

บรรณานุกรม

ภาษาไทย

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ฟังก์ชันการแจกแจงแบบปกติที่ค่าไคสแควร์จากการทดสอบภาวะसारूपสนธิที่มีค่า

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ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย



ภาคผนวก

ศูนย์วิทยทรัพยากร  
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## ภาคผนวก ก

## โปรแกรม 1

โปรแกรมคอมพิวเตอร์สำหรับการสร้างเลขสุ่มที่มีการแจกแจงแบบปกติสองตัวแปร (Bivariate normal distribution) โดยกำหนดค่า  $\rho = 0.1, 0.2, \dots, 0.9$  อย่างละ 1,000 คู่

```

C*****
C      BNDRN
C*****
C      BIVARIATE NORMAL DISTRIBUTION RANDOM NUMBER TO BE GENERATED
C*****
      DIMENSION X(1000), W(1000), Y(1000)
C
C      REPEAT SIMULATION FOR VALUE OF RHO EQUALS 0.1 TO 0.9
C
      DO 10 IRHO=1,9
      RHO=0.1*IRHO
C
C      CHANGE SEEDS FOR GENERATE RANDOM NUMBER
C
      IX=2*J+1
      S=1.0
      AM=0.0
C
C      EACH VALUE OF RHO GENERATE BIVARIATE NORMAL DATA FOR 1000 GROUPS
C
      DO 30 J=1,1000
      CALL GAUSS(IX,S,AM,X(J))
      CALL GAUSS(IX,S,AM,W(J))
      Y(J)=W(J)*SQRT(1.-RHO**2)+X(J)*RHO
30 CONTINUE
C
C      ARRANGE SPACE AND PRINT HEADING
C
      DO 50 M=1,1000,4
      IF (J.EQ.10.OR.J.EQ.20.OR.J.EQ.30) WRITE(3,210)
      IF (J.LT.40) GO TO 70
      WRITE(3,110)
110 FORMAT(//////////45X,17HRHO =          )
      WRITE(3,100)
100 FORMAT(//20X,14H( X   ,   Y   ),3X,14H( x   ,   Y   ),
      * 3X,14H( X   ,   Y   ),3X,14H( X   ,   Y   )//)
      J=0
70 J=J+1
      M1=M+1

```

```
M2=M+2
M3=M+3
WRITE(3,200)(X(M),Y(M),X(M1),Y(M1),X(M2),Y(M2),X(M3),Y(M3))
200 FORMAT(20X,F6.3,2X,F6.3,3(3X,F6.3,2X,F6.3))
50 CONTINUE
10 CONTINUE
210 FORMAT(/)
STOP
END
```



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## โปรแกรม 2

สับโปรแกรมคอมพิวเตอร์สำหรับการสร้างเลขสุ่มแบบปกติ และการสร้างเลขสุ่ม

แบบสม่ำเสมอ

```

SUBROUTINE GAUSS(IX,S,AM,V)
A=0.0
DO 50 I=1, 12
CALJ. RANDU(IX,IY,Y)
IX=IY
50 A=A+Y
V=(A-6.0)*S+AM
RETURN
END

```

SUBROUTINE GAUSS จะทำหน้าที่สร้างตัวแปรปกติที่กำหนดค่าเฉลี่ยและส่วนเบี่ยงเบนมาตรฐานให้ โดยอาศัย SUBROUTINE อีกอันหนึ่งคือ SUBROUTINE RANDU

SUBROUTINE RANDU จะทำหน้าที่สร้างตัวแปรสุ่มชนิดที่มีการแจกแจงในช่วง  $[0,1]$  SUBROUTINE RANDU ที่ใช้นี้ใช้เครื่องคอมพิวเตอร์ IBM ระบบ /360 ซึ่งมีขีดความสามารถในการสร้างตัวแปรสุ่มจำนวน  $2^{29}$  จำนวน ก่อนที่จะทำซ้ำวัฏจักรอีกครั้งหนึ่ง

```

SUBROUTINE RANDU(IX,IY,YFL)
IY=IX*65539
IF (IY) 5,6,6
5 IY=IY+2147483647+1
6 YFL=YFL*.4656613E-9
RETURN
END

```

ค่า YFL จะเป็นค่าที่ SUBROUTINE RANDU ส่งค่ามาเมื่อเราต้องการสร้างตัวแปรปกติ เราจำเป็นต้องอาศัยทฤษฎีทางสถิติคือทฤษฎีแนวโน้มเข้าสู่เขตกึ่งกลาง (Central Limit Theorem) กล่าวคือถ้า  $YFL_i$  ( $i=1, \dots, n$ ) เป็นตัวแปรอิสระ มีการแจกแจงเหมือนกัน โดยมีค่าเฉลี่ยและค่าส่วนเบี่ยงเบนมาตรฐานที่แน่นอน ค่าเฉลี่ยของตัวอย่างจะมีการแจกแจงแบบปกติโดยประมาณ

นั่นคือจะสรุปได้ว่า

$$Z = \frac{\frac{1}{n} \sum_{i=1}^n YFL_i - \mu}{\sigma/\sqrt{n}} \approx N(0,1)$$

SUBROUTINE GAUSS จะใช้ YFL เป็นจำนวน 12 ตัว

เราทราบว่า ถ้า  $YFL \sim \text{UNIFORM}(0,1)$

$$E(YFL) = \frac{1}{2}$$

$$V(YFL) = \frac{1}{12}$$

ดังนั้นเราจะสรุปได้ว่า กรณี  $n = 12$ ,  $\mu = \frac{1}{2}$ ,  $\sigma^2 = \frac{1}{12}$

$$Z = \frac{\frac{1}{12} \sum_{i=1}^{12} YFL_i - \frac{1}{2}}{\sqrt{\frac{1}{12 \times 12}}} \approx N(0,1)$$

$$Z = \frac{\sum_{i=1}^{12} YFL_i - 6.0}{\sqrt{12}} \approx N(0,1)$$

จากนั้นเราอาศัยทฤษฎีทางสถิติที่กล่าวว่า ถ้า  $Z$  มีการแจกแจงแบบปกติที่มีค่าเฉลี่ย 0 และค่าความแปรปรวน 1 จะได้

$X = \mu + Z\sigma$  มีการแจกแจงแบบปกติที่มีค่าเฉลี่ยเท่ากับ  $\mu$  และค่าความแปรปรวน  $\sigma^2$

สรุปขั้นตอนในการสร้างตัวแปรปกติ  $N(\mu, \sigma^2)$

1. เรียก GAUSS
2. ปรับค่า  $X = \mu + Z\sigma$  หลังจากกำหนดค่า  $\mu$ ,  $\sigma^2$  แล้ว

## โปรแกรม 3

โปรแกรมคอมพิวเตอร์สำหรับคำนวณค่าสัมประสิทธิ์สหสัมพันธ์จากตัวอย่าง และแปลงค่าสัมประสิทธิ์สหสัมพันธ์จากตัวอย่างเป็นค่า Fisher's transformation พร้อมทั้งคำนวณค่าเฉลี่ยและส่วนเบี่ยงเบนมาตรฐานของค่าทั้งสองจากตัวอย่างและค่าตามทฤษฎี

```

C*****
C      CCAFT
C*****
      DIMENSION X(50),Y(50),W(50),A(50),B(50),R(1000),ZF(1000)
C
C      REPEAT SIMULATION FOR VALUE OF RHO EQUALS 0.1 TO 0.9 AND
C      PRINT HEADING
C
      DO 10 IRHO=1,9
      WRITE(3,105)
105  FORMAT(/3X,3HRHO,5X,4HRBAR,5X,5HZFBAR,5X,3HSER,5X,
*      7HSER(TH),4X,4HSEZF,4X,8HSEZF(TH))
      RHO=0.1*IRHO
C
C      REPEAT SIMULATION FOR VALUE OF N EQUALS 5 TO 50 STEP 5
C
      DO 20 N=5,50,5
C
C      INITIALIZED SUM COUNTERS
C
      SUMR=0.0
      SUMZF=0.0
      SSER=0.0
      SSEZF=0.0
C
C      EACH VALUE OF RHO AND N COMPUTE CORRELATION COEFFICIENT AND
C      FISHER'S TRANSFORMATION 1000 TIMES
C
      DO 30 J=1,1000
C
C      CHANGE SEEDS FOR GENERATE RANDOM NUMBER
C
      IX=2*(N+J+IRHO)+1
      S=1.0
      AM=0.0
C
C      INITIALIZE SUM COUNTERS
C

```





```

*) SUMAB=0.0
   SUMX2=0.0
   SUMY2=0.0
   SUMX=0.0
   SUMY=0.0
   XBAR=0.0
   YBAR=0.0

C
C   GENERATE X USING SUBROUTINE GAUSS AND GENERATE Y' CONDITIONAL ON
C   THE PREVIOUS X
C
   DO 40 K=1,N
   CALL GAUSS (IX,S,AM,X(K))
   CALL GAUSS (IX,S,AM,W(K))
   Y(K)=W(K)*SQRT(1.0-RHO**2)+X(K)*RHO
40  CONTINUE
   DO 50 L=1,N
   SUMX=SUMX+X(L)
   SUMY=SUMY+Y(L)
50  CONTINUE
   XBAR=SUMX/N
   YBAR=SUMY/N
   DO 60 L=1,N
   A(L)=X(L)-XBAR
   B(L)=Y(L)-YBAR
60  CONTINUE
   DO 75 I=1,N
   SUMAB=SUMAB+A(I)*B(I)
   SUMX2=SUMX2+A(I)**2
   SUMY2=SUMY2+B(I)**2
75  CONTINUE

C
C   COMPUTE CORRELATION COEFFICIENT AND FISHER'S TRANSFORMATION
C
   R(J)=SUMAB/SQRT(SUMX2*SUMY2)
   IF (R(J).EQ.(1.)) GO TO 30
   ZF(J)=(.5)*ALOG((1.+R(J))/(1.-R(J)))
   SUMR=SUMR+R(J)
   SUMZF=SUMZF+ZF(J)
30  CONTINUE

C
C   COMPUTE MEAN, STANDARD DIVIATION
C
   RBAR=SUMR/1000.
   ZFBAR=SUMZF/1000.
   DO 65 M=1,1000
   SSER=SSER+(R(M)-RBAR)**2
   SSEZF=SSEZF+(ZF(M)-ZFBAR)**2

```

```

65 CONTINUE
   SER=SQRT(SSER/1000.)
   SEZF=SQRT(SSEZF/1000.)
   SERTHE=SQRT((1.-RHO**2)/(N-2))
   SEZFTH=SQRT(1./(N-3))
   WRITE(3,6)RHO,RBAR,ZFBAR,SER,SERTHE,SEZF,SEZFTH
6  FORMAT(3X,F3.1,4X,F6.3,3X,F6.3,4X,F6.3,3X,F6.3,3X,
*  F6.3,4X,F6.3)

```

C  
C  
C

```

   WRITE R,FISHER-Z INTO TAPE

   DO 100 JJ=1,1000
   WRITE(3,5)(IRHO,N,ZF(JJ))
5  FORMAT(I1,I2,F6.3)
100 CONTINUE
   DO 200 KK=1,1000
   WRITE(4,5)(IRHO,N.R(KK))
200 CONTINUE
20  CONTINUE
10  CONTINUE
   STOP
   END

```



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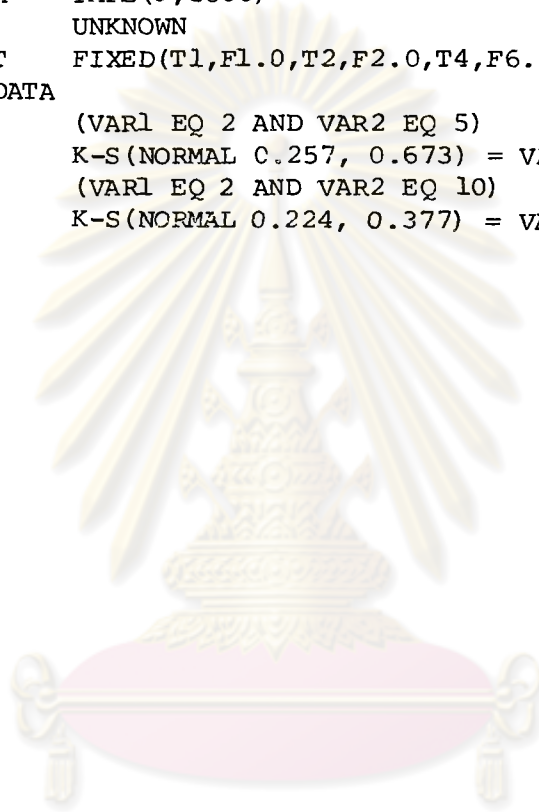
## โปรแกรม 4

โปรแกรมสำเร็จรูป SPSS สำหรับการทดสอบการแจกแจงของค่า R และ  $Z_F$

```

RUN NAME          DISTRIBUTION TEST
VARIABLE LIST     VAR1, VAR2, VAR3
VARIABLE LABELS  VAR1 RHO/VAR2 SAMPLE SIZE/VAR3 ZF
INPUT MEDIUM     TAPE (9, 3600)
N OF CASES       UNKNOWN
INPUT FORMAT      FIXED(T1,F1.0,T2,F2.0,T4,F6.3)
READ INPUT DATA
* SELECT IF      (VAR1 EQ 2 AND VAR2 EQ 5)
NPAR TESTS       K-S(NORMAL 0.257, 0.673) = VAR3/
* SELECT IF      (VAR1 EQ 2 AND VAR2 EQ 10)
NPAR TESTS       K-S(NORMAL 0.224, 0.377) = VAR3/
FINISH

```



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## โปรแกรม 5

## โปรแกรมคำนวณจำนวนนับการปฏิเสธสมมติฐาน เมื่อสมมติฐานนั้นถูกต้อง

```

C*****
C   PNREJ
C*****
  DIMENSION X(50),Y(50),W(50),A(50),B(50),R(1000),ZF(1000),
*   NREJ(10,3,9),NACC(10,3,9),ZZ(3)
C
C   INITIALIZED SUM COUNTERS
C
C   DATA NREJ,NACC/540*0/
C   M=0
C
C   LET THE CRITICALLY TABULAR
C   VALUE OF STANDARD NORMAL
C   AT DESIRED LEVEL OF SIGNIFICANCE
C
C   ZZ(1)=2.575
C   ZZ(2)=1.960
C   ZZ(3)=1.645
C
C   REPEAT SIMULATION FOR VALUE OF
C   RHO AND PRINT HEADING
C
C   DO 15 IRHO=1,9
C   RHO=0.1*IRHO
C   WRITE(3,101)
101 FORMAT(/10X,15HNREJ(M,IA,IRHO),10X,15HNACC(M,IA,IRHO))
C
C   REPEAT SIMULATION FOR LEVEL OF SIGNIFICANCE AND VALUE OF N
C
C   DO 10 IA=1,3
C   DO 20 N=5,50,5
C   M=M+1
C   DO 30 J=1,1000
C   IX=2*J+1
C   S=1.0
C   AM=0.0
C
C   INITIALIZED SUM COUNTERS
C
C   SUMAB=0.0
C   SUMX2=0.0
C   SUMY2=0.0
C   SUMX=0.0
C   SUMY=0.0
C   XBAR=0.0
C   YBAR=0.0

```

```

C
C   GENERATE X USING SUBROUTINE GAUSS AND GENERATEY
C   CONDITION ON THE PREVIOUS X
C
DO 40 K=1,N
CALL GAUSS(IX,S,AM,X(K))
CALL GAUSS(IX,S,AM,W(K))
Y(K)=W(K)*SQRT(1.0-RHO**2)+X(K)*RHO
40 CONTINUE
DO 50 L=1,N
SUMX=SUMX+X(L)
SUMY=SUMY+Y(L)
50 CONTINUE
XBAR=SUMX/N
YBAR=SUMY/N
DO 60 L=1,N
A(L)=X(L)-XBAR
B(L)=Y(L)-YBAR
60 CONTINUE
DO 75 I=1,N
SUMAB=SUMAB+A(I)*B(I)
SUMX2=SUMX2+A(I)**2
SUMY2=SUMY2+B(I)**2
75 CONTINUE
C
C   COMPUTE CORRELATION COEFFICIENT AND STANDARD NORMAL
C
R(J)=SUMAB/SQRT(SUMX2*SUMY2)
IF(R(J).EQ.(1.)) GO TO 30
E=(.5)*ALOG((1.+R(J))/(1.-R(J)))
F=(.5)*ALOG((1.+RHO)/(1.-RHO))
C=N-3
ZF(J)=(E-F)*SQRT(C)
C
C   COMPARE COMPUTED VALUE WITH THE CRITICALLY
C   TABULAR VALUE OF STANDARD NORMAL VARIABLE
C   AT DESIRED LEVEL OF SIGNIFICANCE
C
IF(ABS(ZF(J)).GE.ZZ(IA)) GO TO 100
NACC(M,IA,IRHO)=NACC(M,IA,IRHO)+1
GO TO 30
100 NREJ(M,IA,IRHO)=NREJ(M,IA,IRHO)+1
30 CONTINUE
WRITE(3,102)(NREJ(M,IA,IRHO),NACC(M,IA,IRHO))
102 FORMAT(10X,I15,10X,I15)
20 CONTINUE
10 CONTINUE
15 CONTINUE
STOP
END

```

## ภาคผนวก ข

## ตารางที่ 1

ตารางแสดงค่าของข้อมูลที่มีการแจกแจงแบบปกติสองตัวแปร ที่มีค่าสัมประสิทธิ์สหสัมพันธ์

$$\rho = 0.1 (0.1) 0.9$$

$$RHU = 0.1$$

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-2.744	-0.284	1.460	1.346	0.413	1.449	0.021	1.650
1.303	0.401	1.768	0.455	-1.219	-2.367	-0.045	-0.839
-0.488	0.773	-0.338	-0.823	1.977	0.522	-0.229	0.106
0.468	0.407	-1.019	1.345	-0.911	0.778	1.804	-0.296
-0.244	-0.424	-0.438	-0.561	-0.799	1.011	-0.609	-0.760
1.964	0.433	-1.761	-0.428	0.400	-0.253	-0.133	0.403
-0.324	-0.038	2.848	1.990	-0.229	0.387	-0.431	-1.190
1.478	0.226	0.226	0.862	-0.599	-0.132	-0.169	0.523
0.951	0.792	0.208	0.613	-1.624	0.792	-0.008	-0.532
0.699	-0.850	0.630	0.492	-0.219	-1.786	0.385	0.615
0.289	-0.558	0.329	-0.154	-0.297	-0.594	-0.652	-0.222
0.314	0.942	1.139	1.306	-0.775	-0.785	-0.785	0.138
0.358	1.154	-2.102	-1.154	-0.561	0.453	0.324	-0.302
1.010	0.385	2.441	-0.918	-0.575	-0.249	1.009	0.244
-0.147	-0.440	-0.397	-1.034	-0.728	-1.179	-0.392	0.575
-0.526	-0.178	0.222	-0.954	0.065	1.463	-0.545	-1.999
-0.540	0.346	-0.868	0.259	-0.111	0.235	-1.112	0.277
0.395	-0.589	0.830	1.358	-2.168	-1.264	1.240	-1.258
-0.133	0.964	2.172	-0.001	-0.021	0.274	-0.150	-0.343
-0.540	-0.596	-1.027	-0.296	-0.585	0.884	-1.948	0.330
0.761	-1.916	0.410	1.022	-0.772	0.586	1.183	-0.733
-0.644	1.749	1.682	0.608	-0.498	0.097	-0.422	-0.558
-0.169	1.116	-0.466	0.601	-1.676	0.929	-0.427	1.451
0.771	0.234	0.893	0.147	-1.221	1.111	-1.495	1.007
-0.237	0.067	1.232	1.580	0.954	-0.630	-0.291	-0.599
-2.607	-1.108	1.386	-0.530	-0.066	0.896	-0.478	0.207
-0.755	-1.526	0.191	0.130	-1.194	0.737	0.278	-0.360
0.908	0.571	-0.517	-1.766	0.655	-0.093	0.315	1.475
-0.035	1.171	1.098	0.391	0.567	-1.377	1.967	-1.059
-1.996	0.643	-1.126	-0.519	-1.371	-1.404	1.572	0.568
-0.390	0.651	-0.359	0.625	0.926	1.141	0.464	-0.453
0.369	0.633	0.241	-2.005	-0.456	0.206	-0.981	-0.986
-1.133	-0.345	0.508	-1.001	-1.431	-1.106	0.457	-0.375
1.691	-0.410	-0.723	-0.001	0.087	-0.881	0.229	-1.456
-0.575	1.028	0.385	-1.149	0.184	0.200	-0.368	-0.371
-0.344	-1.031	-1.332	-0.521	-0.055	-0.032	0.003	-0.013
-0.030	1.342	-0.039	0.935	0.458	-0.760	-1.322	0.310
0.952	-0.541	0.101	-1.715	-0.193	0.522	-0.008	-0.992
-0.810	-0.641	-0.077	0.033	-0.921	0.649	-1.719	-1.557
1.268	0.316	0.264	0.749	0.360	0.537	2.882	-0.473



RHO = 0.1 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-0.228	-0.587	-0.041	0.777	0.735	-0.391	-0.870	0.749
0.289	1.198	-0.156	-0.336	0.290	-2.417	1.361	0.520
-0.595	0.565	-0.245	-0.159	0.112	0.252	0.912	0.917
-0.295	-1.021	-1.471	0.657	1.287	1.466	0.117	0.148
-1.225	0.386	0.001	-0.032	-0.101	-0.448	1.314	-0.600
1.201	0.480	2.006	0.006	1.056	-1.290	-0.162	0.159
-1.430	-0.375	0.382	0.815	1.783	0.351	0.024	0.830
-1.533	-0.215	0.963	1.445	-1.774	0.812	0.209	0.211
-1.522	-2.057	0.586	0.049	1.451	0.912	1.729	1.384
-0.811	0.337	1.087	0.255	0.545	0.270	0.920	-1.032
-0.814	0.071	-0.698	-1.775	0.592	0.099	0.117	0.122
0.054	0.499	0.066	-0.124	-1.321	-2.169	0.657	0.961
-2.619	0.393	0.216	0.375	0.891	-0.242	-0.124	0.185
-0.249	0.822	-1.413	1.059	-0.684	-0.175	-1.891	-0.222
0.751	1.355	1.016	-0.014	-0.962	-0.752	-1.308	-0.959
-0.033	0.171	0.338	0.877	0.144	1.728	-0.038	-0.242
0.984	0.822	0.389	2.586	-1.281	-1.374	0.254	0.729
1.369	-0.703	-0.994	0.379	-1.150	-0.982	-2.096	-0.241
0.767	-0.255	-0.976	-1.022	1.622	0.735	0.249	0.526
0.705	1.540	0.278	-1.174	-0.879	-0.286	0.623	0.337
-1.212	-1.322	-1.394	-1.030	-0.566	0.454	-1.636	0.060
-0.393	-0.210	0.843	0.553	-1.354	1.282	-0.194	0.351
-0.267	-0.231	1.825	1.526	-0.157	0.229	0.287	-1.346
-2.232	-1.318	0.388	1.236	-0.888	-0.399	-0.859	1.848
-0.708	0.264	-0.632	-0.569	-1.463	-1.676	0.705	0.380
-0.110	1.356	-1.400	1.528	-0.795	-1.791	0.315	-2.278
0.150	1.178	0.921	0.310	0.205	-0.128	-0.694	-0.059
-0.344	0.907	1.167	1.688	-0.385	-0.152	1.015	-0.629
1.995	0.118	0.173	-1.755	-0.472	0.050	-1.223	0.281
-1.753	-0.526	0.776	-0.322	-0.973	1.092	-0.071	0.381
0.516	0.341	0.811	0.260	-0.800	-0.190	-1.193	0.061
0.870	-0.795	-1.886	-0.764	0.131	-0.093	-0.255	-0.284
0.400	1.010	-1.478	0.636	-0.094	0.902	-2.919	-0.265
-2.308	-0.850	-0.130	0.720	-0.388	1.622	0.150	-0.976
-1.667	1.484	0.995	-0.169	-0.666	1.788	0.289	-0.339
-1.092	-0.206	1.731	0.402	-1.841	0.025	-0.168	-0.148
-0.996	0.925	-0.084	-1.306	0.172	-0.560	-0.883	-1.404
0.206	0.269	0.384	-3.354	0.459	0.248	-1.522	0.864
0.100	1.776	0.972	-0.527	0.107	0.281	-0.748	-1.211
-0.728	1.733	0.517	0.553	0.200	0.355	0.776	0.226

RHO = 0.1 (CONT.)

(X, Y)	(X, Y)	(X, Y)	(X, Y)	(X, Y)	(X, Y)	(X, Y)	(X, Y)
-0.692	-1.481	0.853	0.529	0.326	1.185	0.384	0.891
-0.205	1.258	-0.184	-0.357	0.069	0.302	-0.588	-1.112
-0.683	2.058	1.244	0.726	-0.983	-0.482	0.197	0.382
0.461	1.388	0.971	-0.158	-1.246	1.639	-1.925	-2.099
-0.187	-0.884	-0.166	0.517	0.367	0.515	0.382	1.097
-1.041	-0.410	0.868	-0.486	-2.058	-0.753	1.453	0.409
0.484	-1.695	1.309	0.060	0.565	0.447	-0.376	0.607
-1.025	-1.093	-0.406	-0.588	0.321	-0.945	0.232	0.195
1.018	1.272	-0.041	0.402	-1.704	-1.128	0.612	-0.138
-0.802	-0.108	1.438	0.587	1.578	0.320	1.100	-0.395
1.102	0.711	-0.331	0.805	1.250	-1.761	0.032	-0.783
-0.685	0.213	1.887	-0.688	-0.600	0.510	1.744	2.079
-0.577	0.160	-0.072	0.729	2.113	0.489	-0.427	0.519
1.013	0.722	-0.372	0.124	0.476	-0.017	0.853	1.203
-1.331	0.572	1.822	-0.964	-1.427	0.107	1.921	0.740
0.979	-1.213	-0.652	0.191	1.492	0.087	-1.887	-0.379
-0.472	0.708	-1.959	-0.342	1.518	0.834	-1.235	0.729
-0.098	1.132	-0.264	0.068	1.136	-0.616	-0.787	0.575
0.687	1.123	1.270	-0.426	-0.966	-0.761	-0.208	0.148
-1.531	-1.441	1.478	-0.488	1.097	2.708	-1.161	0.238
0.834	1.373	-1.803	-1.865	0.410	0.854	-1.311	1.040
-0.367	0.080	1.263	0.666	-0.940	-0.434	-2.321	-0.656
-0.345	-2.803	-1.489	0.970	0.133	-0.138	0.144	-0.416
1.284	1.968	0.778	-1.982	0.714	-0.829	-0.579	-0.996
-2.161	-0.882	0.898	-0.306	0.890	0.201	-2.155	1.801
-1.093	-0.698	-0.291	-0.419	-1.254	-0.514	0.752	-0.487
0.074	-0.488	1.046	1.506	-1.631	0.133	-0.522	1.184
-0.076	2.595	2.746	-0.258	0.844	-2.016	1.359	-1.444
0.045	0.364	1.045	-0.594	-0.743	-0.977	-0.268	0.872
0.025	0.948	-0.426	-0.851	-0.305	0.586	-0.069	0.668
-1.558	-0.559	-1.624	0.610	0.245	0.206	-0.707	-1.367
-0.110	1.485	-0.883	-0.444	0.987	-0.588	1.154	1.031
1.951	-0.910	-1.068	-0.392	-0.987	0.157	-0.150	-1.697
0.213	0.979	-0.642	0.915	1.407	1.325	-0.283	1.788
0.261	0.955	-1.001	-0.363	0.255	0.028	-1.910	0.236
0.680	0.082	-0.311	-0.597	-0.358	-0.629	0.306	-0.883
1.058	0.519	-1.736	-0.640	1.656	-0.724	-0.300	1.705
-1.021	-0.752	0.561	-0.440	0.381	-0.141	-0.391	-0.660
0.030	1.018	0.416	-0.171	1.904	-0.550	1.368	1.072
0.796	-1.267	-0.336	-1.164	-0.690	1.051	0.314	-1.564



RHO = 0.1 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-1.136	-0.673	-0.859	1.097	1.686	0.308	0.781	-0.215
√1.820	-0.213	0.633	-0.705	0.118	0.021	-0.893	0.736
√1.249	0.477	0.127	0.438	-0.309	1.407	0.628	-1.202
0.737	-0.024	√1.308	1.386	2.491	0.406	-0.322	0.330
-0.129	1.437	0.061	-0.802	-0.395	-0.181	-0.406	0.652
-0.764	1.148	0.224	-0.309	0.118	0.268	0.712	0.755
√1.418	0.574	0.632	1.216	-0.884	-0.021	-0.631	0.231
-0.997	0.177	0.120	1.132	1.685	0.167	-1.101	-1.617
-1.422	-0.169	0.526	2.070	-1.089	1.643	1.638	-0.617
-1.273	0.800	-1.316	-0.803	-1.120	-0.046	0.924	0.537
0.037	-1.228	1.431	0.622	0.678	0.690	1.091	-0.745
-0.094	-0.710	-0.398	1.905	1.391	-0.707	1.476	1.401
-1.515	1.328	0.034	1.205	0.105	0.357	0.414	-2.165
-1.207	2.470	-1.437	0.553	0.905	1.020	0.242	-0.363
-0.393	-0.202	0.024	-0.103	-0.122	0.603	-1.705	-1.399
1.511	-2.438	1.253	-2.611	0.110	0.120	0.909	0.278
1.092	1.600	0.087	-0.758	0.686	0.189	-1.579	-0.319
-0.065	-1.650	1.360	1.421	-1.307	-0.765	0.166	-0.304
0.627	-0.775	-0.084	-2.100	0.216	0.564	-1.520	0.512
0.153	-1.775	-0.427	-0.529	-1.658	0.212	-1.301	0.635
1.899	1.688	0.183	-0.389	-1.845	1.385	-1.841	-2.252
-0.348	0.427	1.577	-1.237	0.743	-2.066	0.197	1.162
-0.403	-0.809	1.591	0.153	0.192	-0.074	0.147	-0.634
-0.680	-0.062	0.051	-0.751	-0.414	1.410	0.346	0.535
0.407	0.051	-0.177	0.772	0.012	0.219	0.129	0.584
0.444	-0.500	-0.287	1.086	0.557	0.947	-1.106	-0.592
0.017	0.542	-0.434	-0.362	-0.695	-0.864	-0.205	-0.710
-0.712	1.556	-0.781	-0.146	-0.343	-0.117	-0.651	-0.173
0.115	-0.474	-0.493	0.287	-0.243	-0.478	-2.169	1.012
-0.189	-1.200	0.267	2.374	-1.368	-1.130	-0.422	-0.740
2.387	-0.153	0.335	1.482	-0.944	-0.162	-1.075	-0.063
-0.571	2.034	-1.545	0.244	-0.887	0.952	-0.792	-0.351
0.523	0.561	0.736	0.792	0.889	0.143	-0.236	-1.592
1.254	1.166	-0.259	0.785	0.471	1.707	-0.072	0.967
2.208	-0.858	0.397	-1.131	0.944	0.689	-0.964	-1.032
-1.028	0.228	-0.459	-0.827	-1.605	-1.599	0.424	-0.329
-1.869	0.318	-0.992	1.341	-0.091	0.239	-1.572	-0.515
1.271	-1.769	0.633	1.041	-0.572	3.434	0.384	0.101
-0.021	-0.029	0.254	0.506	1.471	-0.154	-0.372	0.812
-0.161	1.062	-0.295	-0.223	0.690	1.932	-0.504	-2.006

RHU = 0.1 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
0.439	2.035	-0.176	-0.999	1.317	1.752	0.324	1.412
<del>2.364</del>	<del>0.532</del>	<del>0.445</del>	<del>-0.584</del>	<del>0.436</del>	<del>-0.276</del>	<del>1.447</del>	<del>-0.801</del>
-0.800	0.196	-1.596	1.165	0.135	-1.249	0.202	1.957
-1.468	-0.484	-0.481	0.313	1.498	-1.343	-1.075	0.863
-0.052	-1.507	0.634	-0.010	-0.588	-1.339	-0.049	-0.840
-0.988	-0.120	-1.325	0.336	-0.437	-0.021	0.617	-0.500
1.371	0.464	0.349	-0.492	-1.564	-0.952	1.258	0.898
<del>-0.449</del>	<del>-0.285</del>	<del>1.541</del>	<del>0.536</del>	<del>-0.682</del>	<del>-0.131</del>	<del>-0.790</del>	<del>0.051</del>
0.157	0.491	0.088	0.674	0.295	-0.029	-0.190	0.441
-0.225	0.671	0.824	-0.129	-0.548	-2.117	-0.608	0.669
-2.008	-0.572	-0.413	0.159	-0.124	-0.407	1.294	-0.960
<del>0.594</del>	<del>-1.475</del>	<del>1.212</del>	<del>-0.504</del>	<del>-0.548</del>	<del>-0.350</del>	<del>-1.148</del>	<del>1.813</del>
0.566	0.517	0.535	-1.183	-0.134	-0.138	0.400	0.829
0.094	0.795	-1.007	-2.646	-1.396	0.747	0.275	-0.539
0.564	-0.270	-1.380	2.870	-1.047	2.325	0.813	-1.100
-0.458	-0.721	1.052	1.921	-0.003	-0.758	1.350	-0.960
-0.325	0.907	-0.473	1.031	-1.176	1.865	0.221	-0.325
<del>0.487</del>	<del>-0.195</del>	<del>-0.120</del>	<del>0.058</del>	<del>-0.481</del>	<del>-0.631</del>	<del>-0.257</del>	<del>1.997</del>
1.586	1.118	1.946	-1.362	0.167	1.225	0.312	0.029
-0.444	0.735	0.562	0.299	-0.144	-0.906	2.204	-0.264
-0.010	0.419	2.563	-0.781	0.670	0.856	-0.226	1.508
<del>-0.544</del>	<del>-1.953</del>	<del>-0.214</del>	<del>1.008</del>	<del>-0.304</del>	<del>1.957</del>	<del>-0.641</del>	<del>-0.030</del>
0.558	0.060	2.066	1.141	0.020	0.421	-1.706	-0.209
-1.125	-1.735	1.240	1.248	-1.273	1.643	-1.085	0.171
-1.006	0.295	0.143	0.082	-0.096	-0.227	0.559	0.010
0.500	-0.645	-0.389	1.171	0.636	0.202	2.560	-1.792
0.980	1.382	1.460	0.181	-0.990	-1.529	-0.744	1.123
<del>1.017</del>	<del>-0.319</del>	<del>-0.413</del>	<del>-0.061</del>	<del>-0.889</del>	<del>-1.666</del>	<del>0.962</del>	<del>-2.188</del>
1.204	-0.506	-0.234	0.494	0.026	-0.541	0.074	-1.587
-0.881	-0.205	-0.145	1.092	-1.161	0.224	-0.132	0.237
-0.648	0.258	-0.312	0.185	0.638	-0.792	-1.300	0.093
<del>-1.512</del>	<del>-1.239</del>	<del>-1.103</del>	<del>-0.589</del>	<del>-0.508</del>	<del>-0.606</del>	<del>-1.094</del>	<del>-1.824</del>
-0.887	-1.243	-1.060	0.702	0.535	0.361	-0.178	-1.640
-0.180	0.316	0.018	1.220	0.805	0.183	-0.217	0.441
0.175	-0.375	-0.810	-0.088	1.404	-0.208	0.126	-0.462
-2.217	-0.563	0.288	-0.389	-1.583	-1.489	-0.814	0.420
-1.776	-0.867	-0.855	0.359	-1.068	-1.251	-0.700	0.299
0.083	-0.826	-0.400	1.007	-0.035	-0.072	-0.196	-0.933
1.948	-1.165	0.486	-1.086	-0.193	-1.417	2.033	0.800
-1.593	-0.227	0.642	0.391	1.339	-1.283	-1.677	0.713

RHO = 0.1 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-0.966	0.173	-1.099	-0.189	-1.284	-1.546	0.011	-0.099
1.428	0.997	-0.899	0.008	-0.978	1.201	-1.569	-0.553
-1.829	-0.275	-0.924	-0.772	0.348	0.508	-0.079	-0.052
-0.155	0.610	-0.336	-0.986	-0.226	-0.223	1.816	-0.893
0.045	0.235	-0.300	0.702	-0.611	-1.071	-0.548	0.399
0.348	-0.036	-0.980	-0.241	-0.723	-0.326	0.165	-0.456
1.344	2.054	0.460	-0.088	-0.474	0.739	-1.709	0.913
-0.383	0.406	-0.144	0.208	1.221	0.949	0.166	0.123
0.155	-0.233	1.044	-0.501	-2.551	-0.674	0.125	-0.444
-0.057	-0.195	-2.141	-0.381	-1.106	0.570	-1.494	1.196
-2.033	-0.006	0.136	1.013	-1.157	-0.077	0.642	1.558
3.215	5.193	-0.283	-0.656	2.182	0.391	1.872	0.136
0.666	0.211	0.431	-0.565	0.396	-0.102	-0.470	-0.390
-0.086	0.174	0.117	-1.458	0.573	-0.137	0.952	0.675
-0.459	-0.827	-0.390	1.189	0.797	1.794	0.475	-0.260
1.133	0.560	-1.254	0.851	1.154	2.429	-0.566	-1.109
0.277	-0.871	-0.638	0.162	-1.268	0.193	1.166	0.412
-0.441	1.319	-1.707	1.255	-0.614	-1.507	1.006	0.813
-0.436	1.427	0.376	0.092	0.888	-0.567	1.289	0.288
-0.121	0.618	1.445	-0.294	0.640	-0.149	0.353	-0.512
1.089	0.155	0.338	-0.558	0.955	0.563	-0.467	-0.079
1.780	-0.889	-0.111	-0.042	-0.081	0.095	-1.855	-1.922
-0.462	0.440	1.935	1.155	1.616	0.554	0.585	0.463
-0.050	0.930	-0.087	0.531	0.136	0.071	1.129	0.502
-0.400	0.450	0.857	0.508	0.565	-0.140	1.132	-1.712
1.076	-0.532	1.403	0.033	-1.014	-0.758	-0.069	0.682
-0.036	0.738	-0.211	-0.550	-0.515	0.528	-2.138	-1.276
-0.154	0.848	0.849	-2.683	-0.851	-2.436	2.261	-0.923
-0.688	0.802	0.420	2.812	0.064	-0.173	0.403	-0.558
0.941	-0.142	1.337	0.579	0.316	0.666	-0.196	-0.481
1.337	0.880	1.437	0.204	-1.010	-1.292	-0.379	-0.798
1.067	-0.469	-2.445	-0.158	0.173	1.040	0.249	-0.475
0.724	-1.046	1.527	1.133	0.950	0.116	-0.976	0.050
0.893	-0.077	0.189	0.236	0.408	0.533	-0.717	0.210
0.161	0.017	-0.622	0.182	-1.508	1.017	0.361	0.850
-0.887	0.499	0.929	-0.377	-0.291	1.689	0.594	-1.220
-0.664	-1.247	-2.322	-0.703	0.724	0.975	-0.683	0.859
-0.585	-0.179	-0.539	-0.348	-0.237	0.586	-0.152	1.413
-0.064	-0.007	0.114	0.528	-0.087	-0.058	0.582	0.235
0.485	-0.563	-0.528	-0.615	-0.142	1.156	1.795	1.302

RHO = 0.1 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
1.048	0.411	1.373	1.042	-0.115	-0.033	-0.158	-1.703
0.012	0.795	-0.349	0.369	0.881	0.972	-0.940	-0.605
-0.839	0.160	0.145	-0.598	0.330	-0.289	0.785	0.891
1.082	0.966	-0.515	1.269	0.320	1.082	0.552	1.225
0.161	-0.303	-0.888	0.541	-0.065	-0.271	0.098	-0.404
1.183	-0.789	0.260	-0.149	1.262	-0.447	-0.641	-0.121
-0.664	1.105	0.966	-1.554	0.386	0.871	0.469	-0.716
-0.796	0.260	0.066	-2.336	-0.606	-2.366	-0.234	-0.604
0.373	-1.348	-0.606	-0.859	1.372	-0.187	-1.414	0.309
0.431	0.292	0.788	0.535	-0.595	1.452	-0.737	2.218

ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

RHO = 0.2

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-2.744	-0.558	1.460	1.474	0.413	1.469	0.021	1.627
1.303	0.527	1.766	0.626	-1.219	-2.455	-0.045	-0.831
-0.488	0.712	-0.338	-0.845	1.977	0.715	-0.229	0.081
0.468	0.940	-1.019	1.221	-0.911	0.673	1.804	-0.109
-0.244	-0.443	-0.438	-0.597	-0.799	0.914	-0.609	-0.811
1.964	0.625	-1.761	-0.600	0.400	-0.209	-0.133	0.384
-0.324	-0.071	2.848	2.249	-0.229	0.358	-0.431	-1.216
1.478	0.373	0.226	0.872	-0.599	-0.191	-0.169	0.498
0.957	0.880	0.208	0.625	-1.624	0.618	-0.008	-0.524
0.699	-0.766	0.630	0.549	-0.219	-1.781	0.385	0.645
0.289	-0.521	0.329	-0.118	-0.297	-0.615	-0.652	-0.284
0.314	0.960	1.139	1.402	-0.773	-0.850	-0.785	0.056
0.358	-1.100	-2.102	-1.350	-0.561	0.390	0.324	-0.264
1.010	0.482	2.441	-0.656	-0.575	-0.304	1.009	0.343
-0.147	-0.449	-0.397	-1.058	-0.728	-1.235	-0.392	0.526
-0.526	-0.228	0.222	-0.917	0.065	1.447	-0.545	-2.024
-0.540	0.286	-0.868	0.167	-0.111	0.220	-1.112	0.160
0.395	-0.540	-0.830	1.253	-2.168	-1.464	1.240	-1.113
-0.133	0.935	2.172	0.219	-0.021	0.268	-0.150	-0.353
-0.540	-0.642	-1.027	-0.396	-0.585	0.811	-1.948	0.127
0.761	-1.809	0.410	1.048	-0.772	0.499	1.183	-0.602
-0.644	1.657	-1.682	0.428	-0.498	0.045	-0.422	-0.592
-0.169	1.082	-0.466	0.544	-1.676	0.744	-0.427	1.385
0.771	0.309	0.893	0.236	-1.221	0.970	-1.495	0.840
-0.237	0.042	1.232	1.681	0.954	-0.524	-0.291	-0.620
-2.607	-1.356	1.386	-0.381	-0.066	0.876	-0.478	0.155
-0.755	-1.579	0.191	0.148	-1.194	0.604	0.278	-0.326
0.908	0.654	-0.517	-1.792	0.655	-0.025	0.315	1.484
-0.035	1.150	1.098	0.497	0.567	-1.298	1.967	-0.843
-1.996	0.431	-1.128	-0.626	-1.371	-1.522	1.572	0.739
-0.390	0.601	-0.359	0.579	0.926	1.218	0.464	-0.399
0.369	0.005	0.241	-1.950	-0.456	0.156	0.981	1.070
-1.133	-0.454	0.508	-0.934	-1.431	-1.234	0.457	-0.323
1.691	-0.232	-0.723	-0.075	0.087	-0.859	0.229	-1.410
-0.575	0.954	0.385	-1.092	0.184	0.215	-0.368	-0.403
-0.344	-1.050	-1.332	-0.648	-0.055	-0.037	0.003	-0.012
-0.030	1.318	-0.039	0.917	0.458	-0.702	-1.322	0.171
0.952	-0.436	0.101	-1.678	-0.193	0.494	-0.008	0.976
-0.810	-0.911	-0.077	0.024	-0.921	0.546	-1.719	-1.708
1.268	0.440	0.264	0.765	0.360	0.566	2.882	-0.173



RHO = 0.2 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-0.228	-0.602	-0.041	0.761	0.735	-0.311	-0.870	0.650
0.289	1.209	-0.156	-0.347	0.290	-2.351	1.361	0.650
-0.595	0.496	-0.245	-0.181	0.112	0.259	0.912	0.996
-0.295	-1.036	-1.471	0.497	1.287	1.574	0.117	0.157
-1.225	0.255	0.001	-0.032	-0.101	-0.452	1.314	-0.458
1.201	0.595	2.006	0.210	1.036	-1.165	-0.162	0.140
-1.430	-0.514	0.382	0.841	1.783	0.527	0.024	0.819
-1.533	-0.367	0.963	1.521	-1.774	0.619	0.209	0.229
-1.522	-2.180	0.586	0.108	1.451	1.046	1.729	1.539
-0.811	0.250	1.087	0.362	0.545	0.321	0.920	-0.923
-0.814	-0.013	-0.698	-1.819	0.592	0.157	0.117	0.132
0.054	0.497	0.066	-0.116	-1.321	-2.270	0.657	1.013
-2.619	0.121	0.216	0.391	0.891	-0.148	-0.124	0.169
-0.249	0.784	-1.413	0.899	-0.684	-0.242	-1.891	-0.410
0.751	1.411	1.016	0.089	-0.962	-0.838	-1.308	-1.077
-0.033	0.165	0.338	0.898	0.144	1.716	-0.038	-0.242
0.984	0.909	0.389	2.586	-1.281	-1.483	0.254	0.744
1.389	-0.551	-0.994	0.272	-1.150	-1.084	-2.096	-0.450
0.767	-0.173	-0.976	-1.105	1.622	0.869	0.249	0.543
0.705	1.588	0.278	-1.127	-0.879	-0.371	0.623	0.395
-1.212	-1.424	-1.394	-1.155	-0.566	0.390	-1.636	-0.087
-0.398	-0.247	0.843	0.630	-1.354	1.125	-0.194	0.326
-0.267	-0.255	1.825	1.688	-0.157	0.210	0.287	-1.297
-2.232	-1.524	0.388	1.256	-0.888	-0.483	-0.859	1.733
-0.708	0.208	-0.632	-0.624	-1.463	-1.799	0.705	0.445
-0.110	1.327	-1.400	1.363	-0.795	-1.844	0.315	-2.211
0.150	1.175	0.921	0.399	0.203	-0.106	-0.694	-0.129
-0.344	0.858	1.167	1.781	-0.385	-0.189	1.015	-0.517
1.995	0.318	0.173	-1.710	-0.472	0.001	-1.223	0.152
1.753	-0.340	0.776	-0.238	-0.973	0.976	-0.071	0.368
0.516	0.388	0.811	0.338	-0.800	-0.268	-1.193	-0.061
0.870	-0.695	-1.886	-0.944	0.131	-0.078	-0.255	-0.306
0.400	1.035	-1.478	0.476	-0.094	0.879	-2.919	-0.557
-2.308	0.603	-0.130	0.696	-0.388	1.558	0.150	-0.946
-1.667	1.292	0.995	-0.065	-0.666	1.693	0.289	-0.304
-1.092	-0.313	1.731	0.572	-1.841	-0.162	-0.168	-0.163
-0.996	0.810	-0.084	-1.294	0.172	-0.534	-0.883	-1.472
0.206	0.286	0.384	-3.264	0.459	0.291	-1.522	0.696
0.100	1.759	0.972	-0.421	0.107	0.288	-0.748	-1.269
-0.728	1.633	0.517	0.597	0.200	0.370	0.776	0.302

RHO = 0.2 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-0.692	-1.528	0.853	0.608	0.826	1.251	0.384	0.917
-0.205	1.218	-0.184	-0.370	0.069	0.305	-0.588	-1.155
-0.683	1.958	1.244	0.842	-0.983	-0.574	0.197	0.396
0.461	1.414	0.971	-0.057	-1.246	1.487	-1.925	-2.262
-0.187	-0.890	-0.166	0.493	0.367	0.544	0.382	1.119
-1.041	-0.509	0.668	-0.411	-2.058	-0.950	1.453	0.551
0.484	-1.620	1.309	0.192	0.565	0.497	-0.376	0.559
-1.025	-1.180	-0.406	-0.621	0.321	-0.898	0.232	0.215
1.018	1.356	-0.641	0.330	-1.704	-1.284	0.612	-0.073
-0.802	-0.188	1.438	0.724	1.578	0.475	1.100	-0.277
1.102	0.812	-0.331	0.760	1.250	-1.607	0.032	-0.768
-0.685	0.140	1.887	-0.484	-0.600	0.441	1.744	2.224
-0.577	0.099	-0.072	0.711	2.113	0.696	-0.427	0.468
1.013	0.814	-0.372	0.085	0.476	0.032	0.853	1.271
-1.331	0.428	1.822	-0.764	-1.427	-0.040	1.921	0.924
0.979	-1.095	-0.652	0.122	1.492	0.237	-1.887	-0.565
-0.472	0.649	-1.959	-0.536	1.318	0.955	-1.235	0.593
-0.098	1.105	-0.264	0.040	1.136	-0.491	-0.787	0.486
0.687	1.175	1.270	-0.291	-0.966	-0.848	-0.208	0.125
-1.531	-1.575	1.478	-0.330	1.097	2.778	-1.161	0.117
0.834	1.437	-1.803	-2.019	0.410	0.882	-1.311	0.892
0.367	0.116	1.263	0.981	-0.940	-0.523	-2.321	-0.862
-0.345	-2.854	-1.489	0.810	0.133	-0.123	0.144	-0.395
1.284	2.069	0.778	-1.873	0.714	-0.744	-0.579	-1.039
-2.161	-1.088	0.898	-0.210	0.890	0.288	-2.155	1.555
-1.093	0.576	-0.291	-0.442	-1.254	-0.633	0.752	-0.404
0.074	-0.473	1.046	1.589	-1.631	-0.034	-0.522	1.113
-0.076	2.548	2.746	0.025	0.844	-1.900	1.359	-1.284
0.045	0.363	1.643	-0.419	-0.743	-1.038	-0.268	0.832
0.023	0.936	-0.426	-0.881	-0.305	0.546	-0.069	0.651
-1.558	-0.709	-1.624	0.436	0.243	0.228	-0.707	-1.418
-0.110	1.452	0.883	-0.348	0.987	0.679	1.154	1.133
1.951	-0.698	-1.068	-0.494	-0.987	0.054	-0.150	-1.686
0.213	0.986	-0.642	0.836	1.407	1.447	-0.283	1.732
0.261	0.967	-1.001	-0.459	0.255	0.053	-1.910	0.039
0.680	0.150	-0.311	-0.619	-0.358	-0.656	0.306	-0.839
1.058	0.618	-1.736	-0.807	1.656	-0.545	-0.300	1.648
-1.021	-0.844	0.561	-0.382	0.381	-0.100	-0.391	-0.690
0.030	1.006	0.416	-0.126	1.904	-0.348	1.368	1.194
0.796	-1.166	-0.336	-1.181	-0.690	0.965	0.314	-1.509

RHO = 0.2 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-1.136	-0.778	-0.859	0.993	1.686	0.474	0.781	-0.132
1.820	-0.025	0.683	-0.625	0.118	0.033	-0.893	0.634
1.249	0.596	0.127	0.444	-0.309	1.354	0.628	-1.120
0.737	0.051	1.308	1.498	2.491	0.652	-0.322	0.292
-0.129	1.402	0.061	-0.784	-0.395	-0.218	-0.406	0.601
-0.764	1.053	0.224	-0.282	0.118	0.276	0.712	0.815
1.418	0.709	0.632	1.262	-0.884	-0.110	-0.631	0.164
-0.997	0.073	0.120	1.127	1.685	0.336	-1.101	-1.704
-1.422	-0.310	0.526	2.092	-1.089	1.508	1.638	-0.441
-1.273	0.462	-1.316	-0.924	-1.120	-0.159	0.924	0.623
0.037	-1.206	1.431	0.758	0.678	0.749	1.091	-0.623
0.094	-0.689	-0.398	1.836	1.391	-0.555	1.476	1.530
-1.515	1.154	0.034	1.190	0.105	0.362	0.414	-2.109
-1.207	2.310	-1.437	0.399	0.905	1.097	0.242	-0.333
-0.393	-0.239	0.024	-0.099	-0.122	0.581	-1.705	-1.551
1.511	-2.247	1.253	-2.443	0.110	0.129	0.909	0.366
1.092	1.686	0.087	-0.738	0.686	0.255	-1.579	-0.474
-0.065	-1.632	1.360	1.538	-1.307	-0.887	0.166	-0.282
0.627	-0.699	-0.089	-2.077	0.216	0.577	-1.520	0.350
0.753	-1.671	-0.427	-0.564	-1.658	0.040	-1.301	0.493
1.899	1.855	0.183	-0.364	-1.845	1.176	-1.841	-2.384
-0.348	0.385	1.577	-1.058	0.743	-1.959	0.197	1.164
-0.403	-0.838	1.591	0.312	0.192	-0.054	0.147	-0.609
-0.680	-0.130	0.061	-0.734	-0.414	1.347	0.346	0.562
0.407	0.092	-0.177	0.743	0.012	0.216	0.129	0.589
0.444	-0.447	-0.287	1.041	0.557	0.989	-1.166	-0.702
0.017	0.536	-0.434	-0.401	-0.695	-0.921	-0.205	-0.720
0.712	1.605	-0.781	-0.223	0.343	-0.081	-0.651	-0.237
0.115	-0.455	-0.493	0.232	-0.243	-0.495	-2.169	0.776
-0.189	-1.201	0.267	2.365	-1.368	-1.251	-0.422	-0.771
2.387	0.091	0.335	1.494	-0.944	-0.255	-1.075	-0.171
-0.571	1.945	1.545	0.398	-0.887	0.848	-0.792	0.265
0.523	0.606	0.736	0.855	0.889	0.231	-0.236	-1.592
1.254	1.275	-0.259	0.745	0.471	1.729	-0.072	0.945
2.208	-0.620	0.397	-1.073	0.944	0.774	-0.964	-1.114
-1.028	0.121	-0.459	-0.861	-1.605	-1.737	0.424	-0.281
-1.869	0.123	-0.992	1.220	-0.091	0.226	-1.572	-0.666
1.271	1.871	0.633	1.090	0.572	3.439	0.384	0.138
-0.021	-0.031	0.254	0.327	1.471	-0.002	-0.372	0.762
-0.161	1.620	-0.295	-0.250	0.690	1.972	-0.504	-2.085



RHO = 0.2 (CONT.)

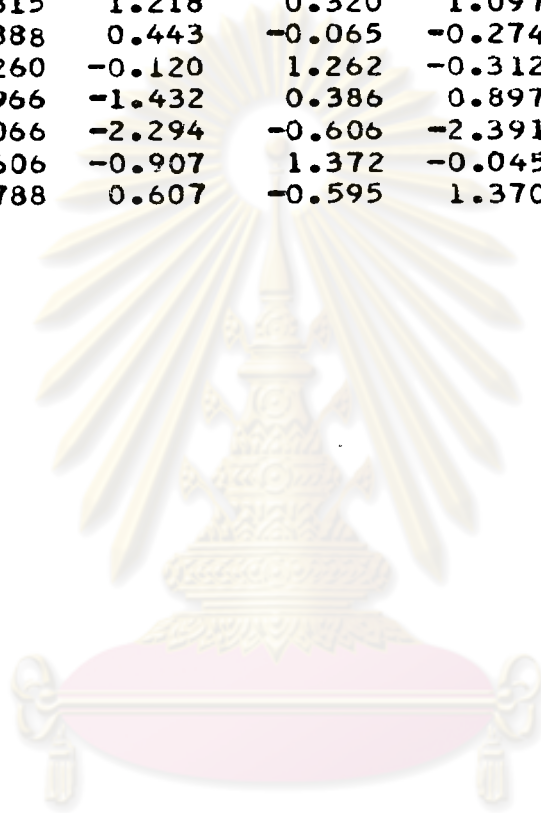
( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
0.439	2.048	-0.176	-1.002	1.317	1.859	0.324	1.423
2.364	-0.382	0.445	-0.530	0.436	-0.228	1.447	-0.642
-0.800	0.112	-1.596	0.985	0.135	-1.216	0.202	1.928
-1.468	-0.625	-0.461	0.262	1.498	-1.171	-1.075	0.741
-0.052	-1.489	0.684	0.059	-0.388	-1.358	-0.049	-0.833
-0.968	-0.217	-1.325	0.196	-0.437	-0.065	0.617	0.555
1.371	-0.596	0.349	-0.449	-1.564	-1.096	1.258	1.012
-0.449	-0.326	1.541	0.684	-0.682	-0.199	-0.790	-0.030
0.157	0.500	0.088	0.673	0.295	0.002	-0.190	0.415
-0.225	0.638	0.824	-0.043	-0.548	-2.141	-0.608	0.597
-2.008	-0.767	-0.413	0.115	-0.124	-0.413	1.294	-0.814
0.394	-1.412	1.212	-0.374	-0.348	-0.380	-1.148	1.669
0.566	0.566	0.535	-1.111	-0.134	-0.150	0.400	0.857
0.094	0.793	-1.607	2.442	-1.396	0.594	0.275	-0.503
0.564	-0.208	-1.380	2.686	-1.047	2.183	0.813	-1.001
-0.438	-0.754	1.052	1.998	-0.003	-0.746	1.350	-0.809
-0.325	0.860	-0.473	1.558	-1.176	1.717	0.221	-0.297
0.487	-0.142	-0.120	0.045	-0.481	-0.670	-0.237	1.943
1.586	1.262	1.946	-1.144	0.167	1.223	0.312	0.060
-0.444	0.679	0.562	0.352	-0.144	-0.906	2.204	-0.036
-0.016	0.411	2.563	-0.509	0.670	0.913	-0.226	1.462
-0.544	-1.978	-0.214	0.971	-0.304	1.896	-0.641	-0.095
0.558	0.116	2.066	1.333	0.020	0.417	-1.706	-0.379
-1.125	-1.823	1.240	1.355	-1.273	1.489	-1.085	0.059
-1.006	0.189	0.143	0.095	-0.096	-0.233	0.559	0.067
0.500	-0.584	-0.389	1.113	0.636	0.264	2.560	-1.505
0.980	1.461	1.480	0.328	-0.990	-1.606	-0.744	1.031
1.019	-0.211	-0.413	-0.102	-0.889	1.551	0.982	-2.055
1.204	-0.376	-0.234	0.463	0.026	-0.531	0.074	-1.555
-0.881	-0.291	-0.145	1.061	-1.161	0.102	-0.132	0.220
-0.648	0.188	-0.312	0.151	0.638	-0.716	-1.300	-0.040
-1.512	-1.374	1.103	-0.468	0.508	0.649	-1.094	-1.907
-0.887	-1.314	-1.066	0.583	0.535	0.410	-0.178	-1.633
-0.186	0.292	0.018	1.203	0.805	0.262	-0.217	0.412
0.175	-0.352	-0.810	-0.169	1.404	-0.062	0.126	-0.442
-2.217	-0.582	0.288	-0.354	-1.583	-1.627	-0.814	0.531
-1.776	-1.034	-0.855	0.266	-1.068	-1.341	-0.700	0.223
0.083	-0.805	-0.400	0.951	0.033	-0.068	-0.196	-0.939
1.948	-0.950	0.486	-1.020	-0.193	-1.415	2.033	0.994
-1.598	-0.386	0.642	0.450	1.339	-1.128	-1.677	0.532

RHO = 0.2 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-0.966	0.072	-1.099	-0.297	-1.284	-1.653	0.011	-0.097
1.428	1.127	-0.899	-0.085	-0.976	1.083	-1.569	-0.704
-1.829	-0.456	-0.924	-0.854	0.348	0.536	-0.079	-0.060
-0.153	0.585	-0.336	-1.005	-0.226	-0.242	1.816	-0.695
0.045	0.236	-0.300	0.661	-0.611	-1.117	-0.548	0.337
0.348	-0.001	-0.980	-0.337	-0.723	-0.394	0.165	-0.432
1.344	2.159	0.460	-0.040	-0.474	0.679	-1.709	0.725
-0.383	0.361	-0.144	0.190	1.221	1.059	0.166	0.138
0.755	-0.153	1.044	-0.387	-2.551	-0.923	0.125	-0.424
-0.657	-0.259	-2.141	-0.593	-1.706	0.389	-1.494	1.026
-2.033	-0.212	0.138	1.011	-1.157	-0.193	0.642	1.599
3.213	3.471	-0.283	-0.674	2.182	0.606	1.872	0.324
0.666	0.275	0.431	-0.513	0.396	-0.060	-0.470	-0.432
-0.086	0.163	0.117	-1.423	0.573	-0.077	0.952	0.761
-0.459	-0.861	-0.390	1.131	0.797	1.847	0.475	-0.207
1.133	0.666	-1.254	0.711	1.154	2.509	-0.566	-1.149
0.277	-0.830	-0.638	0.094	-1.268	0.061	1.166	0.524
-0.441	1.254	-1.707	1.060	0.614	-1.422	1.006	0.903
-0.436	1.361	0.376	0.128	0.888	-0.468	1.289	0.415
-0.121	0.596	1.445	-0.143	0.640	-0.081	0.353	-0.331
1.089	0.263	0.338	-0.515	0.955	0.651	-0.467	-0.125
1.780	-0.695	-0.111	0.030	-0.081	0.083	-1.835	-2.079
-0.462	0.386	1.935	1.333	1.618	0.710	0.585	0.516
-0.050	0.910	-0.687	0.453	0.138	0.084	1.129	0.609
-0.400	0.402	0.857	0.587	0.565	-0.081	1.132	-1.570
1.076	-0.415	1.403	0.175	-1.014	-0.850	-0.069	0.665
-0.038	0.723	-0.211	-0.563	-0.515	0.271	-2.138	-1.474
-0.154	0.820	0.849	2.729	-0.851	-2.485	2.261	-0.679
-0.688	0.779	0.420	2.812	0.064	-0.164	0.463	-0.502
0.947	-0.634	1.337	0.706	0.316	0.688	-0.196	-0.494
1.337	1.002	1.437	0.347	-1.010	-1.375	-0.379	-0.825
1.067	-0.846	-2.445	-0.404	0.173	1.041	0.249	0.493
0.724	-0.957	1.527	1.271	0.950	0.211	-0.976	-0.050
0.893	0.015	0.189	0.251	0.408	0.566	-0.717	0.134
0.161	0.033	-0.622	0.116	-1.368	0.863	0.361	0.873
-0.887	0.402	0.929	-0.277	-0.291	1.634	0.594	-1.142
-0.664	-1.295	-2.322	-0.928	0.724	1.034	-0.683	0.776
-0.585	-0.235	-0.539	-0.398	-0.237	0.356	-0.132	1.378
-0.064	-0.013	0.114	0.532	-0.087	-0.066	0.582	0.291
0.485	-0.505	-0.528	-0.660	-0.742	1.063	1.795	1.464

RHO = 0.2 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )
1.648	0.573	1.373	1.166
0.012	0.784	-0.349	0.328
-0.839	0.072	0.143	-0.574
1.682	1.122	-0.315	1.218
0.161	-0.282	-0.888	0.443
1.183	-0.657	0.260	-0.120
-0.664	1.080	0.966	-1.432
-0.796	0.175	0.066	-2.294
0.373	-1.289	-0.606	-0.907
0.431	0.331	0.788	0.607



ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

RHO = 0.3

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-2.744	-0.832	1.460	1.589	0.413	1.474	0.021	1.586
1.303	0.650	1.766	0.795	-1.219	-2.518	-0.045	-0.813
-0.488	0.641	-0.338	-0.858	1.977	0.904	-0.229	0.055
0.468	0.965	-1.019	1.082	-0.911	0.560	1.804	0.084
-0.244	-0.457	-0.438	-0.627	-0.799	0.806	-0.609	-0.853
1.964	0.816	-1.761	-0.770	0.400	-0.161	-0.133	0.360
-0.324	-0.103	2.848	2.490	-0.229	0.324	-0.431	-1.229
1.478	0.519	0.226	0.872	-0.599	-0.249	-0.169	0.467
0.957	0.957	0.208	0.631	-1.624	0.430	-0.008	-0.512
0.699	-0.672	0.630	0.601	-0.219	-1.757	0.385	0.668
0.289	-0.476	0.329	-0.081	-0.297	-0.630	-0.652	-0.346
0.314	0.967	1.139	1.485	-0.773	-0.909	-0.785	-0.028
0.358	-1.033	-2.102	-1.536	-0.561	0.320	0.324	-0.223
1.010	0.576	2.441	-0.382	-0.575	-0.356	1.009	0.440
-0.147	-0.452	-0.397	-1.072	-0.728	-1.279	-0.392	0.471
-0.526	-0.278	0.222	-0.869	0.065	1.416	-0.545	-2.028
-0.540	0.222	-0.868	0.072	-0.111	0.203	-1.112	0.038
0.395	-0.484	-0.830	1.132	-2.168	-1.654	1.240	-0.953
-0.133	0.897	2.172	0.442	-0.021	0.258	-0.150	-0.360
-0.540	-0.682	-1.027	-0.493	-0.585	0.728	-1.948	-0.081
0.761	-1.681	0.410	1.063	-0.772	0.404	1.183	-0.461
-0.644	1.545	-1.682	0.240	-0.498	-0.008	-0.422	-0.621
-0.169	1.035	-0.466	0.481	-1.676	0.548	-0.427	1.304
0.771	0.382	0.893	0.324	-1.221	0.816	-1.495	0.660
-0.237	0.016	1.232	1.766	0.954	-0.410	-0.291	-0.634
-2.607	-1.594	1.386	-0.225	-0.066	0.846	-0.478	0.101
-0.755	-1.617	0.191	0.164	-1.194	0.463	0.278	-0.288
0.908	0.733	-0.517	-1.799	0.655	0.045	0.315	1.478
-0.035	1.116	1.098	0.599	0.567	-1.204	1.967	-0.614
-1.996	0.209	-1.128	-0.728	-1.371	-1.626	1.572	0.885
-0.390	0.544	-0.359	0.526	0.926	1.283	0.464	-0.340
0.369	0.044	0.241	-1.873	-0.456	0.104	0.981	1.145
-1.133	-0.562	0.508	-0.856	-1.431	-1.352	0.457	-0.266
1.691	-0.048	-0.723	-0.149	0.087	-0.827	0.229	-1.349
-0.575	0.868	0.385	-1.023	0.184	0.229	-0.368	-0.431
-0.344	-1.058	-1.332	-0.771	-0.055	-0.042	0.003	-0.012
-0.030	1.280	-0.039	0.889	0.458	-0.635	-1.322	0.028
0.952	-0.325	0.101	-1.623	-0.193	0.401	-0.008	0.950
-0.810	-0.972	-0.077	0.016	-0.921	0.434	-1.719	-1.844
1.268	0.561	0.264	0.772	0.360	0.589	2.882	0.135

RHO = 0.3 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-0.228	-0.610	-0.041	0.737	0.735	-0.225	-0.870	0.541
0.289	1.208	-0.156	-0.354	0.290	-2.258	1.361	0.776
-0.595	0.421	-0.245	-0.202	0.112	0.264	0.912	1.066
-0.295	-1.040	-1.471	0.329	1.287	1.668	0.117	0.166
-1.225	0.120	0.001	-0.031	-0.101	-0.450	1.314	-0.307
1.201	0.705	2.006	0.416	1.036	-1.026	-0.162	0.119
-1.430	-0.651	0.382	0.859	1.783	0.701	0.024	0.800
-1.533	-0.519	0.963	1.582	-1.774	0.416	0.209	0.245
-1.522	-2.283	0.586	0.167	1.451	1.171	1.729	1.680
-0.811	0.158	1.087	0.467	0.545	0.370	0.920	-0.802
-0.814	-0.098	-0.698	-1.844	0.592	0.216	0.117	0.141
0.054	0.489	0.066	-0.106	-1.321	-2.349	0.657	1.055
-2.619	-0.158	0.216	0.403	0.891	-0.050	-0.124	0.152
-0.249	0.738	-1.413	0.727	-0.684	-0.308	-1.891	-0.598
0.751	1.453	1.016	0.193	-0.962	-0.918	-1.308	-1.186
-0.033	0.157	0.338	0.910	0.144	1.686	-0.038	-0.239
0.984	0.989	0.389	2.558	-1.281	-1.579	0.254	0.751
1.389	-0.390	-0.994	0.160	-1.150	-1.176	-2.096	-0.659
0.767	-0.087	-0.976	-1.179	1.622	1.036	0.249	0.555
0.705	1.620	0.278	-1.068	-0.879	-0.454	0.623	0.450
-1.212	-1.514	-1.394	-1.272	-0.566	0.320	-1.636	-0.257
-0.398	-0.282	0.843	0.702	-1.354	0.953	-0.194	0.297
-0.267	-0.276	1.825	1.835	-0.157	0.188	0.287	-1.232
-2.232	-1.719	0.388	1.264	-0.888	-0.564	-0.859	1.597
-0.708	0.128	-0.632	-0.674	-1.463	-1.905	0.705	0.508
-0.110	1.280	-1.400	1.180	-0.795	-1.879	0.315	-2.120
0.150	1.160	0.921	0.485	0.203	-0.082	-0.694	-0.198
-0.344	0.799	1.167	1.857	-0.385	-0.224	1.015	-0.396
1.995	0.520	0.173	-1.647	-0.472	-0.049	-1.223	0.019
1.753	-0.146	0.776	-0.150	-0.973	0.848	-0.071	0.351
0.516	0.432	0.811	0.414	-0.800	-0.345	-1.193	-0.185
0.870	-0.585	-1.886	-1.117	0.131	-0.063	-0.255	-0.324
0.400	1.050	-1.478	0.308	-0.094	0.846	-2.919	-0.850
-2.308	0.344	-0.130	0.664	-0.388	1.476	0.150	-0.905
-1.667	1.083	0.995	0.041	-0.666	1.578	0.289	-0.266
-1.092	-0.420	1.731	0.739	-1.841	-0.352	-0.168	-0.176
-0.996	0.684	-0.084	-1.269	0.172	-0.502	-0.883	-1.526
0.206	0.300	0.384	-3.138	0.459	0.332	-1.522	0.517
0.100	1.723	0.972	-0.307	0.107	0.291	-0.748	-1.314
-0.728	1.513	0.517	0.636	0.200	0.381	0.776	0.375



RHO = 0.3 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-0.692	-1.561	0.853	0.681	0.826	1.304	0.384	0.933
-0.205	1.165	-0.184	-0.380	0.069	0.304	-0.588	-1.186
-0.683	1.834	1.244	0.950	-0.983	-0.662	0.197	0.406
0.461	1.425	0.971	0.047	-1.246	1.317	-1.925	-2.405
-0.187	-0.886	-0.166	0.462	0.367	0.568	0.382	1.130
-1.041	-0.605	0.668	-0.330	-2.058	-1.142	1.453	0.689
0.484	-1.527	1.309	0.325	0.565	0.544	-0.376	0.505
-1.025	-1.257	-0.406	-0.647	0.321	-0.841	0.232	0.234
1.018	1.427	-0.641	0.254	-1.704	-1.429	0.012	-0.007
-0.802	-0.267	1.438	0.857	1.578	0.629	1.100	-0.154
1.102	0.907	-0.331	0.705	1.250	-1.433	0.032	-0.744
-0.685	0.064	1.887	-0.273	-0.600	0.366	1.744	2.349
-0.577	0.036	-0.072	0.684	2.113	0.900	-0.427	0.410
1.013	0.899	-0.372	0.043	0.476	0.081	0.853	1.327
-1.331	0.276	1.822	-0.552	-1.427	-0.189	1.921	1.102
0.979	-0.963	-0.652	0.051	1.492	0.388	-1.887	-0.749
-0.472	0.583	-1.959	-0.728	1.318	1.069	-1.235	0.447
-0.098	1.065	-0.264	0.011	1.136	-0.358	-0.787	0.391
0.687	1.217	1.270	-0.150	-0.966	-0.927	-0.208	0.100
-1.531	-1.695	1.478	-0.166	1.097	2.820	-1.161	-0.008
0.834	1.487	-1.803	-2.156	0.410	0.902	-1.311	0.730
0.367	0.151	1.263	1.088	-0.940	-0.608	-2.321	-1.083
-0.345	-2.815	-1.489	0.632	0.133	-0.106	0.144	-0.370
1.284	2.149	0.778	-1.742	0.714	-0.649	-0.579	-1.073
-2.161	-1.287	0.898	-0.110	0.890	0.374	-2.155	1.287
-1.093	0.446	-0.291	-0.461	-1.254	-0.749	0.752	-0.314
0.074	-0.453	1.046	1.657	-1.631	-0.205	-0.522	1.029
-0.076	2.472	2.746	0.313	0.844	-1.761	1.359	-1.107
0.045	0.358	1.643	-0.235	-0.743	-1.089	-0.268	0.782
0.023	0.914	-0.426	-0.902	-0.305	0.500	-0.069	0.626
-1.558	-0.854	-1.624	0.254	0.243	0.247	-0.707	-1.455
-0.110	1.402	0.883	-0.245	0.987	0.765	1.154	1.224
1.951	-0.474	-1.068	-0.594	-0.987	-0.051	-0.150	-1.658
0.213	0.982	-0.642	0.746	1.407	1.557	-0.283	1.656
0.261	0.969	-1.001	-0.552	0.255	0.078	-1.910	-0.164
0.680	0.218	-0.311	-0.636	-0.358	-0.676	0.306	-0.784
1.058	0.713	-1.736	-0.968	1.656	-0.356	-0.300	1.573
-1.021	-0.930	0.561	-0.313	0.381	-0.058	-0.391	-0.713
0.030	0.982	0.416	-0.079	1.904	-0.138	1.368	1.307
0.796	-1.052	-0.336	-1.185	-0.690	0.867	0.314	-1.436

RHO = 0.3 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-1.136	-0.877	-0.859	0.876	-1.686	0.639	-0.781	-0.040
1.820	0.167	0.683	-0.536	0.118	0.044	-0.893	0.524
1.249	0.712	0.127	0.445	-0.309	1.285	0.628	-1.024
0.737	0.127	1.308	1.596	2.491	0.898	-0.322	0.251
-0.129	1.351	0.061	-0.756	-0.395	-0.254	-0.406	0.543
-0.764	0.945	0.224	-0.251	0.118	0.281	0.712	0.869
1.418	0.840	0.632	1.295	-0.884	-0.201	-0.631	0.093
-0.997	-0.034	0.120	1.110	1.685	0.504	-1.101	-1.775
-1.422	-0.452	0.526	2.092	-1.089	1.353	1.638	-0.257
-1.273	0.316	-1.316	-1.038	-1.120	-0.273	0.924	0.704
0.037	-1.170	1.431	0.888	0.678	0.800	1.091	-0.492
0.094	-0.661	-0.398	1.746	1.391	-0.394	1.470	1.645
-1.515	0.964	0.034	1.162	0.105	0.364	0.414	-2.010
-1.207	2.122	-1.437	0.237	0.905	1.163	0.242	-0.299
-0.393	-0.274	0.024	-0.093	-0.122	0.553	-1.705	-1.689
1.511	-2.029	1.253	-2.247	0.110	0.137	0.909	0.452
1.092	1.756	0.087	-0.709	0.686	0.321	-1.579	-0.628
-0.065	-1.596	1.360	1.640	-1.307	-1.001	0.160	-0.257
0.627	-0.615	-0.089	-2.031	0.216	0.584	-1.520	0.181
0.753	-1.548	-0.427	-0.594	-1.658	-0.136	-1.301	0.343
1.899	2.006	0.183	-0.335	-1.845	0.951	-1.841	-2.515
-0.348	0.338	1.577	-0.864	0.743	-1.829	0.197	1.154
-0.403	-0.858	1.591	0.471	0.192	-0.032	0.147	-0.578
-0.680	-0.199	0.061	-0.708	-0.414	1.267	0.346	0.584
0.407	0.132	-0.177	0.704	0.012	0.212	0.129	0.587
0.444	-0.389	-0.287	0.983	0.557	1.022	-1.166	-0.806
0.017	0.523	-0.434	-0.436	-0.695	-0.970	-0.205	-0.722
0.712	1.638	-0.781	-0.300	0.343	-0.042	-0.651	-0.299
0.115	-0.431	-0.493	0.174	-0.243	-0.508	-2.169	0.527
-0.189	-1.189	0.267	2.330	-1.368	-1.362	-0.422	-0.796
2.387	0.340	0.335	1.489	-0.944	-0.348	-1.075	-0.280
-0.571	1.834	1.545	0.550	-0.887	0.732	-0.792	0.175
0.523	0.645	0.736	0.910	0.889	0.319	-0.236	-1.575
1.254	1.374	-0.259	0.698	0.471	1.732	-0.072	0.912
2.208	-0.372	0.397	-1.003	0.944	0.853	-0.964	-1.186
-1.028	0.009	-0.459	-0.887	-1.605	-1.860	0.424	-0.229
-1.869	-0.077	-0.992	1.083	-0.091	0.211	-1.572	-0.814
1.271	1.956	0.633	1.128	0.572	3.409	0.384	0.175
-0.021	-0.032	0.254	0.345	1.471	0.152	-0.372	0.703
-0.161	1.560	-0.295	-0.274	0.690	1.993	-0.504	-2.083

RHO = 0.3 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
0.439	2.040	-0.176	-0.994	1.317	1.949	0.324	1.420
2.364	-0.123	0.445	-0.469	0.436	-0.176	1.447	-0.472
-0.800	0.024	-1.596	0.791	0.135	-1.170	0.202	1.898
-1.468	-0.763	-0.461	0.206	1.498	-0.982	-1.075	0.608
-0.052	-1.455	0.684	0.130	-0.388	-1.363	-0.049	-0.816
-0.968	-0.313	-1.325	0.051	-0.437	-0.109	0.617	0.605
1.371	0.725	0.349	-0.400	-1.564	-1.232	1.258	1.118
-0.449	-0.365	1.541	0.828	-0.682	-0.265	-0.790	-0.113
0.157	0.503	0.088	0.664	0.295	0.033	-0.190	0.384
-0.225	0.598	0.824	0.045	-0.548	-2.142	-0.608	0.518
-2.008	-0.958	-0.413	0.069	-0.124	-0.415	1.294	-0.656
0.394	-1.333	1.212	-0.236	-0.348	-0.407	-1.148	1.504
0.566	0.611	0.535	-1.025	-0.134	-0.160	0.400	0.876
0.094	0.782	-1.607	2.209	-1.396	0.431	0.275	-0.461
0.564	-0.143	-1.380	2.470	-1.047	2.015	0.813	-0.889
-0.438	-0.780	1.052	2.056	-0.003	-0.727	1.350	-0.645
-0.325	0.803	-0.473	1.467	-1.176	1.548	0.221	-0.266
0.487	-0.087	-0.120	0.031	-0.481	-0.703	-0.237	1.866
1.586	1.396	1.946	-0.909	0.167	1.209	0.312	0.092
-0.444	0.614	0.562	0.401	-0.144	-0.898	2.204	0.197
-0.016	0.398	2.563	-0.226	0.670	0.959	-0.226	1.400
-0.544	-1.983	-0.214	0.923	-0.304	1.814	-0.641	-0.160
0.558	0.171	2.066	1.515	0.020	0.408	-1.706	-0.548
-1.125	-1.893	1.240	1.449	-1.273	1.316	-1.085	-0.057
-1.006	0.078	0.143	0.108	-0.096	-0.237	0.559	0.124
0.500	-0.516	-0.389	1.043	0.636	0.324	2.560	-1.196
0.980	1.525	1.480	0.475	-0.990	-1.668	-0.744	0.925
1.019	-0.098	-0.413	-0.142	-0.889	1.416	0.982	-1.897
1.204	-0.239	-0.234	0.426	0.026	-0.514	0.074	-1.506
-0.881	-0.376	-0.145	1.017	-1.161	-0.023	-0.132	0.200
-0.648	0.115	-0.312	0.114	0.638	-0.630	-1.300	-0.176
-1.512	-1.497	1.103	-0.339	0.508	0.685	-1.094	-1.972
-0.887	-1.372	-1.066	0.456	0.535	0.455	-0.178	-1.608
-0.186	0.265	0.018	1.173	0.805	0.340	-0.217	0.379
0.175	-0.324	-0.810	-0.249	1.404	0.087	0.126	-0.417
-2.217	-0.800	0.288	-0.314	-1.583	-1.751	-0.814	0.237
-1.776	-1.194	-0.855	0.169	-1.068	-1.418	-0.700	0.143
0.083	-0.775	-0.400	0.884	0.033	-0.063	-0.196	-0.935
1.948	-0.720	0.486	-0.942	-0.193	-1.398	2.033	1.182
-1.598	-0.544	0.642	0.506	1.339	-0.957	-1.677	0.341

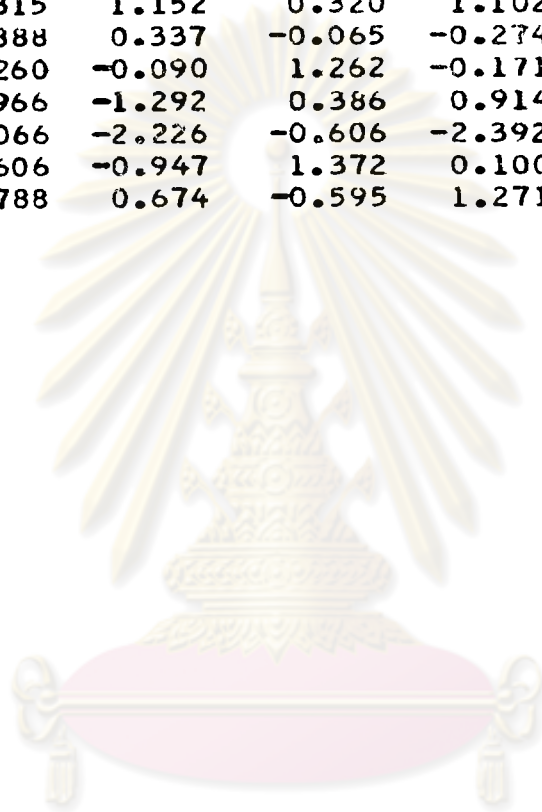


RHG = 0.3 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-0.966	-0.032	-1.099	-0.405	-1.284	-1.744	0.011	-0.093
1.428	1.248	-0.899	-0.178	-0.976	0.952	-1.569	-0.850
-1.829	-0.637	-0.924	-0.929	0.348	0.558	-0.079	-0.066
-0.153	0.554	-0.336	-1.013	-0.226	-0.260	1.816	-0.486
0.045	0.234	-0.300	0.612	-0.611	-1.152	-0.548	0.271
0.348	0.036	-0.980	-0.431	-0.723	-0.460	0.165	-0.403
1.344	2.244	0.460	0.009	-0.474	0.612	-1.709	0.526
-0.383	0.311	-0.144	0.170	1.221	1.159	0.166	0.152
0.755	-0.070	1.044	-0.267	-2.551	-1.167	0.125	-0.400
-0.657	-0.321	-2.141	-0.803	-1.706	0.199	-1.494	0.842
-2.033	-0.420	0.138	0.999	-1.157	-0.310	0.642	1.625
3.213	3.717	-0.283	-0.686	2.182	0.820	1.872	0.512
0.666	0.338	0.431	-0.454	0.396	-0.017	-0.470	-0.470
-0.086	0.149	0.117	-1.374	0.573	-0.015	0.952	0.841
-0.459	-0.887	-0.390	1.060	0.797	1.883	0.475	-0.152
1.133	0.768	-1.254	0.560	1.154	2.564	-0.566	-1.178
0.277	-0.778	-0.638	0.025	-1.268	-0.074	1.166	0.633
-0.441	1.174	-1.707	0.853	0.614	-1.320	1.006	0.985
-0.436	1.279	0.376	0.165	0.888	-0.362	1.289	0.539
-0.121	0.568	1.445	0.013	0.640	-0.012	0.353	-0.285
1.089	0.370	0.338	-0.466	0.955	0.734	-0.467	-0.171
1.780	-0.489	-0.111	0.018	-0.081	0.073	-1.835	-2.217
-0.462	0.327	1.935	1.502	1.618	0.861	0.585	0.564
-0.050	0.881	-0.687	0.368	0.138	0.096	1.129	0.712
-0.400	0.350	0.857	0.662	0.565	-0.019	1.132	-1.410
1.076	-0.290	1.403	0.319	-1.014	-0.934	-0.069	0.640
-0.038	0.700	-0.211	-0.571	-0.515	0.209	-2.138	-1.660
-0.154	0.782	0.849	2.746	-0.851	-2.509	2.261	-0.423
-0.688	0.686	0.420	2.782	0.064	-0.153	0.463	-0.440
0.947	-0.518	1.337	0.828	0.316	0.703	-0.196	-0.501
1.337	1.116	1.437	0.489	-1.010	-1.445	-0.379	-0.843
1.067	-0.712	-2.445	-0.651	0.173	1.032	0.249	0.507
0.724	-0.855	1.527	1.398	0.950	0.305	-0.976	-0.151
0.893	0.109	0.189	0.265	0.408	0.594	-0.717	0.055
0.161	0.050	-0.622	0.047	-1.368	0.696	0.361	0.888
-0.887	0.298	0.929	-0.172	-0.291	1.560	0.594	-1.049
-0.664	-1.331	-2.322	-1.148	0.724	1.083	-0.683	0.684
-0.585	-0.291	-0.539	-0.444	-0.237	0.322	-0.132	1.327
-0.064	-0.020	0.114	0.530	-0.087	-0.073	0.582	0.344
0.485	-0.441	-0.528	-0.698	-0.742	0.957	1.795	1.014

RHO = 0.3 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )
1.648	0.731	1.373	1.280
0.012	0.764	-0.349	0.283
-0.839	-0.018	0.143	-0.544
1.682	1.270	-0.315	1.152
0.161	-0.258	-0.888	0.337
1.183	-0.515	0.260	-0.090
-0.664	0.982	0.966	-1.292
-0.796	0.087	0.066	-2.226
0.373	-1.216	-0.606	-0.947
0.431	0.368	0.788	0.674



ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

RHO = 0.4

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-2.744	-1.106	1.460	1.690	0.413	1.462	0.021	1.526
1.303	0.770	1.766	0.961	-1.219	-2.556	-0.045	-0.787
-0.488	0.562	-0.338	-0.862	1.977	1.090	-0.229	0.027
0.468	0.979	-1.019	0.925	-0.911	0.436	1.804	0.283
-0.244	-0.466	-0.438	-0.651	-0.799	0.685	-0.609	-0.888
1.964	1.003	-1.761	-0.936	0.400	-0.110	-0.133	0.331
-0.324	-0.135	2.848	2.710	-0.229	0.286	-0.431	-1.229
1.478	0.664	0.226	0.863	-0.599	-0.306	-0.169	0.430
0.957	1.027	0.208	0.629	-1.624	0.232	-0.008	-0.492
0.699	-0.568	0.630	0.648	-0.219	-1.713	0.385	0.685
0.289	-0.425	0.329	-0.041	-0.297	-0.639	-0.652	-0.405
0.314	0.965	1.139	1.554	-0.773	-0.959	-0.785	-0.115
0.358	-0.953	-2.102	-1.710	-0.561	0.245	0.324	-0.178
1.010	0.666	2.441	-0.094	-0.575	-0.406	1.009	0.535
-0.147	-0.451	-0.397	-1.074	-0.728	-1.311	-0.392	0.409
-0.526	-0.326	0.222	-0.810	0.065	1.368	-0.545	-2.009
-0.540	0.153	-0.868	-0.028	-0.111	0.182	-1.112	-0.088
0.395	-0.421	-0.830	0.995	-2.168	-1.831	1.240	-0.777
-0.133	0.847	2.172	0.667	-0.021	0.246	-0.150	-0.363
-0.540	-0.715	-1.027	-0.589	-0.585	0.634	-1.948	-0.296
0.761	-1.530	0.410	1.067	-0.772	0.302	1.183	-0.311
-0.644	1.413	-1.682	0.042	-0.498	-0.064	-0.422	-0.644
-0.169	0.976	-0.466	0.410	-1.676	0.339	-0.427	1.205
0.771	0.453	0.893	0.411	-1.221	0.647	-1.495	0.467
-0.237	-0.011	1.232	1.834	0.954	-0.287	-0.291	-0.641
-2.607	-1.823	1.386	-0.062	-0.066	0.805	-0.478	0.043
-0.755	-1.638	0.191	0.179	-1.194	0.311	0.278	-0.246
0.908	0.805	-0.517	-1.786	0.655	0.116	0.315	1.455
-0.035	1.068	1.098	0.698	0.567	-1.093	1.967	-0.370
-1.996	-0.022	-1.128	-0.825	-1.371	-1.715	1.572	1.026
-0.390	0.479	-0.359	0.465	0.926	1.337	0.464	-0.275
0.369	0.083	0.241	-1.773	-0.456	0.049	0.981	1.210
-1.133	-0.666	0.508	-0.766	-1.431	-1.459	0.457	-0.205
1.691	0.143	-0.723	-0.224	0.087	-0.785	0.229	-1.270
-0.575	0.770	0.385	-0.939	0.184	0.240	-0.368	-0.455
-0.344	-1.055	-1.332	-0.890	-0.055	-0.046	0.003	-0.011
-0.030	1.226	-0.039	0.849	0.458	-0.559	-1.322	-0.121
0.952	-0.205	0.101	-1.548	-0.193	0.421	-0.008	0.911
-0.810	-1.024	-0.077	0.006	-0.921	0.314	-1.719	-1.963
1.268	0.681	0.264	0.771	0.360	0.606	2.882	0.452

RHO = 0.4 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-0.228	-0.611	-0.041	0.703	0.735	-0.134	-0.870	0.422
0.289	1.193	-0.156	-0.358	0.290	-2.137	1.361	0.898
-0.595	0.338	-0.245	-0.222	0.112	0.267	0.912	1.126
-0.295	-1.032	-1.471	0.152	1.287	1.747	0.117	0.172
-1.225	-0.022	0.001	-0.030	-0.101	-0.444	1.314	-0.148
1.201	0.812	2.006	0.623	1.036	-0.869	-0.162	0.096
-1.430	-0.785	0.382	0.868	1.783	0.872	0.024	0.771
-1.533	-0.670	0.963	1.627	-1.774	0.201	0.209	0.259
-1.522	-2.363	0.586	0.226	1.451	1.287	1.729	1.807
-0.811	0.061	1.087	0.570	0.545	0.416	0.920	-0.668
-0.814	-0.185	-0.698	-1.850	0.592	0.273	0.117	0.148
0.054	0.476	0.066	-0.094	-1.321	-2.404	0.657	1.087
-2.619	-0.445	0.216	0.411	0.891	0.052	-0.124	0.132
-0.249	0.681	-1.413	0.540	-0.684	-0.372	-1.891	-0.786
0.751	1.480	1.016	0.299	-0.962	-0.989	-1.308	-1.286
-0.033	0.147	0.338	0.912	0.144	1.636	-0.038	-0.234
0.984	1.060	0.389	2.502	-1.281	-1.660	0.254	0.750
1.389	-0.219	-0.994	0.043	-1.150	-1.259	-2.096	-0.868
0.767	0.002	-0.976	-1.242	1.622	1.177	0.249	0.561
0.705	1.635	0.278	-0.995	-0.879	-0.534	0.623	0.502
-1.212	-1.591	-1.394	-1.377	-0.566	0.244	-1.636	-0.430
-0.398	-0.316	0.843	0.769	-1.354	0.764	-0.194	0.263
-0.267	-0.295	1.825	1.967	-0.157	0.163	0.287	-1.152
-2.232	-1.901	0.388	1.258	-0.888	-0.641	-0.859	1.438
-0.708	0.044	-0.632	-0.719	-1.463	-1.994	0.705	0.567
-0.110	1.218	-1.400	0.977	-0.795	-1.894	0.315	-2.001
0.150	1.131	0.921	0.569	0.203	-0.056	-0.694	-0.268
-0.344	0.729	1.167	1.914	-0.385	-0.258	1.015	-0.267
1.995	0.723	0.173	-1.563	-0.472	-0.100	-1.223	-0.118
1.753	0.056	0.776	-0.057	-0.973	0.706	-0.071	0.329
0.516	0.473	0.811	0.489	-0.800	-0.421	-1.193	-0.311
0.870	-0.465	-1.886	-1.284	0.131	-0.045	-0.255	-0.340
0.400	1.054	-1.478	0.130	-0.094	0.802	-2.919	-1.142
-2.308	0.073	-0.130	0.623	-0.388	1.375	0.150	-0.853
-1.667	0.854	0.995	0.151	-0.666	1.442	0.289	-0.223
-1.092	-0.526	1.731	0.903	-1.841	-0.544	-0.168	-0.188
-0.996	0.545	-0.084	-1.229	0.172	-0.463	-0.883	-1.565
0.206	0.311	0.384	-2.972	0.459	0.370	-1.522	0.327
0.100	1.667	0.972	-0.186	0.107	0.292	-0.748	-1.346
-0.728	1.372	0.517	0.669	0.200	0.388	0.776	0.447

RHO = 0.4 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-0.692	-1.577	0.853	0.750	0.826	1.346	0.384	0.939
-0.205	1.096	-0.184	-0.386	0.069	0.300	-0.588	-1.205
-0.683	1.686	1.244	1.052	-0.983	-0.746	0.197	0.412
0.461	1.421	0.971	0.154	-1.246	1.126	-1.925	-2.526
-0.187	-0.872	-0.166	0.425	0.367	0.587	0.382	1.128
-1.041	-0.698	0.668	-0.242	-2.058	-1.327	1.453	0.824
0.484	-1.413	1.309	0.458	0.565	0.585	-0.376	0.443
-1.025	-1.322	-0.406	-0.667	0.321	-0.772	0.232	0.251
1.018	1.485	-0.641	0.172	-1.704	-1.503	0.612	0.062
-0.802	-0.346	1.438	0.984	1.578	0.780	1.100	-0.025
1.102	0.994	-0.331	0.640	1.250	-1.237	0.032	-0.711
-0.685	-0.015	1.887	-0.051	-0.600	0.285	1.744	2.452
-0.577	-0.030	-0.072	0.650	2.113	1.101	-0.427	0.346
1.013	0.977	-0.372	-0.000	0.476	0.131	0.853	1.371
-1.331	0.117	1.822	-0.327	-1.427	-0.341	1.921	1.273
0.979	-0.815	-0.652	-0.024	1.492	0.539	-1.887	-0.930
-0.472	0.507	-1.959	-0.918	1.318	1.174	-1.235	0.291
-0.098	1.013	-0.264	-0.019	1.136	-0.217	-0.787	0.287
0.687	1.246	1.270	-0.002	-0.966	-0.999	-0.208	0.073
-1.531	-1.799	1.478	0.006	1.097	2.832	-1.161	-0.138
0.834	1.521	-1.803	-2.272	0.410	0.912	-1.311	0.555
0.367	0.186	1.263	1.187	-0.940	-0.689	-2.321	-1.300
-0.345	-2.743	-1.489	0.441	0.133	-0.087	0.144	-0.339
1.284	2.209	0.778	-1.586	0.714	-0.544	-0.579	-1.095
-2.161	-1.478	0.898	-0.006	0.890	0.459	-2.155	0.995
-1.093	0.306	-0.291	-0.476	-1.254	-0.860	0.752	-0.217
0.074	-0.427	1.046	1.709	-1.631	-0.379	-0.522	0.930
-0.076	2.367	2.746	0.608	0.844	-1.598	1.359	-0.911
0.045	0.349	1.643	-0.042	-0.743	-1.129	-0.268	0.721
0.023	0.881	-0.426	-0.915	-0.305	0.446	-0.069	0.594
-1.558	-0.995	-1.624	0.062	0.243	0.265	-0.707	-1.477
-0.110	1.334	0.883	-0.137	0.987	0.845	1.154	1.305
1.951	-0.237	-1.068	-0.690	-0.987	-0.159	-0.150	-1.609
0.213	0.968	-0.642	0.645	1.407	1.653	-0.283	1.560
0.261	0.960	-1.001	-0.642	0.255	0.104	-1.910	-0.371
0.680	0.285	-0.311	-0.646	-0.358	-0.690	0.306	-0.719
1.058	0.803	-1.736	-1.124	1.656	-0.157	-0.300	1.478
-1.021	-1.007	0.561	-0.238	0.381	-0.013	-0.391	-0.728
0.030	0.947	0.416	-0.030	1.904	0.080	1.368	1.409
0.796	-0.922	-0.336	-1.176	-0.690	0.756	0.314	-1.345



RHO = 0.4 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-1.136	-0.970	-0.859	0.746	1.686	0.803	0.781	0.043
1.820	0.364	0.683	-0.439	0.118	0.056	-0.893	0.403
1.249	0.824	0.127	0.442	-0.309	1.200	0.628	-0.914
0.737	0.205	1.308	1.679	2.491	1.141	-0.322	0.205
-0.129	1.284	0.061	-0.720	-0.395	-0.288	-0.406	0.476
-0.764	0.822	0.224	-0.216	0.118	0.284	0.712	0.914
1.418	0.965	0.632	1.315	-0.884	-0.292	-0.631	0.019
-0.997	-0.144	0.120	1.080	1.685	0.673	-1.101	-1.829
-1.422	-0.593	0.526	2.068	-1.089	1.178	1.638	-0.064
-1.273	0.161	-1.316	-1.144	-1.120	-0.387	0.924	0.779
0.037	-1.120	1.431	1.013	0.678	0.845	1.091	-0.350
0.094	-0.625	-0.398	1.633	1.391	-0.223	1.476	1.745
-1.515	0.757	0.034	1.121	0.105	0.361	0.414	-1.885
-1.207	1.903	-1.437	0.067	0.905	1.218	0.242	-0.260
-0.393	-0.307	0.024	-0.087	-0.122	0.517	-1.705	-1.813
1.511	-1.780	1.253	-2.019	0.110	0.144	0.909	0.536
1.092	1.810	0.087	-0.672	0.686	0.385	-1.579	-0.780
-0.065	-1.540	1.360	1.728	-1.307	-1.108	0.166	-0.229
0.627	-0.521	-0.089	-1.962	0.216	0.586	-1.520	0.004
0.753	-1.403	-0.427	-0.619	-1.658	-0.316	-1.301	0.184
1.899	2.140	0.183	-0.302	-1.845	0.708	-1.841	-2.622
-0.348	0.286	1.577	-0.654	0.743	-1.674	0.197	1.131
-0.403	-0.870	1.591	0.631	0.192	-0.009	0.147	-0.538
-0.680	-0.267	0.061	-0.673	-0.414	1.171	0.346	0.600
0.407	0.172	-0.177	0.657	0.012	0.205	0.129	0.578
0.444	-0.324	-0.287	0.912	0.557	1.044	-1.166	-0.905
0.017	0.505	-0.434	-0.467	-0.695	-1.009	-0.205	-0.717
0.712	1.653	-0.781	-0.375	0.343	-0.002	-0.651	-0.360
0.115	-0.401	-0.493	0.112	-0.243	-0.515	-2.169	0.264
-0.189	-1.163	0.267	2.269	-1.368	-1.462	-0.422	-0.812
2.387	0.594	0.335	1.468	-0.944	-0.440	-1.075	-0.389
-0.571	1.698	1.545	0.701	-0.887	0.604	-0.792	0.080
0.523	0.678	0.736	0.956	0.889	0.406	-0.236	-1.539
1.254	1.460	-0.259	0.642	0.471	1.717	-0.072	0.869
2.208	-0.110	0.397	-0.919	0.944	0.926	-0.964	-1.247
-1.028	-0.106	-0.459	-0.903	-1.605	-1.967	0.424	-0.172
-1.869	-0.283	-0.992	0.930	-0.091	0.192	-1.572	-0.958
1.271	2.021	0.633	1.154	0.572	3.339	0.384	0.211
-0.021	-0.033	0.254	0.360	1.471	0.311	-0.372	0.634
-0.161	1.481	-0.295	-0.296	0.690	1.992	-0.504	-2.058

RHO = 0.4 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
0.439	2.009	-0.176	-0.974	1.317	2.020	0.324	1.400
2.364	0.146	0.445	-0.401	0.436	-0.120	1.447	-0.292
-0.800	-0.066	-1.596	0.582	0.135	-1.109	0.202	1.846
-1.468	-0.897	-0.461	0.147	1.498	-0.776	-1.075	0.464
-0.052	-1.404	0.684	0.201	-0.388	-1.353	-0.049	-0.789
-0.968	-0.409	-1.325	-0.099	-0.437	-0.154	0.617	0.650
1.371	0.850	0.349	-0.345	-1.564	-1.358	1.258	1.215
-0.449	-0.401	1.541	0.968	-0.682	-0.331	-0.790	-0.197
0.157	0.501	0.088	0.648	0.295	0.064	-0.190	0.348
-0.225	0.549	0.824	0.135	-0.548	-2.119	-0.608	0.429
-2.008	-1.145	-0.413	0.020	-0.124	-0.413	1.294	-0.486
0.394	-1.237	1.212	-0.091	-0.348	-0.430	-1.148	1.317
0.566	0.650	0.535	-0.925	-0.134	-0.168	0.400	0.886
0.094	0.762	-1.607	1.942	-1.396	0.258	0.275	-0.412
0.564	-0.075	-1.380	2.219	-1.047	1.819	0.813	-0.763
-0.438	-0.798	1.052	2.093	-0.003	-0.699	1.350	-0.469
-0.325	0.735	-0.473	1.357	-1.176	1.356	0.221	-0.231
0.487	-0.030	-0.120	0.016	-0.481	-0.729	-0.237	1.767
1.586	1.518	1.946	-0.656	0.167	1.180	0.312	0.123
-0.444	0.540	0.562	0.449	-0.144	-0.879	2.204	0.436
-0.016	0.381	2.563	0.069	0.670	0.997	-0.226	1.320
-0.544	-1.966	-0.214	0.863	-0.304	1.709	-0.641	-0.225
0.558	0.227	2.066	1.687	0.020	0.394	-1.706	-0.718
-1.125	-1.945	1.240	1.531	-1.273	1.122	-1.085	-0.176
-1.006	-0.038	0.143	0.120	-0.096	-0.238	0.559	0.181
0.500	-0.440	-0.389	0.958	0.636	0.382	2.560	-0.863
0.980	1.575	1.480	0.622	-0.990	-1.713	-0.744	0.806
1.019	0.020	-0.413	-0.183	-0.889	1.261	0.982	-1.713
1.204	-0.096	-0.234	0.383	0.026	-0.491	0.074	-1.439
-0.881	-0.460	-0.145	0.961	-1.161	-0.151	-0.132	0.178
-0.648	0.038	-0.312	0.075	0.638	-0.534	-1.300	-0.314
-1.512	-1.607	1.103	-0.203	0.508	0.715	-1.094	-2.017
-0.887	-1.418	-1.066	0.319	0.535	0.497	-0.178	-1.565
-0.186	0.233	0.018	1.129	0.805	0.416	-0.217	0.339
0.175	-0.292	-0.810	-0.330	1.404	0.241	0.126	-0.387
-2.217	-1.017	0.288	-0.270	-1.583	-1.859	-0.814	0.137
-1.776	-1.346	-0.855	0.067	-1.068	-1.481	-0.700	0.060
0.083	-0.735	-0.400	0.805	0.033	-0.056	-0.196	-0.920
1.948	-0.474	0.486	-0.850	-0.193	-1.364	2.033	1.363
-1.598	-0.701	0.642	0.558	1.339	-0.770	-1.677	0.141

RHO = 0.4 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-0.966	-0.138	-1.099	-0.512	-1.284	-1.819	0.011	-0.088
1.428	1.358	-0.899	-0.271	-0.976	0.805	-1.569	-0.992
-1.829	-0.816	-0.924	-0.995	0.348	0.575	-0.079	-0.072
-0.153	0.515	-0.336	-1.011	-0.226	-0.275	1.816	-0.264
0.045	0.230	-0.300	0.555	-0.611	-1.175	-0.548	0.199
0.348	0.074	-0.980	-0.524	-0.723	-0.523	0.165	-0.369
1.344	2.306	0.460	0.061	-0.474	0.535	-1.709	0.315
-0.383	0.256	-0.144	0.147	1.221	1.250	0.166	0.165
0.755	0.018	1.044	-0.140	-2.551	-1.406	0.125	-0.370
-0.657	-0.382	-2.141	-1.010	-1.706	0.000	-1.494	0.642
-2.033	-0.631	-0.138	0.976	-1.157	-0.427	0.642	1.033
3.213	3.931	-0.283	-0.691	2.182	1.032	1.872	0.701
0.666	0.399	0.431	-0.388	0.396	0.028	-0.470	-0.504
-0.086	0.134	0.117	-1.307	0.573	0.050	0.952	0.915
-0.459	-0.903	-0.390	0.975	0.797	1.898	0.475	-0.093
1.133	0.865	-1.254	0.398	1.154	2.593	-0.566	-1.195
0.277	-0.717	-0.638	-0.047	-1.268	-0.213	1.166	0.739
-0.441	1.079	-1.707	0.629	0.614	-1.199	1.006	1.058
-0.436	1.180	0.376	0.200	0.888	-0.248	1.289	0.662
-0.121	0.532	1.445	0.174	0.640	0.060	0.353	-0.234
1.089	0.478	0.338	-0.410	0.955	0.812	-0.467	-0.217
1.780	-0.271	-0.111	0.005	-0.081	0.061	-1.835	-2.335
-0.462	0.263	1.935	1.659	1.618	1.008	0.585	0.607
-0.050	0.841	-0.687	0.277	0.138	0.108	1.129	0.810
-0.400	0.291	0.857	0.732	0.565	0.045	1.132	-1.228
1.076	-0.159	1.403	0.463	-1.014	-1.011	-0.069	0.607
-0.038	0.668	-0.211	-0.572	-0.515	0.144	-2.138	-1.834
-0.154	0.734	0.849	2.733	-0.851	-2.506	2.261	-0.154
-0.688	0.582	0.420	2.720	0.064	-0.140	0.463	-0.371
0.947	-0.392	1.337	0.945	0.316	0.711	-0.196	-0.504
1.337	1.222	1.437	0.631	-1.010	-1.501	-0.379	-0.852
1.067	-0.565	-2.445	-0.899	0.173	1.011	0.249	0.515
0.724	-0.741	1.527	1.514	0.950	0.399	-0.976	-0.254
0.893	0.204	0.189	0.275	0.408	0.617	-0.717	-0.028
0.161	0.066	-0.622	-0.024	-1.368	0.516	0.361	0.894
-0.987	0.187	0.929	-0.061	-0.291	1.466	0.594	-0.941
-0.664	-1.353	-2.322	-1.362	0.724	1.121	-0.683	0.581
-0.585	-0.345	-0.539	-0.487	-0.237	0.283	-0.132	1.261
-0.064	-0.026	0.114	0.522	-0.087	-0.080	0.582	0.396
0.485	-0.369	-0.528	-0.729	-0.742	0.836	1.795	1.752



RHO = 0.4 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
1.648	0.886	1.373	1.383	-0.115	-0.066	-0.158	-1.673
0.012	0.735	-0.349	0.233	0.881	1.166	-0.940	-0.847
-0.839	-0.111	0.143	-0.506	0.330	-0.164	0.785	1.062
1.682	1.408	-0.315	1.072	0.320	1.095	0.352	1.237
0.161	-0.229	-0.888	0.225	-0.065	-0.270	0.098	-0.342
1.183	-0.363	0.260	-0.057	1.262	-0.023	-0.641	-0.309
-0.664	0.869	0.966	-1.134	0.386	0.921	0.469	-0.515
-0.796	-0.006	0.066	-2.132	-0.606	-2.366	-0.234	-0.628
0.373	-1.126	-0.606	-0.978	1.372	0.250	-1.414	-0.151
0.431	0.401	0.788	0.735	-0.595	1.155	-0.737	1.816



ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

RHO = 0.5

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-2.744	-1.380	1.460	1.775	0.413	1.432	0.021	1.445
1.303	0.887	1.766	1.124	-1.219	-2.564	-0.045	-0.749
-0.488	0.471	-0.338	-0.856	1.977	1.271	-0.229	-0.003
0.468	0.982	-1.019	0.750	-0.911	0.300	1.804	0.487
-0.244	-0.470	-0.438	-0.669	-0.799	0.549	-0.609	-0.913
1.964	1.188	-1.761	-1.100	0.400	-0.055	-0.133	0.296
-0.324	-0.167	2.848	2.909	-0.229	0.242	-0.431	-1.214
1.478	0.807	0.226	0.843	-0.599	-0.362	-0.169	0.386
0.957	1.087	0.208	0.620	-1.624	0.021	-0.008	-0.466
0.699	-0.451	0.630	0.689	-0.219	-1.645	0.385	0.694
0.289	-0.367	0.329	0.002	-0.297	-0.640	-0.652	-0.462
0.314	0.950	1.139	1.608	-0.773	-1.001	-0.785	-0.204
0.358	-0.857	-2.102	-1.872	-0.561	0.163	0.324	-0.129
1.010	0.752	2.441	0.209	-0.575	-0.454	1.009	0.629
-0.147	-0.444	-0.397	-1.064	-0.728	-1.327	-0.392	0.339
-0.526	-0.372	0.222	-0.738	0.065	1.300	-0.545	-1.965
-0.540	0.078	-0.868	-0.133	-0.111	0.159	-1.112	-0.218
0.395	-0.350	-0.830	0.839	-2.168	-1.995	1.240	-0.583
-0.133	0.784	2.172	0.896	-0.021	0.230	-0.150	-0.361
-0.540	-0.742	-1.027	-0.682	-0.585	0.528	-1.948	-0.517
0.761	-1.353	0.410	1.058	-0.772	0.191	1.183	-0.150
-0.644	1.256	-1.682	-0.165	-0.498	-0.121	-0.422	-0.660
-0.169	0.902	-0.466	0.331	-1.676	0.116	-0.427	1.086
0.771	0.522	0.893	0.497	-1.221	0.463	-1.495	0.259
-0.237	-0.040	1.232	1.884	0.954	-0.155	-0.291	-0.642
-2.607	-2.041	1.386	0.111	-0.060	0.753	-0.478	-0.018
-0.755	-1.640	0.191	0.192	-1.194	0.148	0.278	-0.199
0.908	0.872	-0.517	-1.751	0.655	0.190	0.315	1.414
-0.035	1.005	1.098	0.794	0.567	-0.964	1.967	-0.109
-1.996	-0.264	-1.128	-0.918	-1.371	-1.788	1.572	1.161
-0.390	0.405	-0.359	0.396	0.926	1.370	0.464	-0.203
0.369	0.124	0.241	-1.646	-0.456	-0.009	0.981	1.263
-1.133	-0.768	0.508	-0.662	-1.431	-1.553	0.457	-0.138
1.691	0.341	-0.723	-0.300	0.087	-0.731	0.229	-1.173
-0.575	0.657	0.385	-0.841	0.184	0.250	-0.368	-0.475
-0.344	-1.039	-1.332	-1.003	-0.055	-0.050	0.003	-0.010
-0.030	1.155	-0.039	0.798	0.458	-0.472	-1.322	-0.276
0.952	-0.078	0.101	-1.451	-0.193	0.375	-0.008	0.860
-0.810	-1.067	-0.077	-0.003	-0.921	0.185	-1.719	-2.065
1.268	0.798	0.264	0.761	0.360	0.616	2.882	0.779

RHO = 0.5

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-0.228	-0.605	-0.041	0.659	0.735	-0.037	-0.870	0.293
0.289	1.162	-0.156	-0.357	0.290	-1.984	1.361	1.015
-0.595	0.246	-0.245	-0.239	0.112	0.266	0.912	1.175
-0.295	-1.011	-1.471	-0.036	1.287	1.807	0.117	0.177
-1.225	-0.170	0.001	-0.028	-0.101	-0.432	1.314	0.020
1.201	0.914	2.006	0.834	1.036	-0.695	-0.162	0.071
-1.430	-0.917	0.382	0.867	1.783	1.042	0.024	0.732
-1.533	-0.820	0.963	1.655	-1.774	-0.026	0.209	0.270
-1.522	-2.419	0.580	0.285	1.451	1.394	1.729	1.919
-0.811	-0.041	1.087	0.671	0.545	0.459	0.920	-0.519
-0.814	-0.274	-0.698	-1.833	0.592	0.330	0.117	0.154
0.054	0.456	0.066	-0.081	-1.321	-2.433	0.657	1.108
-2.619	-0.740	0.216	0.415	0.891	0.157	-0.124	0.110
-0.249	0.613	-1.413	0.338	-0.684	-0.435	-1.891	-0.974
0.751	1.490	1.016	0.407	-0.962	-1.052	-1.308	-1.374
-0.033	0.135	0.338	0.903	0.144	1.563	-0.038	-0.226
0.984	1.122	0.389	2.411	-1.281	-1.725	0.254	0.740
1.389	-0.038	-0.994	-0.081	-1.150	-1.330	-2.096	-1.075
0.767	0.095	-0.976	-1.293	1.622	1.310	0.249	0.561
0.705	1.631	0.278	-0.907	-0.879	-0.612	0.623	0.551
-1.212	-1.651	-1.394	-1.472	-0.566	0.161	-1.636	-0.606
-0.398	-0.347	0.843	0.829	-1.354	0.557	-0.194	0.225
-0.267	-0.311	1.825	2.082	-0.157	0.135	0.287	-1.054
-2.232	-2.069	0.388	1.236	-0.888	-0.714	-0.859	1.254
-0.708	-0.045	-0.632	-0.756	-1.463	-2.063	0.705	0.621
-0.110	1.137	-1.400	0.752	-0.795	-1.887	0.315	-1.853
0.150	1.087	0.921	0.650	0.203	-0.028	-0.694	-0.338
-0.344	0.647	1.167	1.951	-0.385	-0.291	1.015	-0.129
1.995	0.926	0.173	-1.450	-0.472	-0.152	-1.223	-0.261
1.753	0.267	0.776	0.040	-0.973	0.548	-0.071	0.302
0.516	0.510	0.811	0.561	-0.800	-0.496	-1.193	-0.440
0.870	-0.333	-1.886	-1.443	0.131	-0.027	-0.255	-0.352
0.400	1.044	-1.478	-0.057	-0.094	0.746	-2.919	-1.436
-2.308	-0.213	-0.130	0.573	-0.388	1.252	0.150	-0.788
-1.667	0.603	0.995	0.264	-0.666	1.281	0.289	-0.176
-1.092	-0.630	1.731	1.065	-1.841	-0.739	-0.168	-0.198
-0.996	0.394	-0.084	-1.171	0.172	-0.417	-0.883	-1.566
0.206	0.319	0.384	-2.761	0.459	0.406	-1.522	0.123
0.100	1.587	0.972	-0.057	0.107	0.289	-0.748	-1.363
-0.728	1.208	0.517	0.695	0.200	0.391	0.776	0.517

RHO = 0.5 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-0.692	-1.574	0.853	0.813	0.826	1.372	0.384	0.934
-0.205	1.010	-0.184	-0.387	0.069	0.292	-0.588	-1.211
-0.683	1.510	1.244	1.146	-0.983	-0.825	0.197	0.414
0.461	1.399	0.971	0.264	-1.246	0.912	-1.925	-2.621
-0.187	-0.847	-0.166	0.382	0.367	0.600	0.382	1.113
-1.041	-0.787	0.668	-0.147	-2.058	-1.505	1.453	0.956
0.484	-1.276	1.309	0.593	0.565	0.622	-0.376	0.373
-1.025	-1.374	-0.406	-0.680	0.321	-0.690	0.232	0.265
1.018	1.528	-0.641	0.085	-1.704	-1.685	0.612	0.133
-0.802	-0.425	1.438	1.105	1.578	0.930	1.100	0.110
1.102	1.074	-0.331	0.564	1.250	-1.017	0.032	-0.668
-0.685	-0.098	1.887	0.182	-0.600	0.196	1.744	2.529
-0.577	-0.099	-0.072	0.605	2.113	1.299	-0.427	0.275
1.013	1.047	-0.372	-0.046	0.476	0.182	0.853	1.399
-1.331	-0.052	1.822	-0.087	-1.427	-0.496	1.921	1.438
0.979	-0.651	-0.652	-0.103	1.492	0.692	-1.887	-1.109
-0.472	0.422	-1.959	-1.107	1.318	1.270	-1.235	0.125
-0.098	0.945	-0.264	-0.050	1.136	-0.067	-0.787	0.175
0.687	1.261	1.270	0.153	-0.966	-1.062	-0.208	0.043
-1.531	-1.887	1.478	0.186	1.097	2.810	-1.161	-0.272
0.834	1.539	-1.803	-2.367	0.410	0.912	-1.311	0.364
0.367	0.221	1.263	1.275	-0.940	-0.766	-2.321	-1.512
-0.345	-2.634	-1.489	0.235	0.133	-0.066	0.144	-0.303
1.284	2.244	0.778	-1.404	0.714	-0.427	-0.579	-1.106
-2.161	-1.660	0.898	0.104	0.890	0.542	-2.155	0.677
-1.093	0.156	-0.291	-0.485	-1.254	-0.965	0.752	-0.114
0.074	-0.394	1.046	1.743	-1.631	-0.558	-0.522	0.815
-0.076	2.227	2.746	0.909	0.844	-1.407	1.359	-0.695
0.045	0.336	1.643	0.161	-0.743	-1.157	-0.268	0.649
0.023	0.835	-0.426	-0.916	-0.305	0.384	-0.069	0.553
-1.558	-1.130	-1.624	-0.140	0.243	0.280	-0.707	-1.482
-0.110	1.247	0.883	-0.022	0.987	0.919	1.154	1.374
1.951	0.014	-1.068	-0.782	-0.987	-0.271	-0.150	-1.539
0.213	0.940	-0.642	0.531	1.407	1.734	-0.283	1.439
0.261	0.939	-1.001	-0.729	0.255	0.129	-1.910	-0.583
0.680	0.353	-0.311	-0.648	-0.358	-0.695	0.306	-0.643
1.058	0.888	-1.736	-1.274	✓1.656	0.054	-0.300	1.360
-1.021	-1.076	0.561	-0.156	0.381	0.034	-0.391	-0.736
0.030	0.898	0.416	0.023	✓1.904	0.308	1.368	1.498
0.796	-0.774	-0.336	-1.152	-0.690	0.630	0.314	-1.232

RHO = 0.5 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-1.136	-1.055	-0.859	0.600	-1.686	0.964	0.781	0.136
1.820	0.566	0.683	-0.331	0.118	0.067	-0.893	0.272
1.249	0.931	0.127	0.433	-0.309	1.097	0.628	-0.787
0.737	0.283	1.308	1.746	2.491	1.382	-0.322	0.154
-0.129	1.197	0.061	-0.673	-0.395	-0.320	-0.406	0.400
-0.764	0.684	0.224	-0.177	0.118	0.282	0.712	0.951
1.418	1.085	0.632	1.319	-0.884	-0.383	-0.631	-0.059
-0.997	-0.257	0.120	1.035	1.685	0.841	-1.101	-1.863
-1.422	-0.734	0.526	2.019	-1.089	0.981	1.638	0.140
-1.273	-0.003	-1.316	-1.242	-1.120	-0.502	0.924	0.849
0.037	-1.053	1.431	1.132	0.678	0.881	1.091	-0.198
0.094	-0.579	-0.398	1.494	1.391	-0.041	1.476	1.829
-1.515	0.530	0.034	1.063	0.105	0.354	0.414	-1.731
-1.207	1.651	-1.437	-0.112	0.905	1.262	0.242	-0.216
-0.393	-0.338	0.024	-0.079	-0.122	0.474	-1.705	-1.922
1.511	-1.498	1.253	-1.755	0.110	0.150	0.909	0.617
1.092	1.843	0.087	-0.624	0.686	0.448	-1.579	-0.930
-0.065	-1.463	1.360	1.799	-1.307	-1.206	0.166	-0.196
0.627	-0.415	-0.089	-1.864	0.216	0.580	-1.520	-0.182
0.753	-1.234	-0.427	-0.637	-1.658	-0.501	-1.301	0.016
1.899	2.254	0.183	-0.263	-1.845	0.444	-1.841	-2.702
-0.348	0.228	1.577	-0.425	0.743	-1.491	0.197	1.093
-0.403	-0.871	1.591	0.790	0.192	0.014	0.147	-0.491
-0.680	-0.335	0.061	-0.629	-0.414	1.056	0.346	0.609
0.407	0.213	-0.177	0.599	0.012	0.195	0.129	0.562
0.444	-0.252	-0.287	0.827	0.557	1.054	-1.166	-0.997
0.017	0.479	-0.434	-0.495	-0.695	-1.039	-0.205	-0.702
0.712	1.649	-0.781	-0.450	0.343	0.040	-0.651	-0.420
0.115	-0.365	-0.493	0.046	-0.243	-0.516	-2.169	-0.015
-0.189	-1.122	0.267	2.177	-1.368	-1.548	-0.422	-0.818
2.387	0.853	0.335	1.428	-0.944	-0.531	-1.075	-0.499
-0.571	1.535	1.545	0.851	-0.887	0.462	-0.792	-0.021
0.523	0.704	0.736	0.993	0.889	0.492	-0.236	-1.483
1.254	1.533	-0.259	0.575	0.471	1.680	-0.072	0.812
2.208	0.165	0.397	-0.820	0.944	0.990	-0.964	-1.296
-1.028	-0.226	-0.459	-0.910	-1.605	-2.054	0.424	-0.111
-1.869	-0.495	-0.992	0.757	-0.091	0.171	-1.572	-1.097
1.271	2.065	0.633	1.168	0.572	3.225	0.384	0.247
-0.021	-0.034	0.254	0.371	1.471	0.473	-0.372	0.554
-0.161	1.380	-0.295	-0.316	0.690	1.966	-0.504	-2.006



RHO = 0.5 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
0.439	1.952	-0.176	-0.942	1.317	2.069	0.324	1.363
2.364	0.426	0.445	-0.324	0.436	-0.060	1.447	-0.099
-0.800	-0.160	-1.596	0.355	0.135	-1.031	0.202	1.769
-1.468	-1.027	-0.461	0.082	1.498	-0.551	-1.075	0.307
-0.052	-1.333	0.684	0.273	-0.388	-1.326	-0.049	-0.752
-0.968	-0.505	-1.325	-0.255	-0.437	-0.199	0.617	0.689
1.371	0.970	0.349	-0.284	-1.564	-1.474	1.258	1.301
-0.449	-0.434	1.541	1.102	-0.682	-0.396	-0.790	-0.282
0.157	0.492	0.088	0.623	0.295	0.097	-0.190	0.305
-0.225	0.491	0.824	0.228	-0.548	-2.069	-0.608	0.332
-2.008	-1.327	-0.413	-0.032	-0.124	-0.405	1.294	-0.301
0.394	-1.121	1.212	0.062	-0.348	-0.449	-1.148	1.104
0.566	0.683	0.535	-0.809	-0.134	-0.176	0.400	0.886
0.094	0.731	-1.607	1.639	-1.396	0.074	0.275	-0.356
0.564	-0.002	-1.380	1.928	-1.047	1.591	0.813	-0.622
-0.438	-0.808	1.052	2.107	-0.003	-0.661	1.350	-0.279
-0.325	0.655	-0.473	1.224	-1.176	1.138	0.221	-0.191
0.487	0.032	-0.120	0.000	-0.481	-0.748	-0.237	1.641
1.586	1.628	1.946	-0.382	0.167	1.135	0.312	0.154
-0.444	0.456	0.562	0.492	-0.144	-0.848	2.204	0.681
-0.016	0.358	2.563	0.378	0.670	1.024	-0.226	1.220
-0.544	-1.924	-0.214	0.789	-0.304	1.578	-0.641	-0.291
0.558	0.282	2.066	1.846	0.020	0.375	-1.706	-0.886
-1.125	-1.975	1.240	1.598	-1.273	0.905	-1.085	-0.299
-1.006	-0.159	0.143	0.130	-0.096	-0.237	0.559	0.240
0.500	-0.355	-0.389	0.858	0.636	0.439	2.560	-0.503
0.980	1.608	1.480	0.768	-0.990	-1.739	-0.744	0.671
1.019	0.143	-0.413	-0.223	-0.889	1.083	0.982	-1.499
1.204	0.057	-0.234	0.334	0.026	-0.461	0.074	-1.350
-0.881	-0.542	-0.145	0.891	-1.161	-0.285	-0.132	0.152
-0.648	-0.043	-0.312	0.033	0.638	-0.426	-1.300	-0.456
-1.512	-1.703	1.103	-0.057	0.508	0.738	-1.094	-2.039
-0.887	-1.448	-1.066	0.171	0.535	0.535	-0.178	-1.501
-0.185	0.198	0.018	1.069	0.805	0.491	-0.217	0.294
0.175	-0.255	-0.810	-0.411	1.404	0.399	0.126	-0.350
=2.217	=1.231	0.288	-0.220	-1.583	-1.950	-0.814	0.030
-1.776	-1.488	-0.855	-0.041	-1.068	-1.530	-0.700	-0.029
0.083	-0.685	-0.400	0.711	0.033	-0.049	-0.196	-0.893
1.948	-0.210	0.486	-0.744	-0.193	-1.313	2.033	1.536
-1.598	-0.857	0.642	0.606	1.339	-0.564	-1.677	-0.072

RHO = 0.5 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-0.966	-0.249	-1.099	-0.618	-1.284	-1.876	0.011	-0.082
1.428	1.458	-0.899	-0.366	-0.976	0.642	-1.569	-1.129
-1.829	-0.995	-0.924	-1.053	0.348	0.586	-0.079	-0.078
-0.153	0.468	-0.336	-0.996	-0.226	-0.287	1.816	-0.027
0.045	0.223	-0.300	0.488	-0.611	-1.185	-0.548	0.121
0.348	0.112	-0.980	-0.614	-0.723	-0.582	0.165	-0.328
1.344	2.343	0.460	0.113	-0.474	0.447	-1.709	0.089
-0.383	0.195	-0.144	0.122	1.221	1.331	0.166	0.176
0.755	0.109	1.044	-0.005	-2.551	-1.640	0.125	-0.334
-0.657	-0.441	-2.141	-1.216	-1.706	-0.208	-1.494	0.424
-2.033	-0.844	0.138	0.939	-1.157	-0.545	0.642	1.621
3.213	4.106	-0.283	-0.688	2.182	1.241	1.872	0.891
0.666	0.458	0.431	-0.314	0.396	0.075	-0.470	-0.534
-0.086	0.116	0.117	-1.220	0.573	0.117	0.952	0.981
-0.459	-0.910	-0.390	0.874	0.797	1.890	0.475	-0.030
1.133	0.955	-1.254	0.223	1.154	2.591	-0.566	-1.199
0.277	-0.644	-0.638	-0.123	-1.268	-0.356	1.166	0.840
-0.441	0.966	-1.707	0.386	0.614	-1.058	1.006	1.123
-0.436	1.062	0.376	0.235	0.888	-0.126	1.289	0.783
-0.121	0.488	1.445	0.341	0.640	0.135	0.353	-0.178
1.089	0.584	0.338	-0.347	0.955	0.884	-0.467	-0.262
1.780	-0.039	-0.111	-0.009	-0.081	0.047	-1.835	-2.431
-0.462	0.192	1.935	1.804	1.618	1.150	0.585	0.645
-0.050	0.788	-0.687	0.178	0.138	0.119	1.129	0.903
-0.400	0.226	0.857	0.796	0.565	0.111	1.132	-1.022
1.076	-0.019	1.403	0.609	-1.014	-1.079	-0.069	0.566
-0.038	0.627	-0.211	-0.566	-0.515	0.073	-2.138	-1.994
-0.154	0.674	0.849	2.686	-0.851	-2.471	2.261	0.130
-0.688	0.466	0.420	2.621	0.064	-0.125	0.463	-0.294
0.947	-0.255	1.337	1.056	0.316	0.710	-0.196	-0.500
1.337	1.318	1.437	0.771	-1.010	-1.541	-0.379	-0.851
1.067	-0.403	-2.445	-1.148	0.173	0.976	0.249	0.517
0.724	-0.612	1.527	1.617	0.950	0.493	-0.976	-0.359
0.893	0.302	0.184	0.283	0.408	0.633	-0.717	-0.114
0.161	0.082	-0.622	-0.099	-1.368	0.321	0.361	0.889
-0.887	0.068	0.929	0.055	-0.291	1.350	0.594	-0.817
-0.664	-1.360	-2.322	-1.571	0.724	1.148	-0.683	0.466
-0.585	-0.397	-0.539	-0.526	-0.237	0.238	-0.132	1.175
-0.064	-0.032	0.114	0.507	-0.087	-0.086	0.582	0.445
0.485	-0.290	-0.528	-0.754	-0.742	0.700	1.795	1.874

RHO = 0.5 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
1.648	1.039	1.373	1.474	-0.115	-0.076	-0.158	-1.600
0.012	0.696	-0.349	0.177	0.881	1.210	-0.940	-0.915
-0.839	-0.207	0.143	-0.461	0.330	-0.115	0.785	1.100
1.682	1.536	-0.315	0.974	0.320	1.073	0.352	1.211
0.161	-0.197	-0.888	0.104	-0.065	-0.263	0.098	-0.311
1.183	-0.198	0.260	-0.022	1.262	0.132	-0.641	-0.370
-0.664	0.740	0.966	-0.953	0.386	0.918	0.469	-0.429
-0.796	-0.103	0.066	-2.006	-0.606	-2.309	-0.234	-0.622
0.373	-1.019	-0.606	-0.998	1.372	0.403	-1.414	-0.315
0.431	0.432	0.788	0.791	-0.595	1.018	-0.737	1.626



คุรุณย์วิทยทรรพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

RHO = 0.6

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-2.744	-1.654	1.460	1.841	0.413	1.380	0.021	1.338
1.303	0.999	1.766	1.282	-1.219	-2.537	-0.045	-0.698
-0.488	0.368	-0.338	-0.837	✓1.977	1.447	-0.229	-0.034
0.468	0.972	-1.019	0.552	-0.911	0.152	✓1.804	0.699
-0.244	-0.468	-0.438	-0.678	-0.799	0.397	-0.609	-0.928
✓1.964	1.368	-1.761	-1.259	0.400	0.004	-0.133	0.255
-0.324	-0.199	✓2.848	3.080	-0.229	0.192	-0.431	-1.181
1.478	0.950	0.226	0.810	-0.599	-0.417	-0.169	0.333
0.957	1.136	0.208	0.601	-1.624	-0.205	-0.008	-0.432
0.699	-0.320	0.630	0.723	-0.219	-1.550	0.385	0.695
0.289	-0.299	0.329	0.047	-0.297	-0.632	-0.652	-0.517
0.314	0.921	1.139	1.642	-0.773	-1.031	-0.785	-0.297
0.358	-0.742	-2.102	-2.020	-0.561	0.073	0.324	-0.074
1.010	0.834	2.441	0.530	-0.575	-0.499	1.009	0.721
-0.147	-0.430	-0.397	-1.037	-0.728	-1.327	-0.392	0.259
-0.526	-0.416	0.222	-0.652	0.065	1.210	-0.545	-1.890
-0.540	-0.002	-0.868	-0.242	-0.111	0.131	-1.112	-0.355
0.395	-0.268	-0.830	0.661	-2.168	-2.142	1.240	-0.367
-0.133	0.706	2.172	1.127	-0.021	0.209	-0.150	-0.354
-0.540	-0.760	-1.027	-0.771	-0.585	0.407	-1.948	-0.747
0.761	-1.145	0.410	1.034	-0.772	0.070	1.183	0.025
-0.644	1.072	-1.682	-0.385	-0.498	-0.181	-0.422	-0.668
-0.169	0.809	-0.466	0.241	-1.676	-0.124	-0.427	0.945
0.771	0.589	0.893	0.583	-1.221	0.259	-1.495	0.033
-0.237	-0.069	1.232	1.910	0.954	-0.011	-0.291	-0.633
-2.607	-2.245	1.386	0.294	-0.066	0.687	-0.478	-0.082
-0.755	-1.619	0.191	0.204	-1.194	-0.028	0.278	-0.145
0.908	0.931	-0.517	-1.689	0.655	0.266	0.315	1.349
-0.035	0.924	1.098	0.885	0.567	-0.812	1.967	0.171
-1.996	-0.520	-1.128	-1.004	-1.371	-1.841	1.572	1.290
-0.390	0.321	-0.359	0.316	0.926	1.399	0.464	-0.123
0.369	0.165	0.241	-1.487	-0.456	-0.072	0.981	1.302
-1.133	-0.866	0.508	-0.541	-1.431	-1.633	0.457	-0.064
1.691	0.548	-0.723	-0.377	0.087	-0.664	0.229	-1.052
-0.575	0.528	0.385	-0.723	0.184	0.256	-0.368	-0.490
-0.344	-1.008	-1.332	-1.111	-0.055	-0.054	0.003	-0.009
-0.030	1.063	-0.039	0.732	0.458	-0.373	-1.322	-0.438
0.952	0.060	0.101	-1.326	-0.193	0.319	-0.008	0.794
-0.810	-1.097	-0.077	-0.014	-0.921	0.043	-1.719	-2.145
1.268	0.912	0.264	0.740	0.360	0.619	2.882	1.117

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-0.228	-0.591	-0.041	0.603	0.735	0.067	-0.870	0.151
0.289	1.114	-0.156	-0.351	0.290	-1.792	1.361	1.125
-0.595	0.145	-0.245	-0.255	0.112	0.261	0.912	1.211
-0.295	-0.975	-1.471	-0.236	1.287	1.847	0.117	0.180
-1.225	-0.327	0.001	-0.026	-0.101	-0.413	1.314	0.200
1.201	1.010	2.006	1.047	1.036	-0.499	-0.162	0.043
-1.430	-1.044	0.382	0.853	1.783	1.209	0.024	0.679
-1.533	-0.969	0.963	1.662	-1.774	-0.269	0.209	0.279
-1.522	-2.445	0.586	0.344	1.451	1.488	1.729	2.011
-0.811	-0.150	1.087	0.770	0.545	0.500	0.920	-0.352
-0.814	-0.366	-0.698	-1.790	0.592	0.387	0.117	0.159
0.054	0.429	0.066	-0.066	-1.321	-2.430	0.657	1.114
-2.619	-1.045	0.216	0.413	0.891	0.269	-0.124	0.084
-0.249	0.532	-1.413	0.117	-0.684	-0.496	-1.891	-1.161
0.751	1.480	1.016	0.516	-0.962	-1.105	-1.308	-1.450
-0.033	0.120	0.338	0.881	0.144	1.464	-0.038	-0.214
0.984	1.172	0.389	2.281	-1.281	-1.770	0.254	0.718
1.389	0.157	-0.994	-0.212	-1.150	-1.387	-2.096	-1.283
0.767	0.194	-0.976	-1.329	1.622	1.434	0.249	0.552
0.705	1.604	0.278	-0.799	-0.879	-0.687	0.623	0.595
-1.212	-1.692	-1.394	-1.552	-0.566	0.071	-1.636	-0.786
-0.398	-0.375	0.843	0.883	-1.354	0.327	-0.194	0.181
-0.267	-0.324	1.825	2.175	-0.157	0.103	0.287	-0.934
-2.232	-2.219	0.388	1.195	-0.888	-0.782	-0.859	1.040
-0.708	-0.139	-0.632	-0.786	-1.463	-2.107	0.705	0.671
-0.110	1.035	-1.400	0.502	-0.795	-1.853	0.315	-1.668
0.150	1.025	0.921	0.728	0.203	0.002	-0.694	-0.408
-0.344	0.550	1.167	1.964	-0.385	-0.322	1.015	0.021
1.995	1.131	0.173	-1.321	-0.472	-0.206	-1.223	-0.410
1.753	0.488	0.776	0.145	-0.973	0.372	-0.071	0.269
0.516	0.542	0.811	0.630	-0.800	-0.568	-1.193	-0.571
0.870	-0.188	-1.886	-1.594	0.131	-0.007	-0.255	-0.361
0.400	1.020	-1.478	-0.257	-0.094	0.677	-2.919	-1.729
-2.308	-0.515	-0.130	0.511	-0.388	1.103	0.150	-0.707
-1.667	0.327	0.995	0.381	-0.666	1.092	0.289	-0.122
-1.092	-0.733	1.731	1.223	-1.841	-0.936	-0.168	-0.206
-0.996	0.226	-0.084	-1.094	0.172	-0.361	-0.883	-1.588
0.206	0.323	0.384	-2.498	0.459	0.438	-1.522	-0.096
0.100	1.480	0.972	0.081	0.107	0.282	-0.748	-1.362
-0.728	1.015	0.517	0.713	0.200	0.389	0.776	0.585



RHO = 0.6 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-0.692	-1.550	0.853	0.868	0.826	1.382	0.384	0.916
-0.205	0.905	-0.184	-0.383	0.069	0.279	-0.588	-1.199
-0.683	1.300	1.244	1.230	-0.983	-0.898	0.197	0.409
0.461	1.356	0.971	0.378	-1.246	0.670	-1.925	-2.687
-0.187	-0.808	-0.166	0.330	0.367	0.605	0.382	1.081
-1.041	-0.870	0.068	-0.044	-2.058	-1.675	1.453	1.084
0.484	-1.112	1.309	0.728	0.565	0.653	-0.376	0.293
-1.025	-1.411	-0.406	-0.684	0.321	-0.593	0.232	0.277
1.018	1.552	-0.641	-0.010	-1.704	-1.792	0.612	0.207
-0.802	-0.503	1.438	1.219	1.578	1.077	1.100	0.254
1.102	1.144	-0.331	0.476	1.250	-0.767	0.032	-0.613
-0.685	-0.185	1.887	0.429	-0.600	0.098	1.744	2.578
-0.577	-0.171	-0.072	0.549	2.113	1.491	-0.427	0.195
1.013	1.107	-0.372	-0.094	0.476	0.233	0.853	1.410
-1.331	-0.232	1.822	0.172	-1.427	-0.655	1.921	1.593
0.979	-0.466	-0.652	-0.185	1.492	0.845	-1.887	-1.285
-0.472	0.324	-1.959	-1.293	1.318	1.355	-1.235	-0.055
-0.098	0.859	-0.264	-0.082	1.136	0.095	-0.787	0.053
0.687	1.260	1.270	0.317	-0.966	-1.114	-0.208	0.011
-1.531	-1.954	1.478	0.376	1.097	2.747	-1.161	-0.412
0.834	1.537	-1.803	-2.436	0.410	0.899	-1.311	0.156
0.367	0.255	1.263	1.353	-0.940	-0.837	-2.321	-1.717
-0.345	-2.481	-1.489	0.011	0.133	-0.042	0.144	-0.260
1.284	2.250	0.778	-1.190	0.714	-0.295	-0.579	-1.101
-2.161	-1.832	0.898	0.220	0.890	0.624	-2.155	0.328
-1.093	-0.007	-0.291	-0.488	-1.254	-1.065	0.752	-0.001
0.074	-0.354	1.040	1.754	-1.631	-0.740	-0.522	0.681
-0.076	2.047	2.746	1.219	0.844	-1.183	1.359	-0.454
0.045	0.316	1.643	0.376	-0.743	-1.172	-0.268	0.562
0.023	0.774	-0.426	-0.905	-0.305	0.313	-0.069	0.501
-1.558	-1.259	-1.624	-0.353	0.243	0.292	-0.707	-1.467
-0.110	1.137	0.883	0.102	0.987	0.985	1.154	1.429
1.951	0.283	-1.068	-0.870	-0.987	-0.387	-0.150	-1.442
0.213	0.898	-0.642	0.402	1.407	1.796	-0.283	1.290
0.261	0.904	-1.001	-0.812	0.255	0.154	-1.910	-0.803
0.680	0.420	-0.311	-0.642	-0.358	-0.692	0.306	-0.551
1.058	0.967	-1.736	-1.417	1.656	0.278	-0.300	1.215
-1.021	-1.135	0.561	-0.067	0.381	0.084	-0.391	-0.734
0.030	0.834	0.416	0.078	1.904	0.547	1.368	1.573
0.796	-0.605	-0.336	-1.111	-0.690	0.487	0.314	-1.095

RHO = 0.6 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-1.136	-1.132	-0.859	0.436	-1.686	1.124	-0.781	0.233
1.820	0.774	0.683	-0.212	0.118	0.078	-0.893	0.128
1.249	1.032	0.127	0.418	-0.309	0.970	0.628	-0.640
0.737	0.364	1.308	1.794	2.491	1.621	-0.322	0.098
-0.129	1.088	0.061	-0.613	-0.395	-0.351	-0.406	0.314
-0.764	0.526	0.224	-0.132	0.118	0.277	0.712	0.977
1.418	1.198	0.632	1.306	-0.884	-0.476	-0.631	-0.142
-0.997	-0.375	0.120	0.973	1.685	1.010	-1.101	-1.873
-1.422	-0.875	0.526	1.937	-1.089	0.755	1.638	0.355
-1.273	-0.179	-1.316	-1.329	-1.120	-0.619	0.924	0.912
0.037	-0.968	1.431	1.243	0.678	0.907	1.091	-0.032
0.094	-0.522	-0.398	1.325	1.391	0.154	1.476	1.893
-1.515	0.281	0.034	0.987	0.105	0.342	0.414	-1.542
-1.207	1.359	-1.437	-0.302	0.905	1.291	0.242	-0.166
-0.393	-0.367	0.024	-0.070	-0.122	0.421	-1.705	-2.011
1.511	-1.175	1.253	-1.448	0.110	0.154	0.909	0.696
1.092	1.853	0.087	-0.565	0.686	0.508	-1.579	-1.077
-0.065	-1.361	1.360	1.849	-1.307	-1.295	0.166	-0.158
0.627	-0.297	-0.089	-1.735	0.216	0.565	-1.520	-0.378
0.753	-1.036	-0.427	-0.647	-1.658	-0.692	-1.301	-0.165
1.899	2.344	0.183	-0.217	-1.845	0.155	-1.841	-2.751
-0.348	0.162	1.577	-0.175	0.743	-1.275	0.197	1.037
-0.403	-0.860	1.591	0.950	0.192	0.040	0.147	-0.433
-0.680	-0.404	0.061	-0.572	-0.414	0.919	0.346	0.610
0.407	0.253	-0.177	0.529	0.012	0.182	0.129	0.537
0.444	-0.171	-0.287	0.724	0.557	1.051	-1.166	-1.082
0.017	0.445	-0.434	-0.517	-0.695	-1.056	-0.205	-0.677
0.712	1.621	-0.781	-0.523	0.343	0.084	-0.651	-0.478
0.115	-0.321	-0.493	-0.025	-0.243	-0.511	-2.169	-0.314
-0.189	-1.063	0.267	2.048	-1.368	-1.619	-0.422	-0.814
2.387	1.117	0.335	1.366	-0.944	-0.621	-1.075	-0.610
-0.571	1.339	1.545	1.000	-0.887	0.305	-0.792	-0.129
0.523	0.723	0.736	1.019	0.889	0.577	-0.236	-1.403
1.254	1.589	-0.259	0.495	0.471	1.617	-0.072	0.740
2.208	0.458	0.397	-0.703	0.944	1.045	-0.964	-1.331
-1.028	-0.351	-0.459	-0.904	-1.605	-2.119	0.424	-0.044
-1.869	-0.715	-0.992	0.563	-0.091	0.145	-1.572	-1.230
1.271	2.083	0.633	1.166	0.572	3.058	0.384	0.281
-0.021	-0.034	0.254	0.378	1.471	0.640	-0.372	0.460
-0.161	1.253	-0.295	-0.333	0.690	1.912	-0.504	-1.923

RHO = 0.6 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
0.439	1.864	-0.176	-0.895	1.317	2.093	0.324	1.303
2.364	0.720	0.445	-0.238	0.436	0.004	1.447	0.108
-0.800	-0.258	-1.596	0.107	0.135	-0.934	0.202	1.662
-1.468	-1.151	-0.461	0.012	1.498	-0.302	-1.075	0.136
-0.052	-1.239	0.684	0.347	-0.388	-1.278	-0.049	-0.701
-0.968	-0.600	-1.325	-0.419	-0.437	-0.244	0.617	0.722
1.371	1.085	0.349	-0.214	-1.564	-1.578	1.258	1.376
-0.449	-0.463	1.541	1.231	-0.682	-0.460	-0.790	-0.370
0.157	0.476	0.088	0.587	0.295	0.130	-0.190	0.256
-0.225	0.423	0.824	0.325	-0.548	-1.987	-0.608	0.222
-2.008	-1.503	-0.413	-0.086	-0.124	-0.392	1.294	-0.099
0.394	-0.981	1.212	0.224	-0.348	-0.463	-1.148	0.861
0.566	0.709	0.535	-0.673	-0.134	-0.181	0.400	0.874
0.094	0.688	-1.607	1.292	-1.396	-0.125	0.275	-0.291
0.564	0.076	-1.380	1.590	-1.047	1.325	0.813	-0.462
-0.438	-0.807	1.052	2.091	-0.003	-0.611	1.350	-0.071
-0.325	0.560	-0.473	1.066	-1.176	0.889	0.221	-0.146
0.487	0.096	-0.120	-0.016	-0.481	-0.757	-0.237	1.483
1.586	1.723	1.946	-0.084	0.167	1.072	0.312	0.186
-0.444	0.360	0.562	0.532	-0.144	-0.803	2.204	0.933
-0.016	0.328	2.563	0.703	0.670	1.038	-0.226	1.095
-0.544	-1.853	-0.214	0.699	-0.304	1.415	-0.641	-0.357
0.558	0.338	2.066	1.991	0.020	0.349	-1.706	-1.054
-1.125	-1.980	1.240	1.647	-1.273	0.660	-1.085	-0.426
-1.006	-0.285	0.143	0.140	-0.096	-0.232	0.559	0.298
0.500	-0.259	-0.389	0.739	0.636	0.493	2.560	-0.111
0.980	1.621	1.480	0.914	-0.990	-1.743	-0.744	0.517
1.019	0.273	-0.413	-0.263	-0.889	0.878	0.982	-1.249
1.204	0.218	-0.234	0.276	0.026	-0.422	0.074	-1.237
-0.881	-0.622	-0.145	0.803	-1.161	-0.423	-0.132	0.122
-0.648	-0.129	-0.312	-0.013	0.638	-0.306	-1.300	-0.600
-1.512	-1.782	1.103	0.100	0.508	0.751	-1.094	-2.035
-0.887	-1.460	-1.066	0.011	0.535	0.568	-0.178	-1.411
-0.186	0.157	0.018	0.990	0.805	0.565	-0.217	0.242
0.175	-0.211	-0.810	-0.491	1.404	0.562	0.126	-0.306
-2.217	-1.444	0.288	-0.163	-1.583	-2.020	-0.814	-0.085
-1.776	-1.620	-0.855	-0.156	-1.068	-1.561	-0.700	-0.123
0.083	-0.621	-0.400	0.602	0.033	-0.041	-0.196	-0.852
1.948	0.075	0.486	-0.620	-0.193	-1.239	2.033	1.700
-1.598	-1.013	0.642	0.648	1.339	-0.336	-1.677	-0.298

RHO = 0.6 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-0.966	-0.363	-1.099	-0.723	-1.284	-1.910	0.011	-0.074
1.428	1.544	-0.899	-0.462	-0.976	0.458	-1.569	-1.260
-1.829	-1.171	-0.924	-1.101	0.348	0.589	-0.079	-0.083
-0.153	0.411	-0.336	-0.967	-0.226	-0.297	1.816	0.225
0.045	0.212	-0.300	0.409	-0.611	-1.179	-0.548	0.036
0.348	0.152	-0.980	-0.703	-0.723	-0.638	0.165	-0.280
1.344	2.350	0.460	0.168	-0.474	0.348	-1.709	-0.154
-0.383	0.128	-0.144	0.092	1.221	1.398	0.166	0.185
0.755	0.205	1.044	0.140	-2.551	-1.868	0.125	-0.292
-0.657	-0.498	-2.141	-1.419	-1.706	-0.428	-1.494	0.185
-2.033	-1.061	-0.138	0.886	-1.157	-0.663	0.642	1.586
3.213	4.237	-0.283	-0.674	2.182	1.448	1.872	1.082
0.666	0.515	0.431	-0.230	0.396	0.124	-0.470	-0.558
-0.086	0.095	0.117	-1.111	0.573	0.187	0.952	1.037
-0.459	-0.904	-0.390	0.753	0.797	1.856	0.475	0.038
1.133	1.039	-1.254	0.033	1.154	2.553	-0.560	-1.185
0.277	-0.556	-0.638	-0.201	-1.268	-0.504	1.166	0.937
-0.441	0.831	-1.707	0.121	0.614	-0.893	1.006	1.176
-0.436	0.921	0.376	0.269	0.888	0.006	1.289	0.902
-0.121	0.434	1.445	0.514	0.640	0.213	0.353	-0.116
1.089	0.690	0.338	-0.273	0.955	0.948	-0.467	-0.306
1.780	0.210	-0.111	-0.024	-0.081	0.033	-1.835	-2.499
-0.462	0.113	1.935	1.934	1.618	1.286	0.585	0.677
-0.050	0.721	-0.687	0.069	0.138	0.129	1.129	0.990
-0.400	0.154	0.857	0.853	0.565	0.181	1.132	-0.788
1.076	0.131	1.403	0.756	-1.014	-1.137	-0.069	0.513
-0.038	0.574	-0.211	-0.552	-0.515	-0.004	-2.138	-2.137
-0.154	0.602	0.849	2.599	-0.851	-2.401	2.261	0.433
-0.688	0.336	0.420	2.479	0.064	-0.106	0.463	-0.208
0.947	-0.105	1.337	1.160	0.316	0.699	-0.196	-0.489
1.337	1.402	1.437	0.911	-1.010	-1.563	-0.379	-0.839
1.067	-0.225	-2.445	-1.398	0.173	0.926	0.249	0.512
0.724	-0.465	1.527	1.704	0.950	0.587	-0.976	-0.467
0.893	0.403	0.189	0.288	0.408	0.641	-0.717	-0.204
0.161	0.098	-0.622	-0.177	-1.368	0.107	0.361	0.871
-0.887	-0.059	0.929	0.180	-0.291	1.207	0.594	-0.673
-0.664	-1.348	-2.322	-1.772	0.724	1.160	-0.683	0.336
-0.585	-0.448	-0.539	-0.560	-0.237	0.187	-0.132	1.067
-0.064	-0.039	0.114	0.484	-0.087	-0.092	0.582	0.492
0.485	-0.200	-0.528	-0.769	-0.742	0.544	1.795	1.979

RHO = 0.6 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
1.648	1.187	1.373	1.551	-0.115	-0.086	-0.158	-1.500
0.012	0.645	-0.349	0.116	0.881	1.239	-0.940	-0.975
-0.839	-0.307	0.143	-0.406	0.330	-0.060	0.785	1.124
1.682	1.651	-0.315	0.856	0.320	1.036	0.352	1.168
0.161	-0.160	-0.888	-0.026	-0.065	-0.252	0.098	-0.274
1.183	-0.020	0.260	0.016	1.262	0.296	-0.641	-0.430
-0.664	0.592	0.966	-0.747	0.386	0.901	0.469	-0.332
-0.796	-0.205	0.066	-1.844	-0.606	-2.217	-0.234	-0.607
0.373	-0.889	-0.606	-1.005	1.372	0.562	-1.414	-0.487
0.431	0.458	0.788	0.840	-0.595	0.859	-0.737	1.400



ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย





$$RHO = 0.7$$

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-2.744	-1.928	1.460	1.883	0.413	1.300	0.021	1.198
1.303	1.106	1.766	1.435	-1.219	-2.465	-0.045	-0.630
-0.488	0.248	-0.338	-0.803	1.977	1.617	-0.229	-0.068
0.468	0.945	-1.019	0.326	-0.911	-0.014	1.804	0.921
-0.244	-0.458	-0.438	-0.678	-0.799	0.223	-0.609	-0.928
1.964	1.544	-1.761	-1.414	0.400	0.069	-0.133	0.206
-0.324	-0.231	2.848	3.218	-0.229	0.134	-0.431	-1.125
1.478	1.091	0.226	0.761	-0.599	-0.471	-0.169	0.269
0.957	1.172	0.208	0.571	-1.624	-0.450	-0.008	-0.387
0.699	-0.171	0.630	0.749	-0.219	-1.420	0.385	0.683
0.289	-0.219	0.329	0.096	-0.297	-0.613	-0.652	-0.569
0.314	0.873	1.139	1.653	-0.773	-1.048	-0.785	-0.394
0.358	-0.603	-2.102	-2.149	-0.561	-0.027	0.324	-0.013
1.010	0.911	2.441	0.874	-0.575	-0.540	1.009	0.809
-0.147	-0.408	-0.397	-0.991	-0.728	-1.304	-0.392	0.166
-0.526	-0.458	0.222	-0.545	0.065	1.091	-0.545	-1.777
-0.540	-0.091	-0.868	-0.359	-0.111	0.099	-1.112	-0.500
0.395	-0.175	-0.830	0.453	-2.168	-2.269	1.240	-0.124
-0.133	0.608	2.172	1.363	-0.021	0.183	-0.150	-0.341
-0.540	-0.767	-1.027	-0.857	-0.585	0.267	-1.948	-0.987
0.761	-0.897	0.410	0.991	-0.772	-0.065	1.183	0.217
-0.644	0.851	-1.682	-0.620	-0.498	-0.243	-0.422	-0.666
-0.169	0.695	-0.460	0.139	-1.676	-0.387	-0.427	0.773
0.771	0.653	0.893	0.667	-1.221	0.030	-1.495	-0.216
-0.237	-0.101	1.232	1.908	0.954	0.147	-0.291	-0.613
-2.607	-2.433	1.386	0.490	-0.066	0.602	-0.478	-0.152
-0.755	-1.569	0.191	0.213	-1.194	-0.221	0.278	-0.084
0.908	0.980	-0.517	-1.593	0.655	0.345	0.315	1.256
-0.035	0.819	1.098	0.970	0.567	-0.032	1.967	0.476
-1.996	-0.792	-1.128	-1.081	-1.371	-1.869	1.572	1.410
-0.390	0.222	-0.359	0.223	0.926	1.401	0.464	-0.034
0.369	0.208	0.241	-1.288	-0.456	-0.139	0.981	1.324
-1.133	-0.959	0.508	-0.400	-1.431	-1.693	0.457	0.018
1.691	0.768	-0.723	-0.455	0.087	-0.578	0.229	-0.901
-0.575	0.376	0.385	-0.582	0.184	0.259	-0.368	-0.498
-0.344	-0.956	-1.332	-1.210	-0.055	-0.057	0.003	-0.007
-0.030	0.944	-0.039	0.647	0.458	-0.258	-1.322	-0.608
0.952	0.210	0.101	-1.167	-0.193	0.253	-0.008	0.707
-0.810	-1.113	-0.077	-0.025	-0.921	-0.113	-1.719	-2.197
1.268	1.023	0.264	0.704	0.360	0.612	2.882	1.471

RHO = 0.7 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-0.228	-0.565	-0.041	0.532	0.735	0.181	-0.870	-0.009
0.289	1.042	-0.156	-0.339	0.290	-1.552	1.361	1.228
-0.595	0.032	-0.245	-0.268	0.112	0.251	0.912	1.231
-0.295	-0.919	-1.471	-0.453	1.287	1.861	0.117	0.180
-1.225	-0.493	0.001	-0.023	-0.101	-0.385	1.314	0.395
1.201	1.099	2.006	1.265	1.036	-0.275	-0.162	0.012
-1.430	-1.167	0.382	0.824	1.783	1.372	0.024	0.010
-1.533	-1.117	0.963	1.642	-1.774	-0.532	0.209	0.283
-1.522	-2.433	0.586	0.404	1.451	1.567	1.729	2.080
-0.811	-0.268	1.087	0.866	0.545	0.536	0.920	-0.163
-0.814	-0.460	-0.698	-1.713	0.592	0.443	0.117	0.161
0.054	0.392	0.066	-0.048	-1.321	-2.387	0.657	1.103
-2.619	-1.363	0.216	0.404	0.891	0.386	-0.124	0.055
-0.249	0.434	-1.413	-0.128	-0.684	-0.556	-1.891	-1.347
0.751	1.445	1.016	0.628	-0.962	-1.144	-1.308	-1.509
-0.033	0.102	0.338	0.842	0.144	1.330	-0.038	-0.197
0.984	1.208	0.389	2.100	-1.281	-1.791	0.254	0.683
1.389	0.368	-0.994	-0.353	-1.150	-1.427	-2.096	-1.490
0.767	0.299	-0.976	-1.347	1.622	1.547	0.249	0.534
0.705	1.548	0.278	-0.667	-0.879	-0.758	0.623	0.633
-1.212	-1.710	-1.394	-1.614	-0.566	-0.030	-1.636	-0.970
-0.398	-0.401	0.843	0.927	-1.354	0.070	-0.194	0.130
-0.267	-0.333	1.825	2.242	-0.157	0.066	0.287	-0.786
-2.232	-2.348	0.388	1.131	-0.888	-0.844	-0.859	0.787
-0.708	-0.241	-0.632	-0.805	-1.463	-2.122	0.705	0.715
-0.110	0.906	-1.400	0.218	-0.795	-1.785	0.315	-1.437
0.150	0.940	0.921	0.801	0.203	0.035	-0.694	-0.478
-0.344	0.435	1.167	1.945	-0.385	-0.351	1.015	0.180
1.995	1.338	0.173	-1.151	-0.472	-0.261	-1.223	-0.567
1.753	0.724	0.776	0.257	-0.973	0.172	-0.071	0.229
0.516	0.569	0.811	0.696	-0.800	-0.639	-1.193	-0.706
0.870	-0.024	-1.886	-1.733	0.131	0.015	-0.255	-0.364
0.400	0.976	-1.478	-0.472	-0.094	0.589	-2.919	-2.024
-2.308	-0.840	-0.130	0.435	-0.388	0.921	0.150	-0.606
-1.667	0.018	0.995	0.504	-0.666	0.865	0.289	-0.062
-1.092	-0.833	1.731	1.376	-1.841	-1.139	-0.168	-0.212
-0.996	0.038	-0.084	-0.990	0.172	-0.294	-0.883	-1.562
0.206	0.323	0.384	-2.166	0.459	0.467	-1.522	-0.336
0.100	1.337	0.972	0.232	0.107	0.269	-0.748	-1.339
-0.728	0.787	0.517	0.722	0.200	0.380	0.776	0.650

RHO = 0.7 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-0.692	-1.497	0.853	0.915	0.826	1.369	0.384	0.881
-0.205	0.774	-0.184	-0.372	0.069	0.261	-0.588	-1.167
-0.683	1.048	1.244	1.303	-0.983	-0.963	0.197	0.398
0.461	1.280	0.971	0.497	-1.246	0.394	-1.925	-2.715
-0.187	-0.752	-0.166	0.267	0.367	0.600	0.382	1.028
-1.041	-0.948	0.668	0.071	-2.058	-1.833	1.453	1.206
0.484	-0.913	1.309	0.866	0.565	0.675	-0.376	0.199
-1.025	-1.428	-0.406	-0.677	0.321	-0.477	0.232	0.285
1.018	1.552	-0.641	-0.115	-1.704	-1.880	0.612	0.285
-0.802	-0.581	1.438	1.325	1.578	1.221	1.100	0.407
1.102	1.203	-0.331	0.370	1.250	-0.479	0.032	-0.542
-0.685	-0.278	1.887	0.693	-0.600	-0.011	1.744	2.588
-0.577	-0.247	-0.072	0.478	2.113	1.679	-0.427	0.104
1.013	1.154	-0.372	-0.145	0.476	0.287	0.853	1.399
-1.331	-0.426	1.822	0.453	-1.427	-0.820	1.921	1.738
0.979	-0.255	-0.652	-0.272	1.492	1.000	-1.887	-1.457
-0.472	0.212	-1.959	-1.476	1.318	1.426	-1.235	-0.252
-0.098	0.751	-0.264	-0.117	1.136	0.272	-0.787	-0.082
0.687	1.238	1.270	0.492	-0.966	-1.153	-0.208	-0.024
-1.531	-1.996	1.478	0.578	1.097	2.633	-1.161	-0.558
0.834	1.509	-1.803	-2.471	0.410	0.870	-1.311	-0.077
0.367	0.288	1.263	1.415	-0.940	-0.902	-2.321	-1.914
-0.345	-2.271	-1.489	-0.235	0.133	-0.016	0.144	-0.208
1.284	2.220	0.778	-0.934	0.714	-0.146	-0.579	-1.078
-2.161	-1.991	0.898	0.344	0.890	0.703	-2.155	-0.061
-1.093	-0.186	-0.291	-0.484	-1.254	-1.157	0.752	0.123
0.074	-0.304	1.046	1.738	-1.631	-0.929	-0.522	0.522
-0.076	1.815	2.746	1.540	0.844	-0.917	1.359	-0.182
0.045	0.290	1.643	0.605	-0.743	-1.168	-0.268	0.458
0.023	0.695	-0.426	-0.878	-0.305	0.229	-0.069	0.436
-1.558	-1.380	-1.624	-0.582	0.243	0.301	-0.707	-1.425
-0.110	0.997	0.883	0.236	0.987	1.042	1.154	1.465
1.951	0.573	-1.068	-0.952	-0.987	-0.508	-0.150	-1.312
0.213	0.837	-0.642	0.253	1.407	1.835	-0.283	1.105
0.261	0.850	-1.001	-0.889	0.255	0.180	-1.910	-1.031
0.680	0.487	-0.311	-0.624	-0.358	-0.676	0.306	-0.442
1.058	1.037	-1.736	-1.550	1.656	0.521	-0.300	1.035
-1.021	-1.181	0.561	0.033	0.381	0.138	-0.391	-0.719
0.030	0.749	0.416	0.138	1.904	0.801	1.368	1.629
0.796	-0.409	-0.336	-1.047	-0.690	0.321	0.314	-0.926

RHO = 0.7 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-1.136	-1.197	-0.859	0.248	-1.686	1.280	0.781	0.337
1.820	0.990	0.683	-0.077	0.118	0.089	-0.893	-0.032
1.249	1.127	0.127	0.394	-0.309	0.815	0.628	-0.469
0.737	0.446	1.308	1.816	2.491	1.856	-0.322	0.034
-0.129	0.950	0.061	-0.537	-0.395	-0.378	-0.406	0.213
-0.764	0.344	0.224	-0.081	0.118	0.267	0.712	0.989
1.418	1.303	0.632	1.270	-0.884	-0.571	-0.631	-0.231
-0.997	-0.499	0.120	0.888	1.685	1.178	-1.101	-1.853
-1.422	-1.015	0.526	1.816	-1.089	0.495	1.638	0.586
-1.273	-0.369	-1.316	-1.403	-1.120	-0.737	0.924	0.966
0.037	-0.858	1.431	1.345	0.678	0.921	1.091	0.151
0.094	-0.450	-0.398	1.118	1.391	0.366	1.476	1.933
-1.515	0.001	0.034	0.887	0.105	0.322	0.414	-1.308
-1.207	1.015	-1.437	-0.506	0.905	1.301	0.242	-0.109
-0.393	-0.392	0.024	-0.059	-0.122	0.356	-1.705	-2.075
1.511	-0.801	1.253	-1.087	0.110	0.155	0.909	0.771
1.092	1.834	0.087	-0.490	0.686	0.566	-1.579	-1.221
-0.065	-1.225	1.360	1.875	-1.307	-1.371	0.166	-0.114
0.627	-0.162	-0.089	-1.563	0.216	0.540	-1.520	-0.587
0.753	-0.801	-0.427	-0.648	-1.658	-0.890	-1.301	-0.361
1.899	2.405	0.183	-0.164	-1.845	-0.165	-1.841	-2.758
-0.348	0.088	1.577	0.103	0.743	-1.016	0.197	0.958
-0.403	-0.834	1.591	1.109	0.192	0.067	0.147	-0.363
-0.680	-0.472	0.061	-0.501	-0.414	0.752	0.346	0.602
0.407	0.292	-0.177	0.443	0.012	0.165	0.129	0.501
0.444	-0.080	-0.287	0.599	0.557	1.029	-1.166	-1.158
0.017	0.400	-0.434	-0.533	-0.695	-1.057	-0.205	-0.638
0.712	1.564	-0.781	-0.596	0.343	0.131	-0.651	-0.534
0.115	-0.268	-0.493	-0.104	-0.243	-0.496	-2.169	-0.637
-0.189	-0.980	0.267	1.872	-1.368	-1.670	-0.422	-0.796
2.387	1.390	0.335	1.274	-0.944	-0.709	-1.075	-0.721
-0.571	1.101	1.545	1.146	-0.887	0.126	-0.792	-0.246
0.523	0.731	0.736	1.031	0.889	0.601	-0.236	-1.291
1.254	1.624	-0.259	0.399	0.471	1.521	-0.072	0.649
2.208	0.772	0.397	-0.562	0.944	1.088	-0.964	-1.346
-1.028	-0.482	-0.459	-0.882	-1.605	-2.156	0.424	0.030
-1.869	-0.946	-0.992	0.339	-0.091	0.114	-1.572	-1.357
1.271	2.069	0.633	1.145	0.572	2.824	0.384	0.314
-0.021	-0.034	0.254	0.379	1.471	0.813	-0.372	0.350
-0.161	1.092	-0.295	-0.345	0.690	1.820	-0.504	-1.799



RHO = 0.7 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
0.439	1.736	-0.176	-0.828	1.317	2.085	0.324	1.217
2.364	1.032	0.445	-0.140	0.436	0.076	1.447	0.334
-0.800	-0.362	-1.596	-0.166	0.135	-0.812	0.202	1.517
-1.468	-1.269	-0.461	-0.065	1.498	-0.023	-1.075	-0.056
-0.052	-1.114	0.684	0.422	-0.388	-1.205	-0.049	-0.634
-0.968	-0.695	-1.325	-0.592	-0.437	-0.290	0.617	0.746
1.371	1.194	0.349	-0.134	-1.564	-1.666	1.258	1.435
-0.449	-0.487	1.541	1.352	-0.682	-0.523	-0.790	-0.460
0.157	0.451	0.088	0.539	0.295	0.165	-0.190	0.197
-0.225	0.341	0.824	0.425	-0.548	-1.864	-0.608	0.099
-2.008	-1.672	-0.413	-0.145	-0.124	-0.370	1.294	0.124
0.394	-0.811	1.212	0.400	-0.348	-0.470	-1.148	0.580
0.566	0.726	0.535	-0.513	-0.134	-0.183	0.400	0.846
0.094	0.630	-1.607	0.889	-1.396	-0.341	0.275	-0.214
0.564	0.161	-1.380	1.193	-1.047	1.011	0.813	-0.279
-0.438	-0.792	1.052	2.040	-0.003	-0.545	1.350	0.158
-0.325	0.446	-0.473	0.874	-1.176	0.600	0.221	-0.094
0.487	0.166	-0.120	-0.034	-0.481	-0.755	-0.237	1.285
1.586	1.799	1.946	0.245	0.167	0.984	0.312	0.217
-0.444	0.249	0.562	0.568	-0.144	-0.740	2.204	1.195
-0.016	0.291	2.563	1.049	0.670	1.037	-0.226	0.941
-0.544	-1.743	-0.214	0.589	-0.304	1.213	-0.641	-0.424
0.558	0.393	2.066	2.117	0.020	0.315	-1.706	-1.222
-1.125	-1.952	1.240	1.674	-1.273	0.380	-1.085	-0.559
-1.006	-0.420	0.143	0.149	-0.096	-0.223	0.559	0.358
0.500	-0.149	-0.389	0.596	0.636	0.545	2.560	0.322
0.980	1.608	1.480	1.060	-0.990	-1.719	-0.744	0.339
1.019	0.411	-0.413	-0.303	-0.889	0.638	0.982	-0.953
1.204	0.393	-0.234	0.208	0.026	-0.373	0.074	-1.092
-0.881	-0.700	-0.145	0.693	-1.161	-0.569	-0.132	0.088
-0.648	-0.222	-0.312	-0.063	0.638	-0.168	-1.300	-0.750
-1.512	-1.839	1.103	0.270	0.508	0.754	-1.094	-1.996
-0.887	-1.449	-1.066	-0.166	0.535	0.595	-0.178	-1.289
-0.186	0.110	0.018	0.887	0.805	0.637	-0.217	0.180
0.175	-0.160	-0.810	-0.572	1.404	0.733	0.126	-0.253
-2.217	-1.653	0.288	-0.098	-1.583	-2.063	-0.814	-0.209
-1.776	-1.738	-0.855	-0.279	-1.068	-1.569	-0.700	-0.225
0.083	-0.541	-0.400	0.471	0.033	-0.031	-0.196	-0.793
1.948	0.387	0.486	-0.474	-0.193	-1.138	2.033	1.851
-1.598	-1.167	0.642	0.684	1.339	-0.080	-1.677	-0.542



RHO = 0.7 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-0.966	-0.483	-1.099	-0.826	-1.284	-1.916	0.011	-0.065
1.428	1.613	-0.899	-0.561	-0.976	0.248	-1.569	-1.382
-1.829	-1.346	-0.924	-1.134	0.348	0.583	-0.079	-0.087
-0.153	0.342	-0.336	-0.918	-0.226	-0.302	1.816	0.500
0.045	0.197	-0.300	0.316	-0.611	-1.153	-0.548	-0.058
0.348	0.192	-0.980	-0.788	-0.723	-0.688	0.165	-0.223
1.344	2.319	0.460	0.226	-0.474	0.233	-1.709	-0.419
-0.383	0.051	-0.144	0.059	1.221	1.449	0.166	0.193
0.755	0.307	1.044	0.296	-2.551	-2.087	0.125	-0.240
-0.657	-0.553	-2.141	-1.619	-1.706	-0.663	-1.494	-0.080
-2.033	-1.281	-0.138	0.814	-1.157	-0.782	0.642	1.522
3.213	4.310	-0.283	-0.649	2.182	1.651	1.872	1.273
0.666	0.570	0.431	-0.135	0.396	0.176	-0.470	-0.575
-0.086	0.071	0.117	-0.973	0.573	0.261	0.952	1.083
-0.459	-0.882	-0.390	0.608	0.797	1.788	0.475	0.112
1.133	1.114	-1.254	-0.177	1.154	2.468	-0.566	-1.151
0.277	-0.451	-0.638	-0.285	-1.268	-0.658	1.166	1.028
-0.441	0.669	-1.707	-0.173	0.614	-0.696	1.006	1.215
-0.436	0.750	0.376	0.302	0.888	0.151	1.289	1.017
-0.121	0.367	1.445	0.697	0.640	0.295	0.353	-0.045
1.089	0.795	0.338	-0.189	0.955	1.004	-0.467	-0.350
1.780	0.480	-0.111	-0.039	-0.081	0.016	-1.835	-2.532
-0.462	0.025	1.935	2.044	1.618	1.414	0.585	0.700
-0.050	0.636	-0.687	-0.051	0.138	0.138	1.129	1.069
-0.400	0.072	0.857	0.903	0.565	0.255	1.132	-0.517
1.076	0.294	1.403	0.906	-1.014	-1.181	-0.069	0.447
-0.038	0.506	-0.211	-0.528	-0.515	-0.088	-2.138	-2.259
-0.154	0.512	0.849	2.459	-0.851	-2.283	2.261	0.758
-0.688	0.186	0.420	2.282	0.064	-0.084	0.463	-0.110
0.947	0.062	1.337	1.255	0.316	0.676	-0.196	-0.469
1.337	1.471	1.437	1.049	-1.010	-1.562	-0.379	-0.811
1.067	-0.026	-2.445	-1.650	0.173	0.855	0.249	0.498
0.724	-0.296	1.527	1.772	0.950	0.680	-0.976	-0.577
0.893	0.506	0.189	0.288	0.408	0.639	-0.717	-0.300
0.161	0.114	-0.622	-0.260	-1.368	-0.129	0.361	0.836
-0.887	-0.199	0.929	0.313	-0.291	1.030	0.594	-0.503
-0.664	-1.312	-2.322	-1.963	0.724	1.155	-0.683	0.188
-0.585	-0.496	-0.539	-0.589	-0.237	0.128	-0.132	0.931
-0.064	-0.045	0.114	0.451	-0.087	-0.096	0.582	0.535
0.485	-0.099	-0.528	-0.773	-0.742	0.363	1.795	2.062

RHO = 0.7 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
1.648	1.331	1.373	1.611	-0.115	-0.096	-0.158	-1.365
0.012	0.578	-0.349	0.046	0.881	1.251	-0.940	-1.025
-0.839	-0.412	0.143	-0.339	0.330	0.000	0.785	1.133
1.682	1.750	-0.315	0.713	0.320	0.977	0.352	1.100
0.161	-0.116	-0.888	-0.170	-0.065	-0.236	0.098	-0.228
1.183	0.177	0.260	0.057	1.262	0.472	-0.641	-0.490
-0.664	0.419	0.966	-0.508	0.386	0.868	0.469	-0.214
-0.796	-0.314	0.066	-1.635	-0.606	-2.079	-0.234	-0.580
0.373	-0.733	-0.606	-0.997	1.372	0.727	-1.414	-0.667
0.431	0.480	0.788	0.879	-0.595	0.669	-0.737	1.129



ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

RHO = 0.8

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-2.744	-2.201	1.460	1.892	0.413	1.179	0.021	1.011
1.303	1.206	1.766	1.580	-1.219	-2.329	-0.045	-0.539
-0.488	0.105	-0.338	-0.746	1.977	1.777	-0.229	-0.106
0.468	0.893	-1.019	0.058	-0.911	-0.205	1.804	1.156
-0.244	-0.436	-0.438	-0.662	-0.799	0.018	-0.609	-0.909
1.964	1.713	-1.761	-1.561	0.400	0.143	-0.133	0.145
-0.324	-0.263	2.848	3.307	-0.229	0.064	-0.431	-1.037
1.478	1.230	0.226	0.687	-0.599	-0.523	-0.169	0.191
0.957	1.187	0.208	0.524	-1.624	-0.722	-0.008	-0.327
<sup>10</sup> 0.699	0.005	<sup>20</sup> 0.630	0.763	<sup>30</sup> -0.219	-1.239	<sup>40</sup> 0.385	0.656
0.289	-0.123	0.329	0.150	-0.297	-0.578	-0.652	-0.616
0.314	0.800	1.139	1.631	-0.773	-1.044	-0.785	-0.497
0.358	-0.431	-2.102	-2.251	-0.561	-0.142	0.324	0.058
1.010	0.979	2.441	1.252	-0.575	-0.575	1.009	0.894
-0.147	-0.374	-0.397	-0.917	-0.728	-1.250	-0.392	0.057
-0.526	-0.496	0.222	-0.411	0.065	0.930	-0.545	-1.608
-0.540	-0.191	-0.868	-0.486	-0.111	0.060	-1.112	-0.656
0.395	-0.063	-0.830	0.205	-2.108	-2.365	1.240	0.159
-0.133	0.483	2.172	1.606	-0.021	0.150	-0.150	-0.318
<sup>50</sup> -0.540	-0.759	<sup>70</sup> -1.027	-0.938	<sup>90</sup> -0.585	0.100	<sup>110</sup> -1.948	-1.242
0.761	-0.592	0.410	0.919	-0.772	-0.218	1.183	0.433
-0.644	0.579	-1.682	-0.877	-0.498	-0.310	-0.422	-0.649
-0.169	0.548	-0.466	0.018	-1.676	-0.680	-0.427	0.559
0.771	0.712	0.893	0.750	-1.221	-0.233	-1.495	-0.499
-0.237	-0.135	1.232	1.864	0.954	0.325	-0.291	-0.576
-2.607	-2.597	1.386	0.705	-0.066	0.492	-0.478	-0.229
-0.755	-1.478	0.191	0.220	-1.194	-0.439	0.278	-0.011
0.908	1.016	-0.517	-1.448	0.655	0.429	0.315	1.122
-0.035	0.681	1.098	1.048	0.567	-0.410	1.967	0.817
<sup>100</sup> -1.996	-1.089	<sup>120</sup> -1.128	<sup>140</sup> -1.147	<sup>160</sup> -1.371	-1.861	<sup>180</sup> 1.572	1.518
-0.390	0.104	-0.359	0.111	0.926	1.373	0.464	0.070
0.369	0.253	0.241	-1.031	-0.456	-0.213	0.981	1.320
-1.133	-1.046	0.508	-0.228	-1.431	-1.725	0.457	0.112
1.691	1.003	-0.723	-0.536	0.087	-0.467	0.229	-0.709
-0.575	0.194	0.385	-0.408	0.184	0.256	-0.368	-0.496
-0.344	-0.876	-1.332	-1.299	-0.055	-0.060	0.003	-0.005
-0.030	0.787	-0.039	0.535	0.458	-0.119	-1.322	-0.791
0.952	0.378	0.101	-0.959	-0.193	0.172	-0.008	0.592
-0.810	-1.107	-0.077	-0.037	-0.921	-0.290	-1.719	-2.210
<sup>130</sup> 1.268	1.128	<sup>150</sup> 0.264	0.647	<sup>170</sup> 0.360	0.590	<sup>190</sup> 2.882	1.847

RHO = 0.8 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-0.228	-0.523	-0.041	0.438	0.735	0.307	-0.870	-0.191
0.289	0.936	-0.156	-0.318	0.290	-1.243	1.361	1.320
-0.595	-0.099	-0.245	-0.277	0.112	0.235	0.912	1.228
-0.295	-0.834	-1.471	-0.692	1.287	1.836	0.117	0.176
-1.225	-0.674	0.001	-0.019	-0.101	-0.345	1.314	0.610
1.201	1.178	2.006	1.488	1.036	-0.012	-0.162	-0.024
-1.430	-1.284	0.382	0.773	1.783	1.531	0.024	0.518
-1.533	-1.263	0.963	1.584	-1.774	-0.823	0.209	0.282
-1.522	-2.366	0.586	0.463	1.451	1.624	1.729	2.114
170 -0.811	-0.397	180 1.087	0.958	190 0.545	0.565	200 0.920	0.058
-0.814	-0.559	-0.698	-1.587	0.592	0.497	0.117	0.160
0.054	0.341	0.066	-0.026	-1.321	-2.285	0.657	1.066
-2.619	-1.700	0.216	0.385	0.891	0.513	-0.124	0.020
-0.249	0.312	-1.413	-0.407	-0.684	-0.612	-1.891	-1.532
0.751	1.373	1.016	0.743	-0.962	-1.165	-1.308	-1.545
-0.033	0.079	0.338	0.779	0.144	1.148	-0.038	-0.174
0.984	1.224	0.389	1.847	-1.281	-1.776	0.254	0.628
1.389	0.604	-0.994	-0.507	-1.150	-1.443	-2.096	-1.696
0.767	0.414	-0.976	-1.338	1.622	1.643	0.249	0.501
210 0.705	1.450	220 0.278	-0.502	230 -0.879	-0.823	240 0.623	0.664
-1.212	-1.694	-1.394	-1.652	-0.566	-0.145	-1.636	-1.162
-0.398	-0.421	0.843	0.957	-1.354	-0.228	-0.194	0.068
-0.267	-0.337	1.825	2.270	-0.157	0.022	0.287	-0.600
-2.232	-2.446	0.388	1.032	-0.888	-0.897	-0.859	0.479
-0.708	-0.353	-0.632	-0.811	-1.463	-2.093	0.705	0.750
-0.110	0.738	-1.400	-0.114	-0.795	-1.668	0.315	-1.141
0.150	0.821	0.921	0.868	0.203	0.073	-0.694	-0.549
-0.344	0.292	1.167	1.881	-0.385	-0.376	1.015	0.371
1.995	1.547	0.173	-0.930	-0.472	-0.319	-1.223	-0.735
250 1.753	0.980	260 0.776	0.380	270 -0.973	-0.061	280 -0.071	0.177
0.516	0.587	0.811	0.756	-0.800	-0.706	-1.193	-0.846
0.870	0.164	-1.886	-1.855	0.131	0.040	-0.255	-0.360
0.400	0.905	-1.478	-0.710	-0.094	0.475	-2.919	-2.319
-2.308	-1.194	-0.130	0.338	-0.388	0.691	0.150	-0.477
-1.667	-0.338	0.995	0.634	-0.666	0.586	0.289	0.009
-1.092	-0.932	1.731	1.523	-1.841	-1.347	-0.168	-0.213
-0.996	-0.179	-0.084	-0.850	0.172	-0.211	-0.883	-1.500
0.206	0.315	0.384	-1.739	0.459	0.489	-1.522	-0.605
0.100	1.145	0.972	0.401	0.107	0.249	-0.748	-1.283
310 -0.728	0.507	320 0.517	0.716	330 0.200	0.362	340 0.776	0.710

RHO = 0.8 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-0.692	-1.404	0.853	0.950	0.826	1.325	0.384	0.821
-0.205	0.607	-0.184	-0.351	0.069	0.234	-0.588	-1.105
-0.683	0.736	1.244	1.358	-0.983	-1.018	0.197	0.376
0.461	1.178	0.971	0.623	-1.246	0.067	-1.925	-2.689
-0.187	-0.671	-0.166	0.189	0.367	0.582	0.382	0.944
-1.041	-1.017	0.668	0.201	-2.058	-1.976	1.453	1.321
0.484	-0.664	1.309	1.005	0.565	0.687	-0.376	0.088
-1.025	-1.417	-0.406	-0.655	0.321	-0.333	0.232	0.289
1.018	1.520	-0.641	-0.232	-1.704	-1.940	0.612	0.369
35° -0.802	-0.658	34° 1.438	1.418	35° 1.578	1.360	35° 1.100	0.575
1.102	1.244	-0.331	0.241	1.250	-0.137	0.032	-0.448
-0.685	-0.379	1.887	0.982	-0.600	-0.136	1.744	2.544
-0.577	-0.330	-0.072	0.386	2.113	1.858	-0.427	-0.003
1.013	1.184	-0.372	-0.201	0.476	0.342	0.853	1.356
-1.331	-0.640	1.822	0.767	-1.427	-0.991	1.921	1.868
0.979	-0.007	-0.652	-0.367	1.492	1.156	-1.887	-1.624
-0.472	0.078	-1.959	-1.656	1.318	1.478	-1.235	-0.474
-0.098	0.610	-0.264	-0.154	1.136	0.469	-0.787	-0.236
0.687	1.185	1.270	0.682	-0.966	-1.174	-0.208	-0.064
35° -1.531	-2.002	35° 1.478	0.799	35° 1.097	2.444	35° -1.161	-0.715
0.834	1.445	-1.803	-2.458	0.410	0.818	-1.311	-0.342
0.367	0.320	1.263	1.457	-0.940	-0.957	-2.321	-2.100
-0.345	-1.981	-1.489	-0.513	0.133	0.015	0.144	-0.144
1.284	2.137	0.778	-0.620	0.714	0.028	-0.579	-1.029
-2.161	-2.130	0.898	0.480	0.890	0.779	-2.155	-0.508
-1.093	-0.388	-0.291	-0.468	-1.254	-1.237	0.752	0.262
0.074	-0.240	1.046	1.682	-1.631	-1.126	-0.522	0.328
-0.076	1.509	2.746	1.875	0.844	-0.592	1.359	0.135
0.045	0.253	1.643	0.857	-0.743	-1.139	-0.268	0.328
40° 0.023	0.589	40° -0.426	-0.828	40° -0.305	0.128	40° -0.069	0.352
-1.558	-1.490	-1.624	-0.833	0.243	0.304	-0.707	-1.347
-0.110	0.814	0.883	0.385	0.987	1.084	1.154	1.476
1.951	0.895	-1.068	-1.026	-0.987	-0.636	-0.150	-1.134
0.213	0.748	-0.642	0.077	1.407	1.839	-0.283	0.869
0.261	0.769	-1.001	-0.959	0.255	0.205	-1.910	-1.271
0.680	0.553	-0.311	-0.590	-0.358	-0.644	0.306	-0.306
1.058	1.095	-1.736	-1.670	1.656	0.788	-0.300	0.806
-1.021	-1.209	0.561	0.146	0.381	0.197	-0.391	-0.687
0.030	0.636	0.416	0.204	1.904	1.077	1.368	1.658
45° 0.796	-0.175	45° -0.336	-0.951	45° -0.690	0.124	45° 0.314	-0.711



RHO = 0.8 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-1.136	-1.246	-0.854	0.026	-1.686	1.433	-0.781	0.449
1.820	1.217	0.683	0.080	0.118	0.100	-0.893	-0.216
1.249	1.211	0.127	0.358	-0.309	0.620	0.628	-0.261
0.737	0.531	1.308	1.803	2.491	2.087	-0.322	-0.039
-0.129	0.771	0.061	-0.438	-0.395	-0.401	-0.406	0.093
-0.764	0.127	0.224	-0.021	0.118	0.249	0.712	0.982
1.418	1.395	0.632	1.201	-0.884	-0.667	-0.631	-0.328
-0.997	-0.631	0.120	0.772	1.685	1.347	-1.101	-1.790
-1.422	-1.154	0.526	1.637	-1.089	0.185	1.638	0.840
-1.273	-0.580	-1.316	-1.457	-1.120	-0.856	0.924	1.007
0.037	-0.713	1.431	1.433	0.678	0.918	1.091	0.358
0.094	-0.358	-0.398	0.855	1.391	0.602	1.476	1.936
-1.515	-0.320	0.034	0.752	0.105	0.293	0.414	-1.011
-1.207	0.597	-1.437	-0.729	0.905	1.285	0.242	-0.040
-0.393	-0.412	0.024	-0.044	-0.122	0.273	-1.705	-2.105
1.511	-0.352	1.253	-0.647	0.110	0.154	0.909	0.840
1.092	1.772	0.087	-0.393	0.686	0.621	-1.579	-1.360
-0.065	-1.043	1.360	1.863	-1.307	-1.428	0.166	-0.061
0.627	-0.004	-0.089	-1.332	0.216	0.500	-1.520	-0.815
0.753	-0.513	-0.427	-0.635	-1.658	-1.099	-1.301	-0.579
1.899	2.423	0.183	-0.099	-1.845	-0.529	-1.841	-2.707
-0.348	0.000	1.577	0.421	0.743	-0.696	0.197	0.846
-0.403	-0.786	1.591	1.269	0.192	0.097	0.147	-0.274
-0.680	-0.541	0.061	-0.408	-0.414	0.544	0.346	0.579
0.407	0.332	-0.177	0.335	0.012	0.141	0.129	0.448
0.444	0.027	-0.287	0.443	0.557	0.983	-1.166	-1.220
0.017	0.339	-0.434	-0.539	-0.695	-1.035	-0.205	-0.580
0.712	1.465	-0.781	-0.666	0.343	0.183	-0.651	-0.586
0.115	-0.201	-0.493	-0.191	-0.243	-0.468	-2.169	-0.994
-0.189	-0.863	0.267	1.629	-1.368	-1.693	-0.422	-0.759
2.387	1.674	0.335	1.141	-0.944	-0.796	-1.075	-0.834
-0.571	0.804	1.545	1.291	-0.887	-0.082	-0.792	-0.374
0.523	0.725	0.736	1.022	0.889	0.744	-0.236	-1.135
1.254	1.630	-0.259	0.281	0.471	1.378	-0.072	0.530
2.208	1.116	0.397	-0.388	0.944	1.114	-0.964	-1.335
-1.028	-0.623	-0.459	-0.838	-1.605	-2.151	0.424	0.115
-1.869	-1.191	-0.992	0.075	-0.091	0.077	-1.572	-1.473
1.271	2.007	0.633	1.096	0.572	2.494	0.384	0.345
-0.021	-0.033	0.254	0.372	1.471	0.995	-0.372	0.215
-0.161	0.883	-0.295	-0.353	0.690	1.675	-0.504	-1.618

RHO = 0.8 (CONT.)

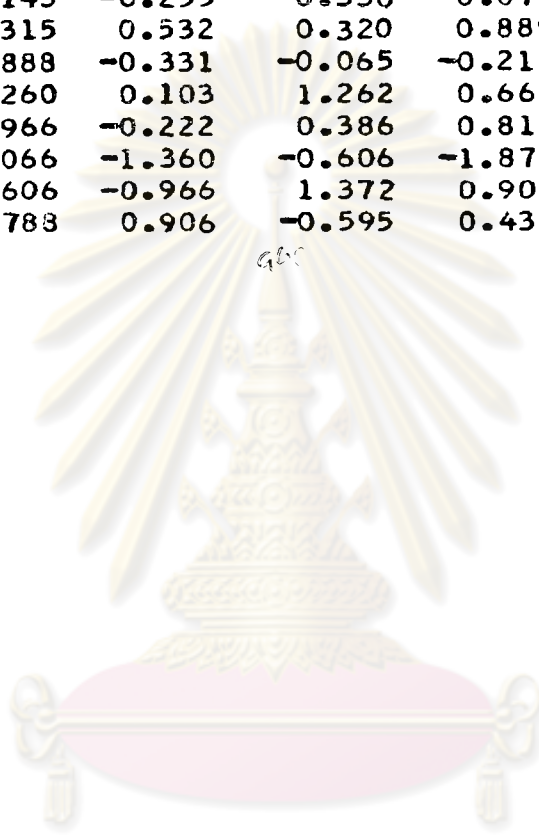
( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
0.439 1.552	-0.176 -0.733	1.317 2.031	0.324 1.091				
2.364 1.368	0.445 -0.023	0.436 0.156	1.447 0.588				
-0.800 -0.474	-1.596 -0.478	0.135 -0.653	0.202 1.317				
-1.468 -1.377	-0.461 -0.152	1.498 0.298	-1.075 -0.275				
-0.052 -0.947	0.684 0.499	-0.388 -1.095	-0.049 -0.543				
-0.968 -0.789	-1.325 -0.778	-0.437 -0.336	0.017 0.757				
1.371 1.294	0.349 -0.038	-1.564 -1.731	1.258 1.472				
-0.449 -0.504	1.541 1.463	-0.682 -0.584	-0.790 -0.554				
0.157 0.412	0.088 0.471	0.295 0.201	-0.190 0.125				
65° -0.225 0.238	66° 0.824 0.532	67° -0.548 -1.682	68° -0.608 -0.046				
-2.008 -1.830	-0.413 -0.209	-0.124 -0.337	1.294 0.379				
0.394 -0.598	1.212 0.593	-0.348 -0.469	-1.148 0.244				
0.566 0.730	0.535 -0.317	-0.134 -0.183	0.400 0.795				
0.094 0.549	-1.607 0.407	-1.396 -0.582	0.275 -0.122				
0.564 0.254	-1.380 0.710	-1.047 0.627	0.813 -0.062				
-0.438 -0.758	1.052 1.937	-0.003 -0.459	1.350 0.419				
-0.325 0.306	-0.473 0.634	-1.176 0.255	0.221 -0.032				
0.487 0.243	-0.120 -0.054	-0.481 -0.736	-0.237 1.029				
1.586 1.847	1.946 0.618	0.167 0.863	0.312 0.249				
70° -0.444 0.115	71° 0.562 0.596	72° -0.144 -0.653	73° 2.204 1.471				
-0.016 0.241	2.563 1.425	0.670 1.013	-0.226 0.743				
-0.544 -1.580	-0.214 0.450	-0.304 0.955	-0.641 -0.492				
0.558 0.449	2.066 2.216	0.020 0.269	-1.706 -1.388				
-1.125 -1.879	1.240 1.669	-1.273 0.049	-1.085 -0.699				
-1.006 -0.566	0.143 0.155	-0.096 -0.208	0.559 0.419				
0.500 -0.019	-0.389 0.418	0.636 0.593	2.560 0.813				
0.980 1.558	1.480 1.204	-0.990 -1.654	-0.744 0.127				
1.019 0.561	-0.413 -0.342	-0.889 0.347	0.982 -0.593				
1.204 0.585	-0.234 0.125	0.026 -0.308	0.074 -0.902				
77° -0.881 -0.775	74° -0.145 0.551	75° -1.161 -0.724	76° -0.132 0.046				
-0.648 -0.324	-0.312 -0.119	0.638 -0.006	-1.300 -0.905				
-1.512 -1.865	1.103 0.461	0.508 0.741	-1.094 -1.909				
-0.887 -1.405	-1.066 -0.365	0.535 0.613	-0.178 -1.121				
-0.186 0.053	0.018 0.749	0.805 0.706	-0.217 0.105				
0.175 -0.097	-0.810 -0.652	1.404 0.913	0.126 -0.186				
-2.217 -1.859	0.288 -0.022	-1.583 -2.069	-0.814 -0.348				
-1.776 -1.837	-0.855 -0.416	-1.068 -1.545	-0.700 -0.337				
0.083 -0.437	-0.400 0.311	0.033 -0.019	-0.196 -0.708				
1.948 0.738	0.486 -0.295	-0.193 -0.997	2.033 1.986				
79° -1.598 -1.319	80° 0.642 0.711	81° 1.339 0.217	82° -1.677 -0.810				

RHO = 0.8 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-0.966	-0.610	-1.099	-0.927	-1.284	-1.882	0.011	-0.052
1.428	1.658	-0.899	-0.662	-0.976	0.002	-1.564	-1.494
-1.829	-1.519	-0.924	-1.149	0.348	0.564	-0.079	-0.090
-0.153	0.255	-0.336	-0.843	-0.226	-0.302	1.816	0.805
0.045	0.175	-0.300	0.202	-0.611	-1.098	-0.548	-0.165
0.348	0.235	-0.980	-0.870	-0.723	-0.731	0.165	-0.152
1.344	2.233	0.460	0.287	-0.474	0.095	-1.709	-0.714
-0.383	-0.038	-0.144	0.019	1.221	1.476	0.166	0.197
0.755	0.418	1.044	0.470	-2.551	-2.294	0.125	-0.175
80° -0.657	-0.603	-2.141	-1.814	-1.706	-0.918	-1.494	-0.384
-2.033	-1.507	0.138	0.713	-1.157	-0.902	0.642	1.415
3.213	4.302	-0.283	-0.605	2.182	1.849	1.872	1.466
0.666	0.620	0.431	-0.022	0.396	0.232	-0.470	-0.583
-0.086	0.041	0.117	-0.793	0.573	0.341	0.952	1.111
-0.459	-0.839	-0.390	0.428	0.797	1.671	0.475	0.195
1.133	1.176	-1.254	-0.414	1.154	2.319	-0.566	-1.087
0.277	-0.320	-0.638	-0.374	-1.268	-0.822	1.166	1.111
-0.441	0.469	-1.707	-0.507	0.614	-0.455	1.006	1.234
-0.436	0.538	0.376	0.333	0.888	0.315	1.289	1.128
85° -0.121	0.283	80° 1.445	0.891	85° 0.640	0.384	80° 0.353	0.037
1.089	0.899	0.338	-0.087	0.955	1.045	-0.467	-0.393
1.780	0.780	-0.111	-0.057	-0.081	-0.004	-1.835	-2.516
-0.462	-0.077	1.935	2.128	1.618	1.531	✓0.585	0.712
-0.050	0.523	-0.687	-0.188	0.138	0.145	✓1.129	1.138
-0.400	-0.025	0.857	0.940	0.565	0.334	✓1.132	-0.195
1.076	0.475	1.403	1.058	-1.014	-1.207	-0.069	0.361
-0.038	0.417	-0.211	-0.488	-0.515	-0.183	-2.138	-2.351
-0.154	0.397	0.849	2.246	-0.851	-2.098	✓2.261	1.116
-0.688	0.011	0.420	2.006	0.064	-0.057	0.463	0.006
85° 0.947	0.253	80° 1.337	1.338	85° 0.316	0.635	80° -0.196	-0.435
✓1.337	1.519	1.437	1.186	-1.010	-1.526	-0.379	-0.762
✓1.067	0.205	-2.445	-1.904	0.173	0.755	0.249	0.471
0.724	-0.095	1.527	1.813	0.950	0.773	-0.976	-0.692
0.893	0.615	0.189	0.282	0.408	0.623	-0.717	-0.404
0.161	0.130	-0.622	-0.351	-1.368	-0.398	0.361	0.779
-0.887	-0.355	0.929	0.460	-0.291	0.803	0.594	-0.297
-0.664	-1.243	-2.322	-2.141	0.724	1.124	-0.683	0.013
-0.585	-0.541	-0.539	-0.609	-0.237	0.058	-0.132	0.754
-0.064	-0.051	0.114	0.403	-0.087	-0.099	0.582	0.572
0.485	0.019	-0.528	-0.761	-0.742	0.148	1.795	2.113
85°		80°		85°		80°	

RHO = 0.8 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
1.648	1.467	1.373	1.644	-0.115	-0.105	-0.158	-1.180
0.012	0.488	-0.349	-0.035	0.881	1.238	-0.940	-1.060
-0.839	-0.524	0.143	-0.255	0.330	0.070	0.785	1.118
1.682	1.827	-0.315	0.532	0.320	0.889	0.352	0.999
0.161	-0.064	-0.888	-0.331	-0.065	-0.212	0.098	-0.171
1.183	0.399	0.260	0.103	1.262	0.664	-0.641	-0.547
-0.664	0.211	0.966	-0.222	0.386	0.811	0.469	-0.084
-0.796	-0.432	0.066	-1.360	-0.606	-1.875	-0.234	-0.537
0.373	-0.536	-0.606	-0.966	1.372	0.902	-1.414	-0.860
0.431	0.494	0.788	0.906	-0.595	0.436	-0.737	0.792



ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

RHO = 0.9

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-2.744	-2.474	1.460	1.840	0.413	0.989	0.021	0.741
1.303	1.291	1.766	1.711	-1.219	-2.081	-0.045	-0.406
-0.488	-0.079	-0.338	-0.650	1.977	1.922	-0.229	-0.150
0.468	0.798	-1.019	-0.283	-0.911	-0.440	1.804	1.415
-0.244	-0.395	-0.438	-0.621	-0.799	-0.242	-0.609	-0.855
1.964	1.871	-1.761	-1.695	0.400	0.231	-0.133	0.063
-0.324	-0.295	2.848	3.311	-0.229	-0.026	-0.431	-0.891
1.478	1.365	0.226	0.571	-0.599	-0.571	-0.169	0.085
0.957	1.168	0.208	0.447	-1.624	-1.042	-0.008	-0.240
0.699	0.226	0.630	0.755	-0.219	-0.970	0.385	0.599
0.289	0.003	0.329	0.214	-0.297	-0.515	-0.652	-0.656
0.314	0.681	1.139	1.548	-0.773	-1.005	-0.785	-0.612
0.358	-0.199	-2.102	-2.305	-0.561	-0.282	0.324	0.145
1.010	1.033	2.441	1.687	-0.575	-0.601	1.009	0.971
-0.147	-0.319	-0.397	-0.793	-0.728	-1.140	-0.392	-0.084
-0.526	-0.528	0.222	-0.228	0.065	0.696	-0.545	-1.342
-0.540	-0.311	-0.868	-0.629	-0.111	0.008	-1.112	-0.831
0.395	0.080	-0.830	-0.116	-2.168	-2.410	1.240	0.511
-0.133	0.308	2.172	1.859	-0.021	0.102	-0.150	-0.279
-0.540	-0.723	-1.027	-1.009	-0.585	-0.113	-1.948	-1.523
0.761	-0.187	0.410	0.799	-0.772	-0.404	1.183	0.691
-0.644	0.215	-1.682	-1.173	-0.498	-0.384	-0.422	-0.606
-0.169	0.344	-0.466	-0.136	-1.676	-1.029	-0.427	0.270
0.771	0.763	0.893	0.830	-1.221	-0.559	-1.495	-0.839
-0.237	-0.174	1.232	1.747	0.954	0.540	-0.291	-0.511
-2.607	-2.718	1.386	0.954	-0.066	0.336	-0.478	-0.319
-0.755	-1.315	0.191	0.220	-1.194	-0.700	0.278	0.080
0.908	1.027	-0.517	-1.217	0.655	0.520	0.315	0.916
-0.035	0.483	1.098	1.111	0.567	-0.117	1.967	1.220
-1.996	-1.427	-1.128	-1.193	-1.371	-1.789	1.572	1.604
-0.390	-0.049	-0.359	-0.034	0.926	1.293	0.464	0.199
0.369	0.302	0.241	-0.672	-0.456	-0.300	0.981	1.272
-1.133	-1.121	0.508	-0.004	-1.431	-1.710	0.457	0.227
1.691	1.268	-0.723	-0.620	0.087	-0.312	0.229	-0.442
-0.575	-0.042	0.385	-0.173	0.184	0.245	-0.368	-0.478
-0.344	-0.746	-1.332	-1.369	-0.055	-0.061	0.003	-0.003
-0.030	0.562	-0.039	0.376	0.458	0.059	-1.322	-0.996
0.952	0.578	0.101	-0.665	-0.193	0.064	-0.008	0.428
-0.810	-1.062	-0.077	-0.051	-0.921	-0.504	-1.719	-2.154
1.268	1.224	0.264	0.554	0.360	0.543	2.882	2.260



RHO = 0.9 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-0.228	-0.452	-0.041	0.305	0.735	0.458	-0.870	-0.416
0.289	0.772	-0.156	-0.281	0.290	-0.810	1.361	1.393
-0.595	-0.262	-0.245	-0.279	0.112	0.206	0.912	1.183
-0.295	-0.700	-1.471	-0.972	1.287	1.744	0.117	0.165
-1.225	-0.880	0.001	-0.014	-0.101	-0.283	1.314	0.862
1.201	1.239	2.006	1.720	1.036	0.322	-0.162	-0.069
-1.430	-1.388	0.382	0.684	1.783	1.680	0.024	0.384
-1.533	-1.407	0.963	1.457	-1.774	-1.163	0.209	0.272
-1.522	-2.204	0.586	0.523	1.451	1.642	1.729	2.087
-0.811	-0.547	1.087	1.043	0.545	0.584	0.920	0.336
-0.814	-0.666	-0.698	-1.375	0.592	0.550	0.117	0.154
0.054	0.265	0.066	0.002	-1.321	-2.081	0.657	0.984
-2.619	-2.070	0.216	0.349	0.891	0.657	-0.124	-0.025
-0.249	0.147	-1.413	-0.746	-0.684	-0.663	-1.891	-1.716
0.751	1.237	1.016	0.863	-0.962	-1.153	-1.308	-1.539
-0.033	0.047	0.338	0.673	0.144	0.880	-0.038	-0.138
0.984	1.203	0.389	1.466	-1.281	-1.699	0.254	0.537
1.389	0.882	-0.994	-0.685	-1.150	-1.415	-2.096	-1.900
0.767	0.545	-0.976	-1.284	1.622	1.711	0.249	0.444
0.705	1.278	0.278	-0.276	-0.879	-0.878	0.623	0.681
-1.212	-1.617	-1.394	-1.644	-0.566	-0.286	-1.636	-1.366
-0.398	-0.433	0.843	0.964	-1.354	-0.597	-0.194	-0.012
-0.267	-0.330	1.825	2.231	-0.157	-0.034	0.287	-0.344
-2.232	-2.488	0.388	0.874	-0.888	-0.935	-0.859	0.074
-0.708	-0.482	-0.632	-0.790	-1.463	-1.987	0.705	0.770
-0.110	0.501	-1.400	-0.529	-0.795	-1.465	0.315	-0.729
0.150	0.644	0.921	0.925	0.203	0.117	-0.694	-0.620
-0.344	0.103	1.167	1.739	-0.385	-0.396	1.015	0.593
1.995	1.760	0.173	-0.620	-0.472	-0.383	-1.223	-0.924
1.753	1.271	0.776	0.523	-0.973	-0.355	-0.071	0.106
0.516	0.591	0.811	0.808	-0.800	-0.768	-1.193	-0.995
0.870	0.396	-1.886	-1.949	0.131	0.071	-0.255	-0.342
0.400	0.785	-1.478	-0.987	-0.094	0.315	-2.919	-2.615
-2.308	-1.603	-0.130	0.204	-0.388	0.378	0.150	-0.299
-1.667	-0.777	0.995	0.778	-0.666	0.213	0.289	0.099
-1.092	-1.025	1.731	1.658	-1.841	-1.565	-0.168	-0.208
-0.996	-0.448	-0.084	-0.644	0.172	-0.098	-0.883	-1.371
0.206	0.294	0.384	-1.141	0.459	0.502	-1.522	-0.925
0.100	0.863	0.972	0.601	0.107	0.215	-0.748	-1.171
-0.728	0.136	0.517	0.685	0.200	0.327	0.776	0.763

RHO = 0.9 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-0.692	-1.241	0.853	0.962	0.826	1.226	0.384	0.719
-0.205	0.375	-0.184	-0.314	0.069	0.192	-0.588	-0.990
-0.683	0.317	1.244	1.383	-0.983	-1.053	0.197	0.336
0.461	1.003	0.971	0.762	-1.246	-0.349	-1.925	-2.567
-0.187	-0.547	-0.166	0.084	0.367	0.540	0.382	0.808
-1.041	-1.071	0.668	0.359	-2.058	-2.092	1.453	1.423
0.484	-0.328	1.309	1.147	0.565	0.679	-0.376	-0.056
-1.025	-1.356	-0.406	-0.605	0.321	-0.140	0.232	0.284
1.018	1.429	-0.641	-0.373	-1.704	-1.953	0.612	0.463
-0.802	-0.734	1.438	1.489	1.578	1.491	1.100	0.769
1.102	1.255	-0.331	0.069	1.250	0.299	0.032	-0.316
-0.685	-0.494	1.887	1.315	-0.600	-0.290	1.744	2.404
-0.577	-0.424	-0.072	0.258	2.113	2.024	-0.427	-0.139
1.013	1.183	-0.372	-0.264	0.476	0.400	0.853	1.257
-1.331	-0.889	1.822	1.138	-1.427	-1.175	1.921	1.969
0.979	0.307	-0.652	-0.474	1.492	1.315	-1.887	-1.781
-0.472	-0.094	-1.959	-1.827	1.318	1.494	-1.235	-0.738
-0.098	0.412	-0.264	-0.196	1.136	0.703	-0.787	-0.422
0.687	1.080	1.270	0.900	-0.966	-1.161	-0.208	-0.113
-1.531	-1.942	1.478	1.052	1.097	2.125	-1.161	-0.890
0.834	1.315	-1.803	-2.360	0.410	0.725	-1.311	-0.666
0.367	0.349	1.263	1.461	-0.940	-0.995	-2.321	-2.266
-0.345	-1.549	-1.489	-0.847	0.133	0.053	0.144	-0.059
1.284	1.962	0.778	-0.203	0.714	0.248	-0.579	-0.932
-2.161	-2.236	0.898	0.635	0.890	0.850	-2.155	-1.056
-1.093	-0.630	-0.291	-0.433	-1.254	-1.299	0.752	0.430
0.074	-0.151	1.046	1.556	-1.631	-1.338	-0.522	0.072
-0.076	1.072	2.746	2.238	0.844	-0.161	1.359	0.531
0.045	0.198	1.643	1.146	-0.743	-1.064	-0.268	0.153
0.023	0.435	-0.426	-0.737	-0.305	-0.004	-0.069	0.234
-1.558	-1.579	-1.624	-1.123	0.243	0.298	-0.707	-1.204
-0.110	0.556	0.883	0.561	0.987	1.102	1.154	1.440
1.951	1.272	-1.068	-1.086	-0.987	-0.777	-0.150	-0.872
0.213	0.611	-0.642	-0.149	1.407	1.785	-0.283	0.541
0.261	0.642	-1.001	-1.016	0.255	0.230	-1.910	-1.532
0.680	0.619	-0.311	-0.528	-0.358	-0.582	0.306	-0.125
1.058	1.133	-1.736	-1.767	1.656	1.101	-0.300	0.490
-1.021	-1.204	0.561	0.285	0.381	0.264	-0.391	-0.624
0.030	0.471	0.416	0.281	1.904	1.389	1.368	1.641
0.796	0.127	-0.336	-0.798	-0.690	-0.130	0.314	-0.417

RHO = 0.9 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-1.136	-1.268	-0.859	-0.255	-1.686	1.579	0.781	0.575
1.820	1.465	0.683	0.276	0.118	0.110	-0.893	-0.442
1.249	1.278	0.127	0.300	-0.309	0.352	0.628	0.011
0.737	0.620	1.308	1.727	2.491	2.311	-0.322	-0.131
-0.129	0.519	0.061	-0.299	-0.395	-0.417	-0.406	-0.062
-0.764	-0.151	0.224	0.055	0.118	0.218	0.712	0.940
1.418	1.465	0.632	1.074	-0.884	-0.766	-0.631	-0.439
-0.997	-0.776	0.120	0.599	1.685	1.516	-1.101	-1.652
-1.422	-1.292	0.526	1.357	-1.089	-0.213	1.638	1.132
-1.273	-0.827	-1.316	-1.478	-1.120	-0.979	0.924	1.026
0.037	-0.506	1.431	1.497	0.678	0.883	1.091	0.608
0.094	-0.230	-0.398	0.494	1.391	0.881	1.476	1.877
-1.515	-0.716	0.034	0.557	0.105	0.246	0.414	-0.603
-1.207	0.049	-1.437	-0.988	0.905	1.222	0.242	0.048
-0.393	-0.425	0.024	-0.025	-0.122	0.160	-1.705	-2.073
1.511	0.226	1.253	-0.071	0.110	0.147	0.909	0.900
1.092	1.636	0.087	-0.258	0.686	0.670	-1.579	-1.492
-0.065	-0.779	1.360	1.787	-1.307	-1.454	0.166	0.009
0.627	0.197	-0.089	-0.996	0.216	0.432	-1.520	-1.077
0.753	-0.133	-0.427	-0.597	-1.658	-1.327	-1.301	-0.836
1.899	2.366	0.183	-0.014	-1.845	-0.973	-1.841	-2.553
-0.348	-0.111	1.577	0.808	0.743	-0.269	0.197	0.678
-0.403	-0.700	1.591	1.429	0.192	0.131	0.147	-0.152
-0.680	-0.610	0.061	-0.277	-0.414	0.263	0.346	0.531
0.407	0.371	-0.177	0.187	0.012	0.106	0.129	0.367
0.444	0.161	-0.287	0.230	0.557	0.891	-1.166	-1.258
0.017	0.252	-0.434	-0.530	-0.695	-0.974	-0.205	-0.486
0.712	1.291	-0.781	-0.733	0.343	0.242	-0.651	-0.634
0.115	-0.109	-0.493	-0.296	-0.243	-0.418	-2.169	-1.414
-0.189	-0.687	0.267	1.269	-1.368	-1.666	-0.422	-0.686
2.387	1.977	0.335	0.936	-0.944	-0.879	-1.075	-0.948
-0.571	0.402	1.545	1.430	-0.887	-0.343	-0.792	-0.524
0.523	0.693	0.736	0.977	0.889	0.824	-0.236	-0.900
1.254	1.584	-0.259	0.121	0.471	1.151	-0.072	0.362
2.208	1.515	0.397	-0.155	0.944	1.110	-0.964	-1.278
-1.028	-0.780	-0.459	-0.755	-1.605	-2.075	0.424	0.219
-1.869	-1.461	-0.992	-0.262	-0.091	0.027	-1.572	-1.571
1.271	1.864	0.633	0.998	0.572	1.994	0.384	0.373
-0.021	-0.031	0.254	0.351	1.471	1.192	-0.372	0.038
-0.161	0.591	-0.295	-0.350	0.690	1.437	-0.504	-1.336

RHO = 0.9 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
0.439	1.267	-0.176	-0.589	1.317	1.895	0.324	0.896
2.364	1.747	0.445	0.125	0.436	0.252	1.447	0.888
-0.800	-0.599	-1.596	-0.856	0.135	-0.432	0.202	1.021
-1.468	-1.468	-0.461	-0.258	1.498	0.694	-1.075	-0.542
-0.052	-0.705	0.684	0.581	-0.388	-0.919	-0.049	-0.410
-0.968	-0.882	-1.325	-0.987	-0.437	-0.384	0.617	0.747
1.371	1.377	0.349	0.083	-1.564	-1.756	1.258	1.470
-0.449	-0.510	1.541	1.554	-0.682	-0.641	-0.790	-0.654
0.157	0.349	0.088	0.370	0.295	0.240	-0.190	0.030
-0.225	0.102	0.824	0.649	-0.548	-1.397	-0.608	-0.227
-2.008	-1.970	-0.413	-0.284	-0.124	-0.285	1.294	0.688
0.394	-0.309	1.212	0.817	-0.348	-0.452	-1.148	-0.189
0.566	0.711	0.535	-0.060	-0.134	-0.175	0.400	0.705
0.094	0.429	-1.607	-0.217	-1.396	-0.868	0.275	-0.001
0.564	0.365	-1.380	0.075	-1.047	0.122	0.813	0.214
-0.438	-0.690	1.052	1.743	-0.003	-0.334	1.350	0.735
-0.325	0.119	-0.473	0.310	-1.176	-0.190	0.221	0.047
0.487	0.332	-0.120	-0.078	-0.481	-0.688	-0.237	0.672
1.586	1.848	1.946	1.069	0.167	0.680	0.312	0.280
-0.444	-0.058	0.562	0.612	-0.144	-0.520	2.204	1.772
-0.016	0.170	2.563	1.852	0.670	0.950	-0.226	0.467
-0.544	-1.321	-0.214	0.258	-0.304	0.597	-0.641	-0.562
0.558	0.504	2.066	2.269	0.020	0.202	-1.706	-1.552
-1.125	-1.723	1.240	1.608	-1.273	-0.370	-1.085	-0.854
-1.006	-0.732	0.143	0.158	-0.096	-0.181	0.559	0.483
0.500	0.146	-0.389	0.180	0.636	0.633	2.560	1.407
0.980	1.445	1.480	1.347	-0.990	-1.517	-0.744	-0.145
1.019	0.733	-0.413	-0.380	-0.889	-0.031	0.982	-0.117
1.204	0.809	-0.234	0.016	0.026	-0.215	0.074	-0.631
-0.881	-0.844	-0.145	0.354	-1.161	-0.896	-0.132	-0.009
-0.648	-0.442	-0.312	-0.186	0.638	0.199	-1.300	-1.072
-1.512	-1.837	1.103	0.686	0.508	0.700	-1.094	-1.736
-0.887	-1.303	-1.066	-0.605	0.535	0.616	-0.178	-0.871
-0.186	-0.021	0.018	0.550	0.805	0.769	-0.217	0.007
0.175	-0.015	-0.810	-0.732	1.404	1.111	0.126	-0.095
-2.217	-2.057	0.288	0.076	-1.583	-2.008	-0.814	-0.512
-1.776	-1.901	-0.855	-0.575	-1.068	-1.463	-0.700	-0.468
0.083	-0.291	-0.400	0.099	0.033	-0.004	-0.196	-0.577
1.948	1.157	0.486	-0.059	-0.193	-0.786	2.033	2.091
-1.598	-1.467	0.642	0.721	1.339	0.584	-1.677	-1.123



RHO = 0.9 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
-0.966	-0.751	-1.099	-1.024	-1.284	-1.776	0.011	-0.034
1.428	1.660	-0.899	-0.767	-0.976	-0.310	-1.569	-1.585
-1.829	-1.687	-0.924	-1.129	0.348	0.520	-0.079	-0.090
-0.153	0.137	-0.336	-0.719	-0.226	-0.291	1.816	1.164
0.045	0.141	-0.300	0.051	-0.611	-0.993	-0.548	-0.294
0.348	0.282	-0.980	-0.944	-0.723	-0.762	0.165	-0.058
1.344	2.050	0.460	0.355	-0.474	-0.082	-1.709	-1.063
-0.383	-0.150	-0.144	-0.032	1.221	1.462	0.166	0.190
0.755	0.544	1.044	0.674	-2.551	-2.480	0.125	-0.087
-0.657	-0.648	-2.141	-2.000	-1.706	-1.211	-1.494	-0.755
-2.033	-1.743	0.138	0.562	-1.157	-1.024	0.642	1.232
3.213	4.150	-0.283	-0.530	2.182	2.039	1.872	1.662
0.666	0.663	0.431	0.122	0.396	0.295	-0.470	-0.573
-0.086	0.002	0.117	-0.539	0.573	0.430	0.952	1.111
-0.459	-0.756	-0.390	0.187	0.797	1.468	0.475	0.293
1.133	1.215	-1.254	-0.700	1.154	2.052	-0.566	-0.970
0.277	-0.144	-0.638	-0.475	-1.268	-1.001	1.166	1.179
-0.441	0.200	-1.707	-0.912	0.614	-0.134	1.000	1.217
-0.436	0.252	0.376	0.362	0.888	0.512	1.289	1.230
-0.121	0.167	1.445	1.108	0.640	0.483	0.353	0.139
1.089	1.000	0.338	0.044	0.955	1.064	-0.467	-0.434
1.780	1.134	-0.111	-0.077	-0.081	-0.029	-1.835	-2.413
-0.462	-0.203	1.935	2.163	1.618	1.628	0.585	0.704
-0.050	0.364	-0.687	-0.356	0.138	0.149	1.129	1.186
-0.400	-0.145	0.857	0.956	0.565	0.423	1.132	0.220
1.076	0.688	1.403	1.216	-1.014	-1.201	-0.069	0.240
-0.038	0.291	-0.211	-0.422	-0.515	-0.297	-2.138	-2.389
-0.154	0.239	0.849	1.903	-0.851	-1.796	2.261	1.531
-0.688	-0.211	0.420	1.592	0.064	-0.021	0.463	0.152
0.947	0.486	1.337	1.398	0.316	0.562	-0.196	-0.379
1.337	1.530	1.437	1.320	-1.010	-1.431	-0.379	-0.674
1.067	0.489	-2.445	-2.163	0.173	0.603	0.249	0.421
0.724	0.161	1.527	1.804	0.950	0.804	-0.976	-0.814
0.893	0.731	0.189	0.265	0.408	0.583	-0.717	-0.522
0.161	0.146	-0.622	-0.453	-1.368	-0.725	0.361	0.681
-0.887	-0.540	0.929	0.630	-0.291	0.491	0.594	-0.026
-0.664	-1.115	-2.322	-2.296	0.724	1.047	-0.683	-0.208
-0.585	-0.579	-0.539	-0.614	-0.237	-0.034	-0.132	0.506
-0.064	-0.058	0.114	0.329	-0.087	-0.100	0.582	0.601
0.485	0.169	-0.528	-0.721	-0.742	-0.129	1.795	2.107



RHO = 0.9 (CONT.)

( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )	( X , Y )
1.648	1.592	1.373	1.632	-0.115	-0.113	-0.158	-0.908
0.012	0.358	-0.349	-0.137	0.881	1.180	-0.940	-1.070
-0.839	-0.648	0.143	-0.139	0.330	0.156	0.785	1.062
1.682	1.863	-0.315	0.286	0.320	0.748	0.352	0.838
0.161	0.005	-0.888	-0.524	-0.065	-0.175	0.098	-0.093
1.183	0.667	0.260	0.158	1.262	0.884	-0.641	-0.602
-0.664	-0.058	0.966	0.147	0.386	0.712	0.469	0.088
-0.796	-0.568	0.066	-0.967	-0.606	-1.555	-0.234	-0.465
0.373	-0.271	-0.606	-0.895	1.372	1.092	-1.414	-1.076
0.431	0.497	0.788	0.909	-0.595	0.127	-0.737	0.341

ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย

## ตารางที่ 2

ตารางแสดงค่าสถิติจากการคำนวณและค่าตามทฤษฎี

ผลการพิมพ์เลขขึ้น 1000 ครั้ง ณ ค่า RHO = 0.1 ถึง 0.9

RHO	RBAR	ZFBAR	SER	SER (TH)	SEZF	SEZF (TH)
0.1	0.093	0.128	0.492	0.574	0.674	0.707
<del>0.1</del>	<del>0.094</del>	0.112	<del>0.334</del>	<del>0.352</del>	<del>0.379</del>	<del>0.378</del>
0.1	0.096	0.103	0.267	0.276	0.289	0.289
0.1	0.091	0.096	0.227	0.235	0.241	0.243
0.1	0.096	0.100	0.195	0.207	0.204	0.213
0.1	0.092	0.095	0.180	0.188	0.187	0.192
0.1	0.093	0.096	0.167	0.173	0.173	0.177
<del>0.1</del>	<del>0.096</del>	<del>0.098</del>	<del>0.152</del>	<del>0.161</del>	<del>0.157</del>	<del>0.164</del>
0.1	0.095	0.098	0.144	0.152	0.149	0.154
0.1	0.095	0.097	0.137	0.144	0.141	0.146
RHO	RBAR	ZFBAR	SER	SER (TH)	SEZF	SEZF (TH)
0.2	0.189	0.257	0.482	0.566	0.673	0.707
<del>0.2</del>	<del>0.196</del>	0.224	<del>0.325</del>	<del>0.346</del>	<del>0.377</del>	<del>0.378</del>
0.2	0.194	0.211	0.259	0.272	0.288	0.289
0.2	0.190	0.203	0.221	0.231	0.241	0.243
0.2	0.196	0.206	0.189	0.204	0.204	0.213
0.2	0.192	0.200	0.175	0.185	0.186	0.192
0.2	0.193	0.201	0.162	0.171	0.172	0.177
<del>0.2</del>	<del>0.196</del>	<del>0.203</del>	<del>0.148</del>	<del>0.159</del>	<del>0.157</del>	<del>0.164</del>
0.2	0.195	0.202	0.140	0.149	0.148	0.154
0.2	0.195	0.201	0.133	0.141	0.141	0.146
RHO	RBAR	ZFBAR	SER	SER (TH)	SEZF	SEZF (TH)
0.3	0.285	0.391	0.466	0.551	0.672	0.707
<del>0.3</del>	<del>0.294</del>	0.340	<del>0.309</del>	<del>0.337</del>	<del>0.375</del>	<del>0.378</del>
0.3	0.293	0.324	0.247	0.265	0.286	0.289
0.3	0.290	0.314	0.210	0.225	0.240	0.243
0.3	0.296	0.316	0.179	0.199	0.203	0.213
0.3	0.292	0.310	0.166	0.180	0.186	0.192
0.3	0.293	0.311	0.153	0.166	0.171	0.177
<del>0.3</del>	<del>0.296</del>	<del>0.312</del>	<del>0.140</del>	<del>0.155</del>	<del>0.156</del>	<del>0.164</del>
0.3	0.295	0.311	0.133	0.145	0.148	0.154
0.3	0.295	0.310	0.126	0.138	0.141	0.146
RHO	RBAR	ZFBAR	SER	SER (TH)	SEZF	SEZF (TH)
0.4	0.381	0.531	0.442	0.529	0.670	0.707
<del>0.4</del>	<del>0.392</del>	<del>0.464</del>	<del>0.287</del>	<del>0.324</del>	<del>0.372</del>	<del>0.378</del>
0.4	0.393	0.444	0.229	0.254	0.284	0.289
0.4	0.390	0.432	0.195	0.216	0.239	0.243
0.4	0.396	0.434	0.165	0.191	0.202	0.213
0.4	0.392	0.427	0.153	0.173	0.185	0.192
0.4	0.394	0.428	0.142	0.160	0.171	0.177
<del>0.4</del>	<del>0.396</del>	<del>0.429</del>	<del>0.129</del>	<del>0.149</del>	<del>0.156</del>	<del>0.164</del>
0.4	0.396	0.427	0.123	0.140	0.148	0.154
0.4	0.395	0.426	0.117	0.132	0.140	0.146

N	RHO	RBAR	ZFBAR	SER	SER(TH)	SEZF	SEZF(TH)
5	0.5	0.477	0.683	0.409	0.500	0.668	0.707
10	0.5	0.492	0.600	0.259	0.306	0.364	0.378
15	0.5	0.493	0.576	0.207	0.240	0.282	0.289
20	0.5	0.490	0.563	0.175	0.204	0.238	0.243
25	0.5	0.496	0.564	0.147	0.181	0.200	0.213
30	0.5	0.493	0.556	0.137	0.164	0.184	0.192
35	0.5	0.495	0.557	0.126	0.151	0.170	0.177
40	0.5	0.497	0.557	0.116	0.140	0.155	0.164
45	0.5	0.495	0.555	0.110	0.132	0.148	0.154
50	0.5	0.496	0.553	0.104	0.125	0.140	0.146

N	RHO	RBAR	ZFBAR	SFR	SER(TH)	SEZF	SEZF(TH)
5	0.6	0.574	0.851	0.367	0.462	0.665	0.707
10	0.6	0.592	0.753	0.225	0.283	0.365	0.378
15	0.6	0.593	0.727	0.179	0.222	0.280	0.289
20	0.6	0.592	0.712	0.150	0.189	0.236	0.243
25	0.6	0.597	0.711	0.126	0.167	0.199	0.213
30	0.6	0.594	0.704	0.117	0.151	0.183	0.192
35	0.6	0.596	0.704	0.108	0.139	0.169	0.177
40	0.6	0.597	0.703	0.099	0.130	0.155	0.164
45	0.6	0.597	0.701	0.094	0.122	0.148	0.154
50	0.6	0.597	0.699	0.089	0.115	0.139	0.146

N	RHO	RBAR	ZFBAR	SER	SER(TH)	SEZF	SEZF(TH)
5	0.7	0.673	1.050	0.316	0.412	0.660	0.707
10	0.7	0.692	0.937	0.183	0.252	0.362	0.378
15	0.7	0.694	0.907	0.145	0.198	0.277	0.289
20	0.7	0.693	0.891	0.120	0.168	0.234	0.243
25	0.7	0.698	0.890	0.100	0.149	0.198	0.213
30	0.7	0.696	0.881	0.094	0.135	0.183	0.192
35	0.7	0.697	0.881	0.086	0.124	0.168	0.177
40	0.7	0.698	0.880	0.079	0.116	0.154	0.164
45	0.7	0.697	0.877	0.076	0.109	0.147	0.154
50	0.7	0.697	0.876	0.071	0.103	0.139	0.146

N	RHO	RBAR	ZFBAR	SER	SER(TH)	SEZF	SEZF(TH)
5	0.8	0.776	1.307	0.247	0.346	0.650	0.707
10	0.8	0.794	1.179	0.134	0.212	0.358	0.378
15	0.8	0.796	1.146	0.104	0.166	0.274	0.289
20	0.8	0.796	1.128	0.085	0.141	0.231	0.243
25	0.8	0.799	1.125	0.071	0.125	0.197	0.213
30	0.8	0.797	1.117	0.066	0.113	0.182	0.192
35	0.8	0.798	1.116	0.061	0.104	0.167	0.177
40	0.8	0.799	1.114	0.056	0.097	0.154	0.164
45	0.8	0.799	1.111	0.054	0.091	0.147	0.154
50	0.8	0.798	1.109	0.050	0.087	0.139	0.146

N	RHO	RBAR	ZFBAR	SER	SER(TH)	SEZF	SEZF(TH)
5	0.9	0.895	1.709	0.146	0.252	0.635	0.707
10	0.9	0.896	1.562	0.074	0.154	0.355	0.378
15	0.9	0.898	1.527	0.056	0.121	0.270	0.289
20	0.9	0.898	1.508	0.045	0.103	0.229	0.243
25	0.9	0.899	1.503	0.037	0.091	0.196	0.213
30	0.9	0.899	1.494	0.035	0.082	0.182	0.192
35	0.9	0.899	1.494	0.032	0.076	0.167	0.177
40	0.9	0.899	1.491	0.030	0.071	0.154	0.164
45	0.9	0.899	1.487	0.028	0.066	0.147	0.154
50	0.9	0.899	1.486	0.026	0.063	0.138	0.146

RHO	คือค่าสัมประสิทธิ์สหสัมพันธ์ของประชากร
RBAR	คือค่าเฉลี่ยของสัมประสิทธิ์สหสัมพันธ์ตัวอย่าง 1,000 ชุด
ZFBAR	คือค่าเฉลี่ยของค่าสถิติ Fisher's Transformation ( $Z_F$ )
SER	คือส่วน เบี่ยงเบนมาตรฐานของสัมประสิทธิ์สหสัมพันธ์ตัวอย่าง
SER (TH)	คือส่วน เบี่ยงเบนมาตรฐานของสัมประสิทธิ์สหสัมพันธ์ตามทฤษฎี
SEZF	คือส่วน เบี่ยงเบนมาตรฐานของ $Z_F$ จากตัวอย่าง
SEZF (TH)	คือส่วน เบี่ยงเบนมาตรฐานของ $Z_F$ ตามทฤษฎี



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## ตารางที่ 3

แสดงค่าผลต่างสมบูรณ์ระหว่าง  $F_0(x)$  กับ  $S_n(x)$  ที่มากที่สุด  
จากการทดสอบลักษณะการแจกแจงของค่า  $x$

n	RHO				
	.1	.2	.3	.4	.5
5	.0548	.0609	.0865	.0941	.1376
10	.0432	.0440	.0461	.0592	.0698
15	.0212	.0456	.0460	.0497	.0607
20	.0271	.0337	.0334	.0361	.0492
25	.0354	.0304	.0343	.0384	.0400
30	.0374	.0338	.0423	.0429	.0413
35	.0245	.0349	.0411	.0489	.0523
40	.0209	.0231	.0329	.0381	.0405
45	.0206	.0248	.0285	.0373	.0414
50	.0172	.0230	.0288	.0359	.0413

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## ตารางที่ 4

แสดงค่าผลต่างสัมบูรณ์ระหว่าง  $F_0(x)$  กับ  $S_n(x)$  ที่มากที่สุด  
จากการทดสอบลักษณะการแจกแจงของค่า  $Z_F$

n	RHO								
	.1	.2	.3	.4	.5	.6	.7	.8	.9
5	.0297	.0297	.0292	.0234	.0198	.0207	.0267	.0281	.0271
10	.0139	.0129	.0156	.0197	.0186	.0203	.0142	.0143	.0183
15	.0137	.0154	.0174	.0160	.0183	.0153	.0173	.0145	.0147
20	.0198	.0256	.0220	.0168	.0158	.0179	.0196	.0169	.0197
25	.0277	.0162	.0160	.0135	.0250	.0280	.0219	.0281	.0241
30	.0287	.0251	.0264	.0243	.0165	.0179	.0167	.0178	.0156
35	.0167	.0211	.0201	.0234	.0192	.0176	.0172	.0131	.0162
40	.0189	.0161	.0154	.0186	.0202	.0148	.0184	.0128	.0193
45	.0142	.0123	.0143	.0188	.0235	.0172	.0161	.0140	.0193
50	.0147	.0142	.0166	.0148	.0151	.0233	.0175	.0188	.0212

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## ตารางที่ 5

QUANTILES OF THE KOLMOGOROV TEST STATISTIC<sup>a</sup>

One-Sided Test											
$p = .90$	.95	.975	.99	.995	$p = .90$	.95	.975	.99	.995		
Two-Sided Test											
$p = .80$	.90	.95	.98	.99	$p = .80$	.90	.95	.98	.99		
$n = 1$	.900	.950	.975	.990	.995	$n = 21$	.226	.259	.287	.321	.344
2	.684	.776	.842	.900	.929	22	.221	.253	.281	.314	.337
3	.565	.636	.708	.785	.829	23	.216	.247	.275	.307	.330
4	.493	.565	.624	.689	.734	24	.212	.242	.269	.301	.323
5	.447	.509	.563	.627	.669	25	.208	.238	.264	.295	.317
6	.410	.468	.519	.577	.617	26	.204	.233	.259	.290	.311
7	.381	.436	.483	.538	.576	27	.200	.229	.254	.284	.305
8	.358	.410	.454	.507	.542	28	.197	.225	.250	.279	.300
9	.339	.387	.430	.480	.513	29	.193	.221	.246	.275	.295
10	.323	.369	.409	.457	.489	30	.190	.218	.242	.270	.290
11	.308	.352	.391	.437	.468	31	.187	.214	.238	.266	.285
12	.296	.338	.375	.419	.449	32	.184	.211	.234	.262	.281
13	.285	.325	.361	.404	.432	33	.182	.208	.231	.258	.277
14	.275	.314	.349	.390	.418	34	.179	.205	.227	.254	.273
15	.266	.304	.338	.377	.404	35	.177	.202	.224	.251	.269
16	.258	.295	.327	.366	.392	36	.174	.199	.221	.247	.265
17	.250	.286	.318	.355	.381	37	.172	.196	.218	.244	.262
18	.244	.279	.309	.346	.371	38	.170	.194	.215	.241	.258
19	.237	.271	.301	.337	.361	39	.168	.191	.213	.238	.255
20	.232	.265	.294	.329	.352	40	.165	.189	.210	.235	.252
Approximation for $n > 40$							$\frac{1.07}{\sqrt{n}}$	$\frac{1.22}{\sqrt{n}}$	$\frac{1.36}{\sqrt{n}}$	$\frac{1.52}{\sqrt{n}}$	$\frac{1.63}{\sqrt{n}}$

SOURCE. Adapted from Table of Miller (1956).

<sup>a</sup> The entries in this table are selected quantiles  $w_p$  of the Kolmogorov test statistics  $T$ ,  $T^+$ , and  $T^-$  as defined by Equation 6.1.1 for two-sided tests and by Equations 6.1.2 and 6.1.3 for one-sided tests. Reject  $H_0$  at the level  $\alpha$  if  $T$  exceeds the  $1 - \alpha$  quantile given in this table. These quantiles are exact for  $n \leq 40$  in the two-tailed test. The other quantiles are approximations that are equal to the exact quantiles in most cases. A better approximation for  $n > 40$  results if  $(n + \sqrt{n/10})^{1/2}$  is used instead of  $\sqrt{n}$  in the denominator.

จุฬาลงกรณ์มหาวิทยาลัย

### ประวัติผู้เขียน

นางสาวกรรณิกา เลียงเจริญสิทธิ์ เกิดวันที่ 15 มกราคม 2494 ที่ตำบล -  
ปากน้ำ จังหวัดสมุทรปราการ สำเร็จการศึกษาปริญญาศิลปศาสตรบัณฑิต (สทิต) คณะศิลปศาสตร์  
มหาวิทยาลัยธรรมศาสตร์ ปีการศึกษา 2516 ปัจจุบันทำงานอยู่ที่แผนกเวชระเบียนและสถิติ  
โรงพยาบาลจุฬาลงกรณ์สภากาชาดไทย ตำแหน่งนักสถิติ



ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย