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APPENDIXES



APPENDIX A

INDUSTRIAL CLASSIFICATION

<i>Nadiri- Rosen Code</i>	<i>Industry</i>	<i>U.S. Standard Industrial Classification (SIC)</i>
00	Total manufacturing	
01	Total durables	
	Ordnance and accessories	19
	Lumber and wood products	24
	Furniture and fixtures	25
	Stone, clay, and glass products	32
	Primary metal industries	33
	Fabricated metal products	34
	Machinery, except electrical	35
	Electrical equipment and supplies	36
	Transportation equipment	37
	Instruments and related products	38
	Miscellaneous manufacturing industries	39
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Industrial Classification

<i>Nadiri- Rosen Code</i>	<i>Industry</i>	<i>U.S. Standard Industrial Classification (SIC)</i>
08	Stone, clay, and glass products	
09	Other durables	
	Ordnance and accessories	19
	Lumber and wood products	24
	Furniture and fixtures	25
	Fabricated metal products	34
	Instruments and related products	38
	Miscellaneous manufacturing industries	39
10	Total nondurables	
	Food and kindred products	20
	Tobacco manufactures	21
	Textile mill products	22
	Apparel and other textile products	23
	Paper and allied products	26
	Printing and publishing	27
	Chemicals and allied products	28
	Petroleum and coal products	29
	Rubber and plastics products	30
	Leather and leather products	31
11	Food and beverages	20
12	Textile mill products	22
13	Paper and allied products	26
14	Chemical and allied products	28
15	Petroleum and coal products	29
16	Rubber products	30
17	Other nondurables	
	Tobacco manufacture	21
	Apparel and other textile products	23
	Printing and publishing	27
	Leather and leather products	31

APPENDIX B

DESCRIPTIVE STATISTICS
OF QUARTERLY TIME SERIES
FOR INDIVIDUAL INDUSTRIES
AND INDUSTRY AGGREGATES

TABLE B.1
 DESCRIPTIVE STATISTICS OF QUARTERLY TIME-SERIES DATA FOR
 TOTAL DURABLES, PRIMARY IRON AND STEEL, AND PRIMARY
 NONFERROUS METAL
 (sample period: 1953I-1967IV)

Variables ^a	Total Durables (01)			Primary Iron and Steel (02)			Primary Nonferrous Metal (03)		
	Mean	Stand. Dev.	Coeff. of Var. × 100	Mean	Stand. Dev.	Coeff. of Var. × 100	Mean	Stand. Dev.	Coeff. of Var. × 100
Y ₁	7.289	0.6126	8.405	0.718	0.076	10.580	0.311	0.025	8.030
Y ₂	40.841	0.8132	1.991	39.995	1.511	3.777	41.478	0.994	2.390
Y ₃	40.656	8.484	20.868	8.155	0.657	8.050	4.341	0.624	14.370
Y ₄	0.8989	0.834	9.283	0.778	0.147	18.890	0.791	0.101	12.760
Y ₅	30.826	7.429	24.103	3.407	0.512	15.020	1.984	0.383	19.300
Y ₆	2.190	0.492	22.475	0.145	0.009	6.200	0.083	0.006	7.220
S	47.651	10.800	22.665	5.479	1.064	19.410	3.488	0.601	17.230
w	2.194	0.486	22.137	2.789	0.405	14.510	2.566	0.389	15.170
c	0.1164	0.035	29.940	0.131	0.028	21.445	0.131	0.028	21.445
P	0.9323	0.114	12.289	0.968	1.004	10.369	1.024	0.059	5.803

a. For description and units of measure, see Table 3.1.

TABLE B.2
DESCRIPTIVE STATISTICS OF QUARTERLY TIME-SERIES DATA FOR
ELECTRICAL MACHINERY AND EQUIPMENT, MACHINERY EXCEPT
ELECTRICAL, AND MOTOR VEHICLES AND EQUIPMENT
 (sample period: 1953I-1967IV)

Variables ^a	Electrical Machinery and Equipment (04)			Machinery Except Electrical (05)			Motor Vehicles and Equipment (06)		
	Mean	Stand. Dev.	Coeff. of Var. × 100	Mean	Stand. Dev.	Coeff. of Var. × 100	Mean	Stand. Dev.	Coeff. of Var. × 100
Y ₁	1.031	0.134	12.990	1.115	0.121	10.850	0.596	0.080	13.422
Y ₂	40.400	0.546	1.350	41.798	1.043	2.490	41.767	1.534	3.672
Y ₃	3.427	0.607	17.710	6.346	1.330	20.950	5.835	0.731	12.527
Y ₄	0.901	0.086	9.540	0.841	0.096	11.410	0.811	0.139	17.139
Y ₅	5.709	0.909	15.920	5.377	1.785	33.190	2.483	0.586	23.600
Y ₆	0.448	0.100	20.490	0.453	0.065	14.340	0.169	0.012	7.100
S	7.153	1.533	21.431	6.723	1.953	29.040	8.311	1.958	23.559
w	2.245	0.317	14.125	2.542	0.383	15.069	2.798	0.453	16.183
c	0.131	0.028	21.445	0.131	0.028	21.445	0.131	0.028	21.445
P	0.965	0.052	5.385	1.006	0.113	11.258	0.973	0.059	6.156

a. For description and units of measure, see Table 3.1.

TABLE B.3
 DESCRIPTIVE STATISTICS OF QUARTERLY TIME-SERIES DATA FOR
 TRANSPORTATION EQUIPMENT EXCLUDING MOTOR VEHICLES; STONE,
 CLAY, AND GLASS; AND OTHER DURABLES
 (sample period: 1953I-1967IV)

Variables ^a	Transportation Equipment Excluding Motor Vehicles (07)			Stone, Clay, and Glass (08)			Other Durables (09)		
	Mean	Stand. Dev.	Coeff. of Var. × 100	Mean	Stand. Dev.	Coeff. of Var. × 100	Mean	Stand. Dev.	Coeff. of Var. × 100
Y ₁	0.649	0.100	15.408	0.489	0.016	3.271	2.485	0.149	5.995
Y ₂	41.107	0.702	1.707	41.062	0.646	1.573	40.562	0.617	1.521
Y ₃	2.436	0.770	31.600	4.270	0.768	17.985	9.467	1.402	14.809
Y ₄	0.889	0.068	7.649	0.927	0.059	6.364	0.942	0.050	5.307
Y ₅	4.807	0.817	16.996	1.342	0.271	20.193	8.633	0.909	10.529
Y ₆	0.314	0.036	11.464	0.109	0.013	11.926	0.692	0.100	14.450
S	5.080	0.865	17.027	2.752	0.437	15.879	12.509	1.786	14.277
w	2.642	0.423	16.010	2.259	0.334	14.779	2.173	3.146	14.482
c	0.131	0.028	21.445	0.131	0.028	21.445	0.131	0.028	21.444
P	0.9884	0.073	7.376	0.993	0.060	6.048	1.002	0.053	5.255

a. For description and units of measure, see Table 3.1.

TABLE B.4
DESCRIPTIVE STATISTICS OF QUARTERLY TIME-SERIES DATA FOR
TOTAL NONDURABLES, FOOD AND BEVERAGES, AND TEXTILE MILL PRODUCTS
 (sample period: 1953I-1967IV)

Variables ^a	Total Nondurables (10)			Food and Beverages (11)			Textile Mill Products (12)		
	Mean	Stand. Dev.	Coeff. of Var. × 100	Mean	Stand. Dev.	Coeff. of Var. × 100	Mean	Stand. Dev.	Coeff. of Var. × 100
Y_1	5.705	0.1755	3.0765	1.224	0.056	4.575	0.872	0.075	8.600
Y_2	39.5275	0.4529	1.1460	41.045	0.266	0.6480	40.068	1.180	2.944
Y_3	49.1691	6.2173	1.2645	9.167	0.232	2.530	3.472	0.324	9.331
Y_4	0.9517	0.049	5.1746	0.960	0.036	3.750	0.948	0.053	5.590
Y_5	20.4499	3.7226	18.2034	5.655	0.671	11.865	2.427	0.318	13.102
Y_6	1.66811	0.2295	13.7611	0.565	0.029	5.132	0.092	0.006	6.521
S	42.5308	9.095	21.3850	15.804	2.138	13.528	3.685	0.639	17.340
w	1.8727	0.3948	21.0346	2.076	0.342	16.478	1.625	0.214	13.171
c	0.1164	0.0348	29.9402	0.131	0.028	21.445	0.131	0.028	21.445
P	0.9887	0.0400	4.051	1.001	0.031	3.128	1.011	0.031	3.098

a. For description and units of measure, see Table 3.1.

TABLE B.5
DESCRIPTIVE STATISTICS OF QUARTERLY TIME-SERIES DATA FOR
PAPER AND ALLIED PRODUCTS, CHEMICAL AND ALLIED PRODUCTS,
AND PETROLEUM AND COAL PRODUCTS
 (sample period: 1953I-1967IV)

Variables ^a	Paper and Allied Products (13)			Chemical and Allied Products (14)			Petroleum and Coal Products (15)		
	Mean	Stand. Dev.	Coeff. of Var. × 100	Mean	Stand. Dev.	Coeff. of Var. × 100	Mean	Stand. Dev.	Coeff. of Var. × 100
<i>Y</i> ₁	0.476	0.024	5.042	0.526	0.026	4.942	0.138	0.020	14.492
<i>Y</i> ₂	42.675	0.459	1.075	41.313	0.397	0.9609	41.382	0.608	1.469
<i>Y</i> ₃	5.041	1.066	21.146	9.923	1.288	12.979	18.166	1.169	6.435
<i>Y</i> ₄	0.964	0.036	3.734	0.962	0.036	3.742	0.967	0.032	3.309
<i>Y</i> ₅	1.600	0.282	17.625	3.419	0.753	22.023	1.689	0.108	6.394
<i>Y</i> ₆	0.119	0.019	15.966	0.315	0.047	14.920	0.071	0.002	2.816
<i>S</i>	3.825	0.692	18.091	6.967	1.731	24.845	4.138	0.422	10.198
<i>w</i>	2.250	0.366	16.271	2.459	0.399	16.217	2.883	0.403	13.969
<i>c</i>	0.131	0.028	21.445	0.131	0.028	21.445	0.131	0.028	21.445
<i>P</i>	0.9743	0.046	4.781	1.0019	0.026	2.587	1.009	0.054	5.385

a. For description and units of measure, see Table 3.1.

TABLE B.6
DESCRIPTIVE STATISTICS OF QUARTERLY TIME-SERIES DATA FOR
RUBBER PRODUCTS AND OTHER NONDURABLES
 (sample period: 1953I-1967IV)

Variables ^a	Rubber Products (16)			Other Nondurables (17)		
	Mean	Stand. Dev.	Coeff. of Var. × 100	Mean	Stand. Dev.	Coeff. of Var. × 100
Y_1	0.312	0.043	13.782	2.111	0.084	3.979
Y_2	40.797	0.954	2.338	37.138	0.386	1.039
Y_3	1.555	0.248	15.948	4.303	0.444	10.318
Y_4	0.918	0.075	8.169	0.965	0.032	3.316
Y_5	1.062	0.195	18.361	6.160	0.619	10.048
Y_6	0.089	0.014	15.730	0.518	0.041	7.915
S	2.021	0.440	21.771	9.736	1.588	16.310
w	2.289	0.292	12.771	1.991	0.268	13.469
c	0.131	0.028	21.445	0.131	0.028	21.445
P	0.998	0.067	6.747	0.985	0.028	2.914

a. For description and units of measure, see Table 3.1.

APPENDIX C

ESTIMATED STRUCTURE OF THE MODEL

TABLE C.1
PREDICTIVE AND STRUCTURAL TESTS OF MODEL (4.1), TOTAL
MANUFACTURING, 1948I-1967IV AND 1968I-1970II

	Predictive Tests (F_p)	Structural Tests (F_s)
Y_1	0.7102	0.4975
Y_2	1.6982	1.0930
Y_3	0.3994	0.5491
Y_4	0.9311	0.5836
Y_5	0.7229	0.4986
Y_6	1.2835	1.0092

COMMENT: A comparison of F_p and F_s with their critical values (1.99 at the .05 level) suggests acceptance of the null hypothesis that the forecast errors are generated by model (4.1) and that no structural change occurred over the periods considered.

NOTE: The predictive and structural test statistics, F_p and F_s , were calculated as

$$F_p = \frac{V_1^2/m}{V_2^2/(n-k)} = \frac{e_0'[I + X_0(X'X)^{-1}X_0]^{-1}e_0/m}{e'e/(n-k)},$$

$$F_s = \frac{(X\beta_1 - X\beta_2)^2 + (Y_0 - X_0\beta_2)^2}{(Y - X\beta_1)^2} \frac{n-k}{k},$$

where V_1^2 and V_2^2 are the sums of squared errors for the forecast and sample periods; n and m are the number of observations in the sample and the forecast periods, respectively; k is the number of independent variables. Y is the vector of observations on the dependent variables and X is the matrix of observations

on k independent variables during the period of fit; while X_0 is a matrix of observations of the independent variable and Y_0 is the vector of the dependent variable for the period of forecast and β_1 and β_2 are the estimated coefficients of model (4.1) for the sample period and the whole period 1948I-1970II. The statistic F_S is an approximate test of structural change (see Johnson [1963], pp. 137-38 for further details).

TABLE C.2
ESTIMATED STRUCTURE OF MODEL (4.1) WITH FORECASTED SALES
VARIABLE (Z_1), TOTAL MANUFACTURING SECTOR
(sample period: 1948I-1967IV; all variables except trend are in natural logarithms)

Independent Variables	Dependent Variables					
	Prod. Emp. (Y_{1t})	Hours (Y_{2t})	Capital (Y_{3t})	Util. (Y_{4t})	Inven. (Y_{5t})	Nonprod. Emp. (Y_{6t})
Constant	-6.720 (6.559)	-.0008 (.0175)	.5990 (1.644)	.0909 (.8414)	-7.269 (3.137)	-.7155 (1.424)
Wage	-.0124 (.5070)	-.0201 (1.319)	-.0176 (.8655)	-.0009 (.1654)	-.0391 (.4266)	-.0254 (.8736)
Trend	-.0036 (4.966)	.0018 (2.280)	.0007 (1.447)	.0004 (2.612)	-.0032 (1.424)	.0012 (1.608)
Sales	.1855 (2.270)	.0010 (.8041)	-.0009 (.2419)	.0049 (.3646)	-.0384 (1.216)	-.0208 (4.095)
Y_{1t-1}	.5041 (6.754)	.0303 (.6144)	.0047 (.0854)	.0989 (6.076)	-.0436 (.1673)	.3211 (4.069)
Y_{2t-1}	1.674 (6.019)	.0982 (.8816)	.7529 (4.587)	-.0595 (1.126)	3.001 (3.870)	.6070 (2.600)
Y_{3t-1}	.3238 (3.726)	-.0250 (.2614)	-.0435 (.5872)	.9409 (41.07)	.2536 (.8063)	-.1033 (.9675)
Y_{4t-1}	-.1285 (3.096)	.0384 (2.534)	-.0491 (2.102)	-.0148 (2.265)	.0296 (.2413)	-.0924 (2.802)
Y_{5t-1}	-.0389 (.6340)	.0048 (.1345)	-.0083 (.1902)	.0153 (1.248)	-.6940 (3.350)	.6222 (9.926)
Y_{6t-1}	.0351 (.4606)	.7346 (8.102)	-.0352 (.5908)	-.0216 (1.303)	1.110 (4.143)	.3464 (4.037)
R^2	.9561	.9364	.5464	.9995	.6330	.9929
SEE	.0123	.0045	.0070	.0019	.0368	.0100
$\hat{\rho}$	.0261	.9187	.4975	.4975	.3093	.5141

TABLE C.3
 ESTIMATED STRUCTURE OF MODEL (4.1) WITHOUT UTILIZATION RATE (Y_4),
 TOTAL MANUFACTURING SECTOR
 (sample period: 1948I-1967IV; all variables except trend are in natural logarithms)

Independent Variables	Dependent Variables				
	Prod. Emp. (Y_{1t})	Hours (Y_{2t})	Capital (Y_{3t})	Inven. (Y_{5t})	Nonprod. Emp. (Y_{6t})
Constant	-2.402 (2.905)	4.816 (7.964)	.2470 (1.198)	-.6588 (.5935)	-.9657 (1.814)
Wage	-.0140 (.5932)	-.0336 (2.055)	.0015 (.2965)	-.0240 (.8092)	-.0143 (.9395)
Trend	-.0044 (5.394)	.0014 (1.803)	.0002 (.6524)	.0010 (1.343)	.00008 (.1622)
Sales	.4470 (13.35)	.1892 (8.611)	-.0048 (.6935)	.0168 (.3421)	.0404 (1.848)
Y_{1t-1}	.4349 (6.933)	.0451 (.9700)	.0279 (1.738)	.2694 (3.380)	-.0032 (.0798)
Y_{2t-1}	.3652 (2.019)	-.2006 (1.715)	-.0022 (.0596)	.3519 (1.324)	.2530 (2.134)
Y_{3t-1}	.1835 (1.756)	-.2009 (2.187)	.8987 (26.63)	-.0918 (.8460)	.00002 (.0004)
Y_{5t-1}	.0020 (.0410)	-.0599 (1.665)	.0038 (.3263)	.6662 (10.54)	.0009 (.0296)
Y_{6t-1}	-.0689 (.8184)	-.1302 (1.576)	.1038 (3.279)	.2555 (3.142)	.9248 (18.07)
R^2	.9853	.9390	.9999	.9980	.9995
SSR	.0036	.0016	.0001	.0076	.0015
SEE	.0072	.0047	.0015	.0104	.0047
$\hat{\beta}$	.7295	.8803	.9516	.4853	.6985

TABLE C.4
ESTIMATED STRUCTURE OF MODEL (4.1) WITH FORWARD VALUES OF
SALES AND WAGES, TOTAL MANUFACTURING SECTOR
(sample period: 1948I-1967IV; all variables except trend are in natural logarithms)

Independent Variables	Dependent Variables					
	Prod. Emp. (Y_{1t})	Hours (Y_{2t})	Capital (Y_{3t})	Util. (Y_{4t})	Inven. (Y_{5t})	Nonprod. Emp. (Y_{6t})
Constant	-2.608 (2.907)	.9030 (2.507)	.0828 (.3598)	3.986 (1.603)	-.6967 (.5599)	-.0116 (.0203)
Wage	-.0182 (.6794)	-.0127 (.8213)	.0011 (.2100)	-.0863 (.9360)	.0220 (.5744)	-.0071 (.4534)
Trend	-.0051 (5.985)	-.0015 (7.213)	-.00002 (.0596)	-.0071 (4.443)	.0017 (1.629)	.0003 (.5191)
Sales	.4085 (10.91)	.0964 (3.446)	-.0048 (.6427)	1.060 (7.062)	-.0005 (.0098)	.0342 (1.638)
Y_{1t-1}	.4819 (7.764)	-.0821 (3.892)	.0488 (2.749)	-.2650 (1.736)	.2980 (3.544)	.0160 (.3896)
Y_{2t-1}	.4468 (2.009)	.7099 (7.479)	.0329 (.7320)	-.2061 (.3119)	.6219 (1.958)	-.0086 (.0676)
Y_{3t-1}	.1448 (1.417)	-.0137 (.4821)	.9116 (26.82)	-.2894 (1.402)	-.1596 (1.232)	-.0795 (1.031)
Y_{4t-1}	-.0251 (.9064)	-.0389 (2.566)	-.0114 (1.995)	.1307 (1.345)	-.1209 (2.997)	.0470 (2.985)
Y_{5t-1}	-.0357 (.5772)	-.0717 (3.725)	.0094 (.6585)	-.5533 (3.924)	.6903 (8.295)	.0332 (.8524)
Y_{6t-1}	.0065 (.0789)	.0717 (3.112)	.0805 (2.416)	.8861 (5.317)	.2840 (2.716)	.8385 (12.25)
S_{t+1}	.0730 (2.068)	.0807 (2.674)	.0071 (.9971)	.0088 (.0589)	.0367 (.7044)	.0358 (1.807)
S_{t+2}	-.0584 (1.473)	-.0643 (2.027)	-.0097 (1.229)	.1610 (.9984)	.0001 (.0030)	.0252 (1.137)
S_{t+3}	.0582 (1.554)	.0545 (1.779)	.0071 (.9470)	-.2653 (1.685)	-.0769 (1.393)	.0059 (.2848)
S_{t+4}	.0221 (.5599)	.0385 (1.843)	.0033 (.4067)	-.0215 (.1697)	-.0044 (.0785)	-.0154 (.6692)
w_{t+1}	-.0080 (.2988)	-.0071 (.3218)	-.0010 (.1825)	.1094 (.9747)	-.0667 (1.692)	-.0122 (.7924)
w_{t+2}	-.0260 (.9485)	-.0315 (1.387)	-.0005 (.0882)	-.0972 (.8508)	-.0022 (.0546)	-.0255 (1.630)
w_{t+3}	.0124 (.4654)	.0374 (1.741)	-.0039 (.7193)	.0349 (.3186)	.0122 (.3136)	-.0020 (.1333)
w_{t+4}	-.0107 (.4277)	-.0040 (.2838)	-.0076 (1.411)	-.0397 (.4668)	-.0112 (.3146)	-.0093 (.6320)
R^2	.9877	.9642	.9999	.9218	.9984	.9996
SSR	.0030	.0009	.0001	.0335	.0061	.0010
SEE	.0070	.0039	.0015	.0234	.0100	.0042
$\hat{\rho}$	.6305	-.2847	.9321	.0460	.5258	.8179

TABLE C.5

ESTIMATED STRUCTURE OF MODEL (4,1) WITH FORWARD VALUES OF
SALES, TOTAL MANUFACTURING SECTOR

(sample period: 1948I-1967IV; all variables except trend are in natural logarithms)

Independent Variables	Dependent Variables					
	Prod. Emp. (Y_{1t})	Hours (Y_{2t})	Capital (Y_{3t})	Util. (Y_{4t})	Inven. (Y_{5t})	Nonprod. Emp. (Y_{6t})
Constant	-2.594 (3.101)	1.166 (3.333)	.0206 (.0958)	3.942 (1.706)	-.9935 (.8425)	-.0157 (.0270)
Wage	-.0252 (1.030)	-.0245 (3.045)	.0015 (.2820)	-.0585 (1.044)	-.0056 (.1684)	-.0054 (.3612)
Trend	-.0052 (6.284)	-.0015 (6.891)	-.00008 (.2523)	-.0074 (4.872)	.0016 (1.556)	.0009 (1.004)
Sales	.4143 (11.67)	.1093 (4.029)	-.0043 (.5987)	1.085 (7.645)	-.0128 (.2424)	.0435 (2.214)
Y_{1t-1}	.4839 (7.953)	-.0762 (3.495)	.0503 (2.923)	-.2501 (1.677)	.2998 (3.588)	.0657 (1.406)
Y_{2t-1}	.3811 (1.817)	.6499 (6.869)	.0240 (.5691)	-.2444 (.3886)	.6160 (2.011)	-.1007 (.8801)
Y_{3t-1}	.1701 (1.829)	-.0344 (1.352)	.9187 (28.10)	-.2518 (1.426)	-.0996 (.8525)	-.0536 (.6047)
Y_{4t-1}	-.0178 (.6732)	-.0378 (2.455)	-.0103 (1.889)	.1185 (1.261)	-.1123 (2.850)	.0449 (3.010)
Y_{5t-1}	-.0517 (.9216)	-.0681 (3.628)	.0036 (.2731)	-.5939 (4.637)	.6609 (8.659)	.0388 (1.059)
Y_{6t-1}	.0142 (.1741)	.0671 (2.839)	.0854 (2.661)	.9202 (5.744)	.3003 (2.918)	.7121 (8.166)
S_{t+1}	.0677 (2.022)	.0698 (2.402)	.0069 (1.019)	-.0197 (.1377)	.0386 (.7698)	.0375 (2.012)
S_{t+2}	-.0443 (1.208)	-.0468 (1.551)	-.0081 (1.109)	.1488 (.9907)	.0252 (.4598)	.0366 (1.847)
S_{t+3}	.0629 (1.808)	.0512 (1.768)	.0087 (1.245)	-.2347 (1.603)	-.0837 (1.604)	.0106 (.5589)
S_{t+4}	.0163 (.4552)	.0310 (1.529)	.0075 (.9845)	-.0140 (.1188)	-.0150 (.2890)	-.0223 (1.078)
R^2	.9874	.9607	.9999	.9198	.9983	.9996
SSR	.0031	.0010	.0001	.0344	.0065	.0011
SEE	.0069	.0039	.0015	.0230	.0100	.0041
$\hat{\rho}$	.6563	-.2284	.9278	.0566	.5455	.9283

APPENDIX D

GLOSSARY OF IMPORTANT SYMBOLS

<i>Symbol</i>	<i>Meaning</i>	<i>Symbol</i>	<i>Meaning</i>
A_1	Matrix of fixed coefficients	R	Vector of relative input prices
B	Matrix of adjustment coefficients	r	Rate of interest (cost of capital)
c	User cost of capital (rental price of capital)	S	Sales (shipments) in constant dollars
c_I	User cost of inventories	s_n	User cost of nonproduction worker
$g(\)$	Cost of changing inputs	s_p	User cost of production worker
I^g	Gross investment expenditures in 1954 dollars	$(\)^T$	"Transitory" component
K_t	Stock of capital in 1954 dollars	T	Trend
k'	Tax credit rate	V_p	Hiring cost per worker
k_t	Constants	W	Wealth
k	Number of independent variables	w_n	Hourly wage of nonproduction man-hours
L	Lag operator	w_p	Hourly wage of production man-hours
M	Matrix characteristic roots of vector of $(I - \beta)$	x	Level of output in constant dollars
m_1	Mean error	Y_1	Stock of production workers
m_2	Mean absolute error	Y_2	Hours of work per production worker
m_3	Mean square error	Y_3	Capital stock (constant 1954 dollars)
N	New orders	Y_4	Rate of capital services per unit of capital stock
n	Number of observations in the forecast period	Y_5	Stock of inventories
ou	Stock of unfilled orders	Y_6	Stock of nonproductive workers
P	Unit price of output	Y_7	Hours of work per nonproductive worker
P_k	Unit purchase price of capital stock	Y_i^*	Desired input level
$(\)^P$	"Permanent" component	\hat{Y}_i	Forecast values of Y_i ; $i = 1, \dots, 6$
Q	Level of output		
q	Vector of exogenous variables ($y_i^* = A_1 q_i$)		
q_p	Quit rate		

<i>Symbol</i>	<i>Meaning</i>	<i>Symbol</i>	<i>Meaning</i>
$\hat{\bar{Y}}_t$	Mean of \hat{Y}_t	ε	Stochastic error term
\bar{Y}_t	Mean value of the dependent variable in the forecast range	ε'	Stochastic error term
y_t	Inputs	λ	Characteristic roots of $(I - \beta)$
Z	Predicted sales	$\Theta(L)$	Polynomial function of L
z	Present value of depreciation	$\Theta_{ij}(L)$	Polynomial function of L
α_i	Cobb-Douglas exponents (output elasticities)	μ_i	Vector of fixed depreciation rates
β	Coefficient of adjustment	μ_0	Stochastic error term
β_{ij}	Matrix of adjustment coefficients	ν	Vector of nominal input prices
γ	Return to scale parameter	ξ'	Elasticities of wage rate with respect to hours worked
δ	Capital depreciation rate	ρ	First-order serial correlation coefficient
		ω	Corporate income tax rate

APPENDIX E

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