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COMPLETE RESULTS FOR LAG LENGTH SELECTION

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*Economists, Federal Reserve Bank of St. Louis. The views expressed are those of the authors and may not reflect those of the Federal Reserve Bank of St. Louis or the Board of Governors of the Federal Reserve System. The authors would like to thank Sarah Driver for research assistance.

This paper presents the detailed results of employing the various lag-length-selection criteria outlined in "Lag Length Selection Criteria: Some Empirical Results for the St. Louis Equation." Tables 1 through 6 are for a maximum lag of 8; tables 7 through 12, a maximum lag of 12; and tables 13 through 18, a maximum lag of 16. Table 19 contains the likelihood ratio test results of all the alternative lag specifications considered.

Table 1
Pagano-Hartley T-Statistics for Lag Length Selection

Lag	\dot{M} with $L_G = 8$	\dot{G} with $L_M = 8$
0	5.10	2.36*
1	4.06	0.95
2	1.84	-1.89
3	-1.16	0.81
4	0.42	-0.14
5	-2.48*	-1.33
6	-0.41	1.44
7	-0.25	-0.18
8	0.81	-1.91

*First significant t-statistic at the 5 percent level.

Table 2

MALLOW'S C STATISTIC

M VARS ARE M1 DATA IS GROWTH RATES -- II/62 TO III/82

LM = # OF LAGS OF M
LE0-LE8 = # OF LAGS OF E

OBS	LM	LE0	LE1	LE2	LE3	LE4	LE5	LE6	LE7	LE8
1	0	29.7803	31.0866	29.4874	29.6953	31.6693	32.8433	31.8100	33.0174	31.4439
2	1	16.8418	18.1228	15.2973	16.2714	18.2647	18.4433	18.4781	20.4633	16.9514
3	2	12.8337	14.0971	11.4544	12.7150	14.7060	14.6480	15.3549	17.2544	15.5676
4	3	13.2864	14.5193	11.8879	13.1227	15.1139	15.2582	15.7538	17.7193	16.2146
5	4	15.2097	16.4976	13.8573	15.0910	17.0819	17.2162	17.7289	19.6874	18.0429
6	5	10.3327	11.4246	9.8446	11.1945	13.1388	13.6045	13.4087	15.3018	13.8804
7	6	12.3326	13.4237	11.8370	13.1929	15.1359	15.5688	15.3172	17.2309	15.7082
8	7	13.8368	14.8412	13.3431	14.6381	16.6202	16.9814	17.0122	18.9629	17.6480
9	8	15.6897	16.7868	15.2082	16.5473	18.5283	18.7523	18.6893	20.6571	19.0001

Minimum value circled.

Table 3

FINAL PREDICTION ERROR STATISTIC

M VARS ARE M1 DATA IS GROWTH RATES -- II/62 TO III/82

LM = # OF LAGS OF M
LE0-LE8 = # OF LAGS OF E

OBS	LM	LE0	LE1	LE2	LE3	LE4	LE5	LE6	LE7	LE8
1	0	16.4621	16.7586	16.5055	16.6907	17.1071	17.3878	17.2749	17.5608	17.3247
2	1	14.4869	14.7282	14.2854	14.4643	14.8233	14.8649	14.8737	15.2444	14.5578
3	2	13.8639	14.0844	13.6375	13.8470	14.1910	14.1659	14.2766	14.6167	14.2521
4	3	13.9486	14.1635	13.7015	13.9055	14.2520	14.2582	14.3252	14.6806	14.3376
5	4	14.2820	14.5124	14.0380	14.2477	14.6037	14.6093	14.6825	15.0468	14.6672
6	5	13.4279	13.5994	13.2701	13.4883	13.8173	13.8611	13.7647	14.0932	13.7195
7	6	13.7631	13.9396	13.6101	13.8278	14.1601	14.2057	14.0965	14.4390	14.0347
8	7	14.0159	14.1792	13.8570	14.0670	14.4204	14.4450	14.3921	14.7517	14.3844
9	8	14.3400	14.5259	14.1805	14.4056	14.7689	14.7656	14.6915	15.0645	14.6086

Minimum value circled.

Table 4

GENERE-MEISE BAYESIAN ESTIMATION CRITERION

M VARS ARE ML DATA IS GROWTH RATES -- II/62 TO III/82

LM = # OF LAGS OF M
LE0-LE8 = # OF LAGS OF E

OBS	LM	LE0	LE1	LE2	LE3	LE4	LE5	LE6	LE7	LE8
1	0	18.3699	19.2976	19.7804	20.5360	21.5689	22.4792	23.0329	23.9482	24.4013
2	1	17.1316	18.0296	18.2891	19.1339	20.1425	20.8612	21.5532	22.5670	22.6547
3	2	17.2151	18.1018	18.3722	19.2531	20.2540	20.9222	21.7137	22.7061	23.0868
4	3	17.9752	18.8568	19.1205	19.9968	20.9990	21.6975	22.4518	23.4566	23.8613
5	4	18.9660	19.8593	20.1161	20.9952	22.0022	22.6996	23.4583	24.4670	24.8433
6	5	18.8712	19.7209	20.1310	21.0187	22.0088	22.7493	23.3719	24.3581	24.7534
7	6	19.8684	20.7206	21.1260	22.0179	23.0126	23.7487	24.3608	25.3555	25.7282
8	7	20.7886	21.6279	22.0434	22.9270	23.9321	24.6554	25.3162	26.3220	26.7283
9	8	21.7696	22.6269	23.0250	23.9193	24.9292	25.6289	26.2721	27.2859	27.6231

Minimum value circled.

Table 5

SCHWARZ BAYESIAN INFORMATION CRITERION

M VARS ARE M1 DATA IS GROWTH RATES -- II/62 TO III/82

LM = # OF LAGS OF M

LE0-LE8 = # OF LAGS OF E

OBS	LM	LE0	LE1	LE2	LE3	LE4	LE5	LE6	LE7	LE8
1	0	2.92635	2.98625	3.01804	3.06704	3.13376	3.19260	3.22878	3.28801	3.31740
2	1	2.84058	2.89928	2.91106	2.96595	3.03303	3.07852	3.12193	3.18948	3.18644
3	2	2.83880	2.89689	2.90709	2.96490	3.03213	3.07317	3.12388	3.19047	3.20837
4	3	2.88720	2.94494	2.95434	3.01181	3.07923	3.12260	3.17033	3.23799	3.25762
5	4	2.95327	3.01184	3.02129	3.07893	3.14654	3.18997	3.23812	3.30590	3.32373
6	5	2.93417	2.98955	3.00845	3.06709	3.13423	3.18056	3.21684	3.28381	3.30041
7	6	3.00151	3.05707	3.07607	3.13499	3.20232	3.24838	3.28404	3.35153	3.36672
8	7	3.06254	3.11704	3.13710	3.19530	3.26338	3.30846	3.34828	3.41655	3.43502
9	8	3.12832	3.18424	3.20334	3.26235	3.33064	3.37391	3.41245	3.48122	3.49428

Minimum value circled.

Table 6

F-STATISTICS

M VARs ARE M1 DATA IS GROWTH RATES -- 11/62 TO 111/82

LM = # OF LAGS OF M
LE0-LE8 = # OF LAGS OF E

OBS	LM	LE0	LE1	LE2	LE3	LE4	LE5	LE6	LE7	LE8
1	0	2.67377	2.80577	2.74910	2.82272	3.05578	3.25849	3.28100	3.55748	3.55549
2	1	1.85612	1.93734	1.71518	1.77282	1.93315	1.94433	1.94201	2.18291	1.70734
3	2	1.55955	1.62286	1.37120	1.42863	1.57060	1.51645	1.54436	1.75062	1.42794
4	3	1.56049	1.62660	1.35344	1.41227	1.56821	1.53228	1.53625	1.78656	1.44292
5	4	1.68414	1.77251	1.48573	1.56566	1.76023	1.74517	1.78815	2.13748	1.76072
6	5	1.21206	1.24246	0.98273	1.02431	1.16269	1.10075	0.88173	1.07544	0.29346
7	6	1.33326	1.38042	1.10463	1.17042	1.35598	1.31376	1.07929	1.41029	0.35411
8	7	1.42631	1.48015	1.19187	1.27302	1.52405	1.49536	1.33738	1.98145	0.64805
9	8	1.58621	1.68382	1.30804	1.50947	1.88208	1.91744	1.84464	3.65707	

Table 7
Pagano-Hartley T-Statistics for Lag Length Selection

<u>Lag</u>	<u>\dot{M} with $L_G = 12$</u>	<u>\dot{G} with $L_M = 12$</u>
0	5.45	2.67
1	4.33	1.13
2	2.36	-1.89
3	-1.73	0.96
4	0.09	0.17
5	-2.05	-1.21
6	-0.01	1.37
7	-0.61	0.44
8	0.88	-2.38
9	0.10	-2.22*
10	-2.70*	-0.58
11	-0.13	1.18
12	0.17	0.64

*First significant t-statistic at the 5 percent level.

Table 8

MALLOW'S C STATISTIC

DATA IS GROWTH RATES -- 1962 2 TO 1982 3

LM = # OF LAGS OF M
LE0-LE12 = # OF LAGS OF E

OBS	LM	LE0	LE1	LE2	LE3	LE4	LE5	LE6	LE7	LE8	LE9	LE10	LE11	LE12
1	0	40.4880	41.7371	39.7145	39.7264	41.6963	42.7893	41.4456	42.5851	40.6664	41.9840	43.0891	42.8691	43.0225
2	1	26.0630	27.2846	23.9057	24.7631	26.7544	26.7494	26.5819	28.5670	24.5240	23.0253	23.8480	25.3675	26.2782
3	2	21.3681	22.5693	19.3913	20.5705	22.5609	22.3013	22.8784	24.7714	22.7369	20.0959	19.3857	21.0457	22.7003
4	3	21.6428	22.8114	19.6414	20.7912	22.7819	22.7463	23.0890	25.0538	23.2241	19.2243	19.0426	20.1629	21.7123
5	4	23.5689	24.7928	21.6146	22.7632	24.7537	24.7077	25.0674	27.0255	25.0525	20.8685	20.9285	22.1075	23.7049
6	5	18.0834	19.0964	17.0882	18.3613	20.3045	20.6097	20.1956	22.0833	20.3673	18.4788	18.8372	20.5287	21.4865
7	6	20.0833	21.0953	19.0800	20.3594	22.3011	22.5698	22.0939	24.0039	22.1768	20.2616	20.7934	22.4733	23.4864
8	7	21.5570	22.4771	20.5564	21.7683	23.7510	23.9394	23.7700	25.7189	24.1155	22.0793	22.6082	24.1340	25.1179
9	8	23.3812	24.4073	22.3930	23.6569	25.6381	25.6710	25.3955	27.3631	25.3719	22.6139	23.3692	24.9432	26.3519
10	9	25.3453	26.4054	24.2412	25.5743	27.5556	27.6026	27.3889	29.3528	27.1420	24.5964	25.3678	26.9261	28.3423
11	10	21.1222	21.8236	20.3277	21.3474	23.3116	23.8766	23.9485	25.7576	22.4681	19.2810	20.8770	21.4893	23.0471
12	11	23.1058	23.8224	22.2916	23.3431	25.3081	25.8471	25.9478	27.7571	24.1421	21.2471	22.8587	23.4884	25.0304
13	12	25.1033	25.8208	24.2477	25.3325	27.3022	27.8310	27.9458	29.7561	26.0863	23.1547	24.8167	25.4156	27.0000

Minimum value circled.

Table 9

FINAL PREDICTION ERROR STATISTIC

DATA IS GROWTH RATES -- 1962 2 TO 1982 3

LM = # OF LAGS OF M
LE0-LE12 = # OF LAGS OF F

OBS	LM	LE0	LE1	LE2	LE3	LE4	LE5	LE6	LE7	LE8	LE9	LE10	LE11	LE12
1	0	16.4469	16.7451	16.5634	16.6721	17.0817	17.3623	17.2488	17.5362	17.3029	17.6186	17.9024	17.9456	18.0524
2	1	14.4773	14.7205	14.2683	14.4449	14.8032	14.8448	14.8529	15.2232	14.5419	14.2775	14.4218	14.6983	14.8625
3	2	13.8432	14.0652	13.6084	13.8163	14.1596	14.1352	14.2455	14.5855	14.2254	13.7267	13.5618	13.8430	14.1304
4	3	13.9244	14.1410	13.6680	13.8701	14.2157	14.2228	14.2890	14.6440	14.3063	13.5312	13.4527	13.6232	13.8835
5	4	14.2589	14.4901	14.0048	14.2126	14.5678	14.5743	14.6464	15.0105	14.6384	13.8085	13.7763	13.9645	14.2433
6	5	13.4193	13.5929	13.2610	13.4690	13.7983	13.8410	13.7452	14.0743	13.7108	13.2867	13.2940	13.5752	13.7057
7	6	13.7543	13.9329	13.5926	13.8080	14.1466	14.1850	14.0764	14.4194	14.0257	13.5860	13.6308	13.9187	14.0669
8	7	14.0103	14.1765	13.8427	14.0504	14.4039	14.4270	14.3738	14.7337	14.3762	13.9014	13.9478	14.2104	14.3564
9	8	14.3319	14.5213	14.1632	14.3864	14.7497	14.7442	14.6690	15.0421	14.5940	13.9491	14.0409	14.3166	14.5612
10	9	14.6866	14.8882	14.4947	14.7376	15.1114	15.1102	15.0474	15.4315	14.9266	14.3129	14.4132	14.6953	14.9510
11	10	13.9336	14.0468	13.7408	13.9018	14.2526	14.3272	14.2946	14.6277	13.8413	13.0288	13.2826	13.3075	13.5598
12	11	14.2843	14.4047	14.0858	14.2588	14.6207	14.6940	14.6688	15.0132	14.1344	13.3691	13.6360	13.6685	13.9267
13	12	14.6481	14.7734	14.4396	14.6258	15.0001	15.0754	15.0550	15.4114	14.4992	13.7069	13.9957	14.0242	14.3033

Minimum value circled.

Table 10

GEWEKE-MEISE BAYESIAN ESTIMATION CRITERION

DATA IS GROWTH RATES -- 1962 2 TO 1982 3

LM = # OF LAGS OF M
LE0-LE12 = # OF LAGS OF E

OBS	LM	LE0	LE1	LE2	LE3	LE4	LE5	LE6	LE7	LE8	LE9	LE10	LE11	LE12
1	0	18.4528	19.4148	19.9221	20.7082	21.7732	22.7161	23.3021	24.2515	24.7399	25.7151	26.6604	27.3985	28.1928
2	1	17.2525	18.1851	18.4683	19.3438	20.3845	21.1358	21.8598	22.9062	23.0311	23.5315	24.3886	25.3574	26.2302
3	2	17.3583	18.2791	18.5731	19.4853	20.5185	21.2201	22.0440	23.0692	23.4865	23.7949	24.3967	25.3771	26.3603
4	3	18.1479	19.0637	19.3502	20.2576	21.2919	22.0240	22.8105	23.8479	24.2899	24.3708	25.0506	25.9403	26.9030
5	4	19.1724	20.0992	20.3790	21.2891	22.3282	23.0594	23.8500	24.8914	25.3068	25.3483	26.0670	26.9694	27.9445
6	5	19.1236	20.0078	20.4410	21.3595	22.3825	23.1548	23.8106	24.8300	25.2665	25.6615	26.4196	27.4020	28.2611
7	6	20.1532	21.0399	21.4684	22.3910	23.4186	24.1863	24.8317	25.8594	26.2736	26.6590	27.4473	28.4323	29.3038
8	7	21.1089	21.9832	22.4212	23.3355	24.3732	25.1281	25.8213	26.8600	27.3070	27.6669	28.4557	29.4181	30.2865
9	8	22.1203	23.0132	23.4329	24.3583	25.4009	26.1312	26.8065	27.8530	28.2292	28.4567	29.2831	30.2552	31.2008
10	9	23.1574	24.0586	24.4508	25.3906	26.4385	27.1718	27.8574	28.9092	29.2426	29.4996	30.3313	31.3055	32.2572
11	10	23.2347	24.0682	24.5480	25.4263	26.4615	27.2668	27.9861	29.0023	29.1242	29.2397	30.2023	30.9858	31.9451
12	11	24.2711	25.1093	25.5803	26.4667	27.5075	28.3104	29.0353	30.0572	30.1115	30.2698	31.2399	32.0284	32.9896
13	12	25.3150	26.1556	26.6165	27.5116	28.5589	29.3622	30.0904	31.1183	31.1524	31.2948	32.2792	33.0636	34.0381

Minimum value circled.

Table 11

SCHWARZ BAYESIAN INFORMATION CRITERION

DATA IS GROWTH RATES -- 1962 2 TO 1982 3

LM = # OF LAGS OF M
LE0-LE12 = # OF LAGS OF F

OBS	LM	LE0	LE1	LE2	LE3	LE4	LE5	LE6	LE7	LE8	LE9	LE10	LE11	LE12
1	0	2.92543	2.98544	3.01671	3.06556	3.13227	3.19114	3.22726	3.28660	3.31614	3.37726	3.43640	3.48208	3.53139
2	1	2.83992	2.89875	2.90986	2.96461	3.03168	3.07717	3.12053	3.18809	3.18534	3.21015	3.26348	3.32585	3.38044
3	2	2.83731	2.89553	2.90496	2.96268	3.02992	3.07100	3.12170	3.18834	3.20650	3.21408	3.24538	3.30938	3.37351
4	3	2.88547	2.94334	2.95189	3.00926	3.07668	3.12011	3.16780	3.23550	3.25543	3.24311	3.28078	3.33697	3.39958
5	4	2.95165	3.01030	3.01892	3.07646	3.14408	3.18757	3.23566	3.30349	3.32177	3.30688	3.34813	3.40540	3.46896
6	5	2.93353	2.98907	3.00717	3.06566	3.13286	3.17911	3.21543	3.28247	3.29979	3.31195	3.35619	3.42091	3.47437
7	6	3.00088	3.05659	3.07479	3.13356	3.20095	3.24692	3.28261	3.35017	3.36608	3.37792	3.42500	3.48979	3.54437
8	7	3.06213	3.11685	3.13607	3.19412	3.26223	3.30721	3.34701	3.41532	3.43445	3.44465	3.49188	3.55452	3.60881
9	8	3.12775	3.18393	3.20212	3.26102	3.32934	3.37245	3.41093	3.47973	3.49328	3.49197	3.54252	3.60604	3.66715
10	9	3.19525	3.25203	3.26852	3.32851	3.39705	3.44055	3.48008	3.54908	3.55970	3.56170	3.61277	3.67632	3.73783
11	10	3.18577	3.23713	3.25849	3.31362	3.38212	3.43104	3.47255	3.53947	3.52820	3.51178	3.57525	3.62138	3.68451
12	11	3.25390	3.30567	3.32676	3.38256	3.45132	3.50011	3.54228	3.60947	3.59323	3.58173	3.64576	3.69250	3.75565
13	12	3.32242	3.37443	3.39517	3.45166	3.52073	3.56962	3.61225	3.67972	3.66288	3.65095	3.71615	3.76263	3.82686

Minimum value circled.

Table 12

F-STATISTICS

DATA IS GROWTH RATES -- 1962 2 TO 1982 3

LM = # OF LAGS OF M
LE0-LE12 = # OF LAGS OF F

OBS	LM	LE0	LE1	LE2	LE3	LE4	LE5	LE6	LE7	LE8	LE9	LE10	LE11	LE12
1	0	2.56200	2.64074	2.57793	2.60602	2.73482	2.83101	2.80254	2.91677	2.85415	2.99894	3.14922	3.22070	3.33521
2	1	1.95926	2.01294	1.85265	1.88815	1.98708	1.98608	1.97540	2.09794	1.83493	1.71610	1.75754	1.86396	1.93438
3	2	1.74400	1.78901	1.61957	1.66160	1.75338	1.72361	1.74240	1.85143	1.69549	1.46892	1.36547	1.45870	1.57003
4	3	1.74489	1.79057	1.61271	1.65507	1.75188	1.73415	1.73926	1.86099	1.70955	1.35202	1.27660	1.31629	1.41248
5	4	1.82845	1.88383	1.70081	1.75078	1.85961	1.84718	1.86196	2.00196	1.83771	1.44259	1.39285	1.45639	1.58812
6	5	1.53070	1.56091	1.41695	1.46008	1.55363	1.54355	1.47659	1.59028	1.39703	1.14788	1.09302	1.19109	1.21236
7	6	1.61574	1.65267	1.50500	1.55729	1.66437	1.65921	1.59116	1.72763	1.51768	1.25129	1.22418	1.35333	1.41441
8	7	1.67982	1.71732	1.57042	1.62631	1.75008	1.74495	1.70637	1.87189	1.67950	1.38492	1.37259	1.52234	1.62358
9	8	1.77383	1.82715	1.67093	1.74284	1.88651	1.87918	1.83955	2.04034	1.79648	1.37342	1.39486	1.58864	1.83797
10	9	1.88969	1.95753	1.78778	1.88119	2.05051	2.06026	2.04321	2.29410	2.02029	1.59940	1.67356	1.98153	2.44744
11	10	1.58016	1.60181	1.44397	1.48613	1.63116	1.65296	1.61856	1.82251	1.24469	0.45619	0.46925	0.16311	0.02355
12	11	1.70045	1.73520	1.57196	1.63431	1.81201	1.85588	1.84968	2.12618	1.42842	0.56177	0.61958	0.24420	0.03043
13	12	1.84194	1.89280	1.72477	1.81473	2.03778	2.11872	2.15763	2.55123	1.77158	0.71822	0.90833	0.41564	

Table 13
Pagano-Hartley T-Statistics for Lag Length Selection

<u>Lag</u>	<u>\dot{M} with $L_G^* = 16$</u>	<u>\dot{G} with $L_M^* = 16$</u>
0	4.85	2.70
1	4.51	1.05
2	2.50	-1.82
3	-2.19	0.96
4	0.30	0.22
5	-1.98	-0.88
6	-0.42	1.33
7	-0.42	0.58
8	0.76	-2.31
9	-0.47	-2.22*
10	-2.60*	-0.31
11	0.09	0.93
12	-0.12	0.99
13	-0.57	1.16
14	0.41	1.01
15	-0.84	-1.23
16	0.19	1.28

*First significant t-statistic at the 5 percent level.

Table 14

MALLOW'S C STATISTIC

M VARS ARE M1 DATA IS GROWTH RATES -- II/62 TO III/82

LM = # OF LAGS OF M
LE0-LE16 = # OF LAGS OF E

OBS	LM	LE0	LE1	LE2	LE3	LE4	LE5	LE6	LE7
1	0	38.5180	39.7669	37.8704	37.9303	39.9022	41.0080	39.7240	40.8660
2	1	24.3455	25.5671	22.3430	23.2324	25.2251	25.2532	25.1258	27.1097
3	2	19.8411	21.0437	18.0175	19.2170	21.2073	20.9793	21.5794	23.4705
4	3	20.1660	21.3355	18.3215	19.4931	21.4836	21.4747	21.8459	23.8087
5	4	22.0829	23.3120	20.2885	21.4588	23.4490	23.4292	23.8190	25.7741
6	5	16.6379	17.6548	15.7791	17.0753	19.0150	19.3539	18.9767	20.8610
7	6	18.6378	19.6539	17.7709	19.0736	21.0119	21.3153	20.8777	22.7843
8	7	20.1010	21.0232	19.2361	20.4729	22.4536	22.6794	22.5475	24.4941
9	8	21.9418	22.9643	21.0902	22.3747	24.3541	24.4314	24.1979	26.1631
10	9	23.8922	24.9584	22.9136	24.2726	26.2518	26.3463	26.1958	28.1585
11	10	19.6876	20.3911	19.0075	20.0610	22.0295	22.6433	22.7751	24.5863
12	11	21.6703	22.3903	20.9712	22.0563	24.0257	24.6135	24.7746	26.5857
13	12	23.6661	24.3871	22.9352	24.0491	26.0220	26.6012	26.7736	28.5836
14	13	25.5978	26.2931	24.8718	25.8655	27.8268	28.5111	28.5816	30.3901
15	14	27.5902	28.2890	26.8543	27.8547	29.8224	30.4923	30.5812	32.3860
16	15	27.6637	28.4649	27.1431	28.0825	30.0409	31.2566	31.0923	32.7510
17	16	28.9796	29.8767	28.5556	29.6262	31.5798	32.8094	33.0302	34.6901

OBS	LE8	LE9	LE10	LE11	LE12	LE13	LE14	LE15	LE16
1	38.9973	40.3116	41.4206	41.2567	41.4701	43.3186	45.0507	46.3351	47.4749
2	23.1425	21.6708	22.4983	24.0353	24.9867	26.4480	28.1780	29.2679	29.2223
3	21.4792	18.8826	18.2099	19.8828	21.5528	23.2413	25.1141	24.8344	24.9758
4	22.0145	18.0817	17.9263	19.0772	20.6470	21.9334	23.9078	23.2328	22.1647
5	23.8285	19.7096	19.8014	21.0129	22.6352	23.9327	25.9047	25.1945	24.0730
6	19.1570	17.3258	17.7108	19.4224	20.4194	20.8669	22.8551	23.3727	22.1672
7	20.9706	19.1131	19.6681	21.3688	22.4193	22.8173	24.7925	25.3575	23.9931
8	22.9055	20.9260	21.4778	23.0281	24.0502	24.6756	26.6180	27.3183	25.8150
9	24.2040	21.5220	22.2951	23.8906	25.3202	26.0503	27.9258	28.2169	27.2342
10	26.0075	23.5114	24.2907	25.8655	27.3040	28.0386	29.9039	30.1264	29.0136
11	21.3574	18.2362	19.8336	20.4769	22.0511	21.9573	23.0714	23.5283	24.2488
12	23.0300	20.2011	21.8144	22.4762	24.0363	23.9572	25.0534	25.4890	26.2403
13	24.9670	22.1187	23.7790	24.4130	26.0116	25.9508	27.0533	27.4560	28.2257
14	26.9613	23.9616	25.7066	26.4116	28.0112	27.9370	28.9536	29.3462	29.9023
15	28.9601	25.8620	27.6460	28.4106	30.0019	29.8914	30.9324	31.2025	31.7353
16	29.6454	26.6969	28.6086	29.6493	30.8445	31.2522	32.3546	32.8265	33.0360
17	31.3728	28.4343	30.3390	31.4828	32.5119	33.1747	34.1522	34.6376	34.9999

Minimum value circled.

Table 15

FINAL PREDICTION ERROR STATISTIC

M VARS ARE M1 DATA IS GROWTH RATES -- II/62 TO III/82

LM = # OF LAGS OF M
LE0-LE12 = # OF LAGS OF E

OBS	LM	LE0	LE1	LE2	LE3	LE4	LE5	LE6	LE7
1	0	16.4621	16.7586	16.5855	16.6967	17.1071	17.3878	17.2749	17.5608
2	1	14.4869	14.7282	14.2854	14.4643	14.8233	14.8649	14.8737	15.2444
3	2	13.8639	14.0844	13.6375	13.8470	14.1910	14.1659	14.2766	14.6167
4	3	13.9486	14.1635	13.7015	13.9055	14.2520	14.2582	14.3252	14.6806
5	4	14.2820	14.5124	14.0380	14.2477	14.6037	14.6093	14.6825	15.0468
6	5	13.4279	13.5994	13.2781	13.4883	13.8173	13.8611	13.7647	14.0932
7	6	13.7631	13.9396	13.6101	13.8278	14.1661	14.2057	14.0965	14.4390
8	7	14.0159	14.1792	13.8570	14.0670	14.4204	14.4450	14.3921	14.7517
9	8	14.3400	14.5259	14.1805	14.4056	14.7689	14.7658	14.6915	15.0645
10	9	14.6923	14.8921	14.5072	14.7531	15.1269	15.1286	15.0713	15.4556
11	10	13.9225	14.0314	13.7347	13.8988	14.2502	14.3297	14.3026	14.6356
12	11	14.2727	14.3890	14.0794	14.2557	14.6183	14.6963	14.6770	15.0213
13	12	14.6358	14.7570	14.4345	14.6232	14.9980	15.0785	15.0637	15.4194
14	13	14.9972	15.1178	14.7949	14.9645	15.3479	15.4556	15.4190	15.7855
15	14	15.3818	15.5083	15.1763	15.3540	15.7514	15.8614	15.8310	16.2096
16	15	15.3777	15.5213	15.1976	15.3589	15.7569	15.9916	15.8937	16.2395
17	16	15.6315	15.7985	15.4657	15.6609	16.0684	16.3130	16.3096	16.6683

OBS	LE8	LE9	LE10	LE11	LE12	LE13	LE14	LE15	LE16
1	17.3247	17.6382	17.9202	17.9670	18.0796	18.5127	18.9348	19.2755	19.5930
2	14.5578	14.2873	14.4289	14.7072	14.8760	15.1493	15.4851	15.6932	15.6546
3	14.2521	13.7469	13.5804	13.8634	14.1532	14.4545	14.8036	14.6902	14.6581
4	14.3376	13.5556	13.4753	13.6495	13.9130	14.1223	14.4865	14.2649	13.9329
5	14.6672	13.8291	13.7968	13.9893	14.2726	14.4920	14.8677	14.6346	14.2835
6	13.7195	13.2931	13.3000	13.5845	13.7198	13.7312	14.0928	14.1170	13.7145
7	14.0347	13.5927	13.6371	13.9284	14.0814	14.0841	14.4546	14.4935	14.0431
8	14.3844	13.9065	13.9524	14.2187	14.3696	14.4268	14.8012	14.8770	14.3815
9	14.6086	13.9621	14.0533	14.3326	14.5801	14.6626	15.0294	15.0004	14.6248
10	14.9480	14.3277	14.4253	14.7097	14.9687	15.0577	15.4351	15.3906	14.9723
11	13.8418	13.0232	13.2755	13.3017	13.5560	13.3875	13.5226	13.4794	13.5006
12	14.1333	13.3629	13.6283	13.6626	13.9232	13.7571	13.8945	13.8476	13.8817
13	14.4961	13.7026	13.9894	14.0203	14.3011	14.1387	14.2853	14.2315	14.2759
14	14.8851	14.0352	14.3536	14.4070	14.6994	14.5326	14.6625	14.6077	14.5918
15	15.2888	14.3936	14.7339	14.8081	15.1104	14.9324	15.0772	14.9879	14.9679
16	15.3685	14.4826	14.8621	15.0117	15.2066	15.1719	15.3388	15.3100	15.1868
17	15.7206	14.8146	15.2047	15.3903	15.5448	15.5886	15.7257	15.7039	15.6316

Minimum value circled.

Table 16

GEWEKE-MEESE BAYESIAN ESTIMATION CRITERION

M VARS ARE M1 DATA IS GROWTH RATES -- II/62 TO III/82

LM = # OF LAGS OF M

LE0-LE16 = # OF LAGS OF E

OBS	LM	LE0	LE1	LE2	LE3	LE4	LE5	LE6	LE7
1	0	18.9626	20.0879	20.7682	21.7214	22.9520	24.0597	24.8111	25.9239
2	1	17.9219	19.0177	19.4745	20.5169	21.7231	22.6394	23.5289	24.7403
3	2	18.2030	19.2872	19.7552	20.8336	22.0322	22.8980	23.8870	25.0770
4	3	19.1607	20.2399	20.7011	21.7750	22.9747	23.8708	24.8227	26.0251
5	4	20.3490	21.4399	21.8943	22.9710	24.1755	25.0705	26.0267	27.2331
6	5	20.4518	21.4991	22.1067	23.1920	24.3797	25.3178	26.1379	27.3217
7	6	21.6466	22.6963	23.2993	24.3888	25.5810	26.5147	27.3244	28.5166
8	7	22.7644	23.8012	24.4143	25.4955	26.6981	27.6190	28.4773	29.6808
9	8	23.9429	24.9977	25.5935	26.6854	27.8929	28.7901	29.6309	30.8422
10	9	25.1430	26.2076	26.7722	27.8795	29.0922	29.9930	30.8478	32.0647
11	10	25.3708	26.3658	27.0186	28.0646	29.2654	30.2397	31.1285	32.3097
12	11	26.5719	27.5717	28.2157	29.2699	30.4764	31.4482	32.3429	33.5296
13	12	27.7804	28.7827	29.4180	30.4804	31.6932	32.6657	33.5634	34.7557
14	13	28.9837	29.9840	30.6212	31.6660	32.8823	33.8754	34.7554	35.9531
15	14	30.2026	31.2062	31.8379	32.8872	34.1109	35.1043	35.9885	37.1920
16	15	31.0991	32.1180	32.7615	33.7985	35.0218	36.1140	36.9477	38.1249
17	16	32.2075	33.2445	33.8834	34.9461	36.1740	37.2720	38.1786	39.3625

OBS	LE8	LE9	LE10	LE11	LE12	LE13	LE14	LE15	LE16
1	26.5746	27.7127	28.8214	29.7275	30.6916	31.9252	33.1455	34.2953	35.4238
2	25.0256	25.6857	26.7053	27.8407	28.8822	30.0101	31.1872	32.2576	33.1289
3	25.6552	26.1228	26.8882	28.0350	29.1851	30.3421	31.5353	32.3535	33.2405
4	26.6273	26.8672	27.7103	28.7678	29.8980	30.9822	32.1898	32.9275	33.5837
5	27.8069	28.0063	28.8899	29.9606	31.1042	32.1942	33.4073	34.1369	34.7801
6	27.9146	28.4726	29.3954	30.5455	31.5734	32.5026	33.7098	34.6500	35.2618
7	29.0869	29.6354	30.5883	31.7411	32.7813	33.7029	34.9137	35.8644	36.4417
8	30.2846	30.8070	31.7604	32.8907	33.9280	34.8920	36.1025	37.0808	37.6262
9	31.3770	31.7682	32.7590	33.8988	35.0117	35.9953	37.1975	38.0961	38.7362
10	32.5608	32.9775	33.9719	35.1129	36.2321	37.2192	38.4261	39.3123	39.9224
11	32.5906	32.8664	33.9929	34.9425	36.0684	36.8715	37.9070	38.8096	39.7619
12	33.7417	34.0611	35.1952	36.1501	37.2782	38.0835	39.1190	40.0182	40.9790
13	34.9461	35.2527	36.4005	37.3519	38.4927	39.3010	40.3415	41.2352	42.2024
14	36.1674	36.4356	37.6050	38.5724	39.7190	40.5242	41.5507	42.4431	43.3659
15	37.3963	37.6354	38.8183	39.8001	40.9511	41.7483	42.7838	43.6508	44.5699
16	38.3756	38.6292	39.8402	40.8782	41.9491	42.8525	43.9032	44.8139	45.6599
17	39.5606	39.8049	41.0207	42.0835	43.1231	44.0829	45.1103	46.0254	46.9071

Minimum value circled.

Table 17

SCHWARZ BAYESIAN INFORMATION CRITERION

M VARS ARE M1 DATA IS GROWTH RATES -- II/62 TO III/82

LM = # OF LAGS OF M
LE0-LE16 = # OF LAGS OF E

OBS	LM	LE0	LE1	LE2	LE3	LE4	LE5	LE6	LE7
1	0	2.92635	2.98625	3.01804	3.06704	3.13376	3.19260	3.22878	3.28801
2	1	2.84058	2.89928	2.91106	2.96595	3.03303	3.07852	3.12193	3.18948
3	2	2.83880	2.89689	2.90709	2.96490	3.03213	3.07317	3.12388	3.19047
4	3	2.88720	2.94494	2.95434	3.01181	3.07923	3.12260	3.17033	3.23799
5	4	2.95327	3.01184	3.02129	3.07893	3.14654	3.18997	3.23812	3.30590
6	5	2.93417	2.98955	3.00845	3.06709	3.13423	3.18056	3.21684	3.28381
7	6	3.00151	3.05707	3.07607	3.13499	3.20232	3.24838	3.28404	3.35153
8	7	3.06253	3.11704	3.13710	3.19530	3.26338	3.30846	3.34828	3.41655
9	8	3.12832	3.18424	3.20334	3.26235	3.33064	3.37391	3.41245	3.48122
10	9	3.19564	3.25230	3.26938	3.32957	3.39808	3.44178	3.48167	3.55064
11	10	3.18498	3.23604	3.25804	3.31340	3.38196	3.43121	3.47311	3.54002
12	11	3.25309	3.30458	3.32631	3.38234	3.45115	3.50027	3.54284	3.61001
13	12	3.32159	3.37332	3.39481	3.45148	3.52059	3.56983	3.61283	3.68025
14	13	3.38946	3.44106	3.46316	3.51835	3.58754	3.63851	3.68022	3.74788
15	14	3.45837	3.51025	3.53240	3.58793	3.65747	3.70851	3.75076	3.81866
16	15	3.50180	3.55488	3.57770	3.63224	3.70190	3.76085	3.79898	3.86485
17	16	3.56196	3.61647	3.63916	3.69578	3.76564	3.82501	3.86915	3.93535

OBS	LE8	LE9	LE10	LE11	LE12	LE13	LE14	LE15	LE16
1	3.31740	3.37837	3.43740	3.48328	3.53290	3.60005	3.66619	3.72771	3.78784
2	3.18644	3.21084	3.26397	3.32645	3.38135	3.44314	3.50876	3.56590	3.60732
3	3.20837	3.21555	3.24675	3.31085	3.37513	3.43968	3.50754	3.54373	3.58553
4	3.25762	3.24492	3.28246	3.33889	3.40170	3.46042	3.52977	3.55834	3.57887
5	3.32373	3.30837	3.34963	3.40717	3.47101	3.53015	3.59973	3.62800	3.64790
6	3.30041	3.31243	3.35664	3.42159	3.47539	3.52021	3.59028	3.63617	3.65150
7	3.36672	3.37841	3.42546	3.49049	3.54539	3.58966	3.65980	3.70675	3.71953
8	3.43502	3.44502	3.49221	3.55510	3.60973	3.65788	3.72776	3.77722	3.78779
9	3.49428	3.49290	3.54340	3.60716	3.66845	3.71835	3.78741	3.82992	3.84908
10	3.56114	3.56274	3.61360	3.67730	3.73901	3.78929	3.85848	3.90012	3.91717
11	3.52823	3.51135	3.57471	3.62095	3.68423	3.71616	3.77073	3.81214	3.85840
12	3.59315	3.58127	3.64520	3.69207	3.75540	3.78792	3.84246	3.88377	3.93101
13	3.66267	3.65064	3.71570	3.76235	3.82670	3.85989	3.91489	3.95590	4.00386
14	3.73341	3.71897	3.78584	3.83408	3.89878	3.93206	3.98573	4.02683	4.07068
15	3.80452	3.78663	3.85651	3.90615	3.97104	4.00397	4.05847	4.09746	4.14113
16	3.85416	3.83931	3.90978	3.96449	4.02217	4.06473	4.12060	4.16373	4.20073
17	3.92134	3.90659	3.97727	4.03417	4.08901	4.13676	4.19052	4.23421	4.27476

Minimum value circled.

Table 18

F-STATISTICS

M VARS ARE M1 DATA IS GROWTH RATES -- II/62 TO III/82

LM = # OF LAGS OF M
LE0-LE16 = # OF LAGS OF E

OBS	LM	LE0	LE1	LE2	LE3	LE4	LE5	LE6	LE7
1	0	2.10994	2.15377	2.09568	2.10104	2.17508	2.22252	2.18169	2.23464
2	1	1.65631	1.68557	1.56355	1.57973	1.63797	1.62512	1.60503	1.67124
3	2	1.49470	1.51875	1.39348	1.41544	1.46951	1.43917	1.44081	1.49872
4	3	1.48848	1.51198	1.38228	1.40358	1.45935	1.43644	1.42808	1.49130
5	4	1.53868	1.56711	1.43417	1.45835	1.51871	1.49692	1.49177	1.56067
6	5	1.31992	1.33288	1.23116	1.25314	1.30500	1.28882	1.23699	1.29305
7	6	1.37068	1.38615	1.28212	1.30755	1.36418	1.34835	1.29388	1.35707
8	7	1.40404	1.41763	1.31461	1.33968	1.40255	1.38397	1.34460	1.41634
9	8	1.45591	1.47671	1.36773	1.39879	1.46770	1.44376	1.39989	1.48018
10	9	1.51705	1.54356	1.42446	1.46363	1.53957	1.51924	1.48210	1.57241
11	10	1.30398	1.30434	1.20037	1.21374	1.27942	1.27314	1.23594	1.30575
12	11	1.36525	1.36951	1.26164	1.28091	1.35445	1.35084	1.31830	1.39898
13	12	1.43330	1.44142	1.32973	1.35583	1.43887	1.44008	1.41240	1.50643
14	13	1.50515	1.51628	1.40422	1.42909	1.52179	1.53651	1.50628	1.61584
15	14	1.58835	1.60524	1.49090	1.52365	1.63017	1.65326	1.63176	1.76236
16	15	1.56845	1.59155	1.47621	1.50589	1.61853	1.68805	1.64475	1.77510
17	16	1.62373	1.65845	1.53969	1.58663	1.71498	1.80086	1.80302	1.96556

OBS	LE8	LE9	LE10	LE11	LE12	LE13	LE14	LE15	LE16
1	2.16655	2.23094	2.29185	2.29794	2.32350	2.43782	2.55837	2.66677	2.77968
2	1.48446	1.39413	1.40468	1.45177	1.47299	1.52489	1.59871	1.64174	1.61482
3	1.38542	1.23251	1.16049	1.20436	1.25293	1.30831	1.38213	1.32229	1.28399
4	1.38164	1.15409	1.10138	1.11540	1.15571	1.18334	1.26052	1.15949	1.01267
5	1.44143	1.19524	1.15563	1.17723	1.22720	1.26218	1.35034	1.24573	1.08942
6	1.16616	1.01810	0.98299	1.02640	1.02796	0.99050	1.06578	1.03106	0.83338
7	1.22059	1.06547	1.04176	1.09125	1.10138	1.06287	1.14938	1.12341	0.89931
8	1.28856	1.12037	1.09852	1.14487	1.15771	1.13963	1.23800	1.23183	0.97945
9	1.32525	1.10146	1.09250	1.14543	1.19335	1.18639	1.29258	1.24632	1.02927
10	1.40050	1.17938	1.17621	1.23879	1.30036	1.30386	1.43376	1.39080	1.14480
11	1.02553	0.71048	0.73613	0.67972	0.70511	0.55081	0.50892	0.36119	0.20814
12	1.07923	0.76676	0.80131	0.74762	0.78181	0.61966	0.57906	0.41483	0.24805
13	1.16391	0.82897	0.87790	0.82367	0.87645	0.70726	0.67554	0.49120	0.30642
14	1.26921	0.89616	0.96740	0.92646	1.00159	0.82284	0.79071	0.58655	0.30076
15	1.39601	0.98466	1.08075	1.05865	1.16699	0.97827	0.98311	0.73418	0.36766
16	1.40504	0.96212	1.08695	1.10822	1.16890	1.06306	1.11820	0.91325	0.03601
17	1.54660	1.06205	1.22316	1.29656	1.37798	1.39156	1.57610	1.63762	

Table 19
Likelihood Ratio Test Results for Testing Alternative Lag Structure

NULL STRUCTURE		ALTERNATIVE STRUCTURE																	
Lags on		Lags on \dot{M} and \dot{G}																	
\dot{M}	\dot{G}	12	12	10	9	6	6	5	2	4	4	5	0	2	0	1	0		
10	9	3.31																	
10	8	10.46		7.15*															
6	6	21.26*																	
5	2	29.90*		26.59*		5.34													
4	4	32.36*																	
5	0	34.87*		31.56*		10.31		4.97											
2	0	43.53*		40.22*		18.96*		13.63*		7.86		8.66*							
1	0	49.14*		45.83*		24.58*		19.24*		13.47		14.27*		5.61*					
0	0	58.29*				31.72*				26.75*				18.10*		12.48*			

*Statistically significance at the 5 percent level.