	-.14	.07	.06	-.09	-.07	-.30	.03	.09	-.05	.11	-.22
(P= 4)	-.15	-.00	-.30	.15	.06	-.08	-.04	-.12	-.14	-.04	.02	.03	-.28
(P= 5)	-.03	-.14	-.30	-.10	-.12	-.08	-.03	-.00	-.14	-.08	.01	-.01	-.12
(P= 6)	-.03	-.51	-.23	.26	-.06	-.11	-.01	.01	-.15	.01	-.04	-.03	-.20

# SIMPLIFIED EXTENDED ACF TABLE (5% LEVEL)

(Q-->)	0	1	2	3	4	5	6	7	8	9	10	11	12
(P= 0)	0	0	0	0	0	0	0	0	0	0	0	0	0
(P= 1)	0	0	0	0	0	0	0	0	0	0	0	0	0
(P= 2)	0	X	0	0	0	0	0	0	0	0	0	0	0
(P= 3)	X	0	0	0	0	0	0	0	0	0	0	0	0
(P= 4)	0	0	0	0	0	0	0	0	0	0	0	0	0
(P= 5)	0	0	0	0	0	0	0	0	0	0	0	0	0
(P= 6)	0	X	0	0	0	0	0	0	0	0	0	0	0

oesti ml.

THE FOLLOWING ANALYSIS IS BASED ON TIME SPAN 1 THRU 52

SUMMARY FOR UNIVARIATE TIME SERIES MODEL -- M1

VARIABLE	TYPE OF VARIABLE	ORIGINAL OR CENTERED	DIFFERENCING					
TL	RANDOM	ORIGINAL	(1-B <sup>1</sup> )					
PARAMETER LABEL	VARIABLE NAME	NUM./ DENOM.	FACTOR	ORDER	CONS- TRAIT	VALUE	STD ERROR	T VALUE



1 C CNST 1 0 NONE 62150.836940027.7951 1.55

SUMMARY OF OUTLIER DETECTION AND ADJUSTMENT

TIME	ESTIMATE	T-VALUE	TYPE
192275033.163		7.98	IO
27*****		-4.16	TC
32*****		-5.38	AO
44-941950.548		-4.67	AO
47-991068.347		-3.76	TC

MAXIMUM NUMBER OF OUTLIERS IS REACHED

\*\* THE OUTLIER(S) AFTER TIME PERIOD 47 OCCURS WITHIN THE  
LAST FIVE OBSERVATIONS OF THE SERIES. THE IDENTIFIED TYPE  
ANS THE ESTIMATE OF THE OUTLIER(S) MAY NOT BE RELIABLE

TOTAL NUMBER OF OBSERVATIONS. . . . . 52  
EFFECTIVE NUMBER OF OBSERVATIONS. . . . . 51  
RESIDUAL STANDARD ERROR (WITHOUT OUTLIER ADJUSTMENT). . . 0.552224E+06  
RESIDUAL STANDARD ERROR (WITH OUTLIER ADJUSTMENT) . . . 0.285235E+06  
--

RETURN

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STOP



THE CURRENT SCA SESSION IS TERMINATED.  
THE SIZE OF THE WORKSPACE USED IS 12639 WORDS.

附錄二 單向加雙向轉乘優惠運量成長模式

THE SCA STATISTICAL SYSTEM ( RELEASE VI.3 )  
SCA PRODUCT IDENTIFICATION: GSA, UTS, MTS & ECON/M  
SCA PRODUCT IDENTIFICATION: EXTENDED-UTS & EXPERT  
SCA SOFTWARE IDENTIFICATION: NCTU-IT&T ( 1060418 )  
SCA SOFTWARE RELEASE DATE: 5/ 1/2001  
SCA SOFTWARE RENEWAL DATE: 12/ 2/2006  
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SIZE OF WORKSPACE IS 2000000 SINGLE PRECISION WORDS

--

call ALLMACRO. file 'TTR.mac'

--

ASSIGN FILE 12. EXTERNAL 'TTR.mad'.

--

CALL DATA. FILE 12.

--

INPUT BP,ML1,ML2,ML3,ML4,ND1,ND2,NO,TL,TP1,TP2,TP3,TP4,YM. @  
PREC DOUB,DOUB,DOUB,DOUB,DOUB,DOUB,DOUB,DOUB,DOUB,DOUB,DOUB,DOUB,DOUB, @  
DOUB.

BP	,	A	79	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
ML1	,	A	79	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
ML2	,	A	79	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
ML3	,	A	79	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
ML4	,	A	79	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
ND1	,	A	79	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
ND2	,	A	79	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
NO	,	A	79	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
TL	,	A	79	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
TP1	,	A	79	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
TP2	,	A	79	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
TP3	,	A	79	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
TP4	,	A	79	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
YM	,	A	79	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION

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Return

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C BP may be referenced by positional variable: &V\_1 @  
C ML1 may be referenced by positional variable: &V\_2 @  
C ML2 may be referenced by positional variable: &V\_3 @  
C ML3 may be referenced by positional variable: &V\_4 @  
C ML4 may be referenced by positional variable: &V\_5 @  
C ND1 may be referenced by positional variable: &V\_6 @  
C ND2 may be referenced by positional variable: &V\_7 @  
C NO may be referenced by positional variable: &V\_8 @  
C TL may be referenced by positional variable: &V\_9 @  
C TP1 may be referenced by positional variable: &V\_10 @  
C TP2 may be referenced by positional variable: &V\_11 @  
C TP3 may be referenced by positional variable: &V\_12 @  
C TP4 may be referenced by positional variable: &V\_13 @  
C YM may be referenced by positional variable: &V\_14.

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CALL ANALYSIS

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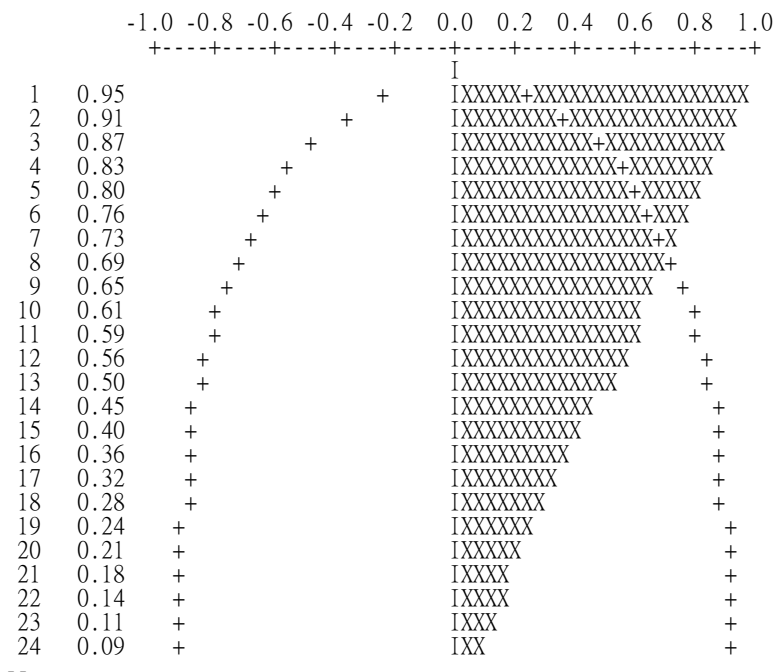
ACF TL.

NAME OF THE SERIES . . . . .	TL
TIME PERIOD ANALYZED . . . . .	2 TO 79
MEAN OF THE (DIFFERENCED) SERIES . . .	5333847.0000
STANDARD DEVIATION OF THE SERIES . . .	4031840.2500
T-VALUE OF MEAN (AGAINST ZERO) . . . .	11.6838

AUTOCORRELATIONS

1- 12	.95	.91	.87	.83	.80	.76	.73	.69	.65	.61	.59	.56
ST.E.	.11	.19	.24	.28	.31	.33	.35	.37	.39	.40	.41	.43
Q	72.7	140	203	262	316	367	414	456	495	530	562	591
13- 24	.50	.45	.40	.36	.32	.28	.24	.21	.18	.14	.11	.09
ST.E.	.43	.44	.45	.45	.46	.46	.46	.46	.46	.46	.47	.47

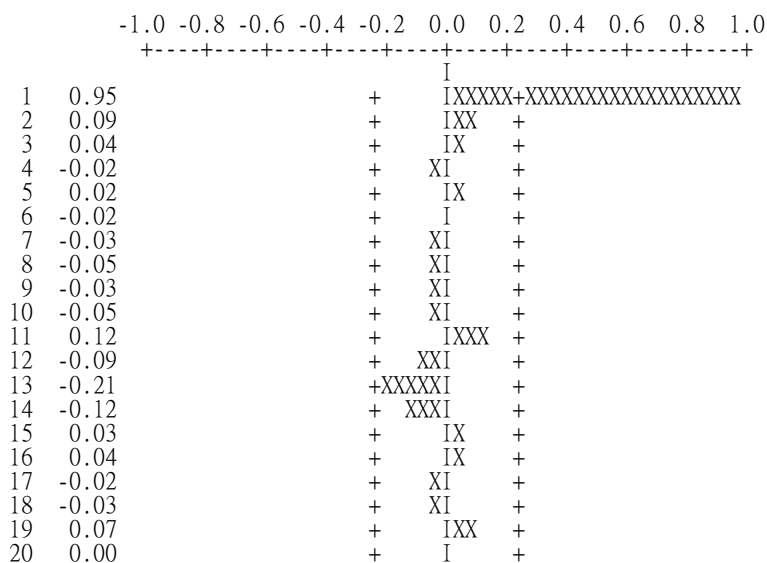
Q 616 635 651 664 674 682 688 693 696 699 700 701



NAME OF THE SERIES . . . . . TL  
 TIME PERIOD ANALYZED . . . . . 2 TO 79  
 MEAN OF THE (DIFFERENCED) SERIES . . . 5333847.0000  
 STANDARD DEVIATION OF THE SERIES . . . 4031840.2500  
 T-VALUE OF MEAN (AGAINST ZERO) . . . . 11.6838

#### PARTIAL AUTOCORRELATIONS

1- 12	.95	.09	.04	-.02	.02	-.02	-.03	-.05	-.03	-.05	.12	-.09
ST.E.	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11
13- 24	-.21	-.12	.03	.04	-.02	-.03	.07	-.00	.02	-.12	.03	.02
ST.E.	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11



```

21  0.02      +      IX      +
22 -0.12      +     XXXI     +
23  0.03      +      IX      +
24  0.02      +       I       +
--

```

EACF TL.

```

NAME OF THE SERIES . . . . . TL
TIME PERIOD ANALYZED . . . . . 2 TO 79
MEAN OF THE (DIFFERENCED) SERIES . . . 5333847.0000
STANDARD DEVIATION OF THE SERIES . . . 4031840.2500
T-VALUE OF MEAN (AGAINST ZERO) . . . . 11.6838

```

THE EXTENDED ACF TABLE

```

(Q-->)  0   1   2   3   4   5   6   7   8   9  10  11  12
-----
(P= 0)  .95  .91  .87  .83  .80  .76  .73  .69  .65  .61  .59  .56  .50
(P= 1)  -.21 -.11  .05 -.03  .04 -.06 -.06  .03 -.15  .03 -.03  .23  .09
(P= 2)  -.47 -.23  .03 -.02  .00 -.04 -.08 -.05 -.14 -.03  .00  .20  .13
(P= 3)  .25  .01  .10  .04 -.02 -.10 -.08 -.06 -.17 -.05  .02  .17  .06
(P= 4)  -.07 -.12  .25 -.10 -.01 -.10 -.05 -.02 -.12 -.00  .00  .19 -.02
(P= 5)  -.06 -.42  .39  .13 -.12 -.05  .00 -.01 -.09 -.04 -.00  .17  .07
(P= 6)  .05  .25 -.35  .12 -.13 -.05  .00 -.07 -.10 -.05 -.00  .11  .09

```

SIMPLIFIED EXTENDED ACF TABLE (5% LEVEL)

```

(Q-->)  0  1  2  3  4  5  6  7  8  9 10 11 12
-----
(P= 0)  X  X  X  X  X  X  X  X  X  X  X  0  0  0
(P= 1)  0  0  0  0  0  0  0  0  0  0  0  0  0  0
(P= 2)  X  0  0  0  0  0  0  0  0  0  0  0  0  0
(P= 3)  X  0  0  0  0  0  0  0  0  0  0  0  0  0
(P= 4)  0  0  0  0  0  0  0  0  0  0  0  0  0  0
(P= 5)  0  X  X  0  0  0  0  0  0  0  0  0  0  0
(P= 6)  0  X  X  0  0  0  0  0  0  0  0  0  0  0

```

IARIMA TL.

THE FOLLOWING ANALYSIS IS BASED ON TIME SPAN 1 THRU 79

THE CRITICAL VALUE FOR SIGNIFICANCE TESTS OF ACF AND ESTIMATES IS 1.805

SUMMARY FOR UNIVARIATE TIME SERIES MODEL -- UTSMODEL

```

-----
VARIABLE  TYPE OF  ORIGINAL  DIFFERENCING
          VARIABLE OR CENTERED
          TL      RANDOM  ORIGINAL  (1-B1)
-----
PARAMETER  VARIABLE  NUM./  FACTOR  ORDER  CONS-  VALUE  STD  T
LABEL      NAME     DENOM.              TRAIT   ERROR  VALUE
1          TL      MA      1      1      NONE   .2152  .1121  1.92
TOTAL NUMBER OF OBSERVATIONS . . . . . 78
EFFECTIVE NUMBER OF OBSERVATIONS . . . 77
RESIDUAL STANDARD ERROR . . . . . 0.907964E+06

```

--

tsm m2. model TL(1)=C+noise.

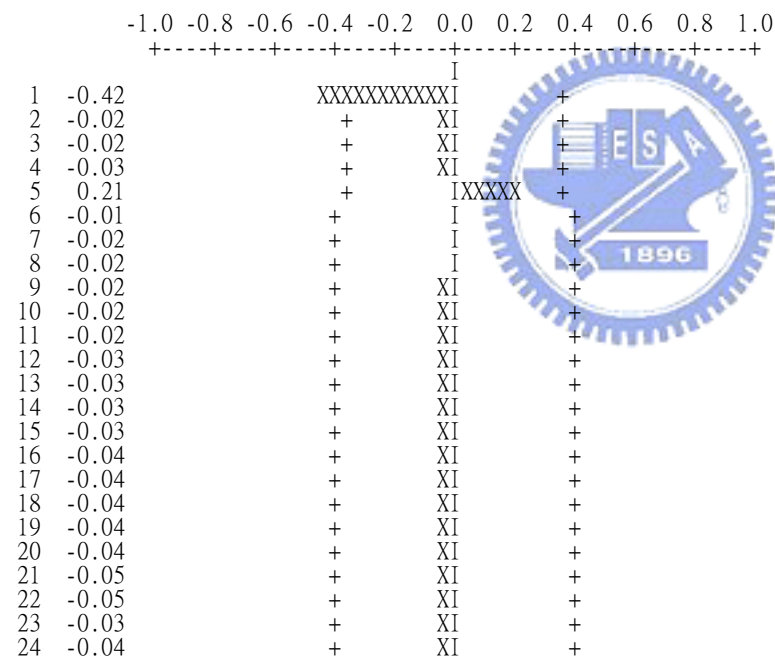
--

ACF m2.

NAME OF THE SERIES . . . . . M2  
TIME PERIOD ANALYZED . . . . . 1 TO 28  
MEAN OF THE (DIFFERENCED) SERIES . . . \*\*\*\*\*  
STANDARD DEVIATION OF THE SERIES . . . \*\*\*\*\*  
T-VALUE OF MEAN (AGAINST ZERO) . . . . 1.3210

# AUTOCORRELATIONS

1- 12	-.42	-.02	-.02	-.03	.21	-.01	-.02	-.02	-.02	-.02	-.02	-.03
ST.E.	.19	.19	.19	.19	.19	.21	.21	.21	.21	.21	.21	.21
Q	.0	.0	.0	.1	3.7	3.7	3.7	3.7	3.7	3.7	3.8	3.8
13- 24	-.03	-.03	-.03	-.04	-.04	-.04	-.04	-.04	-.05	-.05	-.03	-.04
ST.E.	.21	.21	.21	.21	.21	.21	.21	.21	.21	.21	.21	.21
Q	3.8	3.9	4.0	4.1	4.2	4.3	4.5	4.7	4.9	5.3	5.5	5.8



--

PACF m2.

NAME OF THE SERIES . . . . . M2  
TIME PERIOD ANALYZED . . . . . 1 TO 28  
MEAN OF THE (DIFFERENCED) SERIES . . . \*\*\*\*\*  
STANDARD DEVIATION OF THE SERIES . . . \*\*\*\*\*  
T-VALUE OF MEAN (AGAINST ZERO) . . . . 1.3210

# PARTIAL AUTOCORRELATIONS

1- 12	-.02	-.02	-.02	-.03	.28	-.01	-.01	-.01	-.01	-.13	-.02	-.03
ST.E.	.19	.19	.19	.19	.19	.19	.19	.19	.19	.19	.19	.19

[illegible]

EACF m2.

NAME OF THE SERIES . . . . .	M2
TIME PERIOD ANALYZED . . . . .	1 TO 28
MEAN OF THE (DIFFERENCED) SERIES	*****
STANDARD DEVIATION OF THE SERIES	*****
T-VALUE OF MEAN (AGAINST ZERO) . . . . .	1.3210

\*\* THE AR COEFFICIENTS BECOME UNDEFINED WHEN P IS GREATER THAN 7

THE EXTENDED ACF TABLE

[illegible]

SIMPLIFIED EXTENDED ACF TABLE (5% LEVEL)

[illegible]

```
(P= 5)  O  O  U  U  U  U  U  U  U  U  U  U  U
(P= 6)  O  U  U  U  U  U  U  U  U  U  U  U  U
--
```

esti m2. hold resi(r2).

```
** THE TIME SERIES TO BE ANALYZED HAVE MISSING DATA AT THE
** BEGINNING OR THE USER HAS SPECIFIED TIME SPAN, SOME
** GENERATED SERIES SUCH AS RESIDUALS, FITTED VALUES,
** DISTURBANCE, AND FILTERED SERIES WILL BE SHORTER THAN THE
** ORIGINAL SERIES.
```

THE FOLLOWING ANALYSIS IS BASED ON TIME SPAN 2 THRU 79

NONLINEAR ESTIMATION TERMINATED DUE TO:  
RELATIVE CHANGE IN EACH ESTIMATE LESS THAN 0.1000D-02

SUMMARY FOR UNIVARIATE TIME SERIES MODEL -- M2

VARIABLE	TYPE OF VARIABLE	ORIGINAL OR CENTERED	DIFFERENCING					
TL	RANDOM	ORIGINAL	(1-B <sup>1</sup> )					
PARAMETER LABEL	VARIABLE NAME	NUM./ DENOM.	FACTOR	ORDER	CONS- TRAIT	VALUE	STD ERROR	T VALUE
1 C		CNST	1	0	NONE	150670.3636	1.0419E+06	1.45
EFFECTIVE NUMBER OF OBSERVATIONS . .					77			
R-SQUARE . . . . .					0.949			
RESIDUAL STANDARD ERROR . . . . .					0.914282E+06			
--								

ACF r2.

```
NAME OF THE SERIES . . . . . R2
TIME PERIOD ANALYZED . . . . . 2 TO 78
MEAN OF THE (DIFFERENCED) SERIES . . . 0.0025
STANDARD DEVIATION OF THE SERIES . . . 914282.3750
T-VALUE OF MEAN (AGAINST ZERO) . . . . 0.0000
```

#### AUTOCORRELATIONS

1- 12	-.21	-.11	.04	-.04	.03	-.06	-.06	.03	-.15	.03	-.03	.22
ST.E.	.11	.12	.12	.12	.12	.12	.12	.12	.12	.12	.12	.12
Q	3.6	4.6	4.7	4.9	5.0	5.3	5.6	5.7	7.7	7.8	7.8	12.2
13- 24	.07	-.19	-.09	.09	-.11	.03	-.06	.02	.02	-.08	.08	.16
ST.E.	.13	.13	.13	.13	.13	.14	.14	.14	.14	.14	.14	.14
Q	12.6	16.0	16.7	17.5	18.8	18.9	19.3	19.3	19.4	20.0	20.7	23.7

	-1.0	-0.8	-0.6	-0.4	-0.2	0.0	0.2	0.4	0.6	0.8	1.0
	+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+										
	I										
1	-0.21					+XXXXXI					+
2	-0.11					+ XXXI					+
3	0.04					+ IX					+
4	-0.04					+ XI					+
5	0.03					+ IX					+
6	-0.06					+ XI					+

7	-0.06	+	XXI	+
8	0.03	+	IX	+
9	-0.15	+	XXXXI	+
10	0.03	+	IX	+
11	-0.03	+	XI	+
12	0.22	+	IXXXXX+	
13	0.07	+	IXX	+
14	-0.19	+	XXXXXI	+
15	-0.09	+	XXI	+
16	0.09	+	IXX	+
17	-0.11	+	XXXI	+
18	0.03	+	IX	+
19	-0.06	+	XXI	+
20	0.02	+	I	+
21	0.02	+	I	+
22	-0.08	+	XXI	+
23	0.08	+	IXX	+
24	0.16	+	IXXXX	+

--

PACF r2.

NAME OF THE SERIES	. . . . .	R2
TIME PERIOD ANALYZED	. . . . . 2 TO	78
MEAN OF THE (DIFFERENCED) SERIES	. . .	0.0025
STANDARD DEVIATION OF THE SERIES	. . .	914282.3750
T-VALUE OF MEAN (AGAINST ZERO)	. . . .	0.0000

PARTIAL AUTOCORRELATIONS

1- 12	-.21	-.16	-.02	-.05	.02	-.06	-.09	-.03	-.18	-.06	-.10	.21
ST.E.	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11
13- 24	.16	-.08	-.20	-.05	-.17	-.04	-.06	.01	.05	-.07	-.04	.05
ST.E.	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11

	-1.0	-0.8	-0.6	-0.4	-0.2	0.0	0.2	0.4	0.6	0.8	1.0
	+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+										
1	-0.21										
2	-0.16										
3	-0.02										
4	-0.05										
5	0.02										
6	-0.06										
7	-0.09										
8	-0.03										
9	-0.18										
10	-0.06										
11	-0.10										
12	0.21										
13	0.16										
14	-0.08										
15	-0.20										
16	-0.05										
17	-0.17										
18	-0.04										
19	-0.06										
20	0.01										
21	0.05										
22	-0.07										
23	-0.04										
24	0.05										

--

EACF r2.

NAME OF THE SERIES	. . . . .	R2
TIME PERIOD ANALYZED	. . . . . 2 TO	78



MEAN OF THE (DIFFERENCED) SERIES . . . 0.0025  
STANDARD DEVIATION OF THE SERIES . . . 914282.3750  
T-VALUE OF MEAN (AGAINST ZERO) . . . 0.0000

THE EXTENDED ACF TABLE

(Q-->)	0	1	2	3	4	5	6	7	8	9	10	11	12
(P= 0)	-.21	-.11	.04	-.04	.03	-.06	-.06	.03	-.15	.03	-.03	.22	.07
(P= 1)	-.49	-.20	-.04	-.00	-.01	-.04	-.09	.00	-.15	-.05	.04	.20	.07
(P= 2)	-.12	-.30	-.03	.00	.01	-.05	-.03	.03	-.12	-.03	.04	.18	.01
(P= 3)	-.32	-.29	-.04	.01	.01	-.02	-.02	-.02	-.09	.01	.02	.15	-.03
(P= 4)	.29	-.41	.06	-.04	.07	-.05	.01	.01	-.09	.02	.02	.16	.01
(P= 5)	.26	-.23	-.40	.02	-.14	-.05	.01	.01	-.06	-.01	-.00	.05	.02
(P= 6)	-.47	.32	-.36	-.04	-.11	.00	-.06	.03	-.09	.02	-.03	.04	.03

SIMPLIFIED EXTENDED ACF TABLE (5% LEVEL)

(Q-->)	0	1	2	3	4	5	6	7	8	9	10	11	12
(P= 0)	0	0	0	0	0	0	0	0	0	0	0	0	0
(P= 1)	X	0	0	0	0	0	0	0	0	0	0	0	0
(P= 2)	0	X	0	0	0	0	0	0	0	0	0	0	0
(P= 3)	X	X	0	0	0	0	0	0	0	0	0	0	0
(P= 4)	X	X	0	0	0	0	0	0	0	0	0	0	0
(P= 5)	X	0	X	0	0	0	0	0	0	0	0	0	0
(P= 6)	X	0	X	0	0	0	0	0	0	0	0	0	0

oesti m2.

THE FOLLOWING ANALYSIS IS BASED ON TIME SPAN 2 THRU 79

SUMMARY FOR UNIVARIATE TIME SERIES MODEL -- M2

VARIABLE	TYPE OF VARIABLE	ORIGINAL OR CENTERED	DIFFERENCING					
TL	RANDOM	ORIGINAL	$(1-B^1)$					
PARAMETER LABEL	VARIABLE NAME	NUM./ DENOM.	FACTOR	ORDER	CONS- TRAIT	VALUE	STD ERROR	T VALUE
1	C	CNST	1	0	NONE	98871.272462159.4400		1.59

SUMMARY OF OUTLIER DETECTION AND ADJUSTMENT

TIME	ESTIMATE	T-VALUE	TYPE
202238312.728	4.10	IO	
543442878.728	6.31	IO	
56*****	-4.89	TC	
69*****	-7.41	AO	
71*****	-3.10	IO	

TOTAL NUMBER OF OBSERVATIONS. . . . . 78  
EFFECTIVE NUMBER OF OBSERVATIONS. . . . . 77  
RESIDUAL STANDARD ERROR (WITHOUT OUTLIER ADJUSTMENT). . . 0.915749E+06

RESIDUAL STANDARD ERROR (WITH OUTLIER ADJUSTMENT) . . . 0.545447E+06

--

RETURN

--

STOP

THE CURRENT SCA SESSION IS TERMINATED.  
THE SIZE OF THE WORKSPACE USED IS 15159 WORDS.

### 附錄三 單向轉乘優惠運量介入模式

THE SCA STATISTICAL SYSTEM ( RELEASE VI.3 )  
SCA PRODUCT IDENTIFICATION: GSA, UTS, MTS & ECON/M  
SCA PRODUCT IDENTIFICATION: EXTENDED-UTS & EXPERT  
SCA SOFTWARE IDENTIFICATION: NCTU-IT&T ( 1060418 )  
SCA SOFTWARE RELEASE DATE: 5/ 1/2001  
SCA SOFTWARE RENEWAL DATE: 12/ 2/2006  
COPYRIGHT (C), SCIENTIFIC COMPUTING ASSOCIATES. ALL RIGHTS RESERVED

SIZE OF WORKSPACE IS 2000000

call ALLMACRO. file 'dpg.mac'

--

ASSIGN FILE 12. EXTERNAL 'dpg.mad'.

--

CALL DATA. FILE 12.

--

INPUT BP,ML1,ML2,ML3,ML4,ND1,ND2,NO,TL,TP1,TP2,YM. @  
PREC DOUB,DOUB,DOUB,DOUB,DOUB,DOUB,DOUB,DOUB,DOUB,DOUB,DOUB. @  
FORMAT FREE(1,132).

BP	,	A	52	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
ML1	,	A	52	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
ML2	,	A	52	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
ML3	,	A	52	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
ML4	,	A	52	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
ND1	,	A	52	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
ND2	,	A	52	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
NO	,	A	52	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
TL	,	A	52	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
TP1	,	A	52	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
TP2	,	A	52	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
YM	,	A	52	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION

--

Return

--

C BP may be referenced by positional variable: &V\_1 @  
 C ML1 may be referenced by positional variable: &V\_2 @  
 C ML2 may be referenced by positional variable: &V\_3 @  
 C ML3 may be referenced by positional variable: &V\_4 @  
 C ML4 may be referenced by positional variable: &V\_5 @  
 C ND1 may be referenced by positional variable: &V\_6 @  
 C ND2 may be referenced by positional variable: &V\_7 @  
 C NO may be referenced by positional variable: &V\_8 @  
 C TL may be referenced by positional variable: &V\_9 @  
 C TP1 may be referenced by positional variable: &V\_10 @  
 C TP2 may be referenced by positional variable: &V\_11 @  
 C YM may be referenced by positional variable: &V\_12.

--

# CALL ANALYSIS

--

tsm INTERM1. model TL(1)=C0+(d1-d2\*B)BP(binary)@  
 +(e1-e2\*B)ML1(binary)@  
 +(f1-f2\*B)ML2(binary)+(g1-g2\*B)ML3(binary)@  
 +(h1-h2\*B)ML4(binary)+(i1)ND1(binary)@  
 +(j1-j2\*B)TP1(binary)+(k1-k2\*B)TP2(binary)@  
 +(m1)ND2(binary)+(1-THETA\*B)noise.

--

ESTIM INTERM1. method exact. HOLD RESID(R1).

THE FOLLOWING ANALYSIS IS BASED ON TIME SPAN 1 THRU 52

NONLINEAR ESTIMATION TERMINATED DUE TO:  
 RELATIVE CHANGE IN THE STANDARD ERROR LESS THAN 0.1000D-02

## SUMMARY FOR UNIVARIATE TIME SERIES MODEL -- INTERM1

VARIABLE	TYPE OF VARIABLE	ORIGINAL OR CENTERED	DIFFERENCING
TL	RANDOM	ORIGINAL	$(1-B)^1$
BP	BINARY	ORIGINAL	NONE
ML1	BINARY	ORIGINAL	NONE
ML2	BINARY	ORIGINAL	NONE
ML3	BINARY	ORIGINAL	NONE
ML4	BINARY	ORIGINAL	NONE
ND1	BINARY	ORIGINAL	NONE
TP1	BINARY	ORIGINAL	NONE
TP2	BINARY	ORIGINAL	NONE
ND2	BINARY	ORIGINAL	NONE

附錄.txt								
PARAMETER LABEL	VARIABLE NAME	NUM./ DENOM.	FACTOR	ORDER	CONS- TRAI NT	VALUE	STD ERROR	T VALUE
1	CO	CNST	1	0	NONE	10560.487334448	2.571	2.78
2	D1	BP	NUM.	1	0	NONE	-9979.3214.31042E+06	-.56
3	D2	BP	NUM.	1	1	NONE	-54110.6543.39070E+08	.1E-02
4	E1	ML1	NUM.	1	0	NONE	-12232.2311.39070E+08	.1E-02
5	E2	ML1	NUM.	1	1	NONE	-11841.7902.35770E+08	.6E-03
6	F1	ML2	NUM.	1	0	NONE	11809.1925.35770E+08	.6E-03
7	F2	ML2	NUM.	1	1	NONE	50109.1392.30275E+06	-.54
8	G1	ML3	NUM.	1	0	NONE	-65011.2234.24780E+06	-.58
9	G2	ML3	NUM.	1	1	NONE	68747.7172.27564E+06	-.25
10	H1	ML4	NUM.	1	0	NONE	687453.6817.27567E+06	2.55
11	H2	ML4	NUM.	1	1	NONE	-.22427E+06.24985E+06	.66
12	I1	ND1	NUM.	1	0	NONE	-.28547E+06.17572E+06	-2.61
13	J1	TP1	NUM.	1	0	NONE	-.55247E+06.25322E+06	-.79
14	J2	TP1	NUM.	1	1	NONE	-.80631E+06.27416E+06	.21
15	K1	TP2	NUM.	1	0	NONE	310788.1502.27930E+06	3.01
16	K2	TP2	NUM.	1	1	NONE	469191.7106.25040E+06	-2.68
17	M1	ND2	NUM.	1	0	NONE	-.63441E+06.10716E+06	-2.52
18	THETA	TL	MA	1	1	NONE	.9964 .0728	13.68

EFFECTIVE NUMBER OF OBSERVATIONS . . . . . 51  
R-SQUARE . . . . . 0.965  
RESIDUAL STANDARD ERROR. . . . . 0.335077E+06  
--

ACF RI1.

NAME OF THE SERIES . . . . . RI1  
TIME PERIOD ANALYZED . . . . . 2 TO 52  
MEAN OF THE (DIFFERENCED) SERIES . . . . -1564.3226  
STANDARD DEVIATION OF THE SERIES . . . . 334883.0630  
T-VALUE OF MEAN (AGAINST ZERO) . . . . -0.0334

# AUTOCORRELATIONS

1- 12	-.01	-.01	-.14	-.10	-.08	-.12	.02	-.20	.00	.06	-.12	.19
ST.E.	.14	.14	.14	.14	.14	.15	.15	.15	.15	.15	.15	.15
Q	.0	.0	1.1	1.7	2.1	2.9	3.0	5.4	5.4	5.7	6.6	9.1
13- 24	-.12	.14	-.01	.03	.01	-.08	.01	-.02	.08	.16	.05	-.01
ST.E.	.16	.16	.16	.16	.16	.16	.16	.16	.16	.16	.17	.17
Q	10.2	11.5	11.5	11.6	11.6	12.2	12.2	12.2	12.8	15.2	15.4	15.5

	-1.0	-0.8	-0.6	-0.4	-0.2	0.0	0.2	0.4	0.6	0.8	1.0
	+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+										
1	-0.01					I					
2	-0.01					I					
3	-0.14					XXXI					
4	-0.10					XXXI					
5	-0.08					XXI					
6	-0.12					XXXI					
7	0.02					IX					
8	-0.20					XXXXXI					
9	0.00					I					
10	0.06					IX					
11	-0.12					XXXI					
12	0.19					IXXXXX					
13	-0.12					XXXI					
14	0.14					IXXX					
15	-0.01					I					
16	0.03					IX					
17	0.01					I					
18	-0.08					XXI					
19	0.01					I					
20	-0.02					XI					
21	0.08					IXX					
22	0.16					IXXXX					

23 0.05 + IX +  
24 -0.01 + I +  
--

oestim INTERM1.

THE FOLLOWING ANALYSIS IS BASED ON TIME SPAN 1 THRU 52

SUMMARY FOR UNIVARIATE TIME SERIES MODEL -- INTERM1

VARIABLE	TYPE OF VARIABLE	ORIGINAL OR CENTERED	DIFFERENCING
TL	RANDOM	ORIGINAL	(1-B <sup>1</sup> )
BP	BINARY	ORIGINAL	NONE
ML1	BINARY	ORIGINAL	NONE
ML2	BINARY	ORIGINAL	NONE
ML3	BINARY	ORIGINAL	NONE
ML4	BINARY	ORIGINAL	NONE
ND1	BINARY	ORIGINAL	NONE
TP1	BINARY	ORIGINAL	NONE
TP2	BINARY	ORIGINAL	NONE
ND2	BINARY	ORIGINAL	NONE

PARAMETER LABEL	VARIABLE NAME	NUM./ DENOM.	FACTOR	ORDER	CONS- TRAIT	VALUE	STD ERROR	T VALUE
1	C0	CNST	1	0	NONE	101550.002229554	.2470	3.44
2	D1	BP	NUM.	1	0	NONE-.21897E+06	.16122E+06	-1.36
3	D2	BP	NUM.	1	1	NONE-.7168.2556	.27266E+06	.03
4	E1	ML1	NUM.	1	0	NONE101404.7845	.27266E+06	.37
5	E2	ML1	NUM.	1	1	NONE 13293.5366	.30025E+06	-.04
6	F1	ML2	NUM.	1	0	NONE 31315.4462	.30025E+06	.10
7	F2	ML2	NUM.	1	1	NONE157054.9545	.19864E+06	-.79
8	G1	ML3	NUM.	1	0	NONE-.15236E+06	.21624E+06	-.70
9	G2	ML3	NUM.	1	1	NONE 81490.1278	.24139E+06	-.34
10	H1	ML4	NUM.	1	0	NONE654458.1363	.24914E+06	2.63
11	H2	ML4	NUM.	1	1	NONE-.22350E+06	.23167E+06	.96
12	I1	ND1	NUM.	1	0	NONE-.52767E+06	.14249E+06	-3.70
13	J1	TP1	NUM.	1	0	NONE-.21711E+06	.23227E+06	-.93
14	J2	TP1	NUM.	1	1	NONE-35309.5898	.25680E+06	.14
15	K1	TP2	NUM.	1	0	NONE831002.8428	.26109E+06	3.18
16	K2	TP2	NUM.	1	1	NONE666170.8711	.23520E+06	-2.83
17	M1	ND2	NUM.	1	0	NONE-.28986E+06	.13698E+06	-2.12
18	THETA	TL	MA	1	1	NONE 1.1124	.0892	12.47

SUMMARY OF OUTLIER DETECTION AND ADJUSTMENT

TIME	ESTIMATE	T-VALUE	TYPE
27-937460.302		-3.18	IO

TOTAL NUMBER OF OBSERVATIONS. . . . . 52  
EFFECTIVE NUMBER OF OBSERVATIONS. . . . . 51  
RESIDUAL STANDARD ERROR (WITHOUT OUTLIER ADJUSTMENT). . . 0.320374E+06  
RESIDUAL STANDARD ERROR (WITH OUTLIER ADJUSTMENT) . . . 0.294617E+06  
--

RETURN

--

STOP

THE CURRENT SCA SESSION IS TERMINATED.  
THE SIZE OF THE WORKSPACE USED IS 12489 WORDS.

#### 附錄四 單向加雙向轉乘優惠運量介入模式

THE SCA STATISTICAL SYSTEM ( RELEASE VI.3 )  
SCA PRODUCT IDENTIFICATION: GSA, UTS, MTS & ECON/M  
SCA PRODUCT IDENTIFICATION: EXTENDED-UTS & EXPERT  
SCA SOFTWARE IDENTIFICATION: NCTU-IT&T ( 1060418 )  
SCA SOFTWARE RELEASE DATE: 5/ 1/2001  
SCA SOFTWARE RENEWAL DATE: 12/ 2/2006  
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SIZE OF WORKSPACE IS 2000000

call ALLMACRO. file 'dpg.mac'

--

ASSIGN FILE 12. EXTERNAL 'dpg.mad'.

--

CALL DATA. FILE 12.

--

INPUT BP,ML1,ML2,ML3,ML4,ND1,ND2,NO,TL,TP1,TP2,TP3,TP4,YM. @  
PREC DOUB,DOUB,DOUB,DOUB,DOUB,DOUB,DOUB,DOUB,DOUB,DOUB,DOUB,DOUB,DOUB,DOUB, @  
DOUB.

BP	,	A	79	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
ML1	,	A	79	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
ML2	,	A	79	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
ML3	,	A	79	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
ML4	,	A	79	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
ND1	,	A	79	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
ND2	,	A	79	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
NO	,	A	79	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
TL	,	A	79	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
TP1	,	A	79	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
TP2	,	A	79	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
TP3	,	A	79	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
TP4	,	A	79	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION
YM	,	A	79	BY	1	VARIABLE, IS STORED IN THE WORKSPACE; DOUBLE PRECISION

--

Return

--

C BP may be referenced by positional variable: &V\_1 @

附錄.txt

C ML1 may be referenced by positional variable: &V\_2 @  
C ML2 may be referenced by positional variable: &V\_3 @  
C ML3 may be referenced by positional variable: &V\_4 @  
C ML4 may be referenced by positional variable: &V\_5 @  
C ND1 may be referenced by positional variable: &V\_6 @  
C ND2 may be referenced by positional variable: &V\_7 @  
C NO may be referenced by positional variable: &V\_8 @  
C TL may be referenced by positional variable: &V\_9 @  
C TP1 may be referenced by positional variable: &V\_10 @  
C TP2 may be referenced by positional variable: &V\_11 @  
C TP3 may be referenced by positional variable: &V\_12 @  
C TP4 may be referenced by positional variable: &V\_13 @  
C YM may be referenced by positional variable: &V\_14.

--

CALL ANALYSIS

--

tsm INTERM1. model TL(1)=C0+(d1-d2\*B)BP(binary)@  
+(e1-e2\*B)ML1(binary)@  
+(f1-f2\*B)ML2(binary)+(g1-g2\*B)ML3(binary)@  
+(h1-h2\*B)ML4(binary)+(i1)ND1(binary)@  
+(j1-j2\*B)TP1(binary)+(k1-k2\*B)TP2(binary)@  
+(m1)ND2(binary)+(n1-n2\*B)TP3(binary)@  
+(p1-p2\*B)TP4(binary)+(1-THETA\*B)noise.

\*\* BP IS NOT A BINARY VARIABLE WHEREAS SPECIFIED AS BINARY  
\*\* ML1 IS NOT A BINARY VARIABLE WHEREAS SPECIFIED AS BINARY  
\*\* ML2 IS NOT A BINARY VARIABLE WHEREAS SPECIFIED AS BINARY  
\*\* ML3 IS NOT A BINARY VARIABLE WHEREAS SPECIFIED AS BINARY  
\*\* ML4 IS NOT A BINARY VARIABLE WHEREAS SPECIFIED AS BINARY  
\*\* ND1 IS NOT A BINARY VARIABLE WHEREAS SPECIFIED AS BINARY  
\*\* TP1 IS NOT A BINARY VARIABLE WHEREAS SPECIFIED AS BINARY  
\*\* TP2 IS NOT A BINARY VARIABLE WHEREAS SPECIFIED AS BINARY  
\*\* ND2 IS NOT A BINARY VARIABLE WHEREAS SPECIFIED AS BINARY  
\*\* TP4 IS NOT A BINARY VARIABLE WHEREAS SPECIFIED AS BINARY  
--

ESTIM INTERM1. method exact. HOLD RESID(RI1).

\*\* THE TIME SERIES TO BE ANALYZED HAVE MISSING DATA AT THE  
\*\* BEGINNING OR THE USER HAS SPECIFIED TIME SPAN, SOME  
\*\* GENERATED SERIES SUCH AS RESIDUALS, FITTED VALUES,  
\*\* DISTURBANCE, AND FILTERED SERIES WILL BE SHORTER THAN THE  
\*\* ORIGINAL SERIES.

THE FOLLOWING ANALYSIS IS BASED ON TIME SPAN 2 THRU 79

NONLINEAR ESTIMATION TERMINATED DUE TO:  
RELATIVE CHANGE IN THE STANDARD ERROR LESS THAN 0.1000D-02

SUMMARY FOR UNIVARIATE TIME SERIES MODEL -- INTERM1

VARIABLE	TYPE OF VARIABLE	ORIGINAL OR CENTERED	DIFFERENCING
TL	RANDOM	ORIGINAL	$(1-B^1)$
BP	BINARY	ORIGINAL	NONE
ML1	BINARY	ORIGINAL	NONE
ML2	BINARY	ORIGINAL	NONE
ML3	BINARY	ORIGINAL	NONE
ML4	BINARY	ORIGINAL	NONE
ND1	BINARY	ORIGINAL	NONE
TP1	BINARY	ORIGINAL	NONE
TP2	BINARY	ORIGINAL	NONE
ND2	BINARY	ORIGINAL	NONE
TP3	BINARY	ORIGINAL	NONE
TP4	BINARY	ORIGINAL	NONE

PARAMETER LABEL	VARIABLE NAME	NUM. / DENOM.	FACTOR	ORDER	CONSTRAINT	VALUE	STD ERROR	T VALUE	
1	C0	CNST	1	0	NONE	10565.5984	3.6653E+06	.03	
2	D1	BP	NUM.	1	0	NONE	-9981.1156	8.9347E+06	-.01
3	D2	BP	NUM.	1	1	NONE	-54118.1228	6.5799E+06	.08
4	E1	ML1	NUM.	1	0	NONE	-12437.2764	5.8746E+06	-.02
5	E2	ML1	NUM.	1	1	NONE	-11943.8813	5.7128E+08	.2E-03
6	F1	ML2	NUM.	1	0	NONE	-11944.0104	5.7128E+08	.2E-03
7	F2	ML2	NUM.	1	1	NONE	50261.5072	5.0211E+06	-.10
8	G1	ML3	NUM.	1	0	NONE	-65175.8432	4.0751E+06	-.16
9	G2	ML3	NUM.	1	1	NONE	65574.8018	4.4951E+06	-.15
10	H1	ML4	NUM.	1	0	NONE	699074.8896	4.4797E+06	1.56
11	H2	ML4	NUM.	1	1	NONE	-.25450E+06	4.0818E+06	.62
12	I1	ND1	NUM.	1	0	NONE	-.28629E+06	2.9677E+06	-.96
13	J1	TP1	NUM.	1	0	NONE	-.55375E+06	4.7682E+06	-1.16
14	J2	TP1	NUM.	1	1	NONE	-.82270E+06	5.0888E+06	1.62
15	K1	TP2	NUM.	1	0	NONE	321663.6194	4.0851E+06	.79
16	K2	TP2	NUM.	1	1	NONE	470860.6985	3.8965E+06	-1.21
17	M1	ND2	NUM.	1	0	NONE	-.64212E+06	2.7972E+06	-2.30
18	N1	TP3	NUM.	1	0	NONE	.312346E+07	7.9626E+06	3.92
19	N2	TP3	NUM.	1	1	NONE	.310770E+07	7.8453E+06	-3.96
20	P1	TP4	NUM.	1	0	NONE	.215334E+07	9.4732E+06	2.35
21	P2	TP4	NUM.	1	1	NONE	.222390E+07	9.5575E+06	-2.25
22	THETA	TL	MA	1	1	NONE	.9962	.0511	19.48

EFFECTIVE NUMBER OF OBSERVATIONS . . . 77  
R-SQUARE . . . . . 0.982  
RESIDUAL STANDARD ERROR. . . . . 0.547242E+06  
--

ACF RI1.

NAME OF THE SERIES . . . . . RI1  
TIME PERIOD ANALYZED . . . . . 2 TO 78  
MEAN OF THE (DIFFERENCED) SERIES . . . 19.0680  
STANDARD DEVIATION OF THE SERIES . . . 547241.8130  
T-VALUE OF MEAN (AGAINST ZERO) . . . . 0.0003

AUTOCORRELATIONS



```

1- 12    -.00 -.20 -.23 -.23 .13 .23 .12 -.09 -.21 -.22 -.07 .28
ST.E.    .11 .11 .12 .13 .13 .13 .14 .14 .14 .15 .15 .15
Q        .0  3.2  9.6 15.0 16.5 20.8 22.1 22.9 26.8 31.2 31.6 41.0

13- 24    .19 -.06 -.04 -.15 .04 .08 -.01 -.02 .03 -.10 .08 .14
ST.E.    .16 .16 .16 .16 .16 .16 .16 .16 .16 .16 .17 .17
Q       44.4 44.8 45.0 47.1 47.3 47.9 48.0 48.0 48.1 49.2 50.0 52.1

```

```

-1.0 -0.8 -0.6 -0.4 -0.2  0.0  0.2  0.4  0.6  0.8  1.0
+---+---+---+---+---+---+---+---+---+---+---+
1  0.00          +      I      +
2 -0.20          +XXXXXI      +
3 -0.23          +XXXXXI      +
4 -0.23          +XXXXXI      +
5  0.13          +      IXXX  +
6  0.23          +      IXXXXXX+
7  0.12          +      IXXX  +
8 -0.09          +      XXI   +
9 -0.21          +XXXXXI      +
10 -0.22         +XXXXXXI      +
11 -0.07          +      XXI   +
12  0.28          +      IXXXXXX+
13  0.19          +      IXXXXX +
14 -0.06          +      XXI   +
15 -0.04          +      XI    +
16 -0.15          +XXXXXI      +
17  0.04          +      IX    +
18  0.08          +      IXX   +
19 -0.01          +      I     +
20 -0.02          +      XI    +
21  0.03          +      IX    +
22 -0.10          +      XXI   +
23  0.08          +      IXX   +
24  0.14          +      IXXX  +
--

```

oestim INTERM1.

THE FOLLOWING ANALYSIS IS BASED ON TIME SPAN 2 THRU 79

SUMMARY FOR UNIVARIATE TIME SERIES MODEL -- INTERM1

VARIABLE	TYPE OF VARIABLE	ORIGINAL OR CENTERED	DIFFERENCING
TL	RANDOM	ORIGINAL	$(1-B)^1$
BP	BINARY	ORIGINAL	NONE
ML1	BINARY	ORIGINAL	NONE
ML2	BINARY	ORIGINAL	NONE
ML3	BINARY	ORIGINAL	NONE
ML4	BINARY	ORIGINAL	NONE
ND1	BINARY	ORIGINAL	NONE
TP1	BINARY	ORIGINAL	NONE
TP2	BINARY	ORIGINAL	NONE
ND2	BINARY	ORIGINAL	NONE
TP3	BINARY	ORIGINAL	NONE
TP4	BINARY	ORIGINAL	NONE

PARAMETER LABEL	VARIABLE NAME	NUM./ DENOM.	FACTOR	ORDER	CONS- TRAINT	VALUE	STD ERROR	T VALUE
1	C0	CNST	1	0	NONE	25172.791616722.0532		1.51
2	D1	BP	NUM.	1	0	NONE	8492.220720169.4118	.42
3	D2	BP	NUM.	1	1	NONE	34238.905121894.0968	-1.56
4	E1	ML1	NUM.	1	0	NONE	28238.074583827.3217	.34
5	E2	ML1	NUM.	1	1	NONE	38840.924296585.9915	-.40
6	F1	ML2	NUM.	1	0	NONE	-14953.032496585.9915	-.15
7	F2	ML2	NUM.	1	1	NONE	-94866.2817.10172E+06	.93
8	G1	ML3	NUM.	1	0	NONE	41434.3830.16220E+06	.26
9	G2	ML3	NUM.	1	1	NONE	65327.2317.17684E+06	-.37
10	H1	ML4	NUM.	1	0	NONE	696308.1279.22149E+06	3.14
11	H2	ML4	NUM.	1	1	NONE	-.37940E+06.21098E+06	1.80
12	I1	ND1	NUM.	1	0	NONE	-.15036E+06.19527E+06	-.77
13	J1	TP1	NUM.	1	0	NONE	-.29396E+06.28406E+06	-1.03
14	J2	TP1	NUM.	1	1	NONE	-.89805E+06.32479E+06	2.77
15	K1	TP2	NUM.	1	0	NONE	-.23777E+06.40429E+06	-.59
16	K2	TP2	NUM.	1	1	NONE	598428.2143.38232E+06	-1.57
17	M1	ND2	NUM.	1	0	NONE	-.99843E+06.25797E+06	-3.87
18	N1	TP3	NUM.	1	0	NONE	.108917E+07.56712E+06	1.92
19	N2	TP3	NUM.	1	1	NONE	932101.4173.57712E+06	-1.62
20	P1	TP4	NUM.	1	0	NONE	-.39647E+06.76136E+06	-.52
21	P2	TP4	NUM.	1	1	NONE	-.45957E+06.79855E+06	.58
22	THETA	TL	MA	1	1	NONE	1.0959	.0946 11.58

# SUMMARY OF OUTLIER DETECTION AND ADJUSTMENT

TIME	ESTIMATE	T-VALUE	TYPE
69*****		-5.40	IO

TOTAL NUMBER OF OBSERVATIONS. . . . . 78  
 EFFECTIVE NUMBER OF OBSERVATIONS. . . . . 77  
 RESIDUAL STANDARD ERROR (WITHOUT OUTLIER ADJUSTMENT). . . . . 0.608402E+06  
 RESIDUAL STANDARD ERROR (WITH OUTLIER ADJUSTMENT). . . . . 0.519564E+06

RETURN

STOP

THE CURRENT SCA SESSION IS TERMINATED.  
 THE SIZE OF THE WORKSPACE USED IS 15787 WORDS.