The US Model
Appendix A
ZAU

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Table A.1
The Six Sectors of the US Model

Sector	Corresponding Sector(s) in the Flow of Funds Accounts
1 Household (h)	1 Households and Nonprofit Organizations (H)
2 Firm (f)	2a Nonfinancial Corporate Business (F1) 2b Nonfinancial Noncorporate Business (NN)
3 Financial (b)	3 Financial Business (B) except Government Sponsored Enterprises (CA) and Monetary Authority (MA)
4 Foreign (r)	4 Rest of the World (R)
5 Fed. Gov. (g)	5a Federal Government (US) 5b Government-Sponsored Enterprises (CA) 5c Monetary Authority (MA)
6 S & L Gov. (s)	6 State and Local Governments (S)

- The abbreviations h, f, b, r, g, and s are used throughout this appendix.
- The abbreviations H, F1, NN, B, R, US, CA, MA, and S are used in Table A.5 in the description of the flow of funds data and, when appropriate, in other tables.

Table A.2
The Variables in the US Model in Alphabetical Order

Variable	Eq.	Description	Used in Equations
AA	133	Total net wealth, h, B2017$.	1, 2, 3, 5, 6, 7, 27
$AA1$	88	Total net financial wealth, h, B2017$.	133
$AA2$	89	Total net housing wealth, h, B2017$.	133
AB	73	Net financial assets, b, B$.	none
AF	70	Net financial assets, f, B$.	none
AFT	exog	Total armed forces, g, millions	87
AG	77	Net financial assets, g, B$.	29
$AG1$	exog	Percent of 16+ population 26-55 minus percent 16-25.	1, 2, 3, 4, 27
$AG2$	exog	Percent of 16+ population 56-65 minus percent 16-25.	1, 2, 3, 4, 27
$AG3$	exog	Percent of 16+ population 66+ minus percent 16-25.	1, 2, 3, 4, 27
AH	66	Net financial assets, h, B$.	88
AR	75	Net financial assets, r, B$.	none
AS	79	Net financial assets, s, B$.	none
BO	exog	Bank borrowing from the Fed, B$.	73
BR	exog	Total bank reserves, B$.	73
$CCF1$	67	Capital consumption, F1, B$.	68
CCG	150	Capital consumption, g, B$.	68, 69, 76
$CCGQ$	exog	Capital consumption, g, B2017$.	150
CCH	151	Capital consumption, h, B$.	65, 68, 69
$CCHQ$	exog	Capital consumption, h, B2017$.	151
CCS	152	Capital consumption, s, B$.	68, 69, 78
$CCSQ$	exog	Capital consumption, s, B2017$.	152
CD	3	Consumer expenditures for durable goods, B2017$.	34, 51, 52, 58, 60, 61, 65, 96, 97, 116
CDH	96	Capital expenditures, consumer durable goods, h, B$.	65, 68
CG	exog	Capital gains(+) or losses(-) on the financial assets of h, B$.	12, 66
CN	2	Consumer expenditures for nondurable goods, B2017$.	34, 51, 52, 60, 61, 65, 116
$cnst2cs$	exog	Time varying constant term, 1974.1–1994.3.	1
$cnst2l2$	exog	Time varying constant term, 1971.3–1989.4.	6
$cnst2kk$	exog	Time varying constant term, 1981.3–1986.2.	12
COG	exog	Purchases of consumption and investment goods, g, B2017$.	60, 61, 76, 104
COS	exog	Purchases of consumption and investment goods, s, B2017$.	60, 61, 78, 110
CS	1	Consumer expenditures for services, B2017$.	34, 51, 52, 60, 61, 65, 116
CTB	exog	Net capital transfers paid, financial corporations, B$.	72
$CTF1$	exog	Net capital transfers paid, nonfinancial corporations, B$.	69
$CTGB$	exog	Financial stabilization payments, B$.	68, 69
$CTGMB$	exog	Net capital transfers paid, g, less financial stabilization payments, B$.	76
CTH	exog	Net capital transfers paid, h, B$.	65
$CTNN$	exog	Net capital transfers paid, noncorporate business, B$.	69
CTR	exog	Net capital transfers paid, r, B$.	74
CTS	exog	Net capital transfers paid, s, B$.	78
CUR	26	Currency held outside banks, B$.	71, 77
$D1G$	exog	Personal income tax parameter, g.	47, 126, 127, 128
$D1S$	exog	Personal income tax parameter, s.	48, 126, 127, 128
$D2G$	exog	Profit tax rate, g.	12, 17, 49, 121
$D2S$	exog	Profit tax rate, s.	12, 17, 50, 121
$D3G$	exog	Indirect business tax rate, g.	35, 36, 37, 51
$D3S$	exog	Indirect business tax rate, s.	35, 36, 37, 52
$D4G$	exog	Employee social security tax rate, g.	53, 126
$D5G$	exog	Employer social security tax rate, g.	10, 54
$D6G$	exog	Capital consumption rate for CCF1, g.	67

Table A.2 (continued)

Variable	Eq.	Description	Used in Equations
$D593$	exog	1 in 1959.3; 0 otherwise.	11, 13
$D594$	exog	1 in 1959.4; 0 otherwise.	11
$D601$	exog	1 in 1960.1; 0 otherwise.	11
$D691$	exog	1 in 1969.1; 0 otherwise.	27
$D692$	exog	1 in 1969.2; 0 otherwise.	27
$D714$	exog	1 in 1971.4; 0 otherwise.	27
$D721$	exog	1 in 1972.1; 0 otherwise.	27
$D794823$	exog	1 in 1979.4-1982.3; 0 otherwise.	30
$D20083$	exog	1 in 1952.1-2008.3; 0 otherwise.	30
$D20201$	exog	1 in 2020.1; 0 otherwise.	1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 23, 24, 26, 27, 29
$D20202$	exog	1 in 2020.2; 0 otherwise.	1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 23, 24, 26, 27, 29
$D20203$	exog	1 in 2020.3; 0 otherwise.	1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 23, 24, 26, 27, 29
$D20204$	exog	1 in 2020.4; 0 otherwise.	1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 23, 24, 26, 27, 29
$D20211$	exog	1 in 2021.1; 0 otherwise.	1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 23, 24, 26, 27, 29
$D20212$	exog	1 in 2021.2; 0 otherwise.	1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 23, 24, 26, 27, 29
$D20213$	exog	1 in 2021.3; 0 otherwise.	1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 23, 24, 26, 27, 29
$D20214$	exog	1 in 2021.4; 0 otherwise.	1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 23, 24, 26, 27, 29
DB	153	Net dividends paid, b, B$.	64, 68, 69, 115
DBQ	exog	Net dividends paid, b, B2017$.	153
$DELD$	exog	Physical depreciation rate of the stock of durable goods, rate per quarter.	58
$DELH$	exog	Physical depreciation rate of the stock of housing, rate per quarter.	59
$DELK$	exog	Physical depreciation rate of the stock of capital, rate per quarter.	92
DF	18	Net dividends paid, f, B$.	64, 69, 115
DG	exog	Net dividends paid, g, B$.	64, 76, 105, 115
$DISB$	exog	Discrepancy for b, B$.	73
$DISF$	exog	Discrepancy for f, B$.	70
$DISG$	exog	Discrepancy for g, B$.	77
$DISH$	exog	Discrepancy for h, B$.	66
$DISR$	exog	Discrepancy for r, B$.	75
$DISS$	exog	Discrepancy for s, B$.	79
DR	154	Net dividends paid, r, B$.	57, 64, 115
DRQ	exog	Net dividends paid, r, B2017$.	154
DS	exog	Net dividends paid, s, B$.	64, 78, 112, 115
E	85	Total employment, civilian and military, millions.	86
EX	exog	Exports, B2017$.	33, 60, 61, 74
$EXPG$	106	Net expenditures, g, B$.	107
$EXPS$	113	Net expenditures, s, B$.	114
FA	exog	Farm gross product, B2017$.	17, 26, 31

Table A.2 (continued)

Variable	Eq.	Description	Used in Equations
GDP	82	Gross Domestic Product, B$.	84, 129
$GDPD$	84	GDP price deflator.	111, 123, 130, 150–169
$GDPR$	83	Gross Domestic Product, B2017$.	84, 122, 130
GNP	129	Gross National Product, B$.	131
$GNPD$	131	GNP price deflator.	none
$GNPR$	130	Gross National Product, B2017$.	131
GSB	155	Gross saving, B, B$.	68, 69, 72
$GSBQ$	exog	Gross saving, B, B2017$.	155
$GSCA$	exog	Gross saving, CA, B$.	68, 69, 76
$GSMA$	exog	Gross saving, MA, B$.	68, 69, 76
$GSNN$	156	Gross saving, NN, B$.	68
$GSNNQ$	exog	Gross saving, NN, B2017$.	156
HF	14	Average number of hours paid per job, f, hours per quarter.	62, 100, 118
HFF	100	Deviation of HFF from HFS.	15
HFS	exog	Potential value of HF.	13, 14, 100
HG	exog	Average number of hours paid per civilian job, g, hours per quarter.	43, 64, 76, 82, 83, 104, 115, 126
HM	exog	Average number of hours paid per military job, g, hours per quarter.	43, 64, 76, 82, 83, 104, 115, 126
HN	62	Average number of non overtime hours paid per job, f, hours per quarter.	43, 53, 54, 64, 67, 68, 115, 121, 126
HO	15	Average number of overtime hours paid per job, f, hours per quarter.	43, 53, 54, 62, 67, 68, 115, 121, 126
HS	exog	Average number of hours paid per job, s, hours per quarter.	43, 64, 78, 82, 83, 110, 115, 126
$IBTG$	51	Indirect business taxes, g, B$.	34, 52, 61, 76, 82, 105
$IBTS$	52	Indirect business taxes, s, B$.	34, 51, 61, 78, 82, 112
IGZ	157	Gross investment, g, B$.	106
$IGZQ$	exog	Gross investment, g, B2017$.	157
IHB	exog	Residential investment, b, B2017$.	60, 61, 72
IHF	exog	Residential investment, f, B2017$.	60, 61, 68
IHH	4	Residential investment, h, B2017$.	34, 59, 60, 61, 65
IKB	exog	Nonresidential fixed investment, b, B2017$.	60, 61, 72
IKF	92	Nonresidential fixed investment, f, B2017$.	60, 61, 67, 69
IKG	exog	Nonresidential fixed investment, g, B2017$.	60, 61, 76
IKH	exog	Nonresidential fixed investment, h, B2017$.	60, 61, 65
IM	27	Imports, B2017$.	33, 60, 61, 74
INS	exog	Insurance and pension reserves to h from g, B$.	65, 76
$INTF$	exog	Net interest payments, f, B$.	64, 68, 69, 115
$INTG$	29	Net interest payments, g, B$.	56, 64, 76, 106, 115
$INTGR$	56	Net interest payments, g to r, B$.	57, 64, 115
$INTS$	exog	Net interest payments, s, B$.	64, 78, 113, 115
$INTZ$	158	Net interest payments, other, B$.	64, 68, 69, 115
$INTZQ$	exog	Net interest payments, other, B2017$.	158
ISZ	159	Gross investment, s, B$.	113
$ISZQ$	exog	Gross investment, s, B2017$.	159
IVA	exog	Inventory valuation adjustment, B$.	68
IVF	117	Inventory investment, f, B2017$.	68
JF	13	Number of jobs, f, millions.	14, 43, 53, 54, 64, 68, 69, 85, 115, 118, 121
JG	exog	Number of civilian jobs, g, millions.	43, 64, 76, 82, 83, 85, 104, 115, 126
$JHMIN$	94	Number of worker hours required to produce Y, millions.	13, 14
JM	exog	Number of military jobs, g, millions.	43, 64, 76, 82, 83, 85, 104, 115
JS	exog	Number of jobs, s, millions.	43, 64, 78, 82, 83, 85, 110, 115, 126

Table A.2 (continued)

Variable	Eq.	Description	Used in Equations
KD	58	Stock of durable goods, B2017$.	none
KH	59	Stock of housing, h, B2017$.	89
KK	12	Stock of capital, f, B2017$.	92
$KKMIN$	93	Amount of capital required to produce Y, B2017$.	12
$L1$	5	Labor force of men 25-54, millions.	86, 87
$L2$	6	Labor force of women 25-54, millions.	86, 87
$L3$	7	Labor force of all others, 16+, millions.	86, 87
LAM	exog	Amount of output capable of being produced per worker hour.	10, 16, 94
LM	8	Number of"moonlighters": difference between the total number of jobs (establishment data) and the total number of people employed (household survey data), millions.	85
$M1$	81	Money supply, end of quarter, B$.	124
MB	71	Net demand deposits and currency, b, B$.	73
$MDIF$	exog	Net increase in demand deposits and currency of banks in U.S. possessions plus change in demand deposits and currency of private nonbank financial institutions plus change in demand deposits and currency of federally sponsored credit agencies and mortgage pools minus mail float, U.S. government, B$.	81
MF	17	Demand deposits and currency, f, B$.	70, 71, 81
MG	160	Demand deposits and currency, g, B$.	71, 77
MGQ	exog	Demand deposits and currency, g, B2017$.	160
MH	161	Demand deposits and currency, h, B$.	66, 71, 81, 88
MHQ	exog	Demand deposits and currency, h, B2017$.	161
MR	162	Demand deposits and currency, r, B$.	71, 75, 81
MRQ	exog	Demand deposits and currency, r, B2017$.	162
MS	163	Demand deposits and currency, s, B$.	71, 79, 81
MSQ	exog	Demand deposits and currency, s, B2017$.	163
MUH	exog	Amount of output capable of being produced per unit of capital.	93
$NICD$	97	Net investment in consumer durables, h, B$.	65, 68, 69
NNF	exog	Net acquisition of nonproduced nonfinancial assets, f, B$.	69
NNG	exog	Net acquisition of nonproduced nonfinancial assets, g, B$.	76
NNH	exog	Net acquisition of nonproduced nonfinancial assets, h, B$.	65
NNR	exog	Net acquisition of nonproduced nonfinancial assets, r, B$.	74
NNS	exog	Net acquisition of nonproduced nonfinancial assets, s, B$.	78
PCD	37	Price deflator for CD.	34, 51, 52, 61, 65, 96, 97, 116
$PCGDPD$	123	Percentage change in GDPD, annual rate, percentage points.	none
$PCGDPR$	122	Percentage change in GDPR, annual rate, percentage points.	none
$PCM1$	124	Percentage change in M1, annual rate, percentage points.	30
PCN	36	Price deflator for CN.	34, 51, 52, 61, 65, 116
PCS	35	Price deflator for CS.	34, 51, 52, 61, 65, 116
PD	33	Price deflator for X - EX + IM (domestic sales).	12, 30, 35, 36, 37, 38, 39, 40, 41, 42, 55
PEX	32	Price deflator for EX.	33, 61, 74
PF	10	Price deflator for non farm sales.	16, 17, 26, 27, 31, 119
PFA	111	Price deflator for farm sales.	31
PG	40	Price deflator for COG.	61, 76, 104
PH	34	Price deflator for CS + CN + CD +IHH inclusive of indirect business taxes.	1, 2, 3, 4, 7, 88, 89
$PIEF$	67	Before tax profits, f, B$.	18, 49, 50, 121, 132
$PIEFRET$	132	Foreign earnings retained abroad, f, B$.	57, 69
PIH	38	Price deflator for residential investment.	34, 61, 65, 68, 72
PIK	39	Price deflator for nonresidential fixed investment.	21, 61, 65, 68, 72, 76
PIM	exog	Price deflator for IM.	10, 27, 33, 61, 74
PIV	42	Price deflator for inventory investment, adjusted.	67, 82
PKH	55	Market price of KH.	89

Table A.2 (continued)

Variable	Eq.	Description	Used in Equations
POP	120	Noninstitutional population 16+, millions.	1, 2, 3, 4, 5, 6, 7, 8, 26, 27, 47, 48
$POP1$	exog	Noninstitutional population of men 25-54, millions.	5, 120
$POP2$	exog	Noninstitutional population of women 25-54, millions.	6, 120
$POP3$	exog	Noninstitutional population of all others, 16+, millions.	7, 120
$PROD$	118	Output per paid for worker hour ("productivity").	none
PS	41	Price deflator for COS.	61, 78, 110
$PSI1$	exog	Ratio of PEX to PX.	32
$PSI2$	exog	Ratio of PCS to (1 + D3G + D3S)PD.	35
$PSI3$	exog	Ratio of PCN to (1 + D3G + D3S)PD.	36
$PSI4$	exog	Ratio of PCD to (1 + D3G + D3S)PD.	37
$PSI5$	exog	Ratio of PIH to PD.	38
$PSI6$	exog	Ratio of PIK to PD.	39
$PSI7$	exog	Ratio of PG to PD.	40
$PSI8$	exog	Ratio of PS to PD.	41
$PSI9$	exog	Ratio of PIV to PD.	42
$PSI10$	exog	Ratio of WG to WF.	44
$PSI11$	exog	Ratio of WM to WF.	45
$PSI12$	exog	Ratio of WS to WF.	46
$PSI13$	exog	Ratio of gross product of g and s to total employee hours of g and s.	83
$PSI14$	exog	Ratio of PKH to PD.	55
$PSI15$	exog	Ratio of INTGR to INTG.	56
PUG	104	Purchases of goods and services, g, B$.	106
PUS	110	Purchases of goods and services, s, B$.	113
PX	31	Price deflator for total sales.	12, 32, 33, 61, 72, 82, 119
Q	164	Gold and foreign exchange, g, B$.	75,77
QQ	exog	Gold and foreign exchange, g, B2017$.	164
RB	23	Bond rate, percentage points.	29
$RECG$	105	Net receipts, g, B$.	107
$RECS$	112	Net receipts, s, B$.	114
RM	24	Mortgage rate, percentage points.	128
RMA	128	After tax mortgage rate, percentage points.	2, 3, 4
RNT	165	Rental income, h, B$.	64, 68, 69, 115
$RNTQ$	exog	Rental income, h, B2017$.	165
RS	30	Three-month Treasury bill rate, percentage points.	17, 23, 24, 29, 127
RSA	127	After tax bill rate, percentage points.	1, 26
SB	72	Financial saving, b, B$.	73
SF	69	Financial saving, f, B$.	70
SG	76	Financial saving, g, B$.	77
SGP	107	NIPA surplus (+) or deficit (-), g, B$.	none
SH	65	Saving, h, B$.	66
$SHRPIE$	121	Ratio of after tax profits to the wage bill net of employer social security taxes.	none
$SIFG$	54	Employer social insurance contributions, f to g, B$.	67, 68, 76, 103
$SIFS$	exog	Employer social insurance contributions, f to s, B$.	67, 68, 78, 109
SIG	103	Total employer and employee social insurance contributions to g, B$.	105
$SIGG$	exog	Employer social insurance contributions, g to g, B$.	64, 76, 103, 115, 126
$SIHG$	53	Employee social insurance contributions, h to g, B$.	65, 76, 103, 115
$SIHS$	exog	Employee social insurance contributions, h to s, B$.	65, 78, 109, 115
SIS	109	Total employer and employee social insurance contributions to s, B$.	112
$SISS$	exog	Employer social insurance contributions, s to s, B$.	64, 78, 109, 115, 126
SR	74	Financial saving, r, B$.	75
SRZ	116	Approximate NIPA saving rate, h.	none

Table A.2 (continued)

Variable	Eq.	Description	Used in Equations
SS	78	Financial saving, s, B$.	79
SSP	114	NIPA surplus (+) or deficit (-), s, B$.	none
$STAT$	exog	Statistical discrepancy, B$.	68, 69, 80
$STATP$	exog	Statistical discrepancy relating to the use of chain type price indices, B2017$.	83
$SUBG$	exog	Subsidies less current surplus of government enterprises, g, B$.	68, 69, 76, 106
$SUBS$	exog	Subsidies less current surplus of government enterprises, s, B$.	68, 69, 78, 113
T	exog	1 in 1952.1, 2 in 1952.2, etc.	3, 4, 6, 10, 14, 16
$TBL2$	exog	Time varying time trend, 1971.3–1989.4.	6
TFR	exog	Taxes, f to r, B$.	18, 74, 101
TBG	166	Corporate profit taxes, b to g, B$.	68, 69, 76, 102
$TBGQ$	exog	Corporate profit taxes, b to g, B2017$.	166
TBS	exog	Corporate profit taxes, b to s, B$.	68, 69, 78, 108
TCG	102	Corporate profit tax receipts, g, B$.	105
TCS	108	Corporate profit tax receipts, s, B$.	112
$TF1$	101	Corporate profit tax payments, F1, B$.	69
TFG	49	Corporate profit taxes, f to g, B$.	18, 76, 101, 102
TFS	50	Corporate profit taxes, f to s, B$.	18, 49, 78, 101, 108
$THETA1$	exog	Ratio of PFA to $GDPD$.	111
$THETA2$	exog	Ratio of CDH to $PCD \cdot CD$.	96
$THETA3$	exog	Ratio of $NICD$ to $PCD \cdot CD$.	97
$THETA4$	exog	Ratio of $PIEFRET$ to $PIEF$.	132
THG	47	Personal income taxes, h to g, B$.	65, 76, 101, 115
THS	48	Personal income taxes, h to s, B$.	65, 78, 105, 112, 115
$TRFG$	exog	Transfer payments, f to g, B$.	68, 69, 76, 105
$TRFH$	exog	Transfer payments, f to h, B$.	64, 68, 69, 115
$TRFR$	exog	Transfer payments, f to r, B$.	68, 69, 74
$TRRG2$	exog	Taxes, r to g, B$.	74, 80
$TRFS$	exog	Transfer payments, f to s, B$.	68, 69, 78, 112
$TRGH$	167	Transfer payments (net), g to h, B$.	65, 76, 106, 115
$TRGHQ$	exog	Transfer payments (net), g to h, B2017$.	167
$TRGR$	exog	Transfer payments (net), g to r, B$.	74, 76, 106
$TRGS$	168	Transfer payments, g to s, B$.	76, 78, 106, 112
$TRGSQ$	exog	Transfer payments, g to s, B2017$.	168
$TRHR$	exog	Transfer payments, h to r, B$.	65, 74, 115
$TRRS$	exog	Transfer payments, r to s, B$.	74, 78
$TRSH$	169	Transfer payments, s to h, excluding unemployment insurance benefits, B$.	65, 78, 111, 115
$TRSHQ$	exog	Transfer payments, s to h, excluding unemployment insurance benefits, B2017$.	169
$TTRRF$	exog	Transfer payments and taxes, r to f, B$	68, 69, 74
U	86	Number of people unemployed, millions.	28, 87
UB	28	Unemployment insurance benefits, B$.	65, 78, 111, 115
UR	87	Civilian unemployment rate.	5, 6, 7, 8, 10, 30
$USOTHER$	exog	Net receipts of factor income from the rest of the world not counting net interest receipts, net dividend receipts, and foreign earnings retained abroad, B$.	57, 68, 69
$USROW$	57	Net receipts of factor income from the rest of the world, B$.	74, 129, 130
V	63	Stock of inventories, f, B2017$.	11, 82, 117

Table A.2 (continued)

Variable	Eq.	Description	Used in Equations
WA	126	After tax wage rate. (Includes supplements to wages and salaries except employer contributions for social insurance.)	7
WF	16	Average hourly earnings excluding overtime of workers in f. (Includes supplements to wages and salaries except employer contributions for social insurance.)	10, 11, 28, 43, 44, 45, 46, 53, 54, 64, 68, 69, 121, 126
WG	44	Average hourly earnings of civilian workers in g. (Includes supplements to wages and salaries including employer contributions for social insurance.)	43, 64, 76, 82, 104, 115, 126
WH	43	Average hourly earnings excluding overtime of all workers. (Includes supplements to wages and salaries except employer contributions for social insurance.)	none
WM	45	Average hourly earnings of military workers. (Includes supplements to wages and salaries including employer contributions for social insurance.)	43, 64, 76, 82, 104, 115, 126
WR	119	Real wage rate of workers in f. (Includes supplements to wages and salaries except employer contributions for social insurance.)	none
WS	46	Average hourly earnings of workers in s. (Includes supplements to wages and salaries including employer contributions for social insurance.)	43, 64, 78, 82, 110, 115, 126
X	60	Total sales, B2017$.	11, 17, 26, 31, 33, 63
XX	61	Total sales, B$.	68, 69, 82
Y	11	Total production, B2017$.	10, 12, 13, 14, 27, 63, 83, 93, 94, 118
YD	115	Disposable income, h, B$.	1, 2, 3, 4, 116
YS	exog	Potential output, B2017$.	12
YT	64	Taxable income, h, B$.	47, 48, 65

- B$ = Billions of dollars.
- B2017$ = Billions of 2017 dollars.

Table A.3
The Equations of the US Model

STOCHASTIC EQUATIONS

Eq.	LHS Variable	Explanatory Variables
Household Sector		
1	$\log(CS/POP)$	$cnst2cs$, $cnst$, $AG1$, $AG2$, $AG3$, $\log(CS/POP)_{-1}$, $\log[YD/(POP \cdot PH)]$, RSA, $\log(AA/POP)_{-1}$, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$,$RHO = 1$ [Consumer expenditures: services]
2	$\log(CN/POP)$	$cnst$, $AG1$, $AG2$, $AG3$, $\log(CN/POP)_{-1}$, $\log(AA/POP)_{-1}$, $\log[YD/(POP \cdot PH)]$, RMA, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$,$RHO = 1$ [Consumer expenditures: nondurables]
3	$\log(CD/POP)$	$cnst$, $AG1$, $AG2$, $AG3$, $\log(CD/POP)_{-1}$, $\log[YD/(POP \cdot PH)]$, RMA, $\log(AA/POP)_{-1}$, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$ [Consumer expenditures: durables]
4	$\log(IHH/POP)$	$cnst$, $AG1$, $AG2$, $AG3$, $\log(IHH/POP)_{-1}$, $\log[YD/(POP \cdot PH)]$, RMA_{-1}, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$, $RHO = 1$ [Residential investment–h]
5	$\log(L1/POP1)$	$cnst$, $\log(L1/POP1)_{-1}$, $\log(AA/POP)_{-1}$, UR, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$ [Labor force–men 25-54]
6	$\log(L2/POP2)$	$cnst2l2$, $cnst$, $TBL2$, T, $\log(L2/POP2)_{-1}$, $\log(AA/POP)_{-1}$, UR, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$ [Labor force–women 25-54]
7	$\log(L3/POP3)$	$cnst$, $\log(L3/POP3)_{-1})$, $\log(WA/PH)$, $\log(AA/POP)_{-1}$, UR, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$ [Labor force–all others 16+]
8	$\log(LM/POP)$	$cnst$, $\log(LM/POP)_{-1}$, UR, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$ [Number of moonlighters]
Firm Sector		
10	$\log PF$	$\log PF_{-1}$, $\log[WF(1 + D5G)/LAM]$, $cnst$, T, $\log PIM$, $1/UR$, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$, $RHO = 1$ [Price deflator for non farm sales]
11	$\log Y$	$cnst$, $\log Y_{-1}$, $\log X$, $\log V_{-1}$, $D593$, $D594$, $D601$, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$, $RHO = 3$ [Production–f]
12	$\Delta \log KK$	$cnst2kk$, $cnst$, $\log(KK/KKMIN)_{-1}$, $\Delta \log KK_{-1}$, $\Delta \log Y$, $\Delta \log Y_{-1}$, $\Delta \log Y_{-2}$, $\Delta \log Y_{-3}$, $\Delta \log Y_{-4}$, $\Delta \log Y_{-5}$, $(CG_{-2} + CG_{-3} + CG_{-4})/(PX_{-2}YS_{-2} + PX_{-3}YS_{-3} + PX_{-4}YS_{-4})$, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$ [Stock of capital–f]
13	$\Delta \log JF$	$cnst$, $\log[JF/(JHMIN/HFS)]_{-1}$, $\Delta \log JF_{-1}$, $\Delta \log Y$, $D593$, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$ [Number of jobs–f]
14	$\Delta \log HF$	$cnst$, $\log(HF/HFS)_{-1}$, $\log[JF/(JHMIN/HFS)]_{-1}$, $\Delta \log Y$, T, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$ [Average number of hours paid per job–f]
15	$\log HO$	$cnst$, HFF, HFF_{-1}, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$, $RHO = 1$ [Average number of overtime hours paid per job–f]
16	$\log(WF/LAM)$	$\log(WF/LAM)_{-1}$, $\log PF$, $cnst$, $D20201$, $D20202$, $\log PF_{-1}$, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$ [Average hourly earnings excluding overtime–f]
17	$\log(MF/PF)$	$cnst, T, \log(MF/PF)_{-1}, \log(X - FA), RS(1 - D2G - D2S), D20201, D20202, D20203, D20204, D20211, D20212, D20213, D20214$ [Demand deposits and currency–f]
18	$\Delta \log DF$	$\log[(PIEF - TFG - TFS - TFR)/DF_{-1}], D20201, D20202, D20203, D20204, D20211, D20212, D20213, D20214$ [Dividends paid–f]

Table A.3 (continued)

Eq.	LHS Variable	Explanatory Variables
Financial Sector		
23	$RB - RS_{-2}$	$cnst$, $RB_{-1} - RS_{-2}$, $RS - RS_{-2}$, $RS_{-1} - RS_{-2}$, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$, $RHO = 1$ [Bond rate]
24	$RM - RS_{-2}$	$cnst$, $RM_{-1} - RS_{-2}$, $RS - RS_{-2}$, $RS_{-1} - RS_{-2}$, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$ [Mortgage rate]
26	$\log[CUR/(POP \cdot PF)]$	$cnst$, $\log[CUR/(POP \cdot PF)]_{-1}$, $\log[(X - FA)/POP]$, RSA, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$ [Currency held outside banks]
Import Equation		
27	$\log(IM/POP)$	$cnst$, $AG1$, $AG2$, $AG3$, $\log(IM/POP)_{-1}$, $\log[Y/(POP \cdot PH)]$, $\log(AA/POP)_{-1}$, $\log(PF/PIM)$, T, $D691$, $D692$, $D714$, $D721$, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$ [Imports]
Government Sectors		
28	$\log UB$	$cnst$, $\log UB_{-1}$, $\log U$, $\log WF$, $RHO = 1$ [Unemployment insurance benefits]
29	$INTG/(-AG)$	$cnst$, $[INTG/(-AG)]_{-1}$, $(1/400)[.4RS + .75(.6)(1/8)(RB + RB_{-1} + RB_{-2} + RB_{-3} + RB_{-4} + RB_{-5} + RB_{-6} + RB_{-7})]$, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$, $RHO = 1$ [Net interest payments–g]
30	RS	$cnst$, RS_{-1}, $100[(PD/PD_{-1})^4 - 1]$, UR, ΔUR, $D20083 \cdot PCM1_{-1}$, $D794823 \cdot PCM1_{-1}$, ΔRS_{-1}, ΔRS_{-2} [Three-month Treasury bill rate]

Table A.3 (continued)

IDENTITIES

Eq.	LHS Variable	Explanatory Variables
31	$PX =$	$[PF(X - FA) + PFA \cdot FA]/X$ [Price deflator for total sales]
32	$PEX =$	$PSI1 \cdot PX$ [Price deflator for EX]
33	$PD =$	$(PX \cdot X - PEX \cdot EX + PIM \cdot IM)/(X - EX + IM)$ [Price deflator for domestic sales]
34	$PH =$	$(PCS \cdot CS + PCN \cdot CN + PCD \cdot CD + PIH \cdot IHH + IBTG + IBTS)/(CS + CN + CD + IHH)$ [Price deflator for (CS + CN + CD + IHH) inclusive of indirect business taxes]
35	$PCS =$	$PSI2(1 + D3G + D3S)PD$ [Price deflator for CS]
36	$PCN =$	$PSI3(1 + D3G + D3S)PD$ [Price deflator for CN]
37	$PCD =$	$PSI4(1 + D3G + D3S)PD$ [Price deflator for CD]
38	$PIH =$	$PSI5 \cdot PD$ [Price deflator for residential investment]
39	$PIK =$	$PSI6 \cdot PD$ [Price deflator for nonresidential fixed investment]
40	$PG =$	$PSI7 \cdot PD$ [Price deflator for COG]
41	$PS =$	$PSI8 \cdot PD$ [Price deflator for COS]
42	$PIV =$	$PSI9 \cdot PD$ [Price deflator for inventory investment]
43	$WH =$	$100[(WF \cdot JF(HN + 1.5HO) + WG \cdot JG \cdot HG + WM \cdot JM \cdot HM + WS \cdot JS \cdot HS)/(JF(HN + 1.5HO) + JG \cdot HG + JM \cdot HM + JS \cdot HS)]$ [Average hourly earnings excluding overtime of all workers]
44	$WG =$	$PSI10 \cdot WF$ [Average hourly earnings of civilian workers–g]
45	$WM =$	$PSI11 \cdot WF$ [Average hourly earnings of military workers]
46	$WS =$	$PSI12 \cdot WF$ [Average hourly earnings of workers–s]
47	$THG =$	$D1G \cdot YT$ [Personal income taxes–h to g]
48	$THS =$	$D1S \cdot YT$ [Personal income taxes–h to s]
49	$TFG =$	$D2G(PIEF - TFS)$ [Corporate profits taxes–f to g]
50	$TFS =$	$D2S \cdot PIEF$ [Corporate profits taxes–f to s]
51	$IBTG =$	$[D3G/(1 + D3G)](PCS \cdot CS + PCN \cdot CN + PCD \cdot CD - IBTS)$ [Indirect business taxes–g]
52	$IBTS =$	$[D3S/(1 + D3S)](PCS \cdot CS + PCN \cdot CN + PCD \cdot CD - IBTG)$ [Indirect business taxes–s]
53	$SIHG =$	$D4G[WF \cdot JF(HN + 1.5HO)]$ [Employee social insurance contributions–h to g]
54	$SIFG =$	$D5G[WF \cdot JF(HN + 1.5HO)]$ [Employer social insurance contributions–f to g]

Table A.3 (continued)

Eq.	LHS Variable	Explanatory Variables
55	$PKH =$	$PSI14 \cdot PD$ [Market price of KH]
56	$INTGR =$	$PSI15 \cdot INTG$ [Net interest payments, g to r]
57	$USROW =$	$-INTGR + DR + PIEFRET + USOTHER$ [Net receipts of factor income from the rest of the world]
58	$KD =$	$(1 - DELD)KD_{-1} + CD$ [Stock of durable goods]
59	$KH =$	$(1 - DELH)KH_{-1} + IHH$ [Stock of housing–h]
60	$X =$	$CS + CN + CD + IHH + IKF + EX - IM + COG + COS + IKH + IKB + IKG + IHF + IHB$ [Total real sales]
61	$XX =$	$PCS \cdot CS + PCN \cdot CN + PCD \cdot CD + PIH \cdot IHH + PIK \cdot IKF + PEX \cdot EX - PIM \cdot IM + PG \cdot COG + PS \cdot COS + PIK(IKH + IKB + IKG) + PIH(IHF + IHB) - IBTG - IBTS$ [Total nominal sales]
62	$HN =$	$HF - HO$ [Average number of non overtime hours paid per job–f]
63	$V =$	$V_{-1} + Y - X$ [Stock of inventories–f]
64	$YT =$	$WF \cdot JF(HN + 1.5HO) + WG \cdot JG \cdot HG + WM \cdot JM \cdot HM + WS \cdot JS \cdot HS + RNT + INTZ + INTF + INTG - INTGR + INTS + DF + DB + DR + DG + DS + TRFH - TRHR - SIGG - SISS$ [Taxable income–h]
65	$SH =$	$YT - SIHG - SIHS - THG - THS - PCS \cdot CS - PCN \cdot CN - PCD \cdot CD + TRGH + TRSH + UB + INS + NICD + CCH - CTH - PIH \cdot IHH - CDH - PIK \cdot IKH - NNH$ [Financial saving–h]
66	$0 =$	$SH - \Delta AH - \Delta MH + CG - DISH$ [Budget constraint–h; (determines AH)]
67	$CCF1 =$	$D6G(PIK \cdot IKF + PIK_{-1} \cdot IKF_{-1} + PIK_{-2} \cdot IKF_{-2} + PIK_{-3} \cdot IKF_{-3})/4$ [Capital consumption, F1]
68	$PIEF =$	$XX + PIV \cdot IVF + SUBS + SUBG + USOTHER - WF \cdot JF(HN + 1.5HO) - RNT - INTZ - INTF - TRFH - NICD - CCH + CDH - TBS - TRFS - CCS - TRFR - DB - GSB - CTGB - GSMA - GSCA - TBG - TRFG - CCG - SIFG - SIFS - GSNN - IVA - CCF1 - STAT + TTRRF$ [Before tax profits–f]
69	$SF =$	$XX + SUBS + SUBG + PIEFRET + USOTHER - WF \cdot JF(HN + 1.5HO) - RNT - INTZ - INTF - TRFH - NICD - CCH + CDH - TBS - TRFS - CCS - TRFR - DB - GSB - CTGB - GSMA - GSCA - TBG - TRFG - CCG - SIFG - SIFS - STAT - DF - TF1 - PIK \cdot IKF - PIH \cdot IHF - NNF - CTF1 - CTNN + TTRRF$ [Financial saving–f]
70	$0 =$	$SF - \Delta AF - \Delta MF - DISF$ [Budget constraint–f; (determines AF)]

Table A.3 (continued)

Eq.	LHS Variable	Explanatory Variables
71	$0 =$	$\Delta MB + \Delta MH + \Delta MF + \Delta MR + \Delta MG + \Delta MS - \Delta CUR$ [Demand deposit identity; (determines MB)]
72	$SB =$	$GSB - CTB - PIH \cdot IHB - PIK \cdot IKB$ [Financial saving–b]
73	$0 =$	$SB - \Delta AB - \Delta MB - \Delta(BR - BO) - DISB$ [Budget constraint–b; (determines AB)]
74	$SR =$	$-PEX \cdot EX - USROW + PIM \cdot IM + TFR + TRFR + TRHR + TRGR - CTR - NNR - TRRS - TRRG2 - TTRRF$ [Financial saving–r]
75	$0 =$	$SR - \Delta AR - \Delta MR + \Delta Q - DISR$ [Budget constraint–r; (determines AR)]
76	$SG =$	$GSMA + GSCA + THG + IBTG + TBG + TFG + SIHG + SIFG - DG + TRFG - PG \cdot COG - WG \cdot JG \cdot HG - WM \cdot JM \cdot HM - TRGH - UB - TRGR - TRGS - INTG - SUBG + CCG - INS - CTGMB - NNG - PIK \cdot IKG + SIGG + CTGB$ [Financial saving–g]
77	$0 =$	$SG - \Delta AG - \Delta MG + \Delta CUR + \Delta(BR - BO) - \Delta Q - DISG$ [Budget constraint–g; (determines AG unless AG is exogenous)]
78	$SS =$	$THS + IBTS + TBS + TFS + SIHS + SIFS - DS + TRGS + TRFS - PS \cdot COS - WS \cdot JS \cdot HS - TRSH - INTS - SUBS + CCS - CTS - NNS + SISS + TRRS$ [Financial saving–s]
79	$0 =$	$SS - \Delta AS - \Delta MS - DISS$ [Budget constraint–s; (determines AS)]
80	$0 =$	$SH + SF + SB + SR + SG + SS + STAT + TRRG2$ [Redundant equation—for checking]
81	$M1 =$	$M1_{-1} + \Delta MH + \Delta MF + \Delta MR + \Delta MS + MDIF$ [Money supply]
82	$GDP =$	$XX + PIV(V - V_{-1}) + IBTG + IBTS + WG \cdot JG \cdot HG + WM \cdot JM \cdot HM + WS \cdot JS \cdot HS$ [Nominal GDP]
83	$GDPR =$	$Y + PSI13(JG \cdot HG + JM \cdot HM + JS \cdot HS) + STATP$ [Real GDP]
84	$GDPD =$	$GDP/GDPR$ [GDP price deflator]
85	$E =$	$JF + JG + JM + JS - LM$ [Total employment, civilian and military]
86	$U =$	$L1 + L2 + L3 - E$ [Number of people unemployed]
87	$UR =$	$U/(L1 + L2 + L3 - AFT)$ [Civilian unemployment rate]
88	$AA1 =$	$(AH + MH)/PH$ [Total net financial wealth–h]
89	$AA2 =$	$(PKH \cdot KH)/PH$ [Total net housing wealth–h]
92	$IKF =$	$KK + (1 - DELK)KK_{-1}$ [Nonresidential fixed investment–f]
93	$KKMIN =$	Y/MUH [Amount of capital required to produce Y]
94	$JHMIN =$	Y/LAM [Number of worker hours required to produce Y]

Table A.3 (continued)

Eq.	LHS Variable	Explanatory Variables
96	$CDH =$	$THETA2 \cdot PCD \cdot CD$ [Capital expenditures, consumer durable goods, h]
97	$NICD =$	$THETA3 \cdot PCD \cdot CD$ [Net investment in consumer durables, h]
100	$HFF =$	$HF - HFS$ [Deviation of HF from HFS]
101	$TF1 =$	$TFG + TFS + TFR$ [Corporate profit tax payments, F1]
102	$TCG =$	$TFG + TBG$ [Corporate profit tax receipts–g]
103	$SIG =$	$SIHG + SIFG + SIGG$ [Total social insurance contributions to g]
104	$PUG =$	$PG \cdot COG + WG \cdot JG \cdot HG + WM \cdot JM \cdot HM$ [Purchases of goods and services–g]
105	$RECG =$	$THG + TCG + IBTG + SIG + TRFG - DG$ [Net receipts–g]
106	$EXPG =$	$PUG + TRGH + TRGR + TRGS + INTG + SUBG - IGZ + UB$ [Net expenditures–g]
107	$SGP =$	$RECG - EXPG$ [NIPA surplus or deficit–g]
108	$TCS =$	$TFS + TBS$ [Corporate profit tax receipts–s]
109	$SIS =$	$SIHS + SIFS + SISS$ [Total social insurance contributions to s]
110	$PUS =$	$PS \cdot COS + WS \cdot JS \cdot HS$ [Purchases of goods and services–s]
111	$PFA =$	$THETA1 \cdot GDPD$ [Price deflator for farm sales]
112	$RECS =$	$THS + TCS + IBTS + SIS + TRGS + TRFS - DS$ [Net receipts–s]
113	$EXPS =$	$PUS + TRSH + INTS + SUBS - ISZ$ [Net expenditures–s]
114	$SSP =$	$RECS - EXPS$ [NIPA surplus or deficit–s]
115	$YD =$	$WF \cdot JF(HN + 1.5HO) + WG \cdot JG \cdot HG + WM \cdot JM \cdot HM + WS \cdot JS \cdot HS + RNT + INTZ + INTF + INTG - INTGR + INTS + DF + DB + DR + DG + DS + TRFH + TRGH + TRSH + UB - SIHG - SIHS - THG - THS - TRHR - SIGG - SISS$ [Disposable income–h]
116	$SRZ =$	$(YD - PCS \cdot CS - PCN \cdot CN - PCD \cdot CD)/YD$ [Approximate NIPA saving rate–h]
117	$IVF =$	$V - V_{-1}$ [Inventory investment–f]
118	$PROD =$	$Y/(JF \cdot HF)$ [Output per paid for worker hour:“productivity"]
119	$WR =$	WF/PF [Real wage rate of workers in f]
120	POP	$= POP1 + POP2 + POP3$ [Noninstitutional population 16 and over]

Table A.3 (continued)

Eq.	LHS Variable	Explanatory Variables
121	$SHRPIE =$	$[(1 - D2G - D2S)PIEF]/[WF \cdot JF(HN + 1.5HO)]$ [Ratio of after tax profits to the wage bill net of employer social security taxes]
122	$PCGDPR =$	$100[(GDPR/GDPR_{-1})^4 - 1]$ [Percentage change in GDPR]
123	$PCGDPD =$	$100[(GDPD/GDPD_{-1})^4 - 1]$ [Percentage change in GDPD]
124	$PCM1 =$	$100[(M1/M1_{-1})^4 - 1]$ [Percentage change in M1]
126	$WA =$	$100[(1-D1G-D1S-D4G)[WF \cdot JF(HN+1.5HO)]+(1-D1G-D1S)(WG \cdot JG \cdot HG + WM \cdot JM \cdot HM + WS \cdot JS \cdot HS - SIGG - SISS)]/[JF(HN + 1.5HO) + JG \cdot HG + JM \cdot HM + JS \cdot HS]$ [After tax wage rate]
127	$RSA =$	$RS(1 - D1G - D1S)$ [After-tax three-month Treasury bill rate]
128	$RMA =$	$RM(1 - D1G - D1S)$ [After-tax mortgage rate]
129	$GNP =$	$GDP + USROW$ [Nominal GNP]
130	$GNPR =$	$GDPR + USROW/GDPD$ [Real GNP]
131	$GNPD =$	$GNP/GNPR$ [GNP price deflator]
132	$PIEFRET =$	$THETA4 \cdot PIEF$ [Foreign earnings retained abroad—f]
133	$AA =$	$AA1 + AA2$ [Total net wealth–h]
Nominal Variables		
150	$CCG =$	$GDPD \cdot CCGQ$
151	$CCH =$	$GDPD \cdot CCHQ$
152	$CCS =$	$GDPD \cdot CCSQ$
153	$DB =$	$GDPD \cdot DBQ$
154	$DR =$	$GDPD \cdot DRQ$
155	$GSB =$	$GDPD \cdot GSBQ$
156	$GSNN =$	$GDPD \cdot GSNNQ$
157	$IGZ =$	$GDPD \cdot IGZQ$
158	$INTZ =$	$GDPD \cdot INTZQ$
159	$ISZ =$	$GDPD \cdot ISZQ$
160	$MG =$	$GDPD \cdot MGQ$
161	$MH =$	$GDPD \cdot MHQ$
162	$MR =$	$GDPD \cdot MRQ$
163	$MS =$	$GDPD \cdot MSQ$
164	$Q =$	$GDPD \cdot QQ$
165	$RNT =$	$GDPD \cdot RNTQ$
166	$TBG =$	$GDPD \cdot TBGQ$
167	$TRGH =$	$GDPD \cdot TRGHQ$
168	$TRGS =$	$GDPD \cdot TRGSQ$
169	$TRSH =$	$GDPD \cdot TRSHQ$

Table A.4
Coefficient Estimates and Test Results
for the Stochastic Equations

Table A1
Equation 1
LHS Variable is $\log(CS/POP)$

Equation			χ^2 Tests			
RHS Variable	Coef.	t-stat.	Test	χ^2	df	p-value
cnst2cs	0.05835	6.05	Lags	12.76	3	0.0052
cnst	-0.11567	-3.29	T	0.65	1	0.4194
$AG1$	-0.07678	-2.80				
$AG2$	-0.20708	-6.02				
$AG3$	-0.06054	-1.25				
$\log(CS/POP)_{-1}$	0.80842	20.18				
$\log[YD/(POP \cdot PH)]$	0.12532	2.89				
RSA	-0.00110	-4.55				
$\log(AA/POP)_{-1}$	0.03186	4.81				
$D20201$	-0.02791	-7.59				
$D20202$	-0.14445	-20.93				
$D20203$	0.02942	3.02				
$D20204$	-0.01267	-1.99				
$D20211$	-0.02944	-2.92				
$D20212$	0.00120	0.19				
$D20213$	-0.00069	-0.14				
$D20214$	-0.00738	-1.80				
RHO1	0.19782	3.05				
SE	0.00359					
R^2	1.000					

χ^2 (AGE) = 56.98 (df = 3, p-value = 0.0000)

Lags test adds $\log(CS/POP)_{-2}$, $\log[YD/(POP \cdot PH)]_{-1}$, and RSA_{-1}.
Estimation period is 1954.1-2023.4.
T_1 = 1973.4; T_2 = 1994.4.

First Stage Regressors

$cnst2cs$, $cnst$, $AG1$, $AG2$, $AG3$, $\log(CS/POP)_{-1}$, $\log(AA/POP)_{-2}$, RSA_{-1}, $cnst2cs_{-1}$, $AG1_{-1}$, $AG2_{-1}$, $AG3_{-1}$, $\log(AA/POP)_{-3}$, $\log(CS/POP)_{-2}$, $\log[(COG+COS)/POP]_{-1}$, $\log[(TRGH+TRSH)/(POP \cdot PH)]_{-1}$, $\log(EX/POP)_{-1}$, $\log POP$, $\log POP_{-1}$, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$, $D20214_{-1}$

Table A2
Equation 2
LHS Variable is $\log(CN/POP)$

Equation			χ^2 Tests			
RHS Variable	Coef.	t-stat.	Test	χ^2	df	p-value
cnst	-0.16603	-2.17	Lags	6.53	3	0.0885
$AG1$	-0.03441	-1.69	T	0.01	1	0.9297
$AG2$	-0.12401	-2.13				
$AG3$	0.10456	1.73				
$\log(CN/POP)_{-1}$	0.86963	22.82				
$\log(AA/POP)_{-1}$	0.04138	2.26				
$\log[YD/(POP \cdot PH)]$	0.02897	2.58				
RMA	-0.00101	-2.56				
$D20201$	0.00826	1.25				
$D20202$	-0.03847	-5.59				
$D20203$	0.05242	7.31				
$D20204$	-0.00204	-0.30				
$D20211$	0.01278	1.81				
$D20212$	0.02783	4.04				
$D20213$	-0.00093	-0.14				
$D20214$	0.00452	0.68				
RHO1	0.21891	3.41				
SE	0.00645					
R^2	0.999					

χ^2 (AGE) = 5.71 (df = 3, p-value = 0.1266)

Lags test adds $\log(CN/POP)_{-2}$, $\log[YD/(POP \cdot PH)]_{-1}$, and RMA_{-1}.
Estimation period is 1954.1-2023.4.

First Stage Regressors

$cnst$, $AG1$, $AG2$, $AG3$, $\log(CN/POP)_{-1}$, $\log(AA/POP)_{-2}$, $\log[YD/(POP \cdot PH)]_{-1}$, RMA_{-1}, $AG1_{-1}$, $AG2_{-1}$, $AG3_{-1}$, $\log(AA/POP)_{-3}$, $\log(CN/POP)_{-2}$, $\log[(COG + COS)/POP]_{-1}$, $\log[(TRGH + TRSH)/(POP \cdot PH)]_{-1}$, $\log(EX/POP)_{-1}$, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$, $D20214_{-1}$

Table A3
Equation 3
LHS Variable is $\log(CD/POP)$

Equation			χ^2 Tests			
RHS Variable	Coef.	t-stat.	Test	χ^2	df	p-value
cnst	-0.50581	-2.09	Lags	6.02	3	0.1105
$AG1$	-0.09534	-1.40	RHO	10.05	1	0.0015
$AG2$	-0.05105	-0.23	T	4.67	1	0.0307
$AG3$	0.19035	0.88				
$\log(CD/POP)_{-1}$	0.90611	30.89				
$\log[YD/(POP \cdot PH)]$	0.14822	3.04				
RMA	-0.00318	-2.39				
$\log(AA/POP)_{-1}$	0.03639	0.96				
$D20201$	-0.06414	-2.20				
$D20202$	-0.03503	-1.18				
$D20203$	0.13860	4.69				
$D20204$	-0.00331	-0.11				
$D20211$	0.02814	0.95				
$D20212$	0.01693	0.58				
$D20213$	-0.07907	-2.69				
$D20214$	0.00912	0.31				
SE	0.02854					
R^2	0.999					

χ^2 (AGE) = 1.97 (df = 3, p-value = 0.5794)

Lags test adds $\log(CD/POP)_{-2}$, $\log[YD/(POP \cdot PH)]_{-1}$, and RMA_{-1}.
Estimation period is 1954.1-2023.4.

First Stage Regressors

$cnst$, $AG1$, $AG2$, $AG3$, $\log(CD/POP)_{-1}$, $\log(AA/POP)_{-2}$, $\log[YD/(POP \cdot PH)]_{-1}$, RMA_{-1}, $\log[(COG + COS)/POP]_{-1}$, $\log[(TRGH + TRSH)/(POP \cdot PH)]_{-1}$, $\log(EX/POP)_{-1}$, T, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$

Table A4
Equation 4
LHS Variable is $\log(IHH/POP)$

Equation			χ^2 Tests			
RHS Variable	Coef.	t-stat.	Test	χ^2	df	p-value
cnst	-1.32401	-2.08	Lags	20.19	3	0.0002
$AG1$	0.73180	0.83	T	1.69	1	0.1931
$AG2$	-6.12774	-2.79				
$AG3$	2.27278	0.97				
$\log(IHH/POP)_{-1}$	0.40799	7.08				
$\log[YD/(POP \cdot PH)]$	0.32144	1.77				
RMA_{-1}	-0.04217	-6.44				
$D20201$	0.02888	0.74				
$D20202$	-0.09977	-1.74				
$D20203$	0.04435	0.73				
$D20204$	0.05386	0.87				
$D20211$	0.00365	0.05				
$D20212$	-0.00333	-0.06				
$D20213$	0.00478	0.09				
$D20214$	-0.01096	-0.28				
RHO1	0.92366	33.07				
SE	0.04007					
R^2	0.974					

χ^2 (AGE) = 45.83 (df = 3, p-value = 0.0000)

Lags test adds $\log(IHH/POP)_{-2}$, $\log[YD/(POP \cdot PH)]_{-1}$, and RMA_{-2}.
Estimation period is 1954.1-2023.4.

First Stage Regressors

$cnst$, $\log(IHH/POP)_{-1}$, RMA_{-1}, $\log[YD/(POP \cdot PH)]_{-1}$, $AG1$, $AG2$, $AG3$, $AG1_{-1}$, $AG2_{-1}$, $AG3_{-1}$, $\log(IHH/POP)_{-2}$, RMA_{-2}, $\log[(COG+COS)/POP]_{-1}$, $\log[(TRGH + TRSH)/(POP \cdot PH)]_{-1}$, $\log(EX/POP)_{-1}$, T, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$, $D20214_{-1}$

Table A5
Equation 5
LHS Variable is $\log(L1/POP1)$

RHS Variable	Equation Coef.	t-stat.	Test	χ^2 Tests χ^2	df	p-value
cnst	0.03002	3.68	Lags	5.85	2	0.0537
$\log(L1/POP1)_{-1}$	0.90390	36.06	RHO	2.50	1	0.1139
$\log(AA/POP)_{-1}$	-0.00664	-3.69	T	3.09	1	0.0788
UR	-0.05070	-3.60				
$D20201$	0.00107	0.44				
$D20202$	-0.02206	-8.06				
$D20203$	0.01188	4.87				
$D20204$	0.00011	0.04				
$D20211$	0.00033	0.14				
$D20212$	0.00516	2.12				
$D20213$	0.00505	2.07				
$D20214$	0.00112	0.46				
SE	0.00240					
R^2	0.994					

Lags test adds $\log(L1/POP1)_{-2}$ and UR_{-1}.
Estimation period is 1954.1-2023.4.

First Stage Regressors

$cnst$, $\log(L1/POP1)_{-1}$, $\log(AA/POP)_{-2}$, UR_{-1}, $\log[(COG + COS)/POP]_{-1}$, $\log[(TRGH+TRSH)/(POP\cdot PH)]_{-1}$, $\log(EX/POP)_{-1}$, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$

Table A6
Equation 6
LHS Variable is $\log(L2/POP2)$

Equation			χ^2 Tests			
RHS Variable	Coef.	t-stat.	Test	χ^2	df	p-value
cnst2l2	0.09781	5.66	Lags	2.01	2	0.3668
cnst	-0.07678	-1.67	RHO	1.41	1	0.2355
TBL2	-0.00052	-6.13				
T	0.00061	7.16				
$\log(L2/POP2)_{-1}$	0.85001	33.06				
$\log(AA/POP)_{-1}$	-0.01318	-1.77				
UR	-0.14713	-4.62				
$D20201$	0.00025	0.05				
$D20202$	-0.01799	-3.27				
$D20203$	0.00995	1.94				
$D20204$	0.00164	0.33				
$D20211$	0.00470	0.93				
$D20212$	0.00396	0.78				
$D20213$	0.00467	0.92				
$D20214$	0.00492	0.98				
SE	0.00489					
R^2	1.000					

Lags test adds $\log(L2/POP2)_{-2}$ and UR_{-1}
Estimation period is 1954.1-2023.4.
T_1 = 1971.4; T_2 = 1989.4.

First Stage Regressors

$cnst2l2$, $cnst$, $TBL2$, T, $\log(L2/POP2)_{-1}$), $\log(AA/POP)_{-2}$, UR_{-1}, $\log[(COG + COS)/POP]_{-1}$, $\log[(TRGH + TRSH)/(POP \cdot PH)]_{-1}$, $\log(EX/POP)_{-1}$, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$

Table A7
Equation 7
LHS Variable is $\log(L3/POP3)$

Equation			χ^2 Tests			
RHS Variable	Coef.	t-stat.	Test	χ^2	df	p-value
cnst	0.03496	1.96	Lags	5.21	3	0.1573
$\log(L3/POP3)_{-1}$	0.97434	72.50	RHO	4.48	1	0.0343
$\log(WA/PH)$	0.01534	2.14	T	2.07	1	0.1505
$\log(AA/POP)_{-1}$	-0.01124	-2.24	$\log PH$	2.63	1	0.1051
UR	-0.12074	-3.99				
$D20201$	-0.00694	-1.34				
$D20202$	-0.04330	-7.87				
$D20203$	0.02631	5.04				
$D20204$	0.00532	1.03				
$D20211$	-0.00940	-1.80				
$D20212$	0.00775	1.49				
$D20213$	0.00247	0.47				
$D20214$	0.00375	0.72				
SE	0.00511					
R^2	0.989					

Lags test adds $\log(L3/POP3)_{-2}$, $\log(WA/PH)_{-1}$, and UR_{-1}.
Estimation period is 1954.1-2023.4.

First Stage Regressors

$cnst$, $\log(L3/POP3)_{-1})$, $\log(AA/POP)_{-2}$, $\log(WA/PH)_{-1}$, UR_{-1}, $\log[(COG + COS)/POP]_{-1}$, $\log[(TRGH + TRSH)/(POP \cdot PH)]_{-1}$, $\log(EX/POP)_{-1}$, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$

Table A8
Equation 8
LHS Variable is $\log(LM/POP)$

Equation			χ^2 Tests			
RHS Variable	Coef.	t-stat.	Test	χ^2	df	p-value
cnst	-0.30695	-4.37	Lags	1.03	2	0.5979
$\log(LM/POP)_{-1}$	0.89154	40.02	RHO	0.00	1	0.9944
UR	-1.46972	-4.44	T	1.12	1	0.2906
$D20201$	-0.15239	-2.26				
$D20202$	0.38389	5.51				
$D20203$	-0.13348	-1.98				
$D20204$	-0.34206	-5.12				
$D20211$	0.11922	1.77				
$D20212$	0.06699	1.00				
$D20213$	0.01339	0.20				
$D20214$	-0.09909	-1.47				
SE	0.06655					
R^2	0.922					

Lags test adds $\log(LM/POP)_{-2}$ and UR_{-1}.
Estimation period is 1954.1-2023.4.

First Stage Regressors

$cnst$, $\log(LM/POP)_{-1}$, UR_{-1}, $\log[(COG + COS)/POP]_{-1}$, $\log[(TRGH + TRSH)/(POP \cdot PH)]_{-1}$, $\log(EX/POP)_{-1}$, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$

Table A10
Equation 10
LHS Variable is $\log PF$

Equation			χ^2 Tests			
RHS Variable	Coef.	t-stat.	Test	χ^2	df	p-value
$\log PF_{-1}$	0.85556	62.94	Lags	14.79	3	0.0020
$\log[WF(1+D5G)/LAM]$	0.07146	5.06	UR	0.47	1	0.4954
cnst	-0.03963	-3.42	GAP	1.74	1	0.1868
T	0.00025	9.47	$1/(GAP+.07)$	0.54	1	0.4639
$\log PIM$	0.05335	18.25				
$1/UR$	0.00068	8.37				
$D20201$	-0.00677	-1.75				
$D20202$	-0.00370	-0.86				
$D20203$	0.00484	1.16				
$D20204$	0.00085	0.21				
$D20211$	0.00813	1.99				
$D20212$	0.00355	0.87				
$D20213$	0.00705	1.74				
$D20214$	0.00473	1.21				
RHO1	0.21439	3.51				
SE	0.00381					
R^2	1.000					

Lags test adds $\log PF_{-2}$, $\log PIM_{-1}$, and $1/UR_{-1}$.
Estimation period is 1954.1-2023.4.

First Stage Regressors

$\log PF_{-1}$, $\log[[WF(1+D5G)/LAM]_{-1}$, $cnst$, T, $\log PIM_{-1}$, $1/UR_{-1}$, UR_{-1}, $\log[(COG+COS)/POP]_{-1}$, $\log[(TRGH+TRSH)/(POP \cdot PH)]_{-1}$, $\log(EX/POP)_{-1}$, $\log PF_{-2}$, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$

Table A11
Equation 11
LHS Variable is $\log Y$

RHS Variable	Equation Coef.	t-stat.	Test	χ^2 Tests χ^2	df	p-value
cnst	0.33902	5.96	Lags	4.24	2	0.1202
$\log Y_{-1}$	0.27838	6.08	T	1.23	1	0.2665
$\log X$	0.88017	16.98				
$\log V_{-1}$	-0.21119	-8.57				
$D593$	-0.00910	-2.76				
$D594$	-0.00362	-1.11				
$D601$	0.00870	2.65				
$D20201$	-0.00693	-1.93				
$D20202$	-0.02519	-4.68				
$D20203$	0.02251	4.32				
$D20204$	0.00259	0.63				
$D20211$	-0.00199	-0.48				
$D20212$	-0.00919	-2.20				
$D20213$	-0.00855	-2.25				
$D20214$	0.00074	0.20				
RHO1	0.43814	5.70				
RHO2	0.34912	5.31				
RHO3	0.14975	2.20				
SE	0.00360					
R^2	1.000					

Lags test adds $\log Y_{-2}$ and $\log X_{-1}$.
Estimation period is 1954.1-2023.4.

First Stage Regressors

$cnst$, $\log Y_{-1}$, $\log V_{-1}$, $D593$, $D594$, $D601$, $\log Y_{-2}$, $\log Y_{-3}$, $\log Y_{-4}$, $\log V_{-2}$, $\log V_{-3}$, $\log V_{-4}$, $D601_{-1}$, $D601_{-2}$, $D601_{-3}$, $\log[(COG + COS)/POP]_{-1}$, $\log[(TRGH + TRSH)/(POP \cdot PH)]_{-1}$, $\log(EX/POP)_{-1}$, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$, $D20214_{-1}$, $D20214_{-2}$, $D20214_{-3}$

Table A12
Equation 12
LHS Variable is $\Delta \log KK$

Equation			χ^2 Tests			
RHS Variable	Coef.	t-stat.	Test	χ^2	df	p-value
cnst2kk	-0.00039	-3.52	Lags	4.07	3	0.2545
cnst	0.00086	3.36	T	2.75	1	0.0972
$\log(KK/KKMIN)_{-1}$	-0.00780	-3.52				
$\Delta \log KK_{-1}$	0.88040	42.63				
$\Delta \log Y$	0.01643	1.77				
$\Delta \log Y_{-1}$	0.00723	1.75				
$\Delta \log Y_{-2}$	0.00403	0.97				
$\Delta \log Y_{-3}$	0.00348	0.94				
$\Delta \log Y_{-4}$	0.00665	1.81				
^{a}	0.00061	3.42				
$D20201$	-0.00106	-2.16				
$D20202$	-0.00077	-0.81				
$D20203$	0.00096	0.98				
$D20204$	0.00020	0.31				
$D20211$	-0.00059	-0.93				
$D20212$	-0.00001	-0.02				
$D20213$	-0.00139	-2.60				
$D20214$	-0.00103	-2.22				
RHO1	0.14637	2.18				
SE	0.00044					
R^2	0.976					

^{a}Variable is $(CG_{-2} + CG_{-3} + CG_{-4})/(PX_{-2}YS_{-2} + PX_{-3}YS_{-3} + PX_{-4}YS_{-4})$
Lags test adds $\log(KK/KKMIN)_{-2}$, $\Delta \log Y_{-5}$, and ^{a} lagged once.
Estimation period is 1954.1-2023.4.
T_1 = 1978.4; T_2 = 1987.4.

First Stage Regressors

$cnst2kk$, $cnst$, $\log KK_{-1}$, $\log KK_{-2}$, $\log Y_{-1}$, $\log Y_{-2}$, $\log Y_{-3}$, $\log Y_{-4}$, $\log Y_{-5}$, $\log(KK/KKMIN)_{-1}$, $\Delta \log Y_{-5}$, ^{a} lagged twice, $\log[(COG + COS)/POP]_{-1}$, $\log[(TRGH + TRSH)/(POP \cdot PH)]_{-1}$, $\log(EX/POP)_{-1}$,$\log(KK/KKMIN)_{-2}$,$\Delta \log KK_{-2}$, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$, $D20214_{-1}$

Table A13
Equation 13
LHS Variable is $\Delta \log JF$

Equation			χ^2 Tests			
RHS Variable	Coef.	t-stat.	Test	χ^2	df	p-value
cnst	0.00036	0.54	Lags	14.56	3	0.0022
$\log JF/(JHMIN/HFS)_{-1}$	-0.04558	-4.02	RHO	3.14	1	0.0763
$\Delta \log JF_{-1}$	0.58986	14.63	T	1.39	1	0.2381
$\Delta \log Y$	0.30930	4.40				
$D593$	-0.01800	-5.35				
$D20201$	-0.00458	-1.28				
$D20202$	-0.09538	-13.45				
$D20203$	0.10927	11.22				
$D20204$	-0.02349	-6.11				
$D20211$	-0.00670	-2.04				
$D20212$	0.00112	0.34				
$D20213$	0.00474	1.44				
$D20214$	-0.00199	-0.61				
SE	0.00321					
R^2	0.910					

Lags test adds $\log JF/(JHMIN/HFS)_{-2}$, $\Delta \log JF_{-2}$, and $\Delta \log Y_{-1}$.
Estimation period is 1954.1-2023.4.

First Stage Regressors

$cnst$, $\log[JF/(JHMIN/HFS)]_{-1}$, $\Delta \log JF_{-1}$, $\Delta \log Y_{-1}$, $D593$, $\log[(COG + COS)/POP]_{-1}$, $\log[(TRGH+TRSH)/(POP \cdot PH)]_{-1}$, $\log(EX/POP)_{-1}$, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$

Table A14
Equation 14
LHS Variable is $\Delta \log HF$

RHS Variable	Equation Coef.	t-stat.	Test	χ^2 Tests χ^2	df	p-value
cnst	-0.00385	-4.80	Lags	5.34	3	0.1483
$\log(HF/HFS)_{-1}$	-0.12200	-4.48	RHO	0.78	1	0.3768
$\log JF/(JHMIN/HFS)_{-1}$	-0.01655	-1.71				
$\Delta \log Y$	0.23719	4.22				
T	0.00001	3.83				
$D20201$	-0.00172	-0.58				
$D20202$	0.00806	1.39				
$D20203$	-0.00569	-1.14				
$D20204$	0.00281	1.01				
$D20211$	-0.00147	-0.53				
$D20212$	-0.00187	-0.67				
$D20213$	-0.00303	-1.10				
$D20214$	-0.00273	-0.98				
SE	0.00269					
R^2	0.412					

Lags test adds $\log(HF/HFS)_{-2}$, $\log JF/(JHMIN/HFS)_{-2}$, and $\Delta \log Y_{-1}$.
Estimation period is 1954.1-2023.4.

First Stage Regressors

$cnst$, $\log(HF/HFS)_{-1}$, $\log[JF/(JHMIN/HFS)]_{-1}$, $\Delta \log Y_{-1}$, T, $\log[(COG + COS)/POP]_{-1}$, $\log[(TRGH+TRSH)/(POP \cdot PH)]_{-1}$, $\log(EX/POP)_{-1}$, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$

Table A15
Equation 15
LHS Variable is $\log HO$

RHS Variable	Equation Coef.	t-stat.	Test	χ^2 Tests χ^2	df	p-value
cnst	3.93423	47.67	Lags	0.10	1	0.7562
HFF	0.01657	8.43	T	3.45	1	0.0632
HFF_{-1}	0.00827	4.21				
$D20201$	0.01434	0.34				
$D20202$	-0.12914	-2.21				
$D20203$	0.01633	0.25				
$D20204$	-0.01594	-0.24				
$D20211$	-0.03556	-0.53				
$D20212$	-0.04709	-0.74				
$D20213$	-0.06517	-1.17				
$D20214$	-0.05879	-1.39				
RHO1	0.96692	62.95				
SE	0.04414					
R^2	0.961					

Lags test adds HFF_{-2}.
Estimation period is 1956.1-2023.4.
OLS estimation.

Table A16
Equation 16
LHS Variable is $\log(WF/LAM)$

Equation			χ^2 Tests			
RHS Variable	Coef.	t-stat.	Test	χ^2	df	p-value
$\log(WF/LAM)_{-1}$	0.93342	51.93	[b]RealWage Res	7.59	1	0.0059
$\log PF$	0.92421	39.42	Lags	0.20	1	0.6515
cnst	-0.04301	-3.75	T	4.50	1	0.0339
$D20201$	0.02553	3.17	RHO	0.17	1	0.6842
$D20202$	0.07655	9.48	$1/UR$	4.51	1	0.0336
$D20203$	-0.01554	-1.86	$1/(GAP + .07)$	2.43	1	0.1189
$D20204$	0.00552	0.67				
$D20211$	-0.01514	-1.83				
$D20212$	0.01316	1.61				
$D20213$	-0.00293	-0.36				
$D20214$	-0.00485	-0.59				
[a] $\log PF_{-1}$	-0.86359	0.00				
SE	0.00802					
R^2	0.933					

[a]Coefficient constrained. See the discussion in the text.
[b]Equation estimated with no restrictions on the coefficients.
Lags test adds $\log(WF/LAM)_{-2}$.
Estimation period is 1954.1-2023.4.

First Stage Regressors

$cnst$, T, $\log WF_{-1} - \log LAM_{-1} - \log PF_{-1}$, $\log PF_{-1}$, $\log PF_{-2}$, $\log PIM_{-1}$, $\log[(COG + COS)/POP]_{-1}$, $\log[(TRGH + TRSH)/(POP \cdot PH)]_{-1}$, $\log(EX/POP)_{-1}$, $1/UR_{-1}$, UR_{-1}, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$

Table A17
Equation 17
LHS Variable is $\log(MF/PF)$

Equation			χ^2 Tests			
RHS Variable	Coef.	t-stat.	Test	χ^2	df	p-value
cnst	0.03687	0.82	$\log(MF_{-1}/PF)$	0.76	1	0.3844
$\log(MF/PF)_{-1}$	0.97912	97.66	Lags	7.05	3	0.0705
$\log(X - FA)$	0.01492	2.37	RHO	1.33	1	0.2487
$RS(1 - D2G - D2S)$	-0.00488	-3.18	T	8.44	1	0.0037
$D20201$	0.19046	4.20				
$D20202$	0.15852	3.48				
$D20203$	-0.05392	-1.18				
$D20204$	-0.04468	-0.98				
$D20211$	0.01381	0.30				
$D20212$	-0.00050	-0.01				
$D20213$	0.03433	0.75				
$D20214$	0.03220	0.70				
SE	0.04460					
R^2	0.992					

Lags test adds $\log(MF/PF)_{-2}$, $\log(X - FA)_{-1}$, and $RS(1 - D2G - D2S)_{-1}$.
Estimation period is 1954.1-2023.4.

First Stage Regressors

$cnst$, $\log(MF/PF)_{-1}$, $\log(X - FA)_{-1}$, $RS(1 - D2G - D2S)_{-1}$, $\log[(COG + COS)/POP]_{-1}$, $\log[(TRGH + TRSH)/(POP \cdot PH)]_{-1}$, $\log(EX/POP)_{-1}$, $\log(MF_{-2}/PF_{-1})$, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$

Table A18
Equation 18
LHS Variable is $\Delta \log DF$

	Equation		χ^2 Tests			
RHS Variable	Coef.	t-stat.	Test	χ^2	df	p-value
[a]	0.02472	4.07	[b]Restriction	0.00	1	0.9660
$D20201$	0.07438	0.95	Lags	1.30	1	0.2543
$D20202$	-0.02673	-0.34	RHO	1.38	1	0.2405
$D20203$	0.08022	1.02	T	0.07	1	0.7908
$D20204$	-0.06320	-0.81	cnst	0.11	1	0.7422
$D20211$	0.12868	1.64				
$D20212$	0.08515	1.08				
$D20213$	-0.00615	-0.08				
$D20214$	0.06423	0.82				
SE	0.07837					
R^2	0.050					

[a]Variable is $\log[(PIEF - TFG - TFS - TFR)/DF_{-1}]$
[b]$\log DF_{-1}$ added.
Lags test adds [a] lagged once.
Estimation period is 1954.1-2023.4.

First Stage Regressors

$cnst$, $\log[(PIEF - TFG - TFS)/DF_{-1}]_{-1}$, $\log[(COG + COS)/POP]_{-1}$, $\log[(TRGH + TRSH)/(POP \cdot PH)]_{-1}$, $\log(EX/POP)_{-1}$ $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$

Table A23
Equation 23
LHS Variable is $RB - RS_{-2}$

RHS Variable	Equation Coef.	t-stat.	Test	χ^2 Tests χ^2	df	p-value
cnst	0.19983	4.69	[a]Restriction	0.06	1	0.8083
$RB_{-1} - RS_{-2}$	0.91724	58.53	Lags	0.42	2	0.8113
$RS - RS_{-2}$	0.32409	5.00	T	2.67	1	0.1023
$RS_{-1} - RS_{-2}$	-0.26493	-3.56	[b]	0.72	1	0.3969
$D20201$	-0.03959	-0.14	[c]	0.64	1	0.4242
$D20202$	-0.20253	-0.70				
$D20203$	-0.24433	-0.86				
$D20204$	0.05132	0.18				
$D20211$	0.42244	1.49				
$D20212$	0.17752	0.63				
$D20213$	-0.32469	-1.15				
$D20214$	0.00114	0.00				
RHO1	0.20671	3.28				
SE	0.27669					
R^2	0.963					

[a] RS_{-2} added.
[b] $100 \cdot (PD/PD(-4) - 1)$
[c] $100 \cdot [(PD/PD(-8))^{.5} - 1]$
Lags test adds RS_{-3} and RB_{-2}.
Estimation period is 1954.1-2023.4.

First Stage Regressors

$cnst$, RB_{-1}, RB_{-2}, RS_{-1}, RS_{-2}, RS_{-3}, $100[(PD/PD_{-1})^4 - 1]_{-1}$, UR_{-1}, $\log(PIM/PF)_{-1}$, $\log[(COG + COS)/POP]_{-1}$, $\log[(TRGH + TRSH)/(POP \cdot PH)]_{-1}$, $\log(EX/POP)_{-1}$, T, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$, $D20214_{-1}$

Table A24
Equation 24
LHS Variable is $RM - RS_{-2}$

Equation			χ^2 Tests			
RHS Variable	Coef.	t-stat.	Test	χ^2	df	p-value
cnst	0.39199	5.67	[a]Restriction	0.12	1	0.7269
$RM_{-1} - RS_{-2}$	0.87618	42.00	Lags	0.56	2	0.7543
$RS - RS_{-2}$	0.38159	3.91	RHO	2.08	1	0.1497
$RS_{-1} - RS_{-2}$	-0.19400	-1.54	T	1.90	1	0.1678
$D20201$	-0.11487	-0.31	[b]	1.26	1	0.2616
$D20202$	0.02422	0.07	[c]	1.30	1	0.2549
$D20203$	-0.21962	-0.60				
$D20204$	-0.22120	-0.61				
$D20211$	0.07268	0.20				
$D20212$	0.09302	0.26				
$D20213$	-0.15997	-0.44				
$D20214$	0.16378	0.45				
SE	0.36257					
R^2	0.899					

[a] RS_{-2} added.
[b] $100 \cdot (PD/PD(-4) - 1)$
[c] $100 \cdot [(PD/PD(-8))^{.5} - 1]$
Lags test adds RS_{-3} and RM_{-2}.
Estimation period is 1954.1-2023.4.

First Stage Regressors

$cnst$, RM_{-1}, RS_{-1}, $100[(PD/PD_{-1})^4 - 1]_{-1}$, UR_{-1}, $\log(PIM/PF)_{-1}$, $\log[(COG + COS)/POP]_{-1}$, $\log[(TRGH + TRSH)/(POP \cdot PH)]_{-1}$, $\log(EX/POP)_{-1}$, T, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$

Table A26
Equation 26
LHS Variable is $\log[CUR/(POP \cdot PF)]$

Equation			χ^2 Tests			
RHS Variable	Coef.	t-stat.	Test	χ^2	df	p-value
cnst	-0.05509	-7.23	$\log(CUR_{-1}/(POP_{-1}PF)$	2.56	1	0.1099
$\log[CUR/(POP \cdot PF)]_{-1}$	0.96572	192.85	Lags	10.86	3	0.0125
$\log[(X - FA)/POP]$	0.04385	8.00	RHO	0.50	1	0.4810
RSA	-0.00256	-6.40	T	10.93	1	0.0009
$D20201$	0.02596	2.48				
$D20202$	0.05714	5.45				
$D20203$	0.02316	2.21				
$D20204$	0.01118	1.06				
$D20211$	0.01110	1.06				
$D20212$	0.00683	0.65				
$D20213$	-0.01117	-1.06				
$D20214$	-0.00734	-0.70				
SE	0.01033					
R^2	1.000					

Lags test adds $\log[CUR/(POP \cdot PF)]_{-2}$, $\log[(X - FA)/POP]_{-1}$, and RSA_{-1}.
Estimation period is 1954.1-2023.4.

First Stage Regressors

$cnst$, $\log[CUR/(POP \cdot PF)]_{-1}$, $\log[(X - FA)/POP]_{-1}$, RSA_{-1}, $\log[CUR_{-2}/(POP_{-2} \cdot PF_{-1})]$, $\log[(COG + COS)/POP]_{-1}$, $\log[(TRGH + TRSH)/(POP \cdot PH)]_{-1}$, $\log(EX/POP)_{-1}$, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$

Table A27
Equation 27
LHS Variable is $\log(IM/POP)$

Equation			χ^2 Tests			
RHS Variable	Coef.	t-stat.	Test	χ^2	df	p-value
cnst	-1.35648	-4.77	Lags	27.39	3	0.0000
$AG1$	0.52081	4.18	RHO	40.62	1	0.0000
$AG2$	0.34554	1.33	$\log PF$	3.07	1	0.0796
$AG3$	-1.16978	-4.05				
$\log(IM/POP)_{-1}$	0.76549	21.24				
$\log(Y/POP)$	0.42552	3.74				
$\log(AA/POP)_{-1}$	0.00092	0.02				
$\log(PF/PIM)$	0.06117	2.78				
T	0.00090	1.97				
$D691$	-0.11845	-4.42				
$D692$	0.13644	5.04				
$D714$	-0.07114	-2.63				
$D721$	0.11069	4.11				
$D20201$	-0.03967	-1.47				
$D20202$	-0.17478	-6.11				
$D20203$	0.09608	3.37				
$D20204$	0.04150	1.51				
$D20211$	0.00349	0.13				
$D20212$	0.00248	0.09				
$D20213$	0.00667	0.24				
$D20214$	0.03194	1.15				
SE	0.02634					
R^2	0.999					

χ^2 (AGE) = 25.85 (df = 3, p-value = 0.0000)

Lags test adds $\log(IM/POP)_{-2}$, $\log(Y/POP)_{-1}$, and $\log(PF/PIM)_{-1}$.
Estimation period is 1954.1-2023.4.

First Stage Regressors

$cnst$, $\log(IM/POP)_{-1}$, $\log(AA/POP)_{-2}$, $\log(Y/POP)_{-1}$, $\log(PF/PIM)_{-1}$, $D691$, $D692$, $D714$, $D721$, $AG1$, $AG2$, $AG3$, $\log[(COG + COS)/POP]_{-1}$, $\log[(TRGH + TRSH)/(POP \cdot PH)]_{-1}$, $\log(EX/POP)_{-1}$, T, $\log POP$, $\log POP_{-1}$, $\log PIM_{-1}$,$\log(IM/POP)_{)}-2$, $D20201$, $D20202$, $D20203$, $D20204$, $D20211$, $D20212$, $D20213$, $D20214$

Table A28
Equation 28
LHS Variable is $\log UB$

RHS Variable	Equation Coef.	t-stat.	Test	χ^2 Tests χ^2	df	p-value
cnst	0.33407	0.68	Lags	2.31	3	0.5108
$\log UB_{-1}$	0.13655	1.36	T	5.67	1	0.0173
$\log U$	1.45537	5.60				
$\log WF$	0.43495	5.57				
RHO1	0.89421	21.62				
SE	0.06372					
R^2	0.996					

Lags test adds $\log UB_{-2}$, $\log U_{-1}$, and $\log WF_{-1}$.
Estimation period is 1954.1-2000.4.

First Stage Regressors

$cnst, \log UB_{-1}, \log U_{-1}, \log WF_{-1}, \log UB_{-2}, \log(PIM/PF)_{-1}, 100[(PD/PD_{-1})^4 - 1]_{-1}$, $\log[(COG + COS)/POP]_{-1}$, $\log[(TRGH + TRSH)/(POP \cdot PH)]_{-1}$, $\log(EX/POP)_{-1}, T$

Table A29
Equation 29
LHS Variable is $INTG/(-AG)$

Equation			χ^2 Tests			
RHS Variable	Coef.	t-stat.	Test	χ^2	df	p-value
cnst	0.00074	7.25	Lags	113.31	2	0.0000
$(INTG/(-AG))_{-1}$	0.83454	49.80	T	1.75	1	0.1861
[a]	0.14547	9.91				
$D20201$	0.00011	0.39				
$D20202$	-0.00077	-2.52				
$D20203$	-0.00039	-1.27				
$D20204$	-0.00003	-0.10				
$D20211$	0.00025	0.81				
$D20212$	-0.00001	-0.02				
$D20213$	0.00028	0.91				
$D20214$	0.00009	0.32				
RHO1	0.33948	5.60				
SE	0.00029					
R^2	0.997					

[a] Variable is $(.4 \cdot (RS/400) + .75 \cdot .6 \cdot (1/8) \cdot (1/400) \cdot (RB + RB_{-1} + RB_{-2} + RB_{-3} + RB_{-4} + RB_{-5} + RB_{-6} + RB_{-7}))$
Lags test adds $[INTG/(-AG)]_{-1}$ and [a] lagged once.
Estimation period is 1954.1-2023.4.
OLS estimation.

Table A30
Equation 30
LHS Variable is RS

Equation			χ^2 Tests			
RHS Variable	Coef.	t-stat.	Test	χ^2	df	p-value
cnst	0.68725	4.46	Lags	3.30	3	0.3473
RS_{-1}	0.91418	48.44	RHO	7.58	1	0.0059
$100 \cdot [(PD/PD_{-1})^4 - 1]$	0.07429	3.91	T	1.02	1	0.3117
UR	-10.70845	-3.41	^{a}	0.24	1	0.6265
ΔUR	-74.11680	-4.85	^{b}	2.10	1	0.1475
$D20083 \cdot PCM1_{-1}$	0.01210	2.44				
$D794823 \cdot PCM1_{-1}$	0.21254	9.31				
ΔRS_{-1}	0.23179	4.04				
ΔRS_{-2}	-0.31416	-6.21				
SE	0.48709					
R^2	0.970					

Stability test (1954.1-1979.3versus 1982.4-2008.3): Wald statistic is 12.521 (8 degrees of freedom, p-value = .1294)

$^a 100 \cdot (PD/PD(-4) - 1)$
$^b 100 \cdot [(PD/PD(-8))^{.5} - 1]$
Lags test adds RS_{-4},$100 \cdot [(PD_{-1}/PD_{-2})^4 - 1]$, and UR_{-2}
Estimation period is 1954.1-2008.3.

First Stage Regressors

$cnst$, RS_{-1}, $100[(PD/PD_{-1})^4 - 1]_{-1}$, UR_{-1}, ΔUR_{-1}, $D20083 \cdot PCM1_{-1}$, $D794823 \cdot PCM1_{-1}$, ΔRS_{-1}, ΔRS_{-2}, $\log[(COG + COS)/POP]_{-1}$, $\log[(TRGH + TRSH)/(POP \cdot PH)]_{-1}$, $\log(EX/POP)_{-1}$

Table A.5
The Raw Data Variables for the US Model

				NIPA Data
No.	**Variable**	**Table**	**Line**	**Description**
R1	GDPR	1.1.3	1	Real gross domestic product
R2	CD	1.1.3	4	Real personal consumption expenditures, durable goods
R3	CN	1.1.3	5	Real personal consumption expenditures, nondurable goods
R4	CS	1.1.3	6	Real personal consumption expenditures, services
R5	IK	1.1.3	9	Real nonresidential fixed investment
R6	IH	1.1.3	13	Real residential fixed investment
R7	EX	1.1.3	16	Real exports
R8	IM	1.1.3	19	Real imports
R9	PURG	1.1.3	23	Real consumption expenditures and gross investment, federal government
R10	PURS	1.1.3	26	Real consumption expenditures and gross investment, S&L
R11	GDP	1.1.5	1	Gross domestic product
R12	CDZ	1.1.5	4	Personal consumption expenditures, durable goods
R13	CNZ	1.1.5	5	Personal consumption expenditures, nondurable goods
R14	CSZ	1.1.5	6	Personal consumption expenditures, services
R15	IKZ	1.1.5	9	Nonresidential fixed investment
R16	IHZ	1.1.5	13	Residential fixed investment
R17	IVZ	1.1.5	14	Change in private inventories
R18	EXZ	1.1.5	16	Exports
R19	IMZ	1.1.5	19	Imports
R20	PURGZ	1.1.5	23	Consumption expenditures and gross investment, federal government
R21	PURSZ	1.1.5	26	Consumption expenditures and gross investment, S&L
R22	FA	1.3.3	4	Real farm gross domestic product
R23	FAZ	1.3.5	4	Farm gross domestic product
R24	FIUS	1.7.5	2	Income receipts from the rest of the world
R25	FIROW	1.7.5	3	Income payments to the rest of the world
R26	STAT	1.7.5	15	Statistical discrepancy
R27	DC	1.12	16	Net dividends, Total
R28	TRFR	1.12	24	Business current transfer payments to the rest of the world (net)
R29	DCB	1.14	14	Net dividends, corporate business
R30	INTF1	1.14	25	Net interest and miscellaneous payments, nonfinancial corporate business
R31	TCBN	1.14	28	Taxes on corporate income, nonfinancial corporate business
R32	DCBN	1.14	30	Net dividends, nonfinancial corporate business
R33	IVA	1.14	35	Inventory valuation adjustment, corporate business
R34	COMPT	2.1	2	Compensation of employees, received
R35	SIT	2.1	8	Employer contributions for government social insurance
R36	PRI	2.1	9	Proprietors' income with inventory valuation and capital consumption adjustments
R37	RNT	2.1	12	Rental income of persons with capital consumption adjustment
R38	PII	2.1	14	Personal interest income
R39	UB	2.1	21	Government unemployment insurance benefits
R40	TRFH	2.1	24	Other current transfer receipts from business (net)
R41	IPP	2.1	30	Personal interest payments
R42	TRHR	2.1	33	Personal current transfer payments to the rest of the world (net)

Table A.5 (continued)

No.	Variable	Table	Line	Description
R43	THG	3.2	3	Personal current taxes, federal government (see below for adjustments)
R44	RECTXG	3.2	4	Taxes on production and imports, federal government
R45	TCG	3.2	8	Taxes on corporate income, federal government
R46	TRG	3.2	9	Taxes from the rest of the world, federal government
R47	SIG	3.2	10	Contributions for government social insurance, federal government, total
R48	TRRG2	3.2	12	Contributions for government social insurance from the rest of the world
R49	RECINTG	3.2	14	Interest receipts, federal government
R50	RECDIVG	3.2	15	Dividends, federal government
R51	RECRRG	3.2	18	Rents and royalties, federal government
R52	TRFG	3.2	20	Current transfer receipts from business, federal government
R53	TRHG	3.2	21	Current transfer receipts from persons, federal government
R54	TRRG1	3.2	22	Current transfer receipts from the rest of the world, federal government
R55	SURPG	3.2	23	Current surplus of government enterprises, federal government
R56	CONGZ	3.2	25	Consumption expenditures, federal government
R57	TRGHPAY	3.2	28	Government social benefits to persons, federal government (see below for adjustments)
R58	TRGR1	3.2	29	Government social benefits to the rest of the world, federal government
R59	TRGS	3.2	31	Grants in aid to atate and local governments, federal government
R60	TRGR2	3.2	32	Other current transfer payments to the rest of the world, federal government
R61	PAYINTG	3.2	33	Interest payments, federal government
R62	INTGR	3.2	35	Interest payments, federal government to the rest of the world
R63	SUBSG	3.2	36	Subsidies, federal government
R64	CCG	3.2	48	Consumption of fixed capital, Federal Government
R65	THS	3.3	3	Personal current taxes, S&L
R66	RECTXS	3.3	6	Taxes on production and imports, S&L
R67	TCS	3.3	11	Taxes on corporate income, S&L
R68	SIS	3.3	12	Contributions for government social insurance, S&L
R69	RECINTS	3.3	14	Interest receipts, S&L
R70	RECDIVS	3.3	15	Dividends, S&L
R71	RECRRS	3.3	16	Rents and royalties, S&L
R72	TRFS	3.3	19	Current transfer receipts from business (net), S&L
R73	TRHS	3.3	20	Current transfer receipts from persons, S&L
R74	TRRS	3.3	21	Current transfer receipts from the rest of the world, S&L
R75	SURPS	3.3	22	Current surplus of government enterprises, S&L
R76	CONSZ	3.3	24	Consumption expenditures, S&L
R77	TRRSHPAY	3.3	25	Government social benefit payments to persons, S&L
R78	PAYINTS	3.3	28	Interest payments, S&L
R79	SUBSS	3.3	31	Subsidies, S&L
R80	CCS	3.3	43	Consumption of fixed capital, S&L
R81	PROG	3.10.3	15	Real compensation of general government employees, federal
R82	PROS	3.10.3	50	Real compensation of general government employees, S&L
R83	PROGZ	3.10.5	15	Compensation of general government employees, federal
R84	COMPMIL	3.10.5	26	Compensation of general government employees, defense
R85	PROSZ	3.10.5	50	Compensation of general government employees, S&L
R86	TTRRF	4.1	15	Current taxes, contributions for social insurance, and transfer receipts from the rest of the world to business
R87	TTRFR	4.1	32	Current taxes and transfer payments to the rest of the world from business
R88	IV	5.7.6	1	Real change in private inventories

Table A.5 (continued)

No.	Variable	Table	Line	Description
R89	SIHGA	3.14	3	Employee and self-employed contributions for social insurance to the federal government, annual data only
R90	SIQGA	3.14	5	Government employer contributions for social insurance to the federal government, annual data only
R91	SIFGA	3.14	6	Other employer contributions for social insurance to the federal government, annual data only
R92	SIHSA	3.14	18	Employee and self-employed contributions for social insurance to the S&L governments, annual data only
R93	SIQSA	3.14	20	Government employer contributions for social insurance to the S&L governments, annual data only
R94	SIFSA	3.14	21	Other employer contributions for social insurance to the S&L governments, annual data only

• For Tables 1.1.3, 1.3.3, and 3.10.3, the respective raw data variable was created by multipling the quantity index for a given quarter by the nominal value of the variable in 2017 and then dividing by 100.
• For Table 5.7.6, there is an "A" table and a "B" table. The "A" table is used for data prior to 1998.1, and the "B" table is used for data from 1998.1 on.
• S&L = State and Local Governments.
• R89–R94: Same value for all four quarters of the year. See variables R200–R205 for construction of variables SIHG, SIHS, SIFG, SIGG, SIFS, SISS.

Table A.5 (continued)

Flow of Funds Data

No.	Variable	Code	Description
R95	CDDCF	103020000	Change in checkable deposits and currency, F1, F.103
R96	NFIF1	105000005	Net lending (+) or net borrowing (-), F1, F.103
R97	IHF1	105012005	Residential investment, F1, F.6
R98	NNF	105420005	Net acquisition of nonproduced nonfinancial assets, F1, F.6
R99	CTF1	105440005	Net capital transfers paid, F1, F.9
R100	PIEFRET	106006065	Foreign earnings retained abroad, F1, F.103
R101	PIEF1X	106060005	Profits before tax, F1, F.103
R102	CCF1	106300015	Capital consumption allowances, F1, F.103
R103	DISF1	107005005	Discrepancy, F1, F.103
R104	CDDCNN	113020005	Change in checkable deposits and currency, NN, F.104
R105	NFINN	115000005	Net lending (+) or net borrowing (-), NN, F.104
R106	IHNN	115012005	Residential Investment, NN, F.6
R107	IKNN	115013005	Nonresidential fixed investment, NN, F.6
R108	IVNN	115020005	Change in inventories, NN, F.104 (only for tesing)
R109	CTNN	115440005	Net capital transfers paid, NN, F.9
R110	GSNN	116300005	Gross saving, NN, F.104
R111	IHBZ	125012063	Residential investment, B, F.6
R112	CDDCH1	153020005	Change in checkable deposits and currency, H, F.101, line 21
R113	MVCE,	154090005	Total financial assets of Households, H, F.101.
R114	CCE		MVCE is the market value of the assets. CCE is the change in assets excluding capital gains and losses
R115	NFIH1	155000005	Net lending (+) or net borrowing (-), H, F.101
R116	REALEST	155035005	Real estate, H, stock variable, Table B.101, line 3
R117	CDH	155111003	Capital expenditures, consumer durable goods, H, F.101
R118	NICD	155111005	Net investment in consumer durables, H, F.101
R119	NNH	155420003	Net acquisition of nonproduced nonfinancial assets, H, F.6
R120	CTH	155440005	Net capital transfers paid, H, F.9
R121	CCH	156300005	Consumption of fixed capital, H, F.100
R122	DISH1	157005005	Discrepancy, H, F.101
R123	IKH1	165013005	Nonresidential fixed investment, H, F.6
R124	CDDCS	213020005	Change in checkable deposits and currency, S, F.107
R125	NFIS	215000005	Net lending (+) or net borrowing (-), S, F.107
R126	NNS	215420003	Net acquisition of nonproduced nonfinancial assets, S, F.6
R127	CTS	215440005	Net capital transfers paid, S, F.9
R128	DISS1	217005005	Discrepancy, S, F.107
R129	CGLDR	263011005	Change in U.S. official reserve assets, R, F.200
R130	CDDCR	263020005	Change in U.S. checkable deposits and currency, R, F.133
R131	CFXUS	263111005	Change in U.S. official reserve assets, R, F.133
R132	NFIR	265000005	Net lending (+) or net borrowing (-), R, F.133
R133	NNR	265420005	Net acquisition of nonproduced nonfinancial assets, R, F.6
R134	CTR	265440005	Net capital transfers paid, R, F.9
R135	DISR1	267005005	Discrepancy, R, F.133
R136	CGLDFXUS	313011005	Change in U.S. official reserve assets, US, F.106
R137	CDDCUS	313020005	Change in checkable deposits and currency, US, F.106
R138	CSDRUS	313111303	Change in SDR allocations, US, F.106
R139	INS	313154015	Insurance and pension reserves, US, F.106
R140	NFIUS	315000005	Net lending (+) or net borrowing (-), US, F.106
R141	CTGB	315410093	Capital transfers paid by US, financial stabilization payments, F.9
R142	NNG	315420003	Net acquisition of nonproduced nonfinancial assets, US, F.6
R143	CTGMB	315440005	Net capital transfers paid, US, F.106
R144	DISUS	317005005	Discrepancy, US, F.106

Table A.5 (continued)

No.	Variable	Code	Description
R145	CDDCCA	403020005	Change in checkable deposits and currency, CA, F.124
R146	NIACA	404090005	Net acquisition of financial assets, CA, F.124
R147	NILCA	404190005	Net increase in liabilities, CA, F.124
R148	IKCAZ	405013005	Fixed nonresidential investment, CA, F.124
R149	GSCA	406000105	Gross saving, CA, F.124
R150	DISCA	407005005	Discrepancy, CA, F.124
R151	NIDDLZ2	473127003	Net change in liabilities of credit unions of checkable deposits and currency, F.204
R152	CGLDFXMA	713011005	Change in U.S. official reserve assets, MA, F.109
R153	CFRLMA	713068705	Change in federal reserve loans to domestic banks, MA, F.109
R154	NILBRMA	713113003	Change in depository institution reserves, MA, F.109
R155	CBR	713113003	Change in reserves at Federal Reserve, private depository institutions, F.109
R156	NIDDLRMA	713122605	Net increase in liabilities in the form of checkable deposits and currency of the MA due to the rest of the world, F.109
R157	NIDDLGMA	713123005	Net increase in liabilities in the form of checkable deposits and currency of the MA due to the federal government, F.109
R158	NIDDLCMA	713124005	Net increase in liabilities in the form of checkable deposits and currency of the MA due to government-sponsored enterprises, F.109
R159	NILCMA	713125005	Net increase in liabilities in the form of currency outside banks of the MA, F.109
R160	NIAMA	714090005	Net acquisition of in financial assets, MA, F.109
R161	NILMA	714190005	Net increase in liabilities, MA, F.109
R162	IKMAZ	715013005	Fixed nonresidential investment, MA, F.109
R163	GSMA	716000105	Gross savings, MA, F.109
R164	DISMA	717005005	Discrepancy, MA, F.109
R165	NIDDLCB3	743127003	Net change in liabilities in the form of checkable deposits and currency, banks in U.S.-affiliated Areas, F.113
R166	CBRB1A	753013003	Change in reserves at federal reserve, foreign banking offices in U.S., F.112
R167	NIDDLCB2	753127005	Net change in liabilities in the form of checkable deposits and currency, foreign banking offices in U.S., F.112
R168	NIDDLCB1	763127005	Net change in liabilities in the form of checkable deposits and currency, U.S.-chartered depository institutions, F.111
R169	CDDCFS	793020005	Net change in assets in the form of checkable deposits and currency of financial sectors, F.108
R170	NFIBB	795000005	Net lending (+) or net borrowing (-), B, F.108
R171	IKBMACA	795013005	Nonresidential fixed investment, B, F.108
R172	CTB	795440005	Net capital transfers paid, B, F.9
R173	GSBBCT	796000105	Gross saving less net capital transfers paid, B, F.108
R174	DISBB	797005005	Discrepancy, B, F.108
R175	MAILFLT1	903023005	Mail Float, US, F.12
R176	MAILFLT3	903028003	Mail Float, S, F.12
R177	MAILFLT2	903029200	Mail Float, private domestic, F.12

Table A.5 (continued)

No.	Variable	Description
		Interest Rate Data
R178	RS	Three-month treasury bill rate (secondary market), percentage points. [BOG. Quarterly average.]
R179	RM	30 year fixed rate mortgage, percentage points. [Quarterly average. Data from BOG up to September 2016. Data from FRED from October 2017 on.]
R180	RB	Moody's Aaa corporate bond rate, percentage points. [Quarterly average. Data from BOG up to September 2016. Data from FRED from October 2017 on.]
		Labor Force and Population Data
No.	**Variable**	**Description**
R181	CE	Civilian employment, SA in millions. [BLS. Quarterly average. See the next page for adjustments.]
R182	U	Unemployment, SA in millions. [BLS. Quarterly average. See the next page for adjustments.]
R183	CL1	Civilian labor force of males 25-54, SA in millions. [BLS. Quarterly average. See the next page for adjustments.]
R184	CL2	Civilian labor force of females 25-54, SA in millions. [BLS. Quarterly average. See the next page for adjustments.]
R185	AFT	Total armed forces, millions. [Computed from population data from the U.S. Census Bureau. Quarterly average.]
R186	AF1	Armed forces of males 25-54, millions. [Computed from population data from the U.S. Census Bureau. Quarterly average.]
R187	AF2	Armed forces of females 25-54, millions. [Computed from population data from the U.S. Census Bureau. Quarterly average.]
R188	CPOP	Total civilian noninstitutional population 16 and over, millions. [BLS. Quarterly average. See the next page for adjustments.]
R189	CPOP1	Civilian noninstitutional population of males 25-54, millions. [BLS. Quarterly average. See the next page for adjustments.]
R190	CPOP2	Civilian noninstitutional population of females 25-54, millions. [BLS. Quarterly average. See the next page for adjustments.]
R191	HO	Average weekly overtime hours in manufacturing, SA. [BLS. Quarterly average.]
R192	JT	Employment, total U.S. economy, SA in millions of jobs. [BLS.]
R193	JG	Employment, general government, federal, SA in millions of jobs. [BLS.]
R194	JS	Employment, general government, state & local, SA in millions of jobs. [BLS.]
R195	JM	Employment, armed forces, SA in millions of jobs. [BLS.]
R196	JTH	Hours worked, total U.S. economy, SA in billions. [BLS.]
R197	JGH	Hours worked, general government, federal, SA in billions. [BLS.]
R198	JSH	Hours worked, general government, state & local, SA in billions. [BLS.]
R199	JMH	Hours worked, armed forces, SA in billions. [BLS.]

Table A.5 (continued)

No.	Variable	Adjustments to the Raw Data Description
R200	SIHG =	[SIHGA/(SIHGA + SIHSA)](SIG + SIS - SIT) [Employee contributions for social insurance, h to g.]
R201	SIHS =	SIG + SIS - SIT - SIHG [Employee contributions for social insurance, h to s.]
R202	SIFG =	[SIFGA/(SIFGA + SIQGA)](SIG - SIHG) [Employer contributions for social insurance, f to g.]
R203	SIGG =	SIG - SIHG - SIFG [Employer contributions for social insurance, g to g.]
R204	SIFS =	[SIFSA/(SIFSA + SIQSA)](SIS - SIHS) [Employer contributions for social ensurance, f to s.]
R205	SISS =	SIS - SIHS - SIFS [Employer contributions for social insurance, s to s.]
R206	TBG =	[TCG/(TCG + TCS)](TCG + TCS - TCBN) [Corporate profit tax accruals, b to g.]
R207	TBS =	TCG + TCS - TCBN - TBG [Corporate profit tax accruals, b to s.]
	THG =	THG from raw data - TAXADJ
	TRGHPAY =	TRGHPAY from raw data - TAXADJ [TAXADJ (annual rate): 1968.3 = 6.1, 1968.4 = 7.1, 1969.1 = 10.7, 1969.2 = 10.9, 1969.3 = 7.1, 1969.4 = 7.3, 1970.1 = 5.0, 1970.2 = 5.0, 1970.3 = 0.4, 1975.2 = -31.2, 2008.2 = -199.4, 2008.3 = -57.0, 2009.2 = -152.0, 2009.3 = -239.0, 2009.4 = -249.0, 2010.1 = -231.0, 2010.2 = -256.0, 2010.3 = -266.0, 2010.4 = -15.0, 2011.1 = -53.0, 2011.2 = -74.0, 2011.3 = -99.0.]
R208	POP =	CPOP + AFT [Total noninstitutional population 16 and over, millions.]
R209	POP1 =	CPOP1 + AF1 [Total noninstitutional population of males 25-54, millions.]
R210	POP2 =	CPOP2 + AF2 [Total noninstitutional population of females 25-54, millions.]

- BLS = Bureau of Labor Statistics
- BOG = Board of Governors of the Federal Reserve System
- FRED = Federal Reserve Bank of St. Louis
- SA = Seasonally adusted
- For the construction of variables R200, R202, and R204, the annual observation for the year was used for each quarter of the year.

Table A.5 (continued)

Variable	Adjustments to Labor Force and Population Data				
	1952.1–1971.4	1952.1–1972.4	1973.1	1952.1–1977.4	1970.1–1989.4
POP	1.00547	1.00009	1.00006	-	1.0058886-.0000736075TPOP90
POP1	0.99880	1.00084	1.00056	-	1.0054512 -.00006814TPOP90
POP2	1.00251	1.00042	1.00028	-	1.00091654-.000011457TPOP90
(CE+U)	1.00391	1.00069	1.00046	1.00239	1.0107312-.00013414TPOP90
CL1	0.99878	1.00078	1.00052	1.00014	1.00697786-.00008722TPOP90
CL2	1.00297	1.00107	1.00071	1.00123	-
CE	1.00375	1.00069	1.00046	1.00268	1.010617-.00013271TPOP90

• TPOP90 is 79 in 1970.1, 78 in 1970.2, ..., 1 in 1989.3, 0 in 1989.4.

Variable	1990.1–1998.4
POP	1.0014883-.0000413417TPOP99
POP1	.99681716 +.000088412TPOP99
POP2	1.0045032 -.00012509TPOP99
(CE+U)	1.00041798-.000011611TPOP99
CL1	.9967564+.0000901TPOP99
CL2	1.004183-.00011619TPOP99
CE	1.00042068-.000011686TPOP99

• TPOP99 is 35 in 1990.1, 34 in 1990.2, ..., 1 in 1998.3, 0 in 1998.4.

Variable	1990.1–1999.4
POP	1.0165685-.00041421TPOP2000
POP1	1.0188400 -.00047100TPOP2000
POP2	1.0195067 -.00048767TPOP2000
(CE+U)	1.0156403-.00039101TPOP2000
CL1	1.0208284-.00052071TPOP2000
CL2	1.0151172-.00037793TPOP2000
CE	1.0156827-.00039207TPOP2000

• TPOP2000 is 39 in 1990.1, 38 in 1990.2, ..., 1 in 1999.3, 0 in 1999.4.

Variable	1993.1–2002.4
POP	1.0043019-.00010755TPOP2003
POP1	1.0046539 -.00011635TPOP2003
POP2	1.0043621 -.00010905TPOP2003
(CE+U)	1.0042240-.00010560TPOP2003
CL1	1.0046137-.00011534TPOP2003
CL2	1.0042307-.00010577TPOP2003
CE	1.0041995-.00010499TPOP2003

• TPOP2003 is 39 in 1993.1, 38 in 1993.2, ..., 1 in 2002.3, 0 in 2002.4.

Variable	1994.1–2003.4
POP	.9974832+.00006292TPOP2004
POP1	.9982816 +.00004296TPOP2004
POP2	.9966202 +.00008450TPOP2004
(CE+U)	.9970239+.00007440TPOP2004
CL1	.9977729+.00004454TPOP2004
CL2	.9959602+.00010000TPOP2004
CE	.9970481+.00007380TPOP2004

• TPOP2004 is 39 in 1994.1, 38 in 1994.2, ..., 1 in 2003.3, 0 in 2003.4.

Table A.5 (continued)

Variable	1996.1–2005.4
POP	.9997054+.000007365TPOP2006
POP1	.9994935 +.0000126625TPOP2006
POP2	.9994283 +.0000142925TPOP2006
(CE+U)	.9991342 +.000021645TPOP2006
CL1	.9987934+.000030165TPOP2006
CL2	.9986564+.00003359TPOP2006
CE	.9991385 +.0000215375TPOP2006

• TPOP2006 is 39 in 1996.1, 38 in 1996.2, ..., 1 in 2005.3, 0 in 2005.4.

Variable	1997.1–2006.4
POP	1.0013950-.000034875TPOP2007
POP1	1.0009830 -.000024575TPOP2007
POP2	1.0016647 -.0000416175TPOP2007
(CE+U)	1.0010684 -.00002671TPOP2007
CL1	1.0008882-.000022205TPOP2007
CL2	1.0013202-.000033005TPOP2007
CE	1.0010474 -.0000261855TPOP2007

• TPOP2007 is 39 in 1997.1, 38 in 1997.2, ..., 1 in 2006.3, 0 in 2006.4.

Variable	1998.1–2007.4
POP	.9968047+.0000798825TPOP2008
POP1	.9958060+.00010485TPOP2008
POP2	.9976944 +.00005764TPOP2008
(CE+U)	.9958557 +.0001036075TPOP2008
CL1	.9948031+.0001299225TPOP2008
CL2	.9969464+.00007634TPOP2008
CE	.9959135+.0001021625TPOP2008

• TPOP2008 is 39 in 1998.1, 38 in 1998.2, ..., 1 in 2007.3, 0 in 2007.4.

Variable	1999.1–2008.4
POP	.9979450+.000051375TPOP2009
POP1	.9973640+.0000659TPOP2009
POP2	.9984844+.00003789TPOP2009
(CE+U)	.9970910+.000072725TPOP2009
CL1	.9964462+.000088845TPOP2009
CL2	.9977695+.0000557625TPOP2009
CE	.9971608+.00007098TPOP2009

• TPOP2009 is 39 in 1999.1, 38 in 1999.2, ..., 1 in 2008.3, 0 in 2008.4.

Variable	2000.1–2009.4
POP	.9989110+.000027225TPOP2010
POP1	.9978610+.000053475TPOP2010
POP2	.9989019+.0000274525TPOP2010
(CE+U)	.9983693+.0000407675TPOP2010
CL1	.9974105+.0000647375TPOP2010
CL2	.9989507+.0000262325TPOP2010
CE	.9982313+.0000442175TPOP2010

• TPOP2010 is 39 in 2000.1, 38 in 2000.2, ..., 1 in 2009.3, 0 in 2009.4.

Table A.5 (continued)

Variable	2001.1–2010.4
POP	.9985474+.000036315TPOP2011
POP1	.9989740+.000025650TPOP2011
POP2	.9970233+.000074418TPOP2011
(CE+U)	.9967092+.000082270TPOP2011
CL1	.9956715+.000108213TPOP2011
CL2	.9971304+.000071740TPOP2011
CE	.9966082+.000084795TPOP2011

• TPOP2011 is 39 in 2001.1, 38 in 2001.2, ..., 1 in 2010.3, 0 in 2010.4.

Variable	2002.1–2011.4
POP	1.0062764-.000156910TPOP2012
POP1	.9899101+.00002522475TPOP2012
POP2	1.0051234-.000128085TPOP2012
(CE+U)	1.0016822-.000042055TPOP2012
CL1	.9889798+.000275505TPOP2012
CL2	1.0041332-.00010333TPOP2012
CE	1.0015354-.000038385TPOP2012

• TPOP2012 is 39 in 2002.1, 38 in 2002.2, ..., 1 in 2011.3, 0 in 2011.4.

Variable	2003.1–2012.4
POP	1.0005648-.00001412TPOP2013
POP1	1.0003568-.00000892TPOP2013
POP2	1.0007278-.000018195TPOP2013
(CE+U)	1.0008780-.00002195TPOP2013
CL1	1.0006285-.0000157125TPOP2013
CL2	1.0012289-.0000307225TPOP2013
CE	1.0008877-.0000221925TPOP2013

• TPOP2013 is 39 in 2003.1, 38 in 2003.2, ..., 1 in 2012.3, 0 in 2012.4.

Variable	2005.1–2014.4
POP	1.0021203-.0000530075TPOP2015
POP1	1.0013765-.0000344125TPOP2015
POP2	1.0027041-.0000676025TPOP2015
(CE+U)	1.0022376-.00005594 TPOP2015
CL1	1.0015986-.000039965TPOP2015
CL2	1.0029975-.0000749375TPOP2015
CE	1.0022012-.00005503TPOP2015

• TPOP2015 is 39 in 2005.1, 38 in 2005.2, ..., 1 in 2014.3, 0 in 2014.4.

Variable	2006.1–2015.4
POP	1.00105185-.00002630TPOP2016
POP1	1.00129812-.00003245TPOP2016
POP2	1.00079462-.00001987TPOP2016
(CE+U)	1.00138637-.00003466TPOP2016
CL1	1.00167363-.00004184TPOP2016
CL2	1.00108367-.00002709TPOP2016
CE	1.00137606-.00003440TPOP2016

• TPOP2016 is 39 in 2006.1, 38 in 2006.2, ..., 1 in 2015.3, 0 in 2015.4.

Table A.5 (continued)

Variable	2007.1–2016.4
POP	0.99673788+.00008155TPOP2017
POP1	0.99662313+.00008442TPOP2017
POP2	0.99664459+.00008389TPOP2017
(CE+U)	0.99680439+.00007989TPOP2017
CL1	0.99671730+.00008207TPOP2017
CL2	0.99675460+.00008113TPOP2017
CE	0.99679179+.00008021TPOP2017

• TPOP2017 is 39 in 2007.1, 38 in 2007.2, ..., 1 in 2016.3, 0 in 2016.4.

Variable	2008.1–2017.4
POP	1.00190544-.00004764TPOP2018
POP1	1.00246331-.00006158TPOP2018
POP2	1.00144289-.00003607TPOP2018
(CE+U)	1.00208281-.00005207TPOP2018
CL1	1.00273746-.00006844TPOP2018
CL2	1.00141202-.00003530TPOP2018
CE	1.00207029-.00005176TPOP2018

• TPOP2018 is 39 in 2008.1, 38 in 2008.2, ..., 1 in 2017.3, 0 in 2017.4.

Variable	2009.1–2018.4
POP	0.99690986 +.00007725TPOP2019
POP1	0.99672774 +.00008181TPOP2019
POP2	0.99701738 +.00007457TPOP2019
(CE+U)	0.99688635+.00007784TPOP2019
CL1	0.99672687 +.00008183TPOP2019
CL2	0.99699057 +.00007524TPOP2019
CE	0.99688141 +.00007796TPOP2019

• TPOP2019 is 39 in 2009.1, 38 in 2009.2, ..., 1 in 2018.3, 0 in 2018.4.

Variable	2010.1–2019.4
POP	0.99688294 +.00007793TPOP2020
POP1	0.99684021 +.00007899TPOP2020
POP2	0.99697023 +.00007574TPOP2020
(CE+U)	0.99680501+.00007987TPOP2020
CL1	0.99666380 +.00008341TPOP2020
CL2	0.99693563 +.00007661TPOP2020
CE	0.99680134 +.00007997TPOP2020

• TPOP2020 is 39 in 2010.1, 38 in 2010.2, ..., 1 in 2019.3, 0 in 2019.4.

Variable	2011.1–2020.4
POP	0.99899484 +.00004555TPOP2021
POP1	0.99828828 +.00004279TPOP2021
POP2	0.99818442 +.00002870TPOP2021
(CE+U)	0.99875013+.00003125TPOP2021
CL1	0.99885194 +.00002870TPOP2021
CL2	0.99869070 +.00003273TPOP2021
CE	0.99879690 +.00003008TPOP2021

• TPOP2021 is 39 in 2011.1, 38 in 2011.2, ..., 1 in 2020.3, 0 in 2020.4.

Table A.5 (continued)

Variable	2012.1–2021.4
POP	1.00371181 -.00009280TPOP2022
POP1	1.00884239 -.00022106TPOP2022
POP2	0.99493579 +.00012661TPOP2022
(CE+U)	1.00946220-.00023656TPOP2022
CL1	1.01373763 -.00034344TPOP2022
CL2	1.00270579 -.00006764TPOP2022
CE	1.00944571 -.00023614TPOP2022

• TPOP2022 is 39 in 2012.1, 38 in 2012.2, ..., 1 in 2021.3, 0 in 2021.4.

Variable	2013.1–2022.4
POP	1.00362121 -.00009005TPOP2023
POP1	1.00708707 -.00017718TPOP2023
POP2	1.00097373 -.00002434TPOP2023
(CE+U)	1.00530373 -.00013259TPOP2023
CL1	1.01082533 -.00025456TPOP2023
CL2	1.00043254 -.00001081TPOP2023
CE	1.00509844 -.00012746TPOP2023

• TPOP2023 is 39 in 2013.1, 38 in 2013.2, ..., 1 in 2022.3, 0 in 2022.4.

Table A.5 (continued)
The Raw Data Variables in Alphabetical Order Matched to R Numbers Above

Var.	No.	Var.	No.	Var.	No.	Var.	No.
AFT	R185	DISCA	R150	MVCE	R113	RECTXS	R66
AF1	R186	DISF1	R103	NFIBB	R170	RM	R179
AF2	R187	DISH1	R122	NFIF1	R96	RNT	R37
CBR	R155	DISMA	R164	NFIH1	R115	RS	R178
CBRB1A	R166	DISR1	R135	NFINN	R105	SIFG	R202
CCE	R114	DISS1	R128	NFIR	R132	SIFGA	R91
CCF1	R102	DISUS	R144	NFIS	R125	SIFS	R204
CCG	R64	EX	R7	NFIUS	R140	SIFSA	R94
CCH	R121	EXZ	R18	NIACA	R146	SIG	R47
CCS	R80	FA	R22	NIAMA	R160	SIGG	R203
CD	R2	FAZ	R23	NICD	R118	SIHG	R200
CDDCCA	R145	FIROW	R25	NIDDLCB1	R168	SIHGA	R89
CDDCF	R95	FIUS	R24	NIDDLCB2	R167	SIHS	R201
CDDCFS	R169	GDP	R11	NIDDLCB3	R165	SIHSA	R92
CDDCH1	R112	GDPR	R1	NIDDLCMA	R158	SIQGA	R90
CDDCNN	R104	GSBBCT	R173	NIDDLGMA	R157	SIQSA	R93
CDDCR	R130	GSCA	R149	NIDDLRMA	R156	SIS	R68
CDDCS	R124	GSMA	R163	NIDDLZ2	R151	SISS	R205
CDDCUS	R137	GSNN	R110	NILBRMA	R154	SIT	R35
CDH	R117	HO	R191	NILCA	R147	STAT	R26
CDZ	R12	IH	R6	NILCMA	R159	SUBSG	R63
CE	R181	IHBZ	R111	NILMA	R161	SUBSS	R79
CFRLMA	R153	IHF1	R97	NNF	R98	SURPG	R55
CFXUS	R131	IHNN	R106	NNG	R142	SURPS	R75
CGLDFXMA	R152	IHZ	R16	NNH	R119	TBG	R206
CGLDFXUS	R136	IK	R5	NNR	R133	TBS	R207
CGLDR	R129	IKBMACA	R171	NNS	R126	TCBN	R31
CL1	R183	IKCAZ	R148	PAYINTG	R61	TCG	R45
CL2	R184	IKH1	R123	PAYINTS	R78	TCS	R67
CN	R3	IKMAZ	R162	PIEFRET	R100	THG	R43
CNZ	R13	IKNN	R107	PIEF1X	R101	THS	R65
COMPMIL	R84	IKZ	R15	PII	R38	TRFG	R52
COMPT	R34	IM	R8	POP	R208	TRFH	R40
CONGZ	R56	IMZ	R19	POP1	R209	TRFR	R28
CONSZ	R76	INS	R139	POP2	R210	TRFS	R72
CPOP	R188	INTF1	R30	PRI	R36	TRG	R46
CPOP1	R189	INTGR	R62	PROG	R81	TRGHPAY	R57
CPOP2	R190	IPP	R41	PROGZ	R83	TRGR1	R58
CS	R4	IVA	R33	PROS	R82	TRGR2	R60
CSDRUS	R138	IV	R88	PROSZ	R85	TRGS	R59
CSZ	R14	IVNN	R108	PURG	R9	TRHG	R53
CTB	R172	IVZ	R17	PURGZ	R20	TRHR	R42
CTF1	R99	JG	R193	PURS	R10	TRHS	R73
CTGB	R141	JM	R195	PURSZ	R21	TRRG1	R54
CTGMB	R143	JS	R194	RB	R180	TRRG2	R48
CTH	R120	JT	R192	REALEST	R116	TRRS	R74
CTNN	R109	JGH	R197	RECDIVG	R50	TRRSHPAY	R77
CTR	R134	JMH	R199	RECDIVS	R70	TTRFR	R87
CTS	R127	JSH	R198	RECINTG	R49	TTRRF	R86
DC	R27	JTH	R196	RECINTS	R69	U	R182
DCB	R29	MAILFLT1	R175	RECRRG	R51	UB	R39
DCBN	R32	MAILFLT3	R176	RECRRS	R71		
DISBB	R174	MAILFLT2	R177	RECTXG	R44		

Table A.6
Links Between the National Income and Product Accounts and the Flow of Funds Accounts

Flow of Funds Data (raw data variables)

SH =	NFIH1 + DISH1
SF =	NFIF1 + DISF1 + NFINN
SB =	NFIBB + DISBB - NIAMA + NILMA - DISMA - NIACA + NILCA - DISCA
SR =	NFIR + DISR1
SG =	NFIUS + DISUS + NIACA - NILCA + DISCA + NIAMA - NILMA + DISMA
SS =	NFIS + DISS1

Raw Data Variables on the Right Hand Side

SHTEST=	COMPT+PRI+RNT+PII-IPP +DC-RECDIVG-RECDIVS+TRGHPAY-TRHG +TRRSHPAY-TRHS+TRFH-TRHG2-SIS-THG-THS-CSZ-CNZ-CDZ-TRHR +INS+NICD+CCH-CTH-(IHZ-IHF1-IHNN-IHBZ)-CDH-IKH1-NNH-TRRG2
PIEFTEST=	CSZ+CNZ+CDZ+IHZ+IKZ+EXZ-IMZ+PURGZ+PURSZ -RECTXG-RECRRG-RECTXS-RECRRS +IVZ+SUBSS-SURPS+SUBSG-SURPG +FIUS-FIROW-(-INTGR+DC-DCB+PIEFRET) -COMPT-PRI-RNT -(PII-IPP-INTF1-(PAYINTG-RECINTG)+INTGR-(PAYINTS-RECINTS)) -INTF1-TRFH-NICD-CCH+CDH -TRFS-CCS-(DCB-DCBN) -(TCG+TCS+TTRFR-TCBN) -(GSBBCT+CTB) -CTGB -TRFG-CCG -GSNN-IVA-CCF1-STAT +TTRRF
SFTEST=	PIEFTEST-TCBN-DCBN+IVA+CCF1+PIEFRET-CTF1 -(IKZ-IKH1-IKBMACA) -IHF1-IVZ-NNF +GSNN-CTNN-IHNN
SBTEST=	GSBBCT-GSMA-GSCA-IHBZ-IKBMACA+IKMAZ+IKCAZ
SRTEST=	-EXZ-FIUS+IMZ+FIROW -TTRRF -(TRG+TRRG1+TRRG2+TRRS) +TRHR +TRGR1+TRGR2 +TTRFR -CTR-NNR
SGTEST=	GSMA-IKMAZ+GSCA-IKCAZ +THG+RECTXG+RECRRG+TCG+TRHG2+TRRG2+RECDIVG+TRFG -TRGHPAY+TRHG-TRGR1-TRGR2+TRG+TRRG-TRGS-PAYINTG+RECINTG -SUBSG+SURPG+CCG-INS-CTGMB -PURGZ-NNG+CTGB
SSTEST=	THS+RECTXS+RECRRS+TCS+SIS+RECDIVS+TRGS+TRFS -TRRSHPAY+TRHS-PAYINTS+RECINTS-SUBSS+SURPS+TRRS+CCS-CTS-PURSZ-NNS

Variables in the Model on the Right Hand Side

SHTEST =	YT - SIHG - SIHS + TTRRF - THG - THS - PCS·CS - PCN·CN - PCD·CD + TRGH + TRSH + UB + INS + NICD + CCH - CTH - PIH·IHH - CDH - PIK·IKH - NNH
PIEFTEST=	XX+PIV·IVF+SUBS+SUBG+USOTHER -WF·JF·(HN+1.5·HO)-RNT-INTZ-INTF-TRFH-NICD-CCH+CDH -TBS-TRFS-CCS-TRFR-DB-GSB-CTGB -GSMA-GSCA-TBG-TRFG-CCG -SIFG-SIFS -GSNN-IVA-CCF1-STAT +TTRRF
SFTEST=	PIEFTEST-TF1-DF+IVA+CCF1+PIEFRET-CTF1 -PIK·IKF-PIH·IHF-PIV·IVF-NNF+GSNN-CTNN
SBTEST =	GSB - CTB - PIH·IHB - PIK·IKB
SRTEST=	-PEX·EX-USROW+PIM·IM+TFR+TRFR+TRHR+TRGR-TRRG2-CTR-NNR-TRRS -TTRRF
SGTEST =	GSMA + GSCA + THG + IBTG + TBG + TFG + SIHG + SIFG - DG + TRFG - PG·COG - WG·JG·HG - WM·JM·HM - TRGH - TRGR - TRGS - INTG - SUBG + CCG - INS - TTRRF - CTGMB - NNG - PIK·IKG + SIGG + CTGB
SSTEST =	THS + IBTS + TBS + TFS + SIHS + SIFS - DS + TRGS + TRFS - PS·COS - WS·JS·HS - TRSH - UB - INTS - SUBS + CCS - CTS - NNS + SISS + TRRS

Tests

0 =	SH + SF + SB + SR + SG + SS + STAT + TTRG2
0 =	SH - SHTEST
0 =	PIEF1X - PIEFTEST
0 =	SF - SFTEST
0 =	SB - SBTEST
0 =	SR - SRTEST
0 =	SG - SGTEST
0 =	SS - SSTEST
0 =	-NIDDLCB1 - NIDDLCB2 - NIDDLCB3 - NIDDLZ2 + CDDCFS + CDDCF + MAILFLT1 + MAILFLT2 + CDDCUS - NIDDLRMA - NIDDLCMA + CDDCH1 + CDDCNN + CDDCR + CDDCS - NILCMA + MAILFLT3 - NIDDLCMA
0 =	CBR - NILBRMA
0 =	CGLDR - CFXUS + CGLDFXUS + CGLDFXMA - CSDRUS
0 =	CTH + CTB + CTF1 + CTNN + CTGMB + CTR
0 =	NNH + NNF + NNR + NNG + NNS

• See Table A.5 for the definitions of the raw data variables.

Table A.7
Construction of the Variables for the US Model

Variable	Construction (raw data variables on right hand side)
AA	Def., Eq. 133.
$AA1$	Def., Eq. 88.
$AA2$	Def., Eq. 89.
AB	Def., Eq. 73. Base Period=1971.4, Value=29.425
AF	Def., Eq. 70. Base Period=1971.4, Value=-303.993
AFT	TL-CE-U
AG	Def., Eq. 77. Base Period=1971.4, Value=-513.731
AH	Def., Eq. 66. Base Period=1971.4, Value=2735.512
AR	Def., Eq. 75. Base Period=1971.4, Value=-18.702
AS	Def., Eq. 79. Base Period=1971.4, Value=-161.8
BO	Sum of CFRLMA. Base Period=1971.4, Value=.039
BR	Sum of CBR. Base Period=1971.4, Value=35.329
$CCF1$	CCF1
CCG	CCG
$CCGQ$	CCG/$GDPD$
CCH	CCH
$CCHQ$	CCH/$GDPD$
CCS	CCS
$CCSQ$	CCS/$GDPD$
CD	CD
CDH	CDH
CG	$MVCE - MVCE_{-1} - CCE$
CN	CN
$cnst2cs$	Time varying constant term. See text.
$cnst2l2$	Time varying constant term. See text.
$cnst2kk$	Time varying constant term. See text.
COG	PURG-PROG
COS	PURS-PROS
CS	CS
CTB	CTB
$CTF1$	CTF1
$CTGB$	CTGB
$CTGMB$	CTGMB
CTH	CTH
$CTNN$	CTNN
CTR	CTR
CTS	CTS
CUR	Sum of NILCMA. Base Period=1971.4, Value=53.521
$D1G$	Def., Eq. 47
$D1S$	Def., Eq. 48
$D2G$	Def., Eq. 49
$D2S$	Def., Eq. 50
$D3G$	Def., Eq. 51
$D3S$	Def., Eq. 52
$D4G$	Def., Eq. 53
$D5G$	Def., Eq. 55
$D6G$	Def., Eq. 67
DB	DCB-DCBN
DBQ	DB/$GDPD$
$DELD$	Computed using NIPA asset data
$DELH$	Computed using NIPA asset data
$DELK$	Computed using NIPA asset data
DF	DCBN

Table A.7 (continued)

Variable	Construction (raw data variables on right hand side)
DG	-RECDIVG
$DISB$	DISBB-DISMA-DISCA
$DISF$	DISF1
$DISG$	DISUS+DISCA+DISMA
$DISH$	DISH1
$DISR$	DISR1
$DISS$	DISS1
DR	DC-DCB
DRQ	DR/$GDPD$
DS	-RECDIVS
E	TL-U
EX	EX
$EXPG$	Def., Eq. 106
$EXPS$	Def., Eq. 113
FA	FA
GDP	Def., Eq. 82, or GDP
$GDPD$	Def., Eq. 84
$GDPR$	GDPR
GNP	Def., Eq. 129
$GNPD$	Def., Eq. 131
GSB	GSBBCT+CTB-GSMA-GSCA
$GSBQ$	GSB/$GDPD$
$GSCA$	GSCA
$GSMA$	GSMA
$GSNN$	GSNN
$GSNNQ$	GSNN/$GDPD$
$GNPR$	Def., Eq. 130
HF	((JTH-JGH-JSH-JMH)/(JT-JG-JS-JM))·(1000/4)
HFF	Def., Eq. 100
HFS	Peak to peak interpolation of HF. The peaks are 1952.4, 1960.3, 1966.1, 1977.2, 1990.1, 2000.1, 2001.4, 2004.2, and 2018.3. Flat end.
HG	(JGH/JG)·(1000/4)
HM	(JMH/JM)·(1000/4)
HN	Def., Eq. 62
HO	13·HO. Constructed values for 1952.1-1955.4.
HS	(JSH/JS)·(1000/4)
$IBTG$	RECTXG+RECRRG
$IBTS$	RECTXS+RECRRS
IGZ	PURGZ-CONGZ
$IGZQ$	IGZ/$GDPD$
IHB	IHBZ/(IHZ/IH)
IHF	(IHF1+IHNN)/(IHZ/IH)
IHH	(IHZ-IHF1-IHBZ-IHNN)/(IHZ/IH)
IKB	(IKBMACA-IKMAZ-IKCAZ)/(IKZ/IK)
IKF	(IKZ-IKH1-IKBMACA)/(IKZ/IK)
IKG	((IKCAZ+IKMAZ)/(IKZ/IK)
IKH	IKH1/(IKZ/IK)
IM	IM
INS	INS
$INTF$	INTF1
$INTG$	PAYINTG-RECINTG
$INTGR$	INTGR

Table A.7 (continued)

Variable	Construction (raw data variables on right hand side)
$INTS$	PAYINTS-RECINTS
$INTZ$	PII-IPP-INTF1-(PAYINTG-RECINTG)+INTGR-(PAYINTS-RECINTS)
$INTZQ$	INTZ/$GDPD$
ISZ	PURSZ-CONSZ
$ISZQ$	ISZ/$GDPD$
IVA	IVA
IVF	IV
JF	JT-JG-JS-JM
JG	JG
$JHMIN$	Def., Eq. 94
JM	JM
JS	JS
KD	Def., Eq. 58. Base Period=1952.1, Value=228.1, Dep. Rate=DELD
KH	Def., Eq. 59. Base Period=1952.1, Value=4004.2, Dep. Rate=DELH
KK	Def., Eq. 92. Base Period=1952.1, Value=3277.7, Dep. Rate=DELK
$KKMIN$	Def., Eq. 93
$L1$	CL1+AF1
$L2$	CL2+AF2
$L3$	Def., Eq. 86
LAM	Computed from peak to peak interpolation of $\log[Y/(JF \cdot HF)]$. Peak quarters are 1955.2, 1963.3, 1966.1, 1973.1, 1992.4, 2010.4, and 2023.4.
LM	Def., Eq. 85
$M1$	Def., Eq. 81. Base Period=1971.4, Value=240.964
MB	Def., Eq. 71. Also sum of -NIDDLCB1-NIDDLCB2-NIDDLCB3-NIDDLZ2+CDDCFS-CDDCCA. Base Period=1971.4, Value=-197.969
$MDIF$	CDDCFS-MAILFLT1
MF	Sum of CDDCF+MAILFLT1+MAILFLT2+CDDCNN+MAILFLT3, Base Period= 1971.4, Value=84.075
MG	Sum of CDDCUS+CDDCCA-NIDDLRMA-NIDDLGMA-NIDDLCMA, Base Period=1971.4, Value=10.526
MGQ	MG/$GDPD$
MH	Sum of CDDCH1. Base Period=1971.4, Value=132.050
MHQ	MH/$GDPD$
MR	Sum of CDDCR. Base Period=1971.4, Value=12.725
MRQ	MR/$GDPD$
MS	Sum of CDDCS. Base Period=1971.4, Value=12.114
MSQ	MS/$GDPD$
MUH	Peak to peak interpolation of Y/KK. Peak quarters are 1953.2, 1955.3, 1959.2, 1962.3, 1965.4, 1969.1, 1973.1, 1977.3, 1981.1, 1984.2, 1988.4, 1993.4, 1998.1, 2006.1, 2019.1. Flat beginning.
$NICD$	NICD
NNF	NNF
NNG	NNG
NNH	NNH
NNR	NNR
NNS	NNS
PCD	CDZ/CD
$PCGDPD$	Def., Eq. 122
$PCGDPR$	Def., Eq. 123
$PCM1$	Def., Eq. 124
PCN	CNZ/CN
PCS	CSZ/CS

Table A.7 (continued)

Variable	Construction (raw data variables on right hand side)
PD	Def., Eq. 33
PEX	EXZ/EX
PF	Def., Eq. 31
PFA	FAZ/FA
PG	(PURGZ-PROGZ)/(PURG-PROG)
PH	Def., Eq. 34
$PIEF$	Def., Eq. 67, or PIEF1X
$PIEFRET$	PIEFRET
PIH	IHZ/IH
PIK	IKZ/IK
PIM	IMZ/IM
PIV	IVZ/IV, with the following adjustments. 1954.4 = .2474, 1959.3 = .2159, 1970.1 = .2487, 1971.4 = .2472, 1975.3 = .3762, 1975.4 = .3762, 1983.2 = .6355, 1983.3 = .6355, 1986.4 = .6050, 1987.3 = .6532, 1992.1 = .7989, 1993.3 = .7689, 1995.3 = .8150, 1995.4 = .8150, 1996.1 = .8150, 1997.1 = .7164, 2001.2 = .7138, 2002.1 = .6892, 2003.3 = .7473, 2007.3 = .8218, 2008.1 = .8142, 2010.1 = .9729, 2016.2 = 1.0217, 2016.3 = 1.0217, 2018.2 = 1.0444, 2021.1 = 1.0655, 2021.3 =1.1992
PKH	REALEST/KH
POP	POP
$POP1$	POP1
$POP2$	POP2
$POP3$	POP-POP1-POP2
$PROD$	Def., Eq. 118
PS	(PURSZ-PROSZ)/(PURS-PROS)
$PSI1$	Def., Eq. 32
$PSI2$	Def., Eq. 35
$PSI3$	Def., Eq. 36
$PSI4$	Def., Eq. 37
$PSI5$	Def., Eq. 38
$PSI6$	Def., Eq. 39
$PSI7$	Def., Eq. 40
$PSI8$	Def., Eq. 41
$PSI9$	Def., Eq. 42
$PSI10$	Def., Eq. 44
$PSI11$	Def., Eq. 45
$PSI12$	Def., Eq. 46
$PSI13$	(PROG+PROS)/(250(JGH+JSH+JMH))
$PSI14$	Def., Eq. 55
$PSI15$	Def., Eq. 56
PUG	Def., Eq. 104 or PURGZ
PUS	Def., Eq. 110 or PURSZ
PX	(CDZ+CNZ+CSZ+IHZ+IKZ+PURGZ-PROGZ+PURSZ-PROSZ+EXZ-IMZ-IBTG-IBTS)/ (CD+CN+CS+IH+IK+PURG-PROG+PURS-PROS+EX-IM)
Q	Sum of CGLDFXUS+CGLDFXMA-CSDRUS. Base Period=1971.4, Value=13.985
QQ	Q/$GDPD$
RB	RB
$RECG$	Def., Eq. 105
$RECS$	Def., Eq. 112
RM	RM
RMA	Def., Eq. 128
RNT	RNT
$RNTQ$	RNT/$GDPD$
RS	RS

Table A.7 (continued)

Variable	Construction (raw data variables on right hand side)
RSA	Def., Eq. 127
SB	Def., Eq. 72
SF	Def., Eq. 69
SG	Def., Eq. 76
SGP	Def., Eq. 107
SH	Def., Eq. 65
$SHRPIE$	Def., Eq. 121
$SIFG$	SIFG
$SIFS$	SIFS
SIG	SIG
$SIGG$	SIGG
$SIHG$	SIHG
$SIHS$	SIHS
SIS	SIS
$SISS$	SISS
SR	Def., Eq. 74
SRZ	Def., Eq. 116
SS	Def., Eq. 78
SSP	Def., Eq. 114
$STAT$	STAT
$STATP$	Def., Eq. 83
$SUBG$	SUBSG - SURPG
$SUBS$	SUBSS - SURPS
T	1 in 1952.1, 2 in 1952.2, etc.
$TBL2$	Time varying time trend. See text.
TBG	TBG
$TBGQ$	TBG/$GDPD$
TBS	TBS
TCG	TCG
TCS	TCS
TFG	Def., Eq. 102
TFR	TTRFR - TRFR
TFS	Def., Eq. 108
$TF1$	TCBN
$THETA1$	PFA/$GDPD$
$THETA2$	CDH/(PCD·CD)
$THETA3$	NICD/(PCD·CD)
$THETA4$	PIEFRET/PIEF
THG	THG
THS	THS
$TRFG$	TRFG
$TRFH$	TRFH
$TRFR$	TRFR
$TRFS$	TRFS
TRG	TRG
$TRGH$	TRGHPAY - TRHG - UB
$TRGHQ$	TRGH/$GDPD$
$TRGR$	TRGR1 + TRGR2 - TRG - TRRG1
$TRGS$	TRGS
$TRGSQ$	TRGS/$GDPD$
$TRHR$	TRHR

Table A.7 (continued)

Variable	Construction (raw data variables on right hand side)
$TRRS$	TRRS
$TRSH$	TRRSHPAY-TRHS
$TRSHQ$	TRSH/$GDPD$
$TTRRF$	TTRRF
U	(CE+U)-CE
UB	UB
UR	Def., Eq. 87
$USOTHER$	Def., Eq. 57
$USROW$	FIUS-FIROW
V	Def., Eq. 117. Base Period=1996.4, Value=1781.1, Table 5.8.6A
WA	Def., Eq. 126
WF	WF=[COMPT-PROGZ-PROSZ-(SIT-SIGG-SISS) +PRI]/[(JT-JG-JS-JM)(((JTH-JGH-JSH-JMH)/(JT-JG-JS-JM))·(1000/4)+.5HO)]
WG	(PROGZ-COMPMIL)/(250(JGH))
WH	Def., Eq. 43
WM	COMPMIL/(250(JMH))
WR	Def., Eq. 119
WS	PROSZ/(250(JSH))
X	Def., Eq. 60
XX	Def., Eq. 61
Y	Def., Eq. 63
YD	Def., Eq. 115
YS	Computed from peak to peak interpolation of $\log Y$. Peak quarters are 1953.2, 1966.1, 1973.2, 1999.4, 2006.4, and 2023.4.
YT	Def., Eq. 64

• The variables in the first column are the variables in the model. They are defined by the identities in Table A.3 or by the raw data variables in Table A.5. A right hand side variable in this table is a raw data variable unless it is in italics, in which case it is a variable in the model. Sometimes the same letters are used for both a variable in the model and a raw data variable.