

DATE: 6/06/90

TABLE 0

CORRECTED		DPR DATA		INCLUDING CONRAIL
RRID	YEAR	SWMAINT	SWT	THS
5	1979	49.6200	120.4700	4775.0698
5	1980	41.5623	115.9800	3853.4500
5	1981	34.7040	115.2800	3216.7800
5	1982	23.8754	109.6700	2437.4800
5	1983	19.3111	106.7500	2247.0000
5	1984	19.6344	103.9600	2280.7000
5	1985	13.1129	96.1600	2101.5901
5	1986	14.9382	93.3400	1975.0200
5	1987	14.6190	90.4900	1806.0900
8	1979	5.4198	9.9300	583.5050
8	1980	4.1946	9.8800	430.5410
8	1981	4.0902	10.0600	429.4800
8	1982	5.6526	10.8100	382.4420
8	1983	5.5595	10.8800	347.4320
8	1984	3.7937	10.4700	387.9290
8	1985	4.0904	10.3800	417.2750
8	1986	3.4949	10.1800	385.4150
8	1987	2.9350	9.1800	344.1790
10	1979	27.3139	87.5400	2827.0400
10	1980	27.5624	87.1400	2556.2000
10	1981	46.0297	88.1800	2383.4500
10	1982	48.6841	88.8600	2101.5400
10	1983	49.5979	89.4700	2046.0800
10	1984	43.4771	88.2000	2085.4600
10	1985	30.9229	85.5900	2141.3799
10	1986	24.9566	85.6500	2084.8701
10	1987	33.5310	84.7400	2075.6001
18	1979	5.2201	31.6300	1166.2500
18	1980	5.3411	31.2000	1054.6600
18	1981	9.4009	30.7300	937.9970
18	1982	6.4816	29.9400	750.4330
18	1983	4.8122	29.3900	638.6690
18	1984	4.3831	28.8100	628.2550
18	1985	3.8786	23.3400	565.8210
18	1986	2.1620	18.8000	469.0130
18	1987	1.3680	17.2500	360.6560
20	1979	46.4399	126.3500	5473.2793
20	1980	63.6820	125.3900	5214.8301
20	1981	73.2549	124.3700	4719.9502
20	1982	64.0038	124.4800	3713.1001
20	1983	44.3407	122.4800	3311.8401
20	1984	43.3811	120.0300	3568.2100
20	1985	45.8884	118.8600	3505.2600
20	1986	35.4191	113.8800	3165.9399
20	1987	25.2660	112.9600	2948.2100
21	1979	16.2266	46.0500	1734.7600
21	1980	18.0831	46.5100	1690.9800
21	1981	19.2027	48.2500	1578.3101
21	1982	17.1061	50.1300	1193.6200
21	1983	18.3407	50.3200	1064.9500

21	1984	21.8095	49.9500	1070.9301
21	1985	19.9790	49.7900	937.3060
21	1986	19.5064	49.6100	842.7800
21	1987	17.9180	48.6300	867.6560
22	1979	55.5525	83.7700	3335.3501
22	1980	50.0335	83.0200	3101.3899
22	1981	54.8668	82.7200	2729.5701
22	1982	45.4570	81.4200	2650.8701
22	1983	33.7160	81.0300	1799.2000
22	1984	29.8123	80.0300	1776.8300
22	1985	25.0429	77.4500	1683.9500
22	1986	24.4416	73.4300	1711.9100
22	1987	23.9880	66.7200	1679.8000
23	1979	16.4133	25.4600	1102.9500
23	1980	17.6159	23.9400	1060.7000
23	1981	18.2088	24.0300	959.0170
23	1982	15.6008	23.4900	757.9770
23	1983	14.6338	25.1400	760.3860
23	1984	15.0712	24.9800	723.5180
23	1985	14.0846	24.5300	644.7070
23	1986	12.2577	23.2400	608.8480
23	1987	12.0630	22.4700	560.5000
27	1979	1.9436	6.9800	229.3230
27	1980	2.3311	6.9800	210.4630
27	1981	2.3676	7.3200	203.0700
27	1982	1.5482	7.3000	163.7500
27	1983	2.1591	7.2600	144.3290
27	1984	2.2167	7.3200	72.6790
27	1985	1.9253	7.1000	119.1060
27	1986	1.9014	6.9000	106.5940
27	1987	1.3700	6.9900	103.8290
30	1979	4.2813	6.2400	384.4040
30	1980	4.0324	6.3100	382.4100
30	1981	3.8267	6.3600	327.5440
30	1982	4.5026	6.3700	282.6950
30	1983	3.3770	6.5700	312.1380
30	1984	2.7318	6.5300	301.4410
30	1985	2.6361	6.5200	240.2050
30	1986	2.2286	6.3000	239.3170
30	1987	2.2040	6.3200	236.0660
31	1979	4.4638	7.0900	259.5190
31	1980	3.8297	7.8300	274.9370
31	1981	3.9540	7.9700	270.0360
31	1982	4.1672	7.7900	216.1970
31	1983	4.2695	10.4100	228.9070
31	1984	6.0984	10.3800	229.5020
31	1985	5.7996	10.4300	220.3640
31	1986	4.0899	10.3700	208.0980
31	1987	3.7420	9.8700	198.6400
34	1979	2.0628	4.4400	262.7520
34	1980	2.4689	7.2600	229.4120
34	1981	2.3062	7.5500	208.7680
34	1982	1.1885	7.9000	146.9850
34	1983	1.1463	7.7300	146.5120
34	1984	1.0573	7.7700	137.3630
34	1985	0.9680	7.7300	106.2300
34	1986	-2.9522	7.7300	194.1590
34	1987	-1.4040	6.5200	203.0350
35	1979	10.4682	35.9900	1048.2300
35	1980	10.4809	26.0000	788.9710

35	1981	12.1754	25.8900	712.1530
35	1982	11.3553	24.5000	622.1150
35	1983	10.1779	24.4200	582.3710
35	1984	10.8371	22.4800	591.4490
35	1985	9.6464	21.7900	493.1180
35	1986	10.7113	20.4600	503.5920
35	1987	8.9340	15.8300	503.9740
36	1979	13.3845	44.6400	1798.1000
36	1980	13.5640	44.6500	2533.6101
36	1981	10.4389	44.6500	1671.5200
36	1982	7.1949	43.0300	1357.2100
36	1983	8.5390	44.3900	1317.7000
36	1984	5.4686	44.4400	1049.3800
36	1985	9.0022	44.1900	1219.0601
36	1986	9.3722	42.0900	1209.2500
36	1987	10.9170	36.5600	1151.5900
37	1979	38.2530	71.4200	3130.0200
37	1980	46.7980	71.3100	2942.7300
37	1981	58.8938	72.0000	2808.0400
37	1982	57.9411	71.8600	1990.2900
37	1983	74.6083	72.7800	1783.7800
37	1984	70.5048	74.9300	1708.9500
37	1985	61.9664	74.3700	1471.6100
37	1986	57.9023	71.1400	1459.4200
37	1987	36.9000	69.7000	1803.9301

TABLE 1

CONRAIL INCLUDED

SWMAINT ACCOUNT

THE DATA ARE GIVEN IN THE FOLLOWING UNITS:

SWMAINT MILLIONS OF DOLLARS PER YEAR
 SWI HUNDREDS OF MILES OF SWITCHING TRACK
 THS THOUSANDS OF TOTAL TRAIN HOURS SWITCHING

RAILROAD SPECIFIC MEANS OF THE DATA

RAILROAD	SWMAINT	SWI	THS
5	25.7086	105.7889	2743.6866
8	4.3590	10.1967	412.0224
10	36.8975	87.2633	2255.7356
18	4.7831	26.7878	730.1949
20	49.0751	120.9778	3957.8467
21	18.6858	48.8044	1220.1436
22	38.1012	78.8433	2274.3189
23	15.1055	24.1422	797.6225
27	1.9737	7.1278	150.3492
30	3.3134	6.3911	300.6911
31	4.4905	9.1267	234.0227
34	0.7602	7.1811	190.5796
35	10.5318	24.1511	649.5532
36	9.7646	43.1822	1534.1578
37	55.9742	72.1678	2122.0856

OVERALL MEANS OF THE DATA

	18.6349	44.8088	1304.8673
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TABLE 2

SWMAINT ACCOUNT

OLS REGRESSION RESULTS FOR POOLED MODEL

COEFFICIENT	ESTIMATE	T-RATIO
CONST	0.1920	0.1338
SWT	0.2551	3.2339
THS	0.0054	2.0757
TIME	-0.2218	-0.5133

ERROR VARIANCE	115.4604
R ²	0.6916
MODIFIED DW	0.2387
MODIFIED RHO	0.8806

F-STATISTIC FOR POOLING RAILROADS: $F(56 \ 75) = 14.53$

F-STATISTIC FOR POOLING YEARS: $F(24 \ 108) = 0.80$

SWMAINT ACCOUNT

COEFFICIENT	ESTIMATE	T-RATIO
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F5	-84.1486	-4.9756
F8	-6.6654	-2.6057
F10	-53.6996	-3.8360
F18	-23.1395	-4.9333
F20	-78.9704	-4.1344
F21	-31.8609	-3.9745
F22	-44.4517	-3.5252
F23	-10.4714	-2.4431
F27	-5.3204	-2.3098
F30	-3.7218	-1.6634
F31	-4.9793	-2.0143
F34	-6.7099	-2.9131
F35	-14.6165	-3.3843
F36	-36.3010	-5.1480
F37	-19.7081	1.7019

F-STATISTIC FOR INCREMENTAL POWER OF FIXED EFFECTS: $F(14, 117) = 21.59$

F-STATISTIC FOR POOLING RAILROADS
IN THE FIXED EFFECTS MODEL: $F(42, 75) = 4.12$

OLS REGRESSION MODEL WITH RAILROAD EFFECTS AND TIME TREND

COEFFICIENT	ESTIMATE	T-RATIO
SWT	0.9619	5.5712
THS	0.0030	1.7054
TIME	0.0319	0.1169
F5	-84.1486	-4.9756
F8	-6.6654	-2.6057
F10	-53.6996	-3.8360
F18	-23.1395	-4.9333
F20	-78.9764	-4.1344
F21	-31.8609	-3.9745
F22	-44.4517	-3.5252
F23	-10.4714	-2.4431
F27	-5.3264	2.3098
F30	-3.7218	-1.6634
F31	-4.0793	-2.0143
F34	-6.7099	-2.9131
F35	-14.6165	-3.3843
F36	-36.3010	-5.1480
F37	-19.7081	-1.7049
ERROR VARIANCE		36.0814
RSQ		0.9139
MODIFIED DW		1.0014
MODIFIED RHO		0.4993
BREUSCH-PAGAN		140.4770
RESET		21.8573
		CHI-SQ(17)
		F(3,114)

TABLE 5

SWMAINT ACCOUNT

OLS REGRESSION ON MODEL WITH RAILROAD EFFECTS AND NO TIME TREND

COEFFICIENT	ESTIMATE	T-RATIO
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SWT	0.9586	5.6524
THS	0.0028	1.9406

F5	-83.5053	-5.2436
F8	-6.5877	-2.6781
F10	-53.1697	-4.0312
F18	-22.9728	-5.1626
F20	-78.1534	-4.4194
F21	-31.5609	-4.1617
F22	-43.9478	-3.7242
F23	-10.3063	-2.5574
F27	-5.2867	-2.3276
F30	-3.6686	-1.6816
F31	-4.9241	-2.0379
F34	-6.6658	-2.9459
F35	-14.4671	-3.5213
F36	-35.9943	-5.5222
F37	-19.2425	1.7805

ERROR VARIANCE	35.7798
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RSQ	0.9139
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MODIFIED DW	1.0020
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MODIFIED RHO	0.4990
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BREUSCH-PAGAN	140.2151	CHI-SQ(16)
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RESET	20.3232	F(3 115)
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F-STATISTIC FOR TIME TREND: F(1 117) = 0.01

OLS REGRESSION ON MODEL WITH RAILROAD EFFECTS AND TIME EFFECTS

F-STATISTIC FOR TIME EFFECTS: $F(8, 110) = 1.12$

F-STATISTIC FOR TIME EFFECTS: $F(8, 110) = 1.12$

OLS REGRESSION MODEL WITH RAILROAD EFFECTS AND TIME EFFECTS
STEP ONE IN GLS ESTIMATION

COEFFICIENT	ESTIMATE	T-RATIO
SWT	0.8250	4.2647
THS	0.0047	2.3483
F5	-77.9635	-4.2727
F8	-9.5190	-2.9345
F10	-49.2027	-3.2498
F18	-24.2739	-4.5660
F20	-72.8187	-3.5691
F21	-30.8315	-3.5070
F22	-41.1308	-3.0209
F23	-12.0851	-2.4568
F27	-8.1458	-2.7823
F30	-6.9031	-2.3405
F31	-7.6703	-2.4737
F34	-9.5918	-3.2579
F35	-15.9719	-3.2360
F36	-36.5866	-4.7219
F37	-17.0459	-1.3635
T79	BASE YEAR	
T80	2.3913	1.0934
T81	6.0835	2.6923
T82	5.2873	2.1510
T83	4.4980	1.7317
T84	3.9600	1.5496
T85	3.4185	1.3206
T86	3.1182	1.1922
T87	3.0437	1.1474
ERROR VARIANCE		35.4985
RSD		0.9204
MODIFIED DW		0.9754
MODIFIED RHO		0.5123

TABLE 8

SWMAINT ACCOUNT

FIXED-EFFECTS MODEL CORRECTED FOR AUTOCORRELATION:
STEP TWO OF GLS ESTIMATION

COEFFICIENT	ESTIMATE	ASY Z-RATIO
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SWT	0.1643	1.1676
THS	0.0064	2.7161

F5	-6.6826	-1.0787
F8	-1.5066	-0.6386
F10	2.8894	0.5364
F18	-3.6800	-1.3002
F20	-0.1976	-0.0307
F21	0.1847	0.0430
F22	3.4617	0.7160
F23	1.6439	0.5996
F27	-1.5729	-0.6850
F30	-1.3495	-0.5923
F31	-0.7308	-0.3115
F34	-2.5193	-1.0977
F35	-0.1035	-0.0378
F36	-5.0225	-1.5146
F37	14.0715	3.0680

	BASE YEAR	
T79		
T80	2.0108	0.9799
T81	5.1436	2.5654
T82	2.3888	1.1484
T83	2.2235	1.0752
T84	1.5378	0.7507
T85	0.6179	0.2940
T86	0.0102	0.0048
T87	-0.6303	-0.2896

ERROR VARIANCE	19.1518
RSQ	0.8412
MODIFIED DW	1.4454
MODIFIED RHO	0.2773

SWMAINT ACCOUNT

WEIGHTED LEAST-SQUARES ESTIMATES OF FIXED-EFFECTS MODEL:
STEP THREE OF GLS ESTIMATION

COEFFICIENT	ESTIMATE	ASY Z-RATIO
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SWT	0.0511	0.7020
THS	0.0083	5.5266

F5	-0.8014	-0.7817
F8	-0.1384	-0.4061
F10	0.7793	1.3133
F18	-1.1506	-1.7516
F20	0.2482	0.4000
F21	1.1278	1.4952
F22	0.9211	1.5534
F23	2.2338	3.4159
F27	-0.1871	-0.4153
F30	-0.1097	-0.3678
F31	0.2787	0.6054
F34	-0.7329	-1.7543
F35	1.0485	1.6724
F36	-1.0841	-1.7913
F37	1.6020	3.1838

	BASC YEAR	
T79		
T80	0.3091	0.8388
T81	1.0778	2.8583
T82	0.4975	1.2257
T83	0.4030	1.0112
T84	0.3842	0.9848
T85	0.1917	0.4737
T86	-0.0692	-0.1703
T87	-0.0454	-0.1107

ERROR VARIANCE	0.6109	
WSQ	0.0462	
MODIFIED DW	1.6542	
MODIFIED RHO	0.1729	
BREUSCH-PAGAN	53.9662	CHI-SQ(24)
RESET	5.9588	F(3 107)

COEFFICIENT	ESTIMATE	ASY Z-RATIO
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1978 IS THE BASE YEAR

ERROR VARIANCE	0.6109
RSQ	0.8462
MODIFIED DW	1.6542
MODIFIED RHO	0.1729

DPF4 PPG

[illegible]

TABLE 11

CONRAIL INCLUDED

SWMAINT ACCOUNT

RAILROAD	RATIO	SE
5	0.81	0.2437
8	0.87	0.1803
10	0.81	0.2442
18	0.82	0.2363
20	0.84	0.2095
21	0.80	0.2493
22	0.82	0.2279
23	0.84	0.2081
27	0.77	0.2750
30	0.88	0.1608
31	0.81	0.2455
34	0.81	0.2403
35	0.81	0.2383
36	0.85	0.1978
37	0.83	0.2250

MEAN OF RATIOS: 0.8258

RATIO AT OVERALL MEAN: 0.8260 SE: 0.2265