

TIME SERIES REGRESSION MODELS WITH ARIMA ERRORS, MISSING VALUES AND OUTLIERS.
 BETA VERSION (*)

BY

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SERIES TITLE=evtramo

IF IEAST NOT = 0, IDUR SHOULD BE > 0
 IDUR CHANGED TO: 6

ORIGINAL SERIES

NUMBER OF OBSERVATIONS: 420

X 10.0D4

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1966	4.885	5.813	6.178	7.490	5.845	5.868	8.199	10.143	8.852	5.797	4.251	4.263
1967	5.440	6.589	7.892	5.453	6.693	6.385	8.649	10.769	8.978	5.494	3.949	4.234
1968	5.103	5.087	6.174	8.655	6.950	4.272	9.073	11.756	9.688	6.415	4.289	4.482
1969	5.214	5.378	6.104	10.742	6.542	6.798	9.925	11.848	9.595	5.744	4.566	3.968
1970	4.906	5.386	8.622	6.584	7.496	7.513	10.439	13.240	11.562	6.867	4.800	4.688
1971	5.022	5.380	6.783	7.844	7.035	8.319	10.839	14.221	11.324	7.287	5.515	5.391
1972	6.861	7.768	9.035	9.955	9.540	9.547	14.521	19.513	13.559	8.398	6.184	6.273
1973	7.442	7.929	10.982	13.889	10.184	10.400	13.693	17.542	14.117	8.521	5.944	5.381
1974	9.370	10.712	12.667	17.313	12.779	12.604	23.102	31.258	23.129	18.409	10.960	11.345
1975	13.352	15.267	19.717	15.787	18.041	17.424	26.734	35.049	24.182	17.405	9.361	9.317
1976	12.246	12.010	16.128	29.154	20.749	15.906	25.280	34.890	23.948	24.766	16.327	12.870
1977	17.126	18.577	21.881	35.335	24.695	27.524	40.200	48.796	35.475	27.261	20.544	16.659
1978	13.807	14.678	20.263	18.365	21.994	23.278	36.198	42.488	31.914	18.576	12.832	10.211
1979	12.481	13.751	14.903	25.363	20.998	19.913	29.770	41.115	28.991	16.191	10.092	11.177
1980	11.891	12.154	15.662	27.941	24.244	25.282	29.246	47.871	36.685	19.675	12.698	11.749
1981	13.661	15.111	18.666	25.585	30.087	29.771	38.909	59.979	50.667	26.177	12.921	16.729
1982	16.220	20.616	20.678	34.586	30.559	25.395	37.691	60.630	49.883	37.649	15.147	10.889
1983	14.380	16.565	26.908	36.462	36.367	37.528	44.498	59.777	48.815	36.337	15.849	11.379
1984	14.674	18.362	21.805	35.757	35.363	33.712	42.041	55.618	42.944	34.749	13.435	9.690
1985	18.899	18.938	26.326	33.943	36.881	40.279	50.139	71.683	55.518	39.278	17.986	11.293
1986	19.240	19.444	29.934	28.352	35.754	37.718	43.365	58.120	47.705	35.045	20.903	19.640
1987	24.792	22.262	31.201	39.882	35.383	40.988	46.850	61.775	49.690	40.112	22.120	15.078
1988	18.790	21.227	24.456	36.233	33.427	43.723	53.372	67.468	53.370	38.647	19.622	18.464
1989	21.997	21.965	31.182	26.915	35.259	42.016	52.083	72.377	54.675	34.375	24.152	15.410
1990	18.965	20.526	26.233	37.723	35.222	50.837	62.350	85.639	61.230	44.472	20.881	19.343
1991	24.797	23.884	39.550	48.494	46.005	54.118	76.164	91.514	70.375	40.842	25.696	21.811
1992	21.409	20.030	28.755	37.447	39.922	44.963	73.177	87.604	66.751	46.346	22.761	18.613
1993	19.159	19.961	23.808	35.334	37.092	50.398	73.053	84.810	69.485	43.330	23.232	23.993
1994	25.967	31.292	36.060	50.773	44.611	56.126	68.350	75.633	64.579	46.181	28.510	28.689
1995	29.530	30.030	36.778	52.732	42.412	50.699	72.416	86.776	67.011	49.222	24.607	23.069
1996	22.451	33.806	34.725	52.326	46.952	58.241	69.681	88.209	65.114	50.072	26.536	21.642
1997	20.262	23.230	39.070	40.096	46.554	56.383	77.011	92.877	73.321	51.664	25.422	23.659
1998	19.892	22.747	30.932	47.308	46.948	54.641	77.948	93.318	72.657	52.569	22.197	16.810
1999	23.756	25.893	34.195	51.981	50.087	58.180	84.472	99.057	71.986	55.120	30.239	27.884
2000	22.601	27.090	30.477	54.767	55.033	65.587	84.262	107.719	75.852	58.564	37.448	34.512

DATES OF EASTER DURING THE REQUESTED TIME SPAN

YEAR MONTH DAY

1966	APRIL	10
1967	MARCH	26
1968	APRIL	14
1969	APRIL	6
1970	MARCH	29
1971	APRIL	11
1972	APRIL	2
1973	APRIL	22
1974	APRIL	14
1975	MARCH	30
1976	APRIL	18
1977	APRIL	10
1978	MARCH	26
1979	APRIL	15

1980 APRIL 6
 1981 APRIL 19
 1982 APRIL 11
 1983 APRIL 3
 1984 APRIL 22
 1985 APRIL 7
 1986 MARCH 30
 1987 APRIL 19
 1988 APRIL 3
 1989 MARCH 26
 1990 APRIL 15
 1991 MARCH 31
 1992 APRIL 19
 1993 APRIL 11
 1994 APRIL 3
 1995 APRIL 16
 1996 APRIL 7
 1997 MARCH 30
 1998 APRIL 12
 1999 APRIL 4
 2000 APRIL 23
 2001 APRIL 15

MODEL PARAMETERS

MQ= 12 IMEAN= 1 LAM=-1 D= 1 BD= 1
 P= 0 BP= 0 Q= 1 BQ= 1 IREG= 1
 ITRAD= 0 IEAST= 1 IDUR= 6 M= 36 QM= 24
 INCON= 0 NBACK= 0 NPRED= 8 INTERP= 2 INIT= 0
 IFILT= 2 IDENSC= 1 IROOT= 2 INIC= 3 ICONCE= 1
 ICDET= 1 IATIP= 1 IMVX= 0 IDIF= 3 PG= 0
 AIO= 0 INT1= 1 INT2= 420 RSA= 0 SEATS= 0
 VA= 3.80 TOL= 0.100E-03 PC= 0.143E+00
 NOADMISS= 1 BIAS= 1 SMTR= 0
 THTR= -0.400 RMOD= 0.500 MAXBIAS= 0.500

TH = -0.10

BTH = -0.10

NUMBER OF INITIAL OBS. = 13

LAM SET TO 0: SERIES HAS VALUES GREATER THAT 99999.

TRANSFORMED SERIES (LOGARITHMS OF THE DATA)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1966	10.796	10.970	11.031	11.224	10.976	10.980	11.314	11.527	11.391	10.968	10.657	10.660
1967	10.904	11.096	11.276	10.906	11.111	11.064	11.368	11.587	11.405	10.914	10.584	10.653
1968	10.840	10.837	11.031	11.368	11.149	10.662	11.416	11.675	11.481	11.069	10.666	10.710
1969	10.862	10.893	11.019	11.584	11.089	11.127	11.505	11.683	11.472	10.958	10.729	10.588
1970	10.801	10.894	11.365	11.095	11.225	11.227	11.556	11.794	11.658	11.137	10.779	10.755
1971	10.824	10.893	11.125	11.270	11.161	11.329	11.594	11.865	11.637	11.196	10.918	10.895
1972	11.136	11.260	11.411	11.508	11.466	11.467	11.886	12.181	11.817	11.338	11.032	11.047
1973	11.217	11.281	11.607	11.841	11.531	11.552	11.827	12.075	11.858	11.353	10.993	10.893
1974	11.448	11.582	11.749	12.062	11.758	11.744	12.350	12.653	12.351	12.123	11.605	11.639
1975	11.802	11.936	12.192	11.970	12.103	12.068	12.496	12.767	12.396	12.067	11.447	11.442
1976	11.716	11.696	11.991	12.583	12.243	11.977	12.440	12.763	12.386	12.420	12.003	11.765
1977	12.051	12.132	12.296	12.775	12.417	12.525	12.904	13.098	12.779	12.516	12.233	12.023
1978	11.836	11.897	12.219	12.121	12.301	12.358	12.799	12.960	12.673	12.132	11.762	11.534
1979	11.735	11.831	11.912	12.444	12.255	12.202	12.604	12.927	12.577	11.995	11.522	11.624
1980	11.686	11.708	11.962	12.540	12.399	12.440	12.586	13.079	12.813	12.190	11.752	11.674
1981	11.825	11.926	12.137	12.452	12.614	12.604	12.872	13.304	13.136	12.475	11.769	12.028
1982	11.997	12.236	12.239	12.754	12.630	12.445	12.840	13.315	13.120	12.839	11.928	11.598
1983	11.876	12.018	12.503	12.807	12.804	12.835	13.006	13.301	13.098	12.803	11.973	11.642
1984	11.896	12.121	12.292	12.787	12.776	12.728	12.949	13.229	12.970	12.758	11.808	11.481
1985	12.149	12.152	12.481	12.735	12.818	12.906	13.125	13.483	13.227	12.881	12.100	11.635
1986	12.167	12.178	12.609	12.555	12.787	12.840	12.980	13.273	13.075	12.767	12.250	12.188
1987	12.421	12.313	12.651	12.896	12.777	12.924	13.057	13.334	13.116	12.902	12.307	11.924
1988	12.144	12.266	12.407	12.800	12.720	12.988	13.188	13.422	13.188	12.865	12.187	12.126
1989	12.301	12.300	12.650	12.503	12.773	12.948	13.163	13.492	13.212	12.748	12.395	11.945
1990	12.153	12.232	12.477	12.841	12.772	13.139	13.343	13.660	13.325	13.005	12.249	12.173
1991	12.421	12.384	12.888	13.092	13.039	13.202	13.543	13.727	13.464	12.920	12.457	12.293
1992	12.274	12.208	12.569	12.833	12.897	13.016	13.503	13.683	13.411	13.046	12.335	12.134
1993	12.163	12.204	12.380	12.775	12.824	13.130	13.502	13.651	13.451	12.979	12.356	12.388
1994	12.467	12.654	12.796	13.138	13.008	13.238	13.435	13.536	13.378	13.043	12.561	12.567
1995	12.596	12.613	12.815	13.176	12.958	13.136	13.493	13.674	13.415	13.107	12.413	12.349

1996	12.322	12.731	12.758	13.168	13.059	13.275	13.454	13.690	13.386	13.124	12.489	12.285
1997	12.219	12.356	12.876	12.902	13.051	13.243	13.554	13.742	13.505	13.155	12.446	12.374
1998	12.201	12.335	12.642	13.067	13.059	13.211	13.566	13.746	13.496	13.172	12.310	12.032
1999	12.378	12.464	12.742	13.161	13.124	13.274	13.647	13.806	13.487	13.220	12.619	12.538
2000	12.328	12.510	12.627	13.213	13.218	13.394	13.644	13.890	13.539	13.280	12.833	12.752

EASTER CORRECTION IS SIGNIFICANT.

MEAN IS NOT SIGNIFICANT:
 I MEAN CHANGED TO 0

AUTOMATIC MODEL IDENTIFICATION BEGINS

MODEL FINALLY CHOSEN:

(1,0,2)(0,1,1)

WITH MEAN

WITHOUT TRADING DAY CORRECTION

WITH EASTER CORRECTION

OUTLIERS

97 LS (1 1974)
 30 AO (6 1968)

METHOD OF ESTIMATION: EXACT MAXIMUM LIKELIHOOD

PARAMETER	ESTIMATE	STD ERROR	T RATIO	LAG
AR1 1	-82454	0.53404E-01	-15.44	1
MA1 1	-28815	0.74490E-01	-3.87	1
MA1 2	-96349E-01	0.62989E-01	-1.53	2
MA2 1	-69894	0.38058E-01	-18.37	12

REGULAR AR INVERSE ROOTS ARE

NO.	REAL P.	IMAG.P.	MODULUS	ARGUMENT	PERIOD
1	0.82454	0.0000	0.82454	0.0000	-

REGULAR MA INVERSE ROOTS ARE

NO.	REAL P.	IMAG.P.	MODULUS	ARGUMENT	PERIOD
1	-0.1981332	0.0000000	0.1981332	180.0000000	2.0
2	0.4862848	0.0000000	0.4862848	0.0000000	-

SEASONAL MA INVERSE ROOTS ARE

NO.	REAL P.	IMAG.P.	MODULUS	ARGUMENT	PERIOD
1	0.69894	0.0000	0.69894	0.0000	-

CORRELATIONS OF THE ESTIMATES

1.0000	0.7443	0.6081	0.1074
0.7443	1.0000	0.2943	0.1028
0.6081	0.2943	1.0000	0.0358
0.1074	0.1028	0.0358	1.0000

AIC
 -540.2411

BIC
 -4.1040

FINAL VALUE OF OBJECTIVE FUNCTION:
 6.1108

ITERATIONS: 1

NUMBER OF FUNCTION EVALUATIONS: 6

ESTIMATES OF REGRESSION PARAMETERS

CONCENTRATED OUT OF THE LIKELIHOOD

PARAMETER	VALUE	ST. ERROR	T VALUE
MU	0.46805E-01	(0.00722)	6.48
EAST 1	0.20998	(0.02206)	9.52
OUT 1 (97)	0.49359	(0.07568)	6.52 LS (1 1974)
OUT 2 (30)	-.45304	(0.10084)	-4.49 AO (6 1968)

COVARIANCE MATRIX OF ESTIMATORS

0.521E-04	-0.202E-06	-0.182E-03	0.342E-05
-0.202E-06	0.487E-03	0.477E-05	-0.586E-05
-0.182E-03	0.477E-05	0.573E-02	0.205E-04
0.342E-05	-0.586E-05	0.205E-04	0.102E-01

NUMBER OF WHITE NOISE RESIDUALS 404

WHITE NOISE RESIDUALS

0.1382	-0.0012	-0.0057	0.0062	-0.0323	-0.0672	-0.0519	0.0186
-0.0488	-0.1990	0.0589	0.1933	-0.0129	0.1143	-0.0678	0.0313
-0.0212	0.0422	-0.0566	-0.0103	-0.0686	-0.1094	-0.0591	0.3651
-0.2137	-0.0219	0.0694	-0.0298	-0.0412	-0.0947	0.0664	-0.1663
-0.0521	-0.0476	0.1304	-0.1710	0.1396	0.0062	0.0393	0.0400
0.0740	-0.0122	-0.0358	-0.0139	-0.1362	-0.0808	0.0224	-0.1483
0.0321	0.1276	0.0017	0.0636	-0.0291	0.0396	0.0622	0.0365
0.1159	0.1104	-0.1103	0.1797	0.0512	0.0024	0.1492	0.1451
-0.0655	0.0091	0.0227	0.0663	0.0385	0.0138	0.2402	0.0641
-0.0289	0.0005	-0.0403	-0.0071	0.0290	-0.0095	-0.0415	-0.1008
-0.1935	-0.0570	-0.0778	-0.0296	-0.1197	-0.1302	0.1892	0.0916
-0.0134	0.2560	-0.0795	0.0819	0.0641	0.0861	-0.0609	-0.1039
0.1361	-0.0046	0.0488	0.0339	-0.0843	0.0531	-0.2188	-0.0773
0.0578	-0.1262	0.0975	0.3483	0.0237	-0.1981	-0.0181	0.0230
-0.0786	0.3836	0.2021	-0.0623	0.1327	0.0889	0.0650	0.1919
0.0085	0.2506	0.1019	0.0311	0.0684	0.0686	0.2378	0.0252
-0.3147	-0.1150	-0.1399	-0.1638	0.1495	0.1074	0.0903	-0.0397
0.0319	-0.2674	-0.0890	-0.1962	-0.0119	-0.0315	-0.1215	0.0790
0.0051	-0.0613	-0.0609	0.0433	-0.0466	-0.2665	-0.2271	0.0877
-0.0908	-0.1161	-0.0110	0.1769	0.0732	0.1007	-0.2175	0.1520
0.0872	-0.1477	-0.0755	-0.0589	-0.0010	0.0202	0.0490	-0.1534
0.2849	0.0880	0.0178	0.1386	0.2151	-0.0448	-0.2475	0.2389
-0.0668	0.1827	-0.0858	0.0830	0.0010	-0.1575	0.0211	0.1068
0.1212	0.3291	-0.2211	-0.3811	0.0160	-0.0350	0.1986	0.1921
0.0742	0.1626	-0.0640	-0.0813	0.0138	0.1685	-0.1130	-0.2620
-0.0081	0.0483	-0.0098	-0.0041	0.0894	0.0186	-0.0453	-0.0998
-0.0800	0.1403	-0.2179	-0.2538	0.3377	-0.0603	0.1536	-0.1816
0.1030	0.1423	0.0305	0.0606	0.0268	0.0368	0.0203	-0.2295
0.1208	-0.0772	-0.0194	-0.0891	0.0114	0.0371	-0.1019	-0.0976
-0.0206	0.0035	0.2399	0.3235	0.0344	-0.1038	0.0925	-0.1100
-0.1276	0.0656	-0.0726	-0.0760	-0.0347	0.0888	0.1274	-0.0966
-0.1405	0.0215	-0.2728	0.1794	-0.1461	0.1572	0.0445	-0.0427
-0.0218	-0.0408	-0.0379	0.1789	-0.0573	-0.0537	-0.0681	-0.2279
0.0419	0.0251	0.0205	0.0409	-0.0380	-0.1737	0.2253	-0.1769
-0.1104	-0.0408	0.0232	-0.0396	-0.0491	0.1895	0.0707	0.0729
-0.0423	0.0340	-0.1656	0.1372	0.0391	-0.0479	0.0951	0.2694
-0.0577	-0.0118	0.1457	-0.0423	0.0289	-0.1767	0.1014	0.0797
-0.2108	-0.1669	0.0269	-0.2121	0.0715	-0.0914	0.1930	-0.0304
0.0034	0.0332	-0.1195	-0.0511	-0.1851	-0.0582	-0.1624	-0.1057
0.0107	0.0952	0.0728	-0.0633	0.0427	-0.0781	-0.0413	0.1953
0.0275	0.2172	-0.1240	0.2078	-0.1472	-0.0039	-0.1481	-0.1764
-0.0146	0.0355	0.1365	0.1944	0.0246	0.0033	0.0522	-0.0639
-0.1279	-0.0985	-0.0003	-0.0215	-0.0557	0.0464	-0.1110	-0.0266
-0.1523	0.2738	-0.0651	-0.0166	0.0085	0.0085	-0.1298	-0.0052
-0.0993	0.0484	-0.0259	-0.1367	-0.1938	-0.1442	0.0643	-0.0121
0.0508	-0.0150	0.0259	-0.0114	0.0074	-0.0198	-0.1033	-0.0092
-0.2192	-0.1308	0.0074	-0.0447	0.0532	-0.0557	0.0363	-0.0207
-0.0182	-0.0054	-0.2304	-0.2896	0.2009	-0.0420	-0.0633	0.1429
-0.0247	-0.0390	0.0396	-0.0254	-0.0814	0.0220	0.1014	0.1184
-0.2174	-0.0237	-0.1360	0.0267	0.0796	0.0273	-0.0570	0.0405
-0.0735	0.0252	0.2276	0.1574				

TEST-STATISTICS ON RESIDUALS

MEAN= -0.0014647
 ST.DEV.= 0.0060554
 OF MEAN
 T-VALUE=-0.2419

NORMALITY TEST= 5.506 (CHI-SQUARED(2))

SKEWNESS= 0.1924 (SE = 0.1219)
KURTOSIS= 3.4231 (SE = 0.2437)

SUM OF SQUARES= 5.985591

DURBIN-WATSON= 1.9930

STANDARD ERROR= 0.1223273
OF RESID.
MSE OF RESID.= 0.1496398E-01

AUTOCORRELATIONS

	-0.0002	0.0065	0.0338	-0.0491	-0.0656	-0.0278	0.0415	0.0764	-0.0389	-0.0090	0.0465	0.0384
SE	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498
Q	0.00	0.02	0.49	1.48	3.24	3.56	4.27	6.69	7.32	7.36	8.26	8.88
PV	-1.00	-1.00	-1.00	-1.00	0.07	0.17	0.23	0.15	0.20	0.29	0.31	0.35
	0.1049	-0.0685	-0.0196	-0.0154	0.0044	-0.0916	0.0432	0.0048	0.0264	-0.0265	-0.0905	-0.0257
SE	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498
Q	13.49	15.46	15.63	15.73	15.73	19.30	20.09	20.10	20.40	20.70	24.23	24.52
PV	0.14	0.12	0.16	0.20	0.26	0.15	0.17	0.22	0.25	0.29	0.19	0.22
	0.0260	-0.0051	-0.0395	-0.0134	0.0504	-0.0170	-0.1194	0.0090	-0.0093	-0.0250	-0.0600	-0.0036
SE	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498
Q	24.81	24.82	25.50	25.58	26.69	26.81	33.09	33.12	33.16	33.44	35.04	35.04
PV	0.26	0.31	0.33	0.38	0.37	0.42	0.19	0.23	0.27	0.30	0.28	0.33

LJUNG-BOX Q VALUE OF ORDER 24 IS 24.52 AND IF RESIDUALS ARE RANDOM IT SHOULD BE DISTRIBUTED AS CHI-SQUARED(20)

PARTIAL AUTOCORRELATIONS

	-0.0002	0.0065	0.0338	-0.0492	-0.0662	-0.0285	0.0462	0.0801	-0.0443	-0.0219	0.0428	0.0565
SE	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498
	0.1169	-0.0800	-0.0367	-0.0149	0.0430	-0.0834	0.0217	-0.0203	0.0298	-0.0125	-0.1061	-0.0485
SE	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498
	0.0388	0.0201	-0.0460	-0.0456	0.0533	0.0118	-0.0909	-0.0436	-0.0143	0.0079	-0.0346	-0.0256
SE	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498

APPROXIMATE TEST OF RUNS ON RESIDUALS

NUM.DATA= 404
NUM.(+)= 202
NUM.(-) = 202
NUM.RUNS= 199
T-VALUE= -0.3985

APPROXIMATE TEST OF RUNS ON AUTOCORRELATION FUNCTION

NUM.DATA= 36
NUM.(+)= 18
NUM.(-) = 18
NUM.RUNS= 17
T-VALUE= -0.6764

SQUARED RESIDUALS:

AUTOCORRELATIONS

	0.1156	0.0615	-0.0405	-0.0433	-0.0567	0.0438	-0.0458	-0.0574	-0.0356	-0.0109	0.0823	0.1645
SE	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498
Q	5.44	6.98	7.65	8.42	9.75	10.54	11.40	12.77	13.29	13.34	16.17	27.50
PV	-1.00	-1.00	-1.00	-1.00	0.00	0.01	0.01	0.01	0.02	0.04	0.02	0.00
	0.1184	-0.0153	-0.0051	-0.0447	-0.0473	0.0146	0.0648	-0.0765	0.0012	0.0001	0.1133	0.2226
SE	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498
Q	33.38	33.48	33.49	34.33	35.28	35.37	37.16	39.66	39.66	39.66	45.19	66.56
PV	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.1121	0.0499	0.0435	-0.0071	-0.0389	-0.0140	-0.0818	-0.0383	-0.0663	-0.0339	0.0570	0.1561
SE	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498	0.0498
Q	72.01	73.09	73.91	73.93	74.59	74.68	77.62	78.27	80.21	80.72	82.17	93.03

PV 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

LJUNG-BOX Q VALUE OF ORDER 24 IS 66.56 AND IF RESIDUALS ARE RANDOM IT SHOULD BE DISTRIBUTED AS CHI-SQUARED(20)

FORECASTS:

ORIGIN: 420 NUMBER: 8

OBS	FORECAST	STD ERROR	ACTUAL	RESIDUAL
	FORECAST	STD ERROR		
(TR. SERIES)			(
ORIGINAL SERIES)				
421	12.6268	0.122518		306901. 37742.4
422	12.7287	0.139211		340587. 47643.9
423	12.8898	0.145799		400503. 58704.5
424	13.3928	0.150094		662693. 100029.
425	13.3132	0.152888		612240. 94153.9
426	13.4784	0.154864		722436. 112553.
427	13.7725	0.156222		969652. 152410.
428	13.9653	0.157163		0.117604E+07 185978.

INTERPOLATED SERIES

X 10.0D4

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1966	4.885	5.813	6.178	7.489	5.845	5.868	8.199	10.143	8.852	5.797	4.251	4.263
1967	5.440	6.589	7.892	5.453	6.693	6.385	8.649	10.769	8.978	5.494	3.949	4.234
1968	5.103	5.087	6.174	8.655	6.950	4.272	9.073	11.756	9.688	6.415	4.289	4.482
1969	5.213	5.378	6.104	10.742	6.542	6.798	9.925	11.848	9.595	5.744	4.566	3.967
1970	4.906	5.387	8.622	6.584	7.496	7.513	10.439	13.240	11.562	6.867	4.800	4.688
1971	5.022	5.380	6.783	7.844	7.035	8.319	10.839	14.221	11.324	7.287	5.515	5.391
1972	6.861	7.768	9.035	9.955	9.541	9.547	14.521	19.513	13.559	8.398	6.184	6.273
1973	7.442	7.929	10.982	13.889	10.184	10.400	13.692	17.542	14.117	8.521	5.944	5.381
1974	9.370	10.712	12.667	17.313	12.779	12.604	23.102	31.258	23.129	18.409	10.960	11.345
1975	13.352	15.267	19.717	15.787	18.041	17.424	26.734	35.049	24.182	17.405	9.361	9.317
1976	12.246	12.010	16.128	29.154	20.749	15.906	25.280	34.890	23.948	24.766	16.327	12.870
1977	17.126	18.577	21.881	35.335	24.695	27.524	40.200	48.796	35.475	27.261	20.544	16.659
1978	13.807	14.678	20.263	18.365	21.994	23.278	36.198	42.487	31.914	18.576	12.832	10.211
1979	12.481	13.751	14.903	25.363	20.998	19.913	29.770	41.115	28.991	16.191	10.092	11.177
1980	11.891	12.154	15.662	27.941	24.244	25.282	29.246	47.871	36.685	19.675	12.698	11.749
1981	13.661	15.111	18.666	25.585	30.087	29.771	38.909	59.979	50.667	26.177	12.921	16.729
1982	16.220	20.616	20.678	34.586	30.559	25.395	37.691	60.630	49.883	37.649	15.147	10.889
1983	14.380	16.565	26.908	36.462	36.367	37.528	44.498	59.777	48.815	36.337	15.849	11.379
1984	14.674	18.362	21.804	35.757	35.363	33.712	42.041	55.618	42.944	34.749	13.435	9.690
1985	18.899	18.938	26.326	33.943	36.881	40.279	50.139	71.683	55.518	39.278	17.986	11.293
1986	19.240	19.444	29.933	28.352	35.754	37.718	43.365	58.120	47.705	35.045	20.903	19.640
1987	24.792	22.262	31.201	39.882	35.383	40.988	46.850	61.775	49.690	40.112	22.120	15.078
1988	18.790	21.227	24.456	36.233	33.427	43.723	53.372	67.468	53.370	38.646	19.622	18.464
1989	21.997	21.965	31.182	26.915	35.259	42.016	52.083	72.377	54.675	34.375	24.152	15.410
1990	18.965	20.526	26.233	37.723	35.222	50.837	62.350	85.639	61.230	44.472	20.881	19.343
1991	24.797	23.884	39.550	48.494	46.005	54.118	76.164	91.514	70.375	40.842	25.696	21.811
1992	21.409	20.030	28.755	37.447	39.922	44.963	73.177	87.604	66.751	46.346	22.761	18.613
1993	19.159	19.961	23.808	35.334	37.092	50.398	73.053	84.810	69.485	43.330	23.232	23.993
1994	25.967	31.292	36.060	50.773	44.610	56.126	68.350	75.633	64.579	46.181	28.510	28.689
1995	29.531	30.030	36.778	52.732	42.412	50.699	72.416	86.776	67.011	49.222	24.607	23.069
1996	22.451	33.805	34.725	52.326	46.952	58.241	69.681	88.209	65.114	50.071	26.536	21.642
1997	20.263	23.230	39.070	40.096	46.554	56.383	77.012	92.877	73.321	51.664	25.422	23.659
1998	19.891	22.747	30.932	47.307	46.948	54.641	77.948	93.318	72.657	52.569	22.197	16.810
1999	23.756	25.893	34.195	51.981	50.087	58.180	84.472	99.057	71.986	55.120	30.239	27.884
2000	22.601	27.090	30.477	54.767	55.033	65.587	84.262	107.719	75.852	58.564	37.448	34.512

LINEAR SERIES

X 10.0D3

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1966	48.846	58.129	68.621	67.430	58.446	58.682	81.994	101.433	88.518	57.971	42.508	42.632
1967	54.396	65.889	71.058	60.563	66.927	63.849	86.489	107.688	89.783	54.942	39.487	42.338
1968	51.028	50.866	68.579	77.921	69.504	67.196	90.734	117.559	96.878	64.149	42.893	44.817
1969	52.135	53.785	65.464	100.155	65.418	67.978	99.250	118.482	95.946	57.436	45.659	39.675
1970	49.059	53.865	77.626	73.133	74.957	75.129	104.390	132.399	115.622	68.668	48.002	46.884
1971	50.218	53.797	75.339	70.625	70.354	83.193	108.393	142.211	113.243	72.874	55.150	53.910
1972	68.607	77.676	84.239	106.769	95.405	95.474	145.205	195.133	135.593	83.979	61.842	62.728
1973	74.419	79.294	121.973	125.046	101.839	104.004	136.925	175.418	141.168	85.215	59.440	53.812
1974	57.196	65.387	85.881	95.152	78.006	76.942	141.020	190.809	141.190	112.372	66.902	69.256
1975	81.502	93.193	108.361	107.040	110.127	106.363	163.195	213.950	147.618	106.247	57.140	56.874

