The US Model
Appendix A

January 30, 2016

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, B2009$.	1, 2, 3, 5, 6, 7
$AA1$	88	Total net financial wealth, h, B2009$.	133
$AA2$	89	Total net housing wealth, h, B2009$.	4, 133
AB	73	Net financial assets, b, B$.	none
AF	70	Net financial assets, f, B$.	none
AG	77	Net financial assets, g, B$.	29
$AG1$	exog	Percent of 16+ population 26-55 minus percent 16-25.	1, 2, 3
$AG2$	exog	Percent of 16+ population 56-65 minus percent 16-25.	1, 2, 3
$AG3$	exog	Percent of 16+ population 66+ minus percent 16-25.	1, 2, 3
AH	66	Net financial assets, h, B$.	88
AR	75	Net financial assets, r, B$.	none
AS	79	Net financial assets, s, B$.	none
BO	exog	Bank borrowing from the Fed, B$.	125
BR	exog	Total bank reserves, B$.	125
$CCF1$	67	Capital consumption, F1, B$.	68
CCG	150	Capital consumption, g, B$.	68, 69, 76
$CCGQ$	exog	Capital consumption, g, B2009$.	150
CCH	151	Capital consumption, h, B$.	65, 68, 69
$CCHQ$	exog	Capital consumption, h, B2009$.	151
CCS	152	Capital consumption, s, B$.	68, 69, 78
$CCSQ$	exog	Capital consumption, s, B2009$.	152
CD	3	Consumer expenditures for durable goods, B2009$.	27, 34, 51, 52, 58, 60, 61, 65, 96, 97, 116
CDA	exog	Peak to peak interpolation of CD/POP.	3
CDH	96	Capital expenditures, consumer durable goods, h, B$.	65, 68
CG	25	Capital gains(+) or losses(-) on the financial assets of h, B$.	12, 66
CN	2	Consumer expenditures for nondurable goods, B2009$.	27, 34, 51, 52, 60, 61, 65, 116
COG	exog	Purchases of consumption and investment goods, g, B2009$.	60, 61, 76, 104
COS	exog	Purchases of consumption and investment goods, s, B2009$.	60, 61, 78, 110
CS	1	Consumer expenditures for services, B2009$.	27, 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, 90
$D1GM$	90	Marginal personal income tax rate, g.	126, 127, 128
$D1S$	exog	Personal income tax parameter, s.	48, 91
$D1SM$	91	Marginal personal income tax rate, s.	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
$D593$	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

Table A.2 (continued)

Variable	Eq.	Description	Used in Equations
DB	153	Net dividends paid, b, B$.	64, 68, 69, 99, 115
DBQ	exog	Net dividends paid, b, B2009$.	153
$DELD$	exog	Physical depreciation rate of the stock of durable goods, rate per quarter.	3, 58
$DELH$	exog	Physical depreciation rate of the stock of housing, rate per quarter.	4, 59
$DELK$	exog	Physical depreciation rate of the stock of capital, rate per quarter.	92
DF	18	Net dividends paid, f, B$.	64, 69, 99, 115
DG	exog	Net dividends paid, g, B$.	64, 76, 99, 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, 99, 115
DRQ	exog	Net dividends paid, r, B2009$.	154
DS	exog	Net dividends paid, s, B$.	64, 78, 99, 112, 115
E	85	Total employment, civilian and military, millions.	86
EX	exog	Exports, B2009$.	33, 60, 61, 74
$EXPG$	106	Net expenditures, g, B$.	107
$EXPS$	113	Net expenditures, s, B$.	114
FA	exog	Farm gross product, B2009$.	17, 26, 31
GDP	82	Gross Domestic Product, B$.	84, 129
$GDPD$	84	GDP price deflator.	111, 123, 130, 150–169
$GDPR$	83	Gross Domestic Product, B2009$.	84, 122, 130
GNP	129	Gross National Product, B$.	131
$GNPD$	131	GNP price deflator.	none
$GNPR$	130	Gross National Product, B2009$.	131
GSB	155	Gross saving, B, B$.	68, 69, 72
$GSBQ$	exog	Gross saving, B, B2009$.	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, B2009$.	156
HF	14	Average number of hours paid per job, f, hours per quarter.	62, 95, 100, 118
HFF	100	Deviation of HF from its peak to peak interpolation.	15
HFS	exog	Peak to peak interpolation of HF.	13, 14, 100
HG	exog	Average number of hours paid per civilian job, g, hours per quarter.	43, 64, 76, 82, 83, 95, 98, 104, 115, 126
HM	exog	Average number of hours paid per military job, g, hours per quarter.	43, 64, 76, 82, 83, 95, 98, 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, 95, 98, 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, B2009$.	157
IHB	exog	Residential investment, b, B2009$.	27, 60, 61, 72
IHF	exog	Residential investment, f, B2009$.	27, 60, 61, 68
IHH	4	Residential investment, h, B2009$.	27, 34, 59, 60, 61, 65
$IHHA$	exog	Peak to peak interpolation of IHH/POP.	4

Table A.2 (continued)

Variable	Eq.	Description	Used in Equations
IKB	exog	Nonresidential fixed investment, b, B2009$.	27, 60, 61, 72
IKF	92	Nonresidential fixed investment, f, B2009$.	27, 60, 61, 67, 69
IKG	exog	Nonresidential fixed investment, g, B2009$.	60, 61, 76
IKH	exog	Nonresidential fixed investment, h, B2009$.	27, 60, 61, 65
IM	27	Imports, B2009$.	33, 60, 61, 74
INS	exog	Insurance and pension reserves to h from g, B$.	65, 76
$INTF$	exog	Net interest payments, f, B$.	64, 68, 69, 99, 115
$INTG$	29	Net interest payments, g, B$.	56, 64, 76, 99, 106, 115
$INTGR$	56	Net interest payments, g to r, B$.	57, 64, 99, 115
$INTS$	exog	Net interest payments, s, B$.	64, 78, 99, 113, 115
$INTZ$	158	Net interest payments, other, B$.	64, 68, 69, 99, 115
$INTZQ$	exog	Net interest payments, other, B2009$.	158
ISZ	159	Gross investment, s, B$.	113
$ISZQ$	exog	Gross investment, s, B2009$.	159
IVA	exog	Inventory valuation adjustment, B$.	68
IVF	117	Inventory investment, f, B2009$.	68
JF	13	Number of jobs, f, millions.	14, 43, 53, 54, 64, 68, 69, 85, 95, 115, 118, 121
JG	exog	Number of civilian jobs, g, millions.	43, 64, 76, 82, 83, 85, 95, 98, 104, 115, 126
$JHMIN$	94	Number of worker hours required to produce Y, millions.	13, 14
JJ	95	Ratio of the total number of worker hours paid for to the total population 16 and over.	none
JJP	exog	Potential value of JJ.	98
JM	exog	Number of military jobs, g, millions.	43, 64, 76, 82, 83, 85, 87, 95, 98, 104, 115
JS	exog	Number of jobs, s, millions.	43, 64, 78, 82, 83, 85, 95, 98, 110, 115, 126
KD	58	Stock of durable goods, B2009$.	3
KH	59	Stock of housing, h, B2009$.	4, 89
KK	12	Stock of capital, f, B2009$.	92
$KKMIN$	93	Amount of capital required to produce Y, B2009$.	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, 98
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$.	71, 77
MGQ	exog	Demand deposits and currency, g, B2009$.	160
MH	161	Demand deposits and currency, h, B$.	66, 71, 81, 88
MHQ	exog	Demand deposits and currency, h, B2009$.	161
MR	162	Demand deposits and currency, r, B$.	71, 75, 81
MRQ	exog	Demand deposits and currency, r, B2009$.	162
MS	163	Demand deposits and currency, s, B$.	71, 79, 81
MSQ	exog	Demand deposits and currency, s, B2009$.	163
MUH	exog	Amount of output capable of being produced per unit of capital.	93

Table A.2 (continued)

Variable	Eq.	Description	Used in Equations
$NICD$	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	191	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, 6, 7, 8, 88, 89
$PIEF$	67	Before tax profits, f, B$.	18, 25, 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
POP	120	Noninstitutional population 16+, millions.	1, 2, 3, 4, 5, 6, 7, 8, 26, 27, 47, 48, 90, 91
$POP1$	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, 25, 32, 33, 61, 72, 82, 119
Q	164	Gold and foreign exchange, g, B$.	75,77
QQ	exog	Gold and foreign exchange, g, B2009$.	164

Table A.2 (continued)

Variable	Eq.	Description	Used in Equations
RB	23	Bond rate, percentage points.	12,25,29
$RECG$	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, 99, 115
$RNTQ$	exog	Rental income, h, B2009$.	165
RS	30	Three-month Treasury bill rate, percentage points.	17, 23, 24, 29, 127
RSA	127	After tax bill rate, percentage points.	1, 26
SB	72	Financial saving, b, B$.	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
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, B2009$.	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.	10, 14, 16
$TAUG$	exog	Progressivity tax parameter in personal income tax equation for g.	47, 90, 99
$TAUS$	exog	Progressivity tax parameter in personal income tax equation for s.	48, 91, 99
TFR	exog	Taxes, f to r, B$.	18, 25, 74, 101
TBG	166	Corporate profit taxes, b to g, B$.	68, 69, 76, 102
$TBGQ$	exog	Corporate profit taxes, b to g, B2009$.	166
TBS	exog	Corporate profit taxes, b to s, B$.	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, 25, 76, 101, 102
TFS	50	Corporate profit taxes, f to s, B$.	18, 25, 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

Table A.2 (continued)

Variable	Eq.	Description	Used in Equations
$TRFG$	exog	Transfer payments, f to g, B$.	68, 69, 76, 105
$TRFH$	exog	Transfer payments, f to h, B$.	64, 68, 69, 99, 115
$TRFR$	exog	Transfer payments, f to r, B$.	68, 69, 74
$TRFS$	exog	Transfer payments, f to s, B$.	68, 69, 78, 112
$TRGH$	167	Transfer payments (net), g to h, B$.	65, 76, 99, 106, 115
$TRGHQ$	exog	Transfer payments (net), g to h, B2009$.	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, B2009$.	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, 99, 111, 115
$TRSHQ$	exog	Transfer payments, s to h, excluding unemployment insurance benefits, B2009$.	169
U	86	Number of people unemployed, millions.	28, 87
UB	28	Unemployment insurance benefits, B$.	65, 78, 99, 111, 115
UBR	128	Unborrowed reserves, B$.	none
UR	87	Civilian unemployment rate.	5, 7, 8, 10, 30
$USAFF$	exog	Contributions for government social insurance, U.S.-affiliated areas, B$.	65, 74, 76, 80, 99
$USOTHER$	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$.	74, 129, 130
V	63	Stock of inventories, f, B2009$.	11, 82, 117
WA	126	After tax wage rate. (Includes supplements to wages and salaries except employer contributions for social insurance.)	6, 7, 8
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, 99, 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, B2009$.	11, 17, 26, 31, 33, 63
XX	61	Total sales, B$.	68, 69, 82
Y	11	Total production, B2009$.	10, 12, 13, 14, 63, 83, 93, 94, 118
YD	115	Disposable income, h, B$.	1, 2, 3, 4, 116
YNL	99	Before tax nonlabor income, h, B$.	none
YS	98	Potential output, B2009$.	12, 25
YT	64	Taxable income, h, B$.	47, 48, 65, 90, 91, 99

- B$ = Billions of dollars.
- B2009$ = Billions of 2009 dollars.

Table A.3
The Equations of the US Model

STOCHASTIC EQUATIONS

Eq.	LHS Variable	Explanatory Variables
Household Sector		
1	$\log(CS/POP)$	cnst2, cnst, $AG1$, $AG2$, $AG3$, $\log(CS/POP)_{-1}$, $\log[YD/(POP \cdot PH)]$, RSA, $\log(AA/POP)_{-1}$ [Consumer expenditures: services]
2	$\log(CN/POP)$	cnst2, cnst, $AG1$, $AG2$, $AG3$, $\log(CN/POP)_{-1}$, $\Delta\log(CN/POP)_{-1}$, $\log(AA/POP)_{-1}$, $\log[YD/(POP \cdot PH)]$, RMA [Consumer expenditures: nondurables]
3	$\Delta CD/POP$	cnst2, cnst, $AG1$, $AG2$, $AG3$, $DELD(KD/POP)_{-1} - (CD/POP)_{-1}$, $(KD/POP)_{-1}$, $YD/(POP \cdot PH)$, $RMA \cdot CDA$, $(AA/POP)_{-1}$ [Consumer expenditures: durables]
4	$\Delta IHH/POP$	cnst2, cnst, $DELH(KH/POP)_{-1} - (IHH/POP)_{-1}$, $(KH/POP)_{-1}$, $(AA/POP)_{-1}$, $YD/(POP \cdot PH)$, $RMA_{-1}IHHA$, $(AA2/POP)_{-1}$, $RHO = 2$ [Residential investment–h]
5	$\log(L1/POP1)$	cnst, $\log(L1/POP1)_{-1}$, $\log(AA/POP)_{-1}$, UR [Labor force–men 25-54]
6	$\log(L2/POP2)$	cnst, $\log(L2/POP2)_{-1}$, $\log(WA/PH)$, $\log(AA/POP)_{-1}$ [Labor force–women 25-54]
7	$\log(L3/POP3)$	cnst, $\log(L3/POP3)_{-1})$, $\log(WA/PH)$, $\log(AA/POP)_{-1}$, UR [Labor force–all others 16+]
8	$\log(LM/POP)$	cnst, $\log(LM/POP)_{-1}$, $\log(WA/PH)$, UR [Number of moonlighters]
Firm Sector		
10	$\log PF$	$\log PF_{-1}$, $\log[WF(1 + D5G)] - \log LAM$, cnst2, TB, cnst, T, $\log PIM$, UR [Price deflator for non farm sales]
11	$\log Y$	cnst, $\log Y_{-1}$, $\log X$, $\log V_{-1}$, $D593$, $D594$, $D601$, $RHO = 3$ [Production–f]
12	$\Delta\log KK$	cnst2, cnst, $\log(KK/KKMIN)_{-1}$, $\Delta\log KK_{-1}$, $\Delta\log Y$, $\Delta\log Y_{-1}$, $\Delta\log Y_{-2}$, $\Delta\log Y_{-3}$, $\Delta\log Y_{-4}$, $\Delta\log Y_{-5}$, $RB_{-2}(1 - D2G_{-2} - D2S_{-2}) - 100(PD_{-2}/PD_{-6}) - 1)$, $(CG_{-2} + CG_{-3} + CG_{-4})/(PX_{-2}YS_{-2} + PX_{-3}YS_{-3} + PX_{-4}YS_{-4})$ [Stock of capital–f]
13	$\Delta\log JF$	cnst, $\log[JF/(JHMIN/HFS)]_{-1}$, $\Delta\log JF_{-1}$, $\Delta\log Y$, $D593$ [Number of jobs–f]
14	$\Delta\log HF$	cnst, $\log(HF/HFS)_{-1}$, $\log[JF/(JHMIN/HFS)]_{-1}$, $\Delta\log Y$, T [Average number of hours paid per job–f]
15	$\log HO$	cnst, HFF, HFF_{-1}, $RHO = 1$ [Average number of overtime hours paid per job–f]
16	$\log WF - \log LAM$	$\log WF_{-1} - \log LAM_{-1}$, $\log PF$, cnst, T, $\log PF_{-1}$ [Average hourly earnings excluding overtime–f]
17	$\log(MF/PF)$	cnst, T, $\log(MF_{-1}/PF)$, $\log(X - FA)$, $RS(1 - D2G - D2S)$ [Demand deposits and currency–f]
18	$\Delta\log DF$	$\log[(PIEF - TFG - TFS - TFR)/DF_{-1}]$ [Dividends paid–f]

Table A.3 (continued)

Eq.	LHS Variable	Explanatory Variables
Financial Sector		
23	$RB - RS_{-2}$	cnst, $RB_{-1} - RS_{-2}$, $RS - RS_{-2}$, $RS_{-1} - RS_{-2}$, $RHO = 1$ [Bond rate]
24	$RM - RS_{-2}$	cnst, $RM_{-1} - RS_{-2}$, $RS - RS_{-2}$, $RS_{-1} - RS_{-2}$ [Mortgage rate]
25	$CG/(PX_{-1} \cdot YS_{-1})$	cnst, ΔRB, $[\Delta(PIEF - TFG - TFS - TFR)]/(PX_{-1} \cdot YS_{-1})$ [Capital gains or losses on the financial assets of h]
26	$\log[CUR/(POP \cdot PF)]$	cnst, $\log[CUR_{-1}/(POP_{-1}PF)]$, $\log[(X - FA)/POP]$, RSA, $RHO = 1$ [Currency held outside banks]
Import Equation		
27	$\log(IM/POP)$	cnst2, cnst, $\log(IM/POP)_{-1}$, $\log[(CS + CN + CD + IHH + IKF + IHB + IHF + IKB + IKH)/POP]$, $\log(PF/PIM)$, $D691$, $D692$, $D714$, $D721$ [Imports]
Government Sectors		
28	$\log UB$	cnst, $\log UB_{-1}$, $\log U$, $\log WF$, $RHO = 1$ [Unemployment insurance benefits]
29	$INTG/(-AG)$	cnst, $[INTG/(-AG)]_{-1}$, $(1/400)[.4RS + .75(.6)(1/8)(RB + RB_{-1} + RB_{-2} + RB_{-3} + RB_{-4} + RB_{-5} + RB_{-6} + RB_{-7})]$, $RHO = 1$
30	RS	cnst, RS_{-1}, $100[(PD/PD_{-1})^4 - 1]$, UR, ΔUR, $PCM1_{-1}$, $D794823 \cdot PCM1_{-1}$, 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	$THG =$	$[D1G + ((TAUG \cdot YT)/(POP \cdot PH))]YT$ [Personal income taxes–h to g]
48	$THS =$	$[D1S + ((TAUS \cdot YT)/(POP \cdot PH))]YT$ [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	$SH =$	$YT - SIHG - SIHS + USAFF - THG - THS - PCS \cdot CS - PCN \cdot CN - PCD \cdot CD + TRGH + TRSH + UB + INS + NICD + CCH - CTH - PIH \cdot IHH - CDH - PIK \cdot IKH - NNH$ [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	$PIEF =$	$XX + PIV \cdot IVF + SUBS + SUBG + USOTHER - WF \cdot JF(HN + 1.5HO) - RNT - INTZ - INTF - TRFH - NICD - CCH + CDH - TBS - TRFS - CCS - TRFR - DB - GSB - CTGB - GSMA - GSCA - TBG - TRFG - CCG - SIFG - SIFS - GSNN - IVA - CCF1 - STAT$ [Before tax profits–f]
69	$SF =$	$XX + SUBS + SUBG + PIEFRET + USOTHER - WF \cdot JF(HN + 1.5HO) - RNT - INTZ - INTF - TRFH - NICD - CCH + CDH - TBS - TRFS - CCS - TRFR - DB - GSB - CTGB - GSMA - GSCA - TBG - TRFG - CCG - SIFG - SIFS - STAT - DF - TF1 - PIK \cdot IKF - PIH \cdot IHF - NNF - CTF1 - CTNN$ [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	$SR =$	$-PEX \cdot EX - USROW + PIM \cdot IM + TFR + TRFR + TRHR + TRGR - USAFF - CTR - NNR - TRRS$ [Financial saving–r]
75	$0 =$	$SR - \Delta AR - \Delta MR + \Delta Q - DISR$ [Budget constraint–r; (determines AR)]
76	$SG =$	$GSMA + GSCA + THG + IBTG + TBG + TFG + SIHG + SIFG - DG + TRFG - PG \cdot COG - WG \cdot JG \cdot HG - WM \cdot JM \cdot HM - TRGH - TRGR - TRGS - INTG - SUBG + CCG - INS - USAFF - CTGMB - NNG - PIK \cdot IKG + SIGG$ [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	$SS =$	$THS + IBTS + TBS + TFS + SIHS + SIFS - DS + TRGS + TRFS - PS \cdot COS - WS \cdot JS \cdot HS - TRSH - UB - INTS - SUBS + CCS - CTS - NNS + SISS + TRRS$ [Financial saving–s]
79	$0 =$	$SS - \Delta AS - \Delta MS - DISS$ [Budget constraint–s; (determines AS)]
80	$0 =$	$SH + SF + SB + SR + SG + SS + STAT + USAFF$ [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	$UR =$	$U/(L1 + L2 + L3 - JM)$ [Civilian unemployment rate]
88	$AA1 =$	$(AH + MH)/PH$ [Total net financial wealth–h]
89	$AA2 =$	$(PKH \cdot KH)/PH$ [Total net housing wealth–h]
90	$D1GM =$	$D1G + (2TAUG \cdot YT)/(POP \cdot PH)$ [Marginal personal income tax rate–g]
91	$D1SM =$	$D1S + (2TAUS \cdot YT)/(POP \cdot PH)$ [Marginal personal income tax rate–s]
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]
95	$JJ =$	$(JF \cdot HF + JG \cdot HG + JM \cdot HM + JS \cdot HS)/POP$ [Ratio of the total number of worker hours paid for to the total population 16 and over]

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]
98	$YS =$	$LAM(JJP \cdot POP - JG \cdot HG - JM \cdot HM - JS \cdot HS)$ [Potential output]
99	$YNL =$	$RNT + INTZ + INTF + INTG - INTGR + INTS + DF + DB + DR + DG + DS + TRFH + TRGH + TRSH + UB$ [Before-tax nonlabor income–h]
100	$HFF =$	$HF - HFS$ [Deviation of HF from its peak to peak interpolation]
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	$EXPG =$	$PUG + TRGH + TRGR + TRGS + INTG + SUBG - IGZ$ [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	$EXPS =$	$PUS + TRSH + UB + INTS + SUBS - ISZ$ [Net expenditures–s]
114	$SSP =$	$RECS - EXPS$ [NIPA surplus or deficit–s]
115	$YD =$	$WF \cdot JF(HN + 1.5HO) + WG \cdot JG \cdot HG + WM \cdot JM \cdot HM + WS \cdot JS \cdot HS + RNT + INTZ + INTF + INTG - INTGR + INTS + DF + DB + DR + DG + DS + TRFH + TRGH + TRSH + UB - SIHG - SIHS + USAFF - THG - THS - TRHR - SIGG - SISS$ [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]
125	$UBR =$	$BR - BO$
		[Unborrowed reserves]
126	$WA =$	$100[(1 - D1GM - D1SM - D4G)[WF \cdot JF(HN + 1.5HO)] + (1 - D1GM - D1SM)(WG \cdot JG \cdot HG + WM \cdot JM \cdot HM + WS \cdot JS \cdot HS - SIGG - SISS)]/[JF(HN + 1.5HO) + JG \cdot HG + JM \cdot HM + JS \cdot HS]$
		[After tax wage rate]
127	$RSA =$	$RS(1 - D1GM - D1SM)$
		[After-tax three-month Treasury bill rate]
128	$RMA =$	$RM(1 - D1GM - D1SM)$
		[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	$TRSH =$	$GDPD \cdot TRSHQ$
Variables as a percent of GDP		
180	$RECGZGDP =$	$RECG/GDP$
181	$EXPGZGDP =$	$EXPG/GDP$
182	$SGPZGDP =$	$-SGP/GDP$
183	$AGZGDP =$	$-AG/(4 \cdot GDP)$
184	$INTGZGDP =$	$INTG/GDP$
185	$SRZGDP =$	SR/GDP
186	$ASZGDP =$	$-AS/(4 \cdot GDP)$
187	$PCGDPR4 =$	$100 \cdot (GDPR/GDPR_{-4} - 1)$
188	$PCGDPD4 =$	$100 \cdot (GDPD/GDPD_{-4} - 1)$

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

See Chapter 1 in Fair (2004) for discussion of the tests.
See Chapter 2 in Fair (2004) for discussion of the equations.

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

RHS Variable	Equation Coef.	t-stat.	Test	χ^2 Tests χ^2	df	p-value
cnst2	0.02124	6.45	Lags	23.57	3	0.0000
cnst	-0.13393	-5.96	RHO	14.82	1	0.0001
$AG1$	-0.04853	-2.54	T	6.78	1	0.0092
$AG2$	-0.31707	-9.13	Leads +1	6.11	1	0.0134
$AG3$	0.22598	4.67	Leads +4	9.24	4	0.0553
$\log(CS/POP)_{-1}$	0.86130	44.11	Leads +8	10.58	2	0.0050
$\log[YD/(POP \cdot PH)]$	0.08987	4.18				
RSA	-0.00104	-4.95				
$\log(AA/POP)_{-1}$	0.03456	6.78				

SE	0.00369
R^2	1.000
DW	1.56

overid (df = 15, p-value =0.0000)
χ^2 (AGE) = 92.53 (df = 3, p-value = 0.0000)

AP	Stability Test T_1	T_2	λ	Break
17.07	1970.1	1979.4	2.04	1978.1

Lags test adds $\log(CS/POP)_{-2}$, $\log[YD/(POP \cdot PH)]_{-1}$, and RSA_{-1}.
Leads tests are for $\log[YD/(POP \cdot PH)]$.
Estimation period is 1954.1-2015.4

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

RHS Variable	Equation Coef.	t-stat.	Test	χ^2 Tests χ^2	df	p-value
cnst2	-0.01470	-1.90	Lags	20.12	3	0.0002
cnst	-0.37023	-5.40	RHO	28.09	1	0.0000
$AG1$	0.08929	2.20	T	1.00	1	0.3163
$AG2$	0.02684	0.49	Leads +1	10.04	1	0.0015
$AG3$	-0.20631	-2.10	Leads +4	9.70	4	0.0459
$\log(CN/POP)_{-1}$	0.74462	17.84	Leads +8	5.58	2	0.0616
$\Delta \log(CN/POP)_{-1}$	0.20024	3.42				
$\log(AA/POP)_{-1}$	0.04993	4.85				
$\log[YD/(POP \cdot PH)]$	0.12950	4.30				
RMA	-0.00056	-1.14				

SE	0.00648
R^2	0.999
DW	1.96

overid (df = 14, p-value =0.0000)
χ^2 (AGE) = 7.77 (df = 3, p-value = 0.0510)

AP	Stability Test T_1	T_2	λ	Break
23.35	1970.1	1979.4	2.04	1973.1

Lags test adds $\log(CN/POP)_{-3}$, $\log[YD/(POP \cdot PH)]_{-1}$, and RMA_{-1}.
Leads tests are for $\log[YD/(POP \cdot PH)]$.
Estimation period is 1954.1-2015.4

Table A3
Equation 3
LHS Variable is $CD/POP - (CD/POP)_{-1}$

Equation			χ^2 Tests			
RHS Variable	Coef.	t-stat.	Test	χ^2	df	p-value
cnst2	0.06313	3.92	Lags	3.24	3	0.3566
cnst	-0.12828	-2.55	RHO	2.79	1	0.0948
$AG1$	-0.04092	-0.50	T	9.24	1	0.0024
$AG2$	2.24210	5.76	Leads +1	4.04	1	0.0445
$AG3$	-1.68571	-4.95	Leads +4	15.17	4	0.0044
^{a}	0.20389	4.88	Leads +8	11.89	2	0.0026
$(KD/POP)_{-1}$	-0.02377	-6.40				
$YD/(POP \cdot PH)$	0.04978	5.77				
$RMA \cdot CDA$	-0.00924	-3.88				
$(AA/POP)_{-1}$	0.00075	4.69				

SE	0.01445
R^2	0.211
DW	1.96

overid (df = 10, p-value =0.0000)
χ^2 (AGE) = 34.26 (df = 3, p-value = 0.0000)

	Stability Test			
AP	T_1	T_2	λ	Break
14.83	1970.1	1979.4	2.04	1979.3

^{a}Variable is $DELD(KD/POP)_{-1} - (CD/POP)_{-1}$
Lags test adds ^{a} lagged once, $[YD/(POP \cdot PH)]_{-1}$, and $(RMA \cdot CDA)_{-1}$.
Leads tests are for $YD/(POP \cdot PH)$.
Estimation period is 1954.1-2015.4

Table A4
Equation 4
LHS Variable is $IHH/POP - (IHH/POP)_{-1}$

RHS Variable	Coef.	t-stat.	Test	χ^2	df	p-value
cnst2	0.12423	1.29	Lags	7.08	3	0.0694
cnst	1.00123	2.54	T	0.00	1	0.9777
[a]	0.36800	7.36	Leads +1	0.17	1	0.6762
$(KH/POP)_{-1}$	-0.03697	-3.90	Leads +4	5.37	4	0.2510
$YD/(POP \cdot PH)$	0.06592	2.25	Leads +8	7.44	2	0.0243
$RMA_{-1} \cdot IHHA$	-0.02604	-5.58				
$(AA2/POP)_{-1}$	0.00336	3.40				
RHO1	0.55682	8.22				
RHO2	0.41005	6.08				

SE	0.01649
R^2	0.382
DW	2.05

overid (df = 21, p-value =0.0060)
χ^2 (AGE) = 3.25 (df = 3, p-value = 0.3544)

	Stability Test			
AP	T_1	T_2	λ	Break
8.55	1970.1	1979.4	2.04	1974.1

[a] Variable is $DELH(KH/POP)_{-1} - (IHH/POP)_{-1}$
Lags test adds [a] lagged once, $[YD/(POP \cdot PH)]_{-1}$, and $(RMA_{-1} \cdot IHHA)_{-1}$.
Leads tests are for $YD/(POP \cdot PH)$.
Estimation period is 1954.1-2015.4

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

RHS Variable	Coef.	t-stat.	Test	χ^2	df	p-value
cnst	0.02498	2.93	Lags	4.82	2	0.0898
$\log(L1/POP1)_{-1}$	0.92759	36.62	RHO	4.00	1	0.0455
$\log(AA/POP)_{-1}$	-0.00571	-2.95	T	5.74	1	0.0166
UR	-0.03578	-2.40				

SE	0.00243
R^2	0.993
DW	2.24

overid (df = 10, p-value =0.0000)

	Stability Test				End Test	
AP	T_1	T_2	λ	Break	p-value	End
4.67	1970.1	1979.4	2.04	1970.1	0.0216	2008.1
1.83	1980.1	1989.4	1.89	1989.4		
2.94	1990.1	1999.4	2.04	1992.4		

Lags test adds $\log(L1/POP1)_{-2}$ and UR_{-1}.
Estimation period is 1954.1-2015.4

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

RHS Variable	Coef.	t-stat.	Test	χ^2	df	p-value
cnst	0.04741	3.18	Lags	2.54	2	0.2816
$\log(L2/POP2)_{-1}$	0.99687	229.50	RHO	0.25	1	0.6154
$\log(WA/PH)$	0.01046	1.68	T	0.00	1	0.9952
$\log(AA/POP)_{-1}$	-0.01038	-3.13	Leads +1	0.11	1	0.7442
			Leads +4	2.74	4	0.6030
			Leads +8	0.65	2	0.7218
			$\log PH$	0.48	1	0.4871

SE	0.00544
R^2	0.999
DW	2.10

overid (df = 0, p-value =9.9000)

	Stability Test				End Test	
AP	T_1	T_2	λ	Break	p-value	End
6.45	1970.1	1979.4	2.04	1979.1	0.2324	2008.1
5.66	1980.1	1989.4	1.89	1980.2		
5.22	1990.1	1999.4	2.04	1990.1		

Lags test adds $\log(L2/POP2)_{-2}$ and $\log(WA/PH)_{-1}$.
Leads tests are for $\log(WA/PH)$.
Estimation period is 1954.1-2015.4

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

RHS Variable	Coef.	t-stat.	Test	χ^2	df	p-value
cnst	0.03877	1.90	Lags	4.44	3	0.2173
$\log(L3/POP3)_{-1}$	0.97566	70.35	RHO	3.54	1	0.0598
$\log(WA/PH)$	0.01591	2.07	T	1.88	1	0.1705
$\log(AA/POP)_{-1}$	-0.01161	-2.09	Leads +1	0.04	1	0.8350
UR	-0.12436	-3.80	Leads +4	2.06	4	0.7243
			Leads +8	4.86	2	0.0879
			$\log PH$	1.16	1	0.2819

SE	0.00519
R^2	0.987
DW	2.07

overid (df = 9, p-value =0.0328)

	Stability Test				End Test	
AP	T_1	T_2	λ	Break	p-value	End
7.66	1970.1	1979.4	2.04	1971.3	0.9838	2008.1
8.67	1980.1	1989.4	1.89	1989.4		
8.47	1990.1	1999.4	2.04	1990.1		

Lags test adds $\log(L3/POP3)_{-2}$, $\log(WA/PH)_{-1}$, and UR_{-1}.
Leads tests are for $\log(WA/PH)$.
Estimation period is 1954.1-2015.4

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

RHS Variable	Coef.	t-stat.	Test	χ^2	df	p-value
cnst	-0.34155	-5.31	Lags	5.09	3	0.1649
$\log(LM/POP)_{-1}$	0.87123	39.08	RHO	0.25	1	0.6159
$\log(WA/PH)$	0.02646	1.97	T	4.84	1	0.0277
UR	-1.62908	-5.81	Leads +1	0.00	1	0.9552
			Leads +4	2.80	4	0.5922
			Leads +8	1.25	2	0.5363
			$\log PH$	6.53	1	0.0106

SE	0.04587
R^2	0.940
DW	2.06

overid (df = 16, p-value =0.4070)

	Stability Test				End Test	
AP	T_1	T_2	λ	Break	p-value	End
7.76	1970.1	1979.4	2.04	1978.1	0.2541	2008.1
8.40	1980.1	1989.4	1.89	1989.4		
8.09	1990.1	1999.4	2.04	1990.1		

Lags test adds $\log(LM/POP)_{-2}$, $\log(WA/PH)_{-1}$, and UR_{-1}.
Leads tests are for $\log(WA/PH)$.
Estimation period is 1954.1-2015.4

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

RHS Variable	Coef.	t-stat.	Test	χ^2	df	p-value
$\log PF_{-1}$	0.90359	78.92	Lags	2.79	4	0.5934
[a]	0.05076	5.11	RHO	2.47	1	0.1159
cnst2	0.00302	0.51	Leads +1	2.42	1	0.1200
TB	-0.00013	-7.14	Leads +4	4.75	4	0.3142
cnst	0.00774	0.46	Leads +8	5.05	2	0.0800
T	0.00025	6.75	[b]	0.10	1	0.7482
$\log PIM$	0.03861	14.21	$(YS-Y)/YS$	0.36	1	0.5457
UR	-0.17001	-8.97				

SE	0.00354
R^2	1.000
DW	1.81

overid (df = 8, p-value =0.1124)

	Stability Test				
AP	T_1	T_2	λ	Break	
19.99	1970.1	1979.4	2.04	1978.2	

[a] Variable is $\log[WF(1+D5G)] - \log LAM$
[b] Variable is $\log[(YS-Y)/YS + .04]$
Lags test adds $\log PF_{-2}$, [a] lagged once, $\log PIM_{-1}$, and UR_{-1}.
Leads tests are for [a].
Estimation period is 1954.1-2015.4

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	0.28505	4.10	Lags	3.91	2	0.1417
$\log Y_{-1}$	0.35792	8.70	T	0.42	1	0.5163
$\log X$	0.80019	18.30	Leads +1	0.86	1	0.3540
$\log V_{-1}$	-0.20543	-8.92	Leads +4	14.45	4	0.0060
$D593$	-0.00987	-2.87				
$D594$	-0.00400	-1.19				
$D601$	0.00849	2.49				
RHO1	0.39646	5.63				
RHO2	0.38910	5.99				
RHO3	0.16080	2.39				
SE	0.00375					
R^2	1.000					
DW	2.05					
overid (df = 20, p-value =0.0115)						

Lags test adds $\log Y_{-2}$ and $\log X_{-1}$.
Leads tests are for $\log X$.
Estimation period is 1954.1-2015.4

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

RHS Variable	Equation Coef.	t-stat.	Test	χ^2 Tests χ^2	df	p-value
cnst2	-0.00038	-3.24	Lags	13.59	5	0.0184
cnst	0.00067	3.03	RHO	5.87	1	0.0154
$\log(KK/KKMIN)_{-1}$	-0.00669	-2.66	T	1.50	1	0.2199
$\Delta \log KK_{-1}$	0.89974	56.30	Leads +1	0.35	1	0.5516
$\Delta \log Y$	0.01092	1.20	Leads +4	1.62	4	0.8059
$\Delta \log Y_{-1}$	0.01156	2.48	Leads +8	1.73	2	0.4212
$\Delta \log Y_{-2}$	0.00437	1.05				
$\Delta \log Y_{-3}$	0.00467	1.19				
$\Delta \log Y_{-4}$	0.00684	1.77				
^{a}	-0.00001	-0.49				
^{b}	0.00084	4.04				
SE	0.00043					
R^2	0.978					
DW	1.72					
overid (df = 9, p-value =0.0078)						

Stability Test AP	T_1	T_2	λ	Break
12.92	1970.1	1979.4	2.04	1970.2

^{a}Variable is $RBA_{-2} - 100 \cdot (PD(-2)/PD(-6) - 1)$
^{b}Variable is $(CG_{-2} + CG_{-3} + CG_{-4})/(PX_{-2}YS_{-2} + PX_{-3}YS_{-3} + PX_{-4}YS_{-4})$
Lags test adds $\log(KK/KKMIN)_{-2}$, $\Delta \log KK_{-2}$, $\Delta \log Y_{-5}$, ^{a} lagged once, and ^{b} lagged once.
Leads tests are for $\Delta \log Y$.
Estimation period is 1954.1-2015.4

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

RHS Variable	Equation Coef.	t-stat.	χ^2 Tests Test	χ^2	df	p-value
cnst	0.00026	0.50	Lags	13.14	3	0.0044
$\log JF/(JHMIN/HFS)_{-1}$	-0.02951	-2.65	RHO	3.00	1	0.0831
$\Delta \log JF_{-1}$	0.61916	16.01	T	0.53	1	0.4650
$\Delta \log Y$	0.24448	5.89	Leads +1	5.72	1	0.0168
$D593$	-0.01846	-5.28	Leads +4	10.26	4	0.0362
			Leads +8	3.88	2	0.1434
SE	0.00338					
R^2	0.704					
DW	2.15					

overid (df = 17, p-value =0.0042)

Lags test adds $\log JF/(JHMIN/HFS)_{-2}$, $\Delta \log JF_{-2}$, and $\Delta \log Y_{-1}$.
Leads tests are for $\Delta \log Y$.
Estimation period is 1954.1-2015.4

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

RHS Variable	Equation Coef.	t-stat.	χ^2 Tests Test	χ^2	df	p-value
cnst	-0.00403	-6.09	Lags	16.80	3	0.0008
$\log(HF/HFS)_{-1}$	-0.17356	-5.96	RHO	0.42	1	0.5189
$\log JF/(JHMIN/HFS)_{-1}$	-0.02513	-2.74	Leads +1	1.36	1	0.2443
$\Delta \log Y$	0.18993	4.54	Leads +4	1.45	4	0.8358
T	0.00001	4.85	Leads +8	4.51	2	0.1046
SE	0.00263					
R^2	0.369					
DW	2.02					

overid (df = 6, p-value =0.0025)

Stability Test AP	T_1	T_2	λ	Break	End Test p-value	End
12.71	1970.1	1979.4	2.04	1978.2	0.7730	2008.1
9.20	1980.1	1989.4	1.89	1980.3		
2.54	1990.1	1999.4	2.04	1993.2		

Lags test adds $\log(HF/HFS)_{-2}$, $\log JF/(JHMIN/HFS)_{-2}$, and $\Delta \log Y_{-1}$.
Leads tests are for $\Delta \log Y$.
Estimation period is 1954.1-2015.4

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	3.93432	39.42	Lags	0.17	1	0.6794
HFF	0.01765	8.14	T	4.38	1	0.0364
HFF_{-1}	0.00795	3.67				
RHO1	0.96931	60.00				
SE	0.04629					
R^2	0.959					
DW	1.66					

	Stability Test				End Test	
AP	T_1	T_2	λ	Break	p-value	End
2.37	1970.1	1979.4	2.15	1975.2	0.4915	2008.1
6.54	1980.1	1989.4	1.93	1985.3		
2.48	1990.1	1999.4	2.06	1990.1		

Lags test adds HFF_{-2}.
Estimation period is 1956.1-2015.4

Table A16
Equation 16
LHS Variable is $\log WF - \log LAM$

RHS Variable	Equation Coef.	t-stat.	Test	χ^2 Tests χ^2	df	p-value
$\log WF_{-1} - \log LAM_{-1}$	0.93995	53.38	[b]RealWageRes.	0.96	1	0.3261
$\log PF$	0.79621	11.41	Lags	0.01	1	0.9018
cnst	-0.04600	-3.63	RHO	0.04	1	0.8410
T	0.00004	1.60	UR	4.53	1	0.0332
[a] $\log PF_{-1}$	-0.74596	0.00				
SE	0.00778					
R^2	0.969					
DW	1.98					

overid (df = 13, p-value =0.0105)

	Stability Test				End Test	
AP	T_1	T_2	λ	Break	p-value	End
2.74	1970.1	1979.4	2.04	1970.1	0.0000	2008.1
2.76	1980.1	1989.4	1.89	1985.4		
13.24	1990.1	1999.4	2.04	1999.4		

[a]Coefficient constrained. See the discussion in the text.
[b]Equation estimated with no restrictions on the coefficients.
Lags test adds $\log WF_{-2} - \log LAM_{-2}$.
Estimation period is 1954.1-2015.4

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

RHS Variable	Equation Coef.	t-stat.	Test	χ^2 Tests χ^2	df	p-value
cnst	0.17896	2.41	$\log(MF/PF)_{-1}$	1.22	1	0.2702
$\log(MF_{-1}/PF)$	0.94663	52.73	Lags	4.02	3	0.2589
$\log(X - FA)$	0.02337	3.17	RHO	3.80	1	0.0511
[a]	-0.00516	-2.93	T	2.96	1	0.0851

SE	0.03827
R^2	0.984
DW	1.76

overid (df = 14, p-value =0.0182)

AP	Stability Test T_1	T_2	λ	Break	End Test p-value	End
2.16	1970.1	1979.4	2.04	1975.2	0.3730	2008.1
6.25	1980.1	1989.4	1.89	1986.1		
8.40	1990.1	1999.4	2.04	1998.4		

[a] Variable is $[RS \cdot (1 - D2G - D2S)]$
Lags test adds $\log(MF_{-2}/PF_{-1})$, $\log(X - FA)_{-1}$, and [a] lagged once.
Estimation period is 1954.1-2015.4

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

RHS Variable	Equation Coef.	t-stat.	Test	χ^2 Tests χ^2	df	p-value
[a]	0.02429	4.16	[b] Restriction	0.09	1	0.7587
			Lags	0.03	1	0.8657
			RHO	0.01	1	0.9409
			T	0.44	1	0.5060
			cnst	0.00	1	0.9651

SE	0.07392
R^2	0.025
DW	2.66

overid (df = 8, p-value =0.9076)

AP	Stability Test T_1	T_2	λ	Break	End Test p-value	End
1.09	1970.1	1979.4	2.04	1979.4	0.0000	2008.1
1.38	1980.1	1989.4	1.89	1980.2		
0.73	1990.1	1999.4	2.04	1990.1		

[a] Variable is $\log[(PIEF - TFG - TFS - TFR)/DF_{-1}]$
[b] $\log DF_{-1}$ added.
Lags test adds [a] lagged once.
Estimation period is 1954.1-2015.4

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

Equation			χ^2 Tests			
RHS Variable	Coef.	t-stat.	Test	χ^2	df	p-value
cnst	0.20340	4.74	[a]Restriction	0.14	1	0.7035
$RB_{-1} - RS_{-2}$	0.91657	59.00	Lags	0.26	2	0.8791
$RS - RS_{-2}$	0.31431	5.72	T	7.14	1	0.0075
$RS_{-1} - RS_{-2}$	-0.26053	-4.06	Leads +1	0.00	1	0.9937
RHO1	0.20326	3.10	[b]	0.40	1	0.5248
			[c]	0.57	1	0.4518

SE	0.27248
R^2	0.964
DW	2.03

overid (df = 16, p-value =0.1070)

	Stability Test				End Test	
AP	T_1	T_2	λ	Break	p-value	End
4.17	1970.1	1979.4	2.04	1979.4	0.1946	2008.1
6.16	1980.1	1989.4	1.89	1982.2		
4.52	1990.1	1999.4	2.04	1999.4		

[a] RS_{-2} added.
[b] $100 \cdot (PD/PD(-4) - 1)$
[c] $100 \cdot [(PD/PD(-8)) \cdot 5 - 1]$
Lags test adds RS_{-3} and RB_{-2}. Leads tests are for RS.
Estimation period is 1954.1-2015.4

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

RHS Variable	Equation Coef.	t-stat.	Test	χ^2 Tests χ^2	df	p-value
cnst	0.38419	5.79	[a]Restriction	0.02	1	0.8828
$RM_{-1} - RS_{-2}$	0.87804	44.23	Lags	0.18	2	0.9160
$RS - RS_{-2}$	0.31146	3.88	RHO	1.21	1	0.2719
$RS_{-1} - RS_{-2}$	-0.11461	-1.10	T	2.80	1	0.0940
			Leads +1	0.05	1	0.8290
			Leads +4	0.90	4	0.9247
			Leads +8	1.26	2	0.5316
			[b]	0.45	1	0.5009
			[c]	0.74	1	0.3881

SE	0.34473
R^2	0.907
DW	1.86

overid (df = 14, p-value =0.0856)

AP	Stability Test T_1	T_2	λ	Break	End Test p-value	End
5.92	1970.1	1979.4	2.04	1979.4	0.6703	2008.1
13.85	1980.1	1989.4	1.89	1984.4		
8.93	1990.1	1999.4	2.04	1994.2		

[a] RS_{-2} added.
[b] $100 \cdot (PD/PD(-4) - 1)$
[c] $100 \cdot [(PD/PD(-8)) \cdot 5 - 1]$
Lags test adds RS_{-3} and RM_{-2}. Leads tests are for RS.
Estimation period is 1954.1-2015.4

Table A25
Equation 25
LHS Variable is $CG/(PX_{-1}YS_{-1})$

RHS Variable	Equation Coef.	t-stat.	χ^2 Tests Test	χ^2	df	p-value
cnst	0.10674	5.18	Lags	1.49	2	0.4754
ΔRB	-0.13007	-1.23	RHO	1.95	1	0.1631
[a]	12.13867	1.23	T	0.07	1	0.7920
			Leads +1	4.47	2	0.1069
			Leads +4	3.87	8	0.8689
			Leads +8	3.70	4	0.4482
			ΔRS	1.63	1	0.2013

SE	0.29358
R^2	0.026
DW	1.81

overid (df = 17, p-value =0.2657)

AP	Stability Test T_1	T_2	λ	Break	End Test p-value	End
2.71	1970.1	1979.4	2.04	1979.3	0.1135	2008.1
4.23	1980.1	1989.4	1.89	1989.4		
7.67	1990.1	1999.4	2.04	1999.4		

[a] Variable is $\Delta[(PIEF - TFG - TFS - TFR)]/(PX_{-1}YS_{-1})$
Lags test adds [a] lagged once and ΔRB_{-1}.
Leads tests are for [a].
Estimation period is 1954.1-2015.4

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

RHS Variable	Equation Coef.	t-stat.	Test	χ^2 Tests χ^2	df	p-value
cnst	-0.05245	-6.73	^{a}	5.91	1	0.0151
$\log[CUR_{-1}/(POP_{-1} \cdot PF)]$	0.96372	144.51	Lags	7.38	3	0.0607
$\log[(X - FA)/POP]$	0.04449	6.99	T	7.29	1	0.0069
RSA	-0.00111	-2.28				
RHO1	-0.08617	-1.34				
SE 0.01011						
R^2 0.999						
DW 1.98						

overid (df = 17, p-value =0.0199)

AP	Stability Test T_1	T_2	λ	Break	End Test p-value	End
20.85	1970.1	1979.4	2.04	1977.3	0.5838	2008.1
22.65	1980.1	1989.4	1.89	1982.2		
22.94	1990.1	1999.4	2.04	1991.3		

^{a}Variable is $\log[CUR/(POP \cdot PF)]_{-1}$
Lags test adds $\log[CUR_{-2}/(POP_{-2}PF_{-1})]$, $\log[(X - FA)/POP]_{-1}$, and RSA_{-1}.
Estimation period is 1954.1-2015.4

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

RHS Variable	Equation Coef.	t-stat.	Test	χ^2 Tests χ^2	df	p-value
cnst2	0.03559	2.70	Lags	19.74	3	0.0002
cnst	-0.91371	-5.75	RHO	11.49	1	0.0007
$\log(IM/POP)_{-1}$	0.80174	25.68	T	5.57	1	0.0182
^{a}	0.41222	5.68	Leads +1	9.00	1	0.0027
$\log(PF/PIM)$	0.08540	5.16	Leads +4	17.81	4	0.0013
$D691$	-0.11839	-4.30	Leads +8	7.77	2	0.0205
$D692$	0.13769	4.93	$\log PF$	7.24	1	0.0071
$D714$	-0.08699	-3.17				
$D721$	0.09859	3.56				
SE 0.02725						
R^2 0.999						
DW 1.62						

overid (df = 14, p-value =0.0011)

^{a}Variable is $\log[(CS + CN + CD + IHH + IKF + IKH + IKB + IHF + IHB)/POP]$
Lags test adds $\log(IM/POP)_{-2}$, ^{a} lagged once, and $\log(PF/PIM)_{-1}$.
Leads tests are for ^{a}.
Estimation period is 1954.1-2015.4

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	0.67488	1.45	Lags	4.19	3	0.2421
$\log UB_{-1}$	0.24586	2.47	T	0.11	1	0.7444
$\log U$	1.19105	4.61				
$\log WF$	0.42866	6.65				
RHO1	0.89063	24.66				

SE	0.06786
R^2	0.997
DW	2.30

overid (df = 12, p-value =0.1875)

AP	Stability Test T_1	T_2	λ	Break	End Test p-value	End
12.09	1970.1	1979.4	2.04	1975.2	0.2000	2008.1
9.01	1980.1	1989.4	1.89	1983.1		
7.41	1990.1	1999.4	2.04	1999.1		

Lags test adds $\log UB_{-2}$, $\log U_{-1}$, and $\log WF_{-1}$.
Estimation period is 1954.1-2015.4

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

RHS Variable	Equation Coef.	t-stat.	Test	χ^2 Tests χ^2	df	p-value
cnst	0.00073	6.30	Lags	10.77	2	0.0046
$(INTG/(-AG))_{-1}$	0.84238	46.59	T	5.54	1	0.0186
[a]	0.13668	8.78				
RHO1	0.02964	0.44				

SE	0.00043
R^2	0.992
DW	1.99

AP	Stability Test T_1	T_2	λ	Break	End Test p-value	End
7.46	1970.1	1979.4	2.04	1979.2	0.0000	2008.1
15.92	1980.1	1989.4	1.89	1989.4		
23.19	1990.1	1999.4	2.04	1991.1		

[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 1954.1-2015.4

Table A30
Equation 30
LHS Variable is RS

RHS Variable	Equation Coef.	t-stat.	χ^2 Tests Test	χ^2	df	p-value
cnst	0.69327	4.64	Lags	8.07	4	0.0890
RS_{-1}	0.91828	51.47	RHO	21.24	1	0.0000
$100 \cdot [(PD/PD_{-1})^4 - 1]$	0.06622	3.89	T	0.82	1	0.3656
UR	-10.70712	-3.54	Leads +1	0.79	2	0.6735
ΔUR	-68.47247	-5.12	Leads +4	3.84	8	0.8713
$PCM1_{-1}$	0.01295	2.58	Leads +8	4.09	4	0.3940
$D794823 \cdot PCM1_{-1}$	0.21269	9.57	a	0.04	1	0.8424
ΔRS_{-1}	0.26805	4.91	b	1.56	1	0.2109
ΔRS_{-2}	-0.31344	-6.26				
SE	0.47630					
R^2	0.972					
DW	1.80					

overid (df = 12, p-value =0.1952)

Stability test (1954.1-1979.3 versus 1982.4-2008.3): Wald statistic is 14.73 (8 degrees of freedom, p-value = .0632)

Lags test adds RS_{-4},$100 \cdot [(PD_{-1}/PD_{-2})^4 - 1]$, UR_{-2}, and $PCM1_{-2}$.
Leads tests are for $100 \cdot [(PD/PD_{-1})^4 - 1]$ and UR.
Estimation period is 1954.1-2008.3

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
R28	DC	1.12	16	Net dividends, Total
R29	TRFR	1.12	24	Business current transfer payments to the rest of the world (net)
R30	DCB	1.14	14	Net dividends, corporate business
R31	INTF1	1.14	25	Net interest and miscellaneous payments, nonfinancial corporate business
R32	TCBN	1.14	28	Taxes on corporate income, nonfinancial corporate business
R33	DCBN	1.14	30	Net dividends, nonfinancial corporate business
R34	IVA	1.14	35	Inventory valuation adjustment, corporate business
R35	COMPT	2.1	2	Compensation of employees, received
R36	SIT	2.1	8	Employer contributions for government social insurance
R37	PRI	2.1	9	Proprietors' income with inventory valuation and capital consumption adjustments
R38	RNT	2.1	12	Rental income of persons with capital consumption adjustment
R39	PII	2.1	14	Personal interest income
R40	UB	2.1	21	Government unemployment insurance benefits
R41	TRFH	2.1	24	Other current transfer receipts from business (net)
R42	IPP	2.1	30	Personal interest payments
R43	TRHR	2.1	33	Personal current transfer payments to the rest of the world (net)

Table A.5 (continued)

No.	Variable	Table	Line	Description
R44	THG	3.2	3	Personal current taxes, federal government (see below for adjustments)
R45	RECTXG	3.2	4	Taxes on production and imports, federal government
R46	TCG	3.2	7	Taxes on corporate income, federal government
R47	TRG	3.2	10	Taxes from the rest of the world, federal government
R48	SIG	3.2	11	Contributions for government social insurance, federal government
R49	RECINTG	3.2	15	Interest receipts, federal government
R50	RECDIVG	3.2	16	Dividends, federal government
R51	RECRRG	3.2	17	Rents and royalties, federal government
R52	TRFG	3.2	19	Current transfer receipts from business, federal government
R53	TRHG	3.2	20	Current transfer receipts from persons, federal government
R53a	TRRG	3.2	21	Current transfer receipts from the rest of the world, federal government
R54	SURPG	3.2	22	Current surplus of government enterprises, federal government
R55	CONGZ	3.2	24	Consumption expenditures, federal government
R56	TRGHPAY	3.2	27	Government social benefits to persons, federal government (see below for adjustments)
R57	TRGR1	3.2	28	Government social benefits to the rest of the world, federal government
R58	TRGS	3.2	30	Grants in aid to atate and local governments, federal government
R59	TRGR2	3.2	31	Other current transfer payments to the rest of the world (net), federal government
R60	PAYINTG	3.2	32	Interest payments, federal government
R61	INTGR	3.2	34	Interest payments, federal government to the rest of the world
R62	SUBSG	3.2	35	Subsidies, federal government
R64	CCG	3.2	47	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	10	Taxes on corporate income, S&L
R68	SIS	3.3	11	Contributions for government social insurance, S&L
R69	RECINTS	3.3	13	Interest receipts, S&L
R70	RECDIVS	3.3	14	Dividends, S&L
R71	RECRRS	3.3	15	Rents and royalties, S&L
R72	TRFS	3.3	18	Current transfer receipts from business (net), S&L
R73	TRHS	3.3	19	Current transfer receipts from persons, S&L
R73a	TRRS	3.3	20	Current transfer receipts from the rest of the world, S&L
R74	SURPS	3.3	21	Current surplus of government enterprises, S&L
R75	CONSZ	3.3	23	Consumption expenditures, S&L
R76	TRRSHPAY	3.3	24	Government social benefit payments to persons, S&L
R77	PAYINTS	3.3	27	Interest payments, S&L
R78	SUBSS	3.3	30	Subsidies, S&L
R80	CCS	3.3	42	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	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 2009 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 R210–R215 for construction of variables SIHG, SIHS, SIFG, SIGG, SIFS, SISS.

Table A.5 (continued)

Flow of Funds Data

No.	Variable	Code	Description
R95	CDDCF	103020005	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	106000065	Foreign earnings retained abroad, F1, F.103
R101	PIEF1X	106060005	Profits before tax, F1, F.103
R104	CCF1	106300015	Capital consumption allowances, F1, F.103
R105	DISF1	107005005	Discrepancy, F1, F.103
R106	CDDCNN	113020005	Change in checkable deposits and currency, NN, F.104
R107	NFINN	115000005	Net lending (+) or net borrowing (-), NN, F.104
R108	IHNN	115012005	Residential Investment, NN, F.6
R109	IKNN	115013005	Nonresidential fixed investment, NN, F.6
R110	IVNN	115020005	Change in inventories, NN, F.104 (only for tesing)
R111	CTNN	115440005	Net capital transfers paid, NN, F.9
R112	GSNN	116300005	Gross saving, NN, F.104
R117	CDDCH1	153020005	Change in checkable deposits and currency, H, F.101, line 21
R118	MVCE,	154090005	Total financial assets of Households, H, F.101.
R119	CCE		MVCE is the market value of the assets. CCE is the change in assets excluding capital gains and losses
R120	NFIH1	155000005	Net lending (+) or net borrowing (-), H, F.101
R121	REALEST	155035005	Real estate, H, stock variable, Table B.101, line 3
R122	CDH	155111003	Capital expenditures, consumer durable goods, H, F.101
R123	NICD	155111005	Net investment in consumer durables, H, F.101
R124	NNH	155420003	Net acquisition of nonproduced nonfinancial assets, H, F.6
R125	CTH	155440005	Net capital transfers paid, H, F.9
R126	CCH	156300005	Consumption of fixed capital, H, F.100
R127	USAFF	156600075	Contributions for government social insurance, U.S.-affiliated areas, H, F.101
R128	DISH1	157005005	Discrepancy, H, F.101
R129	IKH1	165013005	Nonresidential fixed investment, H, F.6
R131	NNS	205420003	Net acquisition of nonproduced nonfinancial assets, S, F.6
R132	CTS	205440005	Net capital transfers paid, S, F.9
R133	CDDCS	213020005	Change in checkable deposits and currency, S, F.107
R134	NFIS	215000005	Net lending (+) or net borrowing (-), S, F.107
R135	DISS1	217005005	Discrepancy, S, F.107
R136	CGLDR	263011005	Change in U.S. official reserve assets, R, F.200
R137	CDDCR	263020005	Change in U.S. checkable deposits and currency, R, F.132
R138	CFXUS	263111005	Change in U.S. official reserve assets, R, F.132
R139	NFIR	265000005	Net lending (+) or net borrowing (-), R, F.132
R140	NNR	265420005	Net acquisition of nonproduced nonfinancial assets, R, F.6
R141	CTR	265440005	Net capital transfers paid, R, F.9
R142	DISR1	267005005	Discrepancy, R, F.132
R143	CGLDFXUS	313011005	Change in U.S. official reserve assets, US, F.106
R144	CDDCUS	313020005	Change in checkable deposits and currency, US, F.106
R145	CSDRUS	313111303	Change in SDR allocations, US, F.106
R146	INS	313154015	Insurance and pension reserves, US, F.106
R147	NFIUS	315000005	Net lending (+) or net borrowing (-), US, F.106
R148	CTGB	315410093	Capital transfers paid by US, financial stabilization payments, F.9 (only for testing)
R149	NNG	315420003	Net acquisition of nonproduced nonfinancial assets, US, F.6
R150	CTGMB	315440005	Net capital transfers paid, US, F.106
R151	DISUS	317005005	Discrepancy, US, F.106

Table A.5 (continued)

No.	Variable	Code	Description
R152	CDDCCA	403020005	Change in checkable deposits and currency, CA, F.124
R153	NIACA	404090005	Net acquisition of financial assets, CA, F.124
R154	NILCA	404190005	Net increase in liabilities, CA, F.124
R155	IKCAZ	405013005	Fixed nonresidential investment, CA, F.124
R156	GSCA	406000105	Gross saving, CA, F.124
R157	DISCA	407005005	Discrepancy, CA, F.124
R160	NIDDLZ2	473127003	Net change in liabilities of credit unions of checkable deposits and currency, F.204
R162	IHBZ	645012063	Residential investment, B, F.6
R163	CGLDFXMA	713011005	Change in U.S. official reserve assets, MA, F.109
R164	CFRLMA	713068705	Change in federal reserve loans to domestic banks, MA, F.109
R165	NILBRMA	713113003	Change in depository institution reserves, MA, F.109
R175	CBR	713113003	Change in reserves at Federal Reserve, private depository institutions, F.109
R166	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
R167	NIDDLGMA	713123005	Net increase in liabilities in the form of checkable deposits and currency of the MA due to the federal government, F.109
R168	NIDDLCMA	713124003	Net increase in liabilities in the form of checkable deposits and currency of the MA due to government-sponsored enterprises, F.109
R169	NILCMA	713125005	Net increase in liabilities in the form of currency outside banks of the MA, F.109
R170	NIAMA	714090005	Net acquisition of in financial assets, MA, F.109
R171	NILMA	714190005	Net increase in liabilities, MA, F.109
R172	IKMAZ	715013005	Fixed nonresidential investment, MA, F.109
R173	GSMA	716000105	Gross savings, MA, F.109
R174	DISMA	717005005	Discrepancy, MA, F.109
R178	CVC	763025005	Change in vault cash, private depository institutions, F.110
R179	NIDDLCB3	743127003	Net change in liabilities in the form of checkable deposits and currency, banks in U.S.-affiliated Areas, F.113
R180	CBRB1A	753013003	Change in reserves at federal reserve, foreign banking offices in U.S., F.112
R181	NIDDLCB2	753127005	Net change in liabilities in the form of checkable deposits and currency, foreign banking offices in U.S., F.112
R177	NIDDLCB1	763127005	Net change in liabilities in the form of checkable deposits and currency, U.S.-chartered depository institutions, F.111
R182	CDDCFS	793020005	Net change in assets in the form of checkable deposits and currency of financial sectors, F.108
R183	NFIBB	795000005	Net lending (+) or net borrowing (-), B, F.108
R184	IKBMACA	795013005	Nonresidential fixed investment, B, F.108
R185	CTB	795440005	Net capital transfers paid, B, F.9
R186	GSBBCT	796000105	Gross saving less net capital transfers paid, B, F.108
R187	DISBB	797005005	Discrepancy, B, F.108
R188	MAILFLT1	903023005	Mail Float, US, F.12
R189	MAILFLT3	903028003	Mail Float, S, F.12
R190	MAILFLT2	903029200	Mail Float, private domestic, F.12

Table A.5 (continued)

Interest Rate Data

No.	Variable	Description
R191	RS	Three-month treasury bill rate (secondary market), percentage points. [BOG. Quarterly average.]
R192	RM	Conventional mortgage rate, percentage points. [BOG. Quarterly average.]
R193	RB	Moody's Aaa corporate bond rate, percentage points. [BOG. Quarterly average.]

Labor Force and Population Data

No.	Variable	Description
R194	CE	Civilian employment, SA in millions. [BLS. Quarterly average. See the next page for adjustments.]
R195	U	Unemployment, SA in millions. [BLS. Quarterly average. See the next page for adjustments.]
R196	CL1	Civilian labor force of males 25-54, SA in millions. [BLS. Quarterly average. See the next page for adjustments.]
R197	CL2	Civilian labor force of females 25-54, SA in millions. [BLS. Quarterly average. See the next page for adjustments.]
R198	AF	Total armed forces, millions. [Computed from population data from the U.S. Census Bureau. Quarterly average.]
R199	AF1	Armed forces of males 25-54, millions. [Computed from population data from the U.S. Census Bureau. Quarterly average.]
R200	AF2	Armed forces of females 25-54, millions. [Computed from population data from the U.S. Census Bureau. Quarterly average.]
R201	CPOP	Total civilian noninstitutional population 16 and over, millions. [BLS. Quarterly average. See the next page for adjustments.]
R202	CPOP1	Civilian noninstitutional population of males 25-54, millions. [BLS. Quarterly average. See the next page for adjustments.]
R203	CPOP2	Civilian noninstitutional population of females 25-54, millions. [BLS. Quarterly average. See the next page for adjustments.]
R204	JF	Employment, total private sector, all persons, SA in millions. [BLS, unpublished,"Basic industry data for the economy less general government, all persons."]
R205	HF	Average weekly hours, total private sector, all persons, SA. [BLS, unpublished,"Basic industry data for the economy less general government, all persons."]
R206	HO	Average weekly overtime hours in manufacturing, SA. [BLS. Quarterly average.]
R207	JQ	Total government employment, SA in millions. [BLS. Quarterly average.]
R208	JG	Federal government employment, SA in millions. [BLS. Quarterly average.]
R209	JHQ	Total government employee hours, SA in millions of hours per quarter. [BLS, Table B10. Quarterly average.]

Table A.5 (continued)

No.	Variable	Adjustments to the Raw Data Description
R210	SIHG =	[SIHGA/(SIHGA + SIHSA)](SIG + SIS - SIT) [Employee contributions for social insurance, h to g.]
R211	SIHS =	SIG + SIS - SIT - SIHG [Employee contributions for social insurance, h to s.]
R212	SIFG =	[SIFGA/(SIFGA + SIQGA)](SIG - SIHG) [Employer contributions for social insurance, f to g.]
R213	SIGG =	SIG - SIHG - SIFG [Employer contributions for social insurance, g to g.]
R214	SIFS =	[SIFSA/(SIFSA + SIQSA)](SIS - SIHS) [Employer contributions for social ensurance, f to s.]
R215	SISS =	SIS - SIHS - SIFS [Employer contributions for social insurance, s to s.]
R216	TBG =	[TCG/(TCG + TCS)](TCG + TCS - TCBN) [Corporate profit tax accruals, b to g.]
R217	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.]
R218	POP =	CPOP + AF [Total noninstitutional population 16 and over, millions.]
R219	POP1 =	CPOP1 + AF1 [Total noninstitutional population of males 25-54, millions.]
R220	POP2 =	CPOP2 + AF2 [Total noninstitutional population of females 25-54, millions.]

- BLS = Website of the Bureau of Labor Statistics
- BOG = Website of the Board of Governors of the Federal Reserve System
- SA = Seasonally adusted
- For the construction of variables R210, R212, and R214, 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.

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

Var.	No.	Var.	No.	Var.	No.	Var.	No.
AF	R198			MAILFLT3	R189	RECRRG	R51
AF1	R199	DISBB	R187	MVCE	R118	RECRRS	R71
AF2	R200	DISCA	R157	NFIBB	R183	RECTXG	R45
CBRB1A	R180					RECTXS	R66
		DISF1	R105	NFIF1	R96	RM	R192
		DISH1	R128	NFIH1	R120	RNT	R38
CCE	R119	DISMA	R174	NFINN	R107	RS	R191
CCF1	R104	DISR1	R142	NFIR	R139	SIFG	R212
CCG	R64	DISS1	R135	NFIS	R134	SIFGA	R91
CCH	R126	DISUS	R151	NFIUS	R147	SIFS	R214
CCS	R80	EX	R7	NIACA	R153	SIFSA	R94
CD	R2	EXZ	R18	NIAMA	R170	SIG	R48
CDDCCA	R152	FA	R22	NICD	R123	SIGG	R213
CDDCF	R95	FAZ	R23	CVC	R178	SIHGA	R89
		FIROW	R25	NIDDLCB1	R177	SIHSA	R92
CDDCFS	R182	FIUS	R24	NIDDLCB2	R181	SIHG	R210
CDDCH1	R117	GDP	R11	NIDDLCB3	R179	SIHS	R211
CDDCNN	R106	GDPR	R1	NIDDLCMA	R168	SIQGA	R90
CDDCR	R137	GSBBCT	R186	NIDDLGMA	R167	SIQSA	R93
CDDCS	R133	GSCA	R156	NIDDLRMA	R166	SIS	R68
CDDCUS	R144					SISS	R215
CDH	R122	GSMA	R173	NIDDLZ2	R160	SIT	R36
CDZ	R12	GSNN	R112	NILBRMA	R165	STAT	R26
CE	R194	HF	R205	NILCA	R154	SUBSG	R62
CFRLMA	R164	HO	R206	NILCMA	R169	SUBSS	R78
CFXUS	R138	IH	R6	NILMA	R171	SURPG	R54
CGLDFXMA	R163	IHBZ	R162			SURPS	R74
CGLDFXUS	R143	IHF1	R97	NNF	R98	TBG	R216
CGLDR	R136	IHNN	R108	NNG	R149	TBS	R217
CL1	R196	IHZ	R16	NNH	R124	TCBN	R32
CL2	R197	IK	R5	NNR	R140	TCG	R46
CN	R3	IKBMACA	R184	NNS	R131	TCS	R67
CNZ	R13	IKCAZ	R155	PAYINTG	R60	TF1	R103
COMPMIL	R84			PAYINTS	R77	THG	R44
COMPT	R35	IKH1	R129	PIEF1X	R101	THS	R65
CONGZ	R55	IKMAZ	R172	PIEFRET	R100	TRFG	R52
CONSZ	R75	IKNN	R109	PII	R39	TRFH	R41
CPOP	R201	IKZ	R15	POP	R218	TRFR	R29
CPOP1	R202	IM	R8	POP1	R219	TRFS	R72
CPOP2	R203	IMZ	R19	POP2	R220	TRG	R47
CS	R4	INS	R146	PRI	R37	TRGHPAY	R56
CSDRUS	R145	INTF1	R31	PROG	R81	TRGR1	R57
CSZ	R14	INTGR	R61	PROGZ	R83	TRGR2	R59
CTB	R185	IPP	R42	PROS	R82	TRGS	R58
CTF1	R99	IV	R88	PROSZ	R85	TRHG	R53
CTGB	R148	IVA	R34	PURG	R9	TRHR	R43
CTGMB	R150			PURGZ	R20	TRHS	R73
CTH	R125	IVNN	R110	PURS	R10	TRRSHPAY	R76
CTNN	R111	IVZ	R17	PURSZ	R21	TTRFR	R86
CTR	R141	JF	R204	RB	R193	U	R195
CTS	R132	JG	R208	REALEST	R121	UB	R40
CBR	R175	JHQ	R209	RECDIVG	R50	USAFF	R127
DC	R28	JQ	R207	RECDIVS	R70		
DCB	R30	MAILFLT1	R188	RECINTG	R49		
DCBN	R33	MAILFLT2	R190	RECINTS	R69		

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

Variables in the Model on the Right Hand Side

SHTEST =	YT - SIHG - SIHS + USAFF - THG - THS - PCS*CS - PCN·CN - PCD·CD + TRGH + TRSH + UB + INS + NICD + CCH - CTH - PIH·IHH - CDH - PIK·IKH - NNH
SFTEST =	XX + SUBS + SUBG + USOTHER + PIEFRET - 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 - STAT - DF - TF1 - TFA - PIK·IKF - PIH·IHF - NNF - CTF1 - CTNN
SBTEST =	GSB - CTB - PIH·IHB - PIK·IKB
SRTEST =	- PEX·EX - USROW + PIM·IM + TFR + TRFR + TRHR + TRGR - USAFF - CTR - NNR
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 - USAFF - CTGMB - NNG - PIK·IKG
SSTEST =	THS + IBTS + TBS + TFS + SIHS + SIFS - DS + TRGS + TRFS - PS·COS - WS·JS·HS - TRSH - UB - INTS - SUBS + CCS - CTS - NNS

Tests

0 =	SH + SF + SB + SR + SG + SS + STAT + USAFF
0 =	SH - SHTEST
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 - NIDDLGMA + CDDCH1 + CDDCNN + CDDCR + CDDCS - NILCMA + MAILFLT3 - NIDDLCMA
0 =	CBR - NILBRMA
0 =	CGLDR - CFXUS + CGLDFXUS + CGLDFXMA - CSDRUS

• 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
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
CDA	Peak to peak interpolation of CD/POP. Peak quarters are 1953:1, 1955:3, 1960:2, 1963:2, 1965:4, 1968:3, 1973:2, 1978:4, 1985:1, 1988:4, 1994:1, 1995:4, 2000:3, 2007:2, 2012:1, and 2013:3.
CDH	CDH
CG	$MVCE - MVCE_{-1} - CCE$
CN	CN
COG	PURG-PROG
COS	PURS-PROS
CS	CS
CTB	CTB
$CTF1$	CTF1
$CTGB$	CTBS
$CTGMB$	CTGMB
CTH	CTH
$CTNN$	CTNN
CTR	CTR
CTS	CTS
CUR	Sum of NILCMA. Base Period=1971:4, Value=53.521
$D1G$	Def., Eq. 47
$D1GM$	Def., Eq. 90
$D1S$	Def., Eq. 48
$D1SM$	Def., Eq. 91
$D2G$	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	CE+AF
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	GSB
$GSBQ$	GSB/$GDPD$
$GSCA$	GSCA
$GSMA$	GSMA
$GSNN$	GSNN
$GSNNQ$	GSNN/$GDPD$
$GNPR$	Def., Eq. 130
HF	13·HF
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, and 2004:2. Flat end.
HG	JHQ/JQ
HM	520
HN	Def., Eq. 62
HO	13·HO. Constructed values for 1952:1-1955:4.
HS	JHQ/JQ
$IBTG$	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)
$IHHA$	Peak to peak interpolation of IHH/POP. Peak quarters are 1955:2, 1963:4, 1978:3, 1986:3, 1994:2, 2004:2, 2006.2, and 2007.4. Flat end.
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	JF
JG	JG
$JHMIN$	Def., Eq. 94
JJ	Def., Eq. 95
JJP	Peak to peak interpolation of JJ. The peaks are 1952:4, 1955:4, 1959:3, 1969:1, 1973:3, 1979:3, 1985:4, 1990:1, 1995:1, 2000:2, and 2003:2. Flat end.
JM	AF
JS	JQ-JG
KD	Def., Eq. 58. Base Period=1952:1, Value=255.5, Fixed Assets Table 1.2, line 15, 2009 = 100. 2009 dollar value in Fixed Asset Table 1.1, line 15, is 4588.1. Dep. Rate=DELD
KH	Def., Eq. 59. Base Period=1952:1, Value=2517.7, Fixed Assets Table 1.2, line 8, 2009 = 100. 2009 dollar value in Fixed Asset Table 1.1, line 8, is 15708.5. Dep. Rate=DELH
KK	Def., Eq. 92. Base Period=1952:1, Value=2501.9, Fixed Asset Table 1.2, line 4, 2009 = 100. 2009 dollar value in Fixed Assets Table 1.1, line 4, is 18152.8. 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, 1966:1, 1973:1, 1992.4, and 2010.4. Growth rate from 2011.1 on is 1.7 percent
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, 2014.4. Flat beginning.
$NICD$	NICD
NNF	NNF
NNG	NNG
NNH	NNH
NNR	NNR
NNS	NNS
PCD	CDZ/CD
$PCGNPD$	Def., Eq. 122
$PCGNPR$	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 = .2797, 1959:3 = .2449, 1970:1 = .2814, 1971:4 = .2756, 1975:3 = .4265, 1975:4 = .4265, 1983:2 = .7211, 1983:3 = .7211, 1986:4 = .6857, 1987:3 = .7400, 1992:1 = .9053, 1993:3 = .8685, 1996:1 = 1.1245, 2002:1 = .7752, 2003:2 = .8390, 2003:3 = .8390, 2013:1 = 1.2084
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)/(JHQ + 520AF)
$PSI14$	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
RSA	Def., Eq. 127
SB	Def., Eq. 72
SF	Def., Eq. 69
SG	Def., Eq. 76
SGP	Def., Eq. 107
SH	Def., Eq. 65

Table A.7 (continued)

Variable	Construction (raw data variables on right hand side)
$SHRPIE$	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.
$TAUG$	Determined from a regression. See the discussion in Section 6.3.4. The subperiods are: 1952.1-1953.4, 1954.1-1963.4, 1964.1-1964.1, 1964.2-1964.4, 1965.1-1965.4, 1966.1-1967.4, 1968.1-1970.4, 1971.1-1971.4, 1972.1-1972.4, 1973.1-1973.4, 1974.1-1975.1, 1975.2-1976.4, 1977.1-1978.2, 1978.3-1981.3, 1981.4-1982.2, 1982.3-1983.2, 1983.3-1984.4, 1985.1-1985.1, 1985.2-1985.2, 1985.3-1987.1, 1987.2-1987.2, 1987.3-1987.4, 1988.1-1988.4, 1989.1-1989.4, 1990.1-1990.4, 1991.1-1991.4, 1992.1-1995.1, 1995.2-1996.1, 1996.2-1996.4, 1997.1-1997.4, 1998.1-1998.4, 1999.1-1999.4, 2000.1-2001.2, 2001.3-2001.3, 2001.4-2001.4, 2002.1-2002.4, 2003.1-2003.2, 2003.3-2003.3, 2003.4-2004.4, 2005.1-2005.4, 2006.1-2006.4, 2007.1-2007.4, 2008.1-2008.3, 2008.4-2008.4, 2009.1-2009.1, 2009.2-2009.2, 2009.3-2010.1, 2010.2-2010.3, 2010.4-2010.4, 2011.1-2011.3, 2011.4-2012.4, 2013.1-2014.4, 2015.1-2015.4.
$TAUS$	Determined from a regression. See the discussion in Section 6.3.3. The subperiods are: 1952.1-1958.4, 1959.1-1966.4, 1967.1-1971.4, 1972.1-2001.2, 2001.3-2004.4, 2005.1-2007.4, 2008.1-2008.1, 2008.2-2008.2, 2008.3-2012.4, 2013.1-2015.4.
TFR	TTRFR - TRFR
TBG	TBG
$TBGQ$	TBG/$GDPD$
TBS	TBS
TCG	TCG
TCS	TCS
TFG	Def., Eq. 102
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
$TRFR$	TRF-TRFH
$TRFS$	TRFS
$TRGH$	TRGHPAY - TRHG
$TRGHQ$	TRGH/$GDPD$
$TRGR$	TRGR1 + TRGR2 - TRG - TRRG
$TRGS$	TRGS
$TRGSQ$	TRGS/$GDPD$
$TRHR$	TRHR

Table A.7 (continued)

Variable	Construction (raw data variables on right hand side)
$TRRS$	TRRS
$TRSH$	Def., Eq. 113
$TRSHQ$	TRSH/$GDPD$
U	(CE+U)-CE
UB	UB
UBR	Def., Eq. 125
UR	Def., Eq. 87
$USAFF$	USAFF
$USOTHER$	Def., Eq. 57
$USROW$	FIUS-FIROW
V	Def., Eq. 117. Base Period=1996:4, Value=1517.3, Fixed Assets Table 5.8.6A
WA	Def., Eq. 126
WF	WF=[COMPT-PROGZ-PROSZ-(SIT-SIGG-SISS) +PRI]/[JF(HF+.5HO)]
WG	(PROGZ-COMPMIL)/[JG(JHQ/JQ)]
WH	Def., Eq. 43
WM	COMPMIL/(520AF)
WR	Def., Eq. 119
WS	PROSZ/[(JQ-JG)(JHQ/JQ)]
X	Def., Eq. 60
XX	Def., Eq. 61
Y	Def., Eq. 63
YD	Def., Eq. 115
YNL	Def., Eq. 99
YS	Def., Eq. 98
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.

Table A.9
First Stage Regressors for the US model for 2SLS

Eq.	First Stage Regressors
1	cnst2, cnst, $AG1$, $AG2$, $AG3$, $\log(CS/POP)_{-1}$, $\log[YD/(POP \cdot PH)]_{-1}$, RSA_{-1}, $\log(AA/POP)_{-1}$, T, $\log(1-D1GM-D1SM-D4G)_{-1}$, $\log(IM/POP)_{-1}$, $\log[(JG \cdot HG+JM \cdot HM+JS \cdot HS)/POP]$, $\log(PIM/PF)_{-1}$, $\log[YNL/(POP \cdot PH)]_{-1}$, $100[(PD/PD_{-1})^4-1]_{-1}$, $\log[(COG+COS)/POP]$, $\log[(TRGH+TRSH)/(POP \cdot PH_{-1})]$, RS_{-2}, RB_{-1}, $\log(Y/POP)_{-1}$, $\log(V/POP)_{-1}$, UR_{-1}, $\log[YD/(POP \cdot PH)]$
2	cnst2, cnst, $AG1$, $AG2$, $AG3$, $\log(CN/POP)_{-1}$, $\Delta\log(CN/POP)_{-1}$, $\log(AA/POP)_{-1}$, $\log[YD/(POP \cdot PH)]_{-1}$, RMA_{-1}, $\log(1-D1GM-D1SM-D4G)_{-1}$, $\log(IM/POP)_{-1}$, $\log(EX/POP)_{-1}$, $\log[(JG \cdot HG+JM \cdot HM+JS \cdot HS)/POP]$, $\log(PIM/PF)_{-1}$, $\log[YNL/(POP \cdot PH)]_{-1}$, $100[(PD/PD_{-1})^4-1]_{-1}$, $\log[(COG+COS)/POP]$, $\log[(TRGH+TRSH)/(POP \cdot PH_{-1})]$, RS_{-1}, RS_{-2}, $\log(V/POP)_{-1}$, UR_{-1}, RS_{-1}, RS_{-2}, T
3	cnst2, cnst, $AG1$, $AG2$, $AG3$, $(KD/POP)_{-1}$, $DELD(KD/POP)_{-1}-(CD/POP)_{-1}$, $YD/(POP \cdot PH)$, $(RMA \cdot CDA)_{-1}$, $(AA/POP)_{-1}$, $\log(1-D1GM-D1SM-D4G)_{-1}$, $\log(IM/POP)_{-1}$, $\log(EX/POP)_{-1}$, $\log(PIM/PF)_{-1}$, $\log[YNL/(POP \cdot PH)]_{-1}$, $\log[(COG+COS)/POP]$, $\log[(TRGH+TRSH)/(POP \cdot PH_{-1})]$, $\log(Y/POP)_{-1}$, $\log(V/POP)_{-1}$, T
4	cnst2, cnst, $(KH/POP)_{-1}$, $[YD/(POP \cdot PH)]_{-1}$, $RMA_{-1}IHHA$, $[YD/(POP \cdot PH)]_{-2}$, $RMA_{-2}IHHA_{-1}$, $RMA_{-3}IHHA_{-2}$, $(KH/POP)_{-2}$, $(KH/POP)_{-3}$, $\Delta(IHH/POP)_{-1}$, $\Delta(IHH/POP)_{-2}$, $DELH(KH/POP)_{-1}-(IHH/POP)_{-1}$, $DELH_{-1}(KH/POP)_{-2}-(IHH/POP)_{-2}$, $DELH_{-2}(KH/POP)_{-3}-(IHH/POP)_{-3}$, $\log(1-D1GM-D1SM-D4G)_{-1}$, $\log(IM/POP)_{-1}$, $\log(EX/POP)_{-1}$, $\log[(JG \cdot HG+JM \cdot HM+JS \cdot HS)/POP]$, $\log[YNL/(POP \cdot PH)]_{-1}$, $100[(PD/PD_{-1})^4-1]_{-1}$, $\log[(COG+COS)/POP]$, $\log[(TRGH+TRSH)/(POP \cdot PH_{-1})]$, $(AA2/POP)_{-1}$, $(AA2/POP)_{-2}$, $(AA2/POP)_{-3}$
5	cnst, $\log(L1/POP1)_{-1}$, $\log(AA/POP)_{-1}$, UR_{-1}, $\log(1-D1GM-D1SM-D4G)_{-1}$, $\log(IM/POP)_{-1}$, $\log[(JG \cdot HG+JM \cdot HM+JS \cdot HS)/POP]$, $\log(PIM/PF)_{-1}$, $\log[YNL/(POP \cdot PH)]_{-1}$, $100[(PD/PD_{-1})^4-1]_{-1}$, $\log[(COG+COS)/POP]$, $\log(Y/POP)_{-1}$, $\log(V/POP)_{-1}$, T
6	cnst, $\log(AA/POP)_{-1}$, $\log(WA/PH)_{-1}$, T
7	cnst, $\log(L3/POP3)_{-1})$, $\log(WA/PH)_{-1}$, $\log(AA/POP)_{-1}$, UR_{-1}, $\log(1-D1GM-D1SM-D4G)_{-1}$, $\log(IM/POP)_{-1}$, $\log(EX/POP)_{-1}$, $\log[(JG \cdot HG+JM \cdot HM+JS \cdot HS)/POP]$, $\log(PIM/PF)_{-1}$, $100[(PD/PD_{-1})^4-1]_{-1}$, $\log[(TRGH+TRSH)/(POP \cdot PH_{-1})]$, $\log(Y/POP)_{-1}$, T
8	cnst, $\log(LM/POP)_{-1}$, $\log(WA/PH)_{-1}$, UR_{-1}, $\log(1-D1GM-D1SM-D4G)_{-1}$, $\log(IM/POP)_{-1}$, $\log(EX/POP)_{-1}$, $\log[(JG \cdot HG+JM \cdot HM+JS \cdot HS)/POP]$, $\log(PIM/PF)_{-1}$, $\log[YNL/(POP \cdot PH)]_{-1}$, $100[(PD/PD_{-1})^4-1]_{-1}$, $\log[(COG+COS)/POP]$, $\log[(TRGH+TRSH)/(POP \cdot PH_{-1})]$, RS_{-1}, RS_{-2}, RB_{-1}, $\log(Y/POP)_{-1}$, $\log(V/POP)_{-1}$, $\log(AA/POP)_{-1}$, T

Table A.9 (continued)

Eq.	First Stage Regressors
10	$\log PF_{-1}$, $\log[[WF(1 + D5G)] - \log LAM]_{-1}$, cnst2, cnst, TB, T, $\log(PIM/PF)_{-1}$, UR_{-1}, $\log(1 - D1GM - D1SM - D4G)_{-1}$, $\log(IM/POP)_{-1}$, $\log(EX/POP)_{-1}$, $\log[YNL/(POP \cdot PH)]_{-1}$, $\log[(COG + COS)/POP]$, $\log[(TRGH + TRSH)/(POP \cdot PH_{-1})]$, $\log(Y/POP)_{-1}$, $\log(AA/POP)_{-1}$
11	cnst, $\log Y_{-1}$, $\log V_{-1}$, $D593$, $D594$, $D601$, $\log Y_{-2}$, $\log Y_{-3}$, $\log Y_{-4}$, $\log V_{-2}$, $\log V_{-3}$, $\log V_{-4}$, $D601_{-1}$, $D601_{-2}$, $D601_{-3}$, T, $\log(1 - D1GM - D1SM - D4G)_{-1}$, $\log(IM/POP)_{-1}$, $\log(EX/POP)_{-1}$, $\log(PIM/PF)_{-1}$, $\log[YNL/(POP \cdot PH)]_{-1}$, $100[(PD/PD_{-1})^4 - 1]_{-1}$, $\log[(COG + COS)/POP]$, $\log[(TRGH + TRSH)/(POP \cdot PH_{-1})]$, RS_{-1}, RB_{-1}, UR_{-1}
12	cnst2, cnst, $\log KK_{-1}$, $\log KK_{-2}$, $\log Y_{-1}$, $\log Y_{-2}$, $\log Y_{-3}$, $\log Y_{-4}$, $\log Y_{-5}$, $\log(KK/KKMIN)_{-1}$, $RB_{-2}(1 - D2G_{-2} - D2S_{-2}) - 100(PD_{-2}/PD_{-6}) - 1)$, $(CG_{-2} + CG_{-3} + CG_{-4})/(PX_{-2}YS_{-2} + PX_{-3}YS_{-3} + PX_{-4}YS_{-4})$, $\log(1 - D1GM - D1SM - D4G)_{-1}$, $\log(EX/POP)_{-1}$, $\log[(JG \cdot HG + JM \cdot HM + JS \cdot HS)/POP]$, $\log[YNL/(POP \cdot PH)]_{-1}$, $\log[(TRGH + TRSH)/(POP \cdot PH_{-1})]$, UR_{-1}, $\log(AA/POP)_{-1}$, T
13	cnst, $\log[JF/(JHMIN/HFS)]_{-1}$, $\Delta \log JF_{-1}$, $\Delta \log Y_{-1}$, $D593$, $\log(1 - D1GM - D1SM - D4G)_{-1}$, $\log(IM/POP)_{-1}$, $\log(EX/POP)_{-1}$, $\log[(JG \cdot HG + JM \cdot HM + JS \cdot HS)/POP]$, $\log(PIM/PF)_{-1}$, $\log[YNL/(POP \cdot PH)]_{-1}$, $100[(PD/PD_{-1})^4 - 1]_{-1}$, $\log[(COG + COS)/POP]$, $\log[(TRGH + TRSH)/(POP \cdot PH_{-1})]$, RS_{-1}, RS_{-2}, RB_{-1}, $\log(Y/POP)_{-1}$, $\log(V/POP)_{-1}$, UR_{-1}, $\log(AA/POP)_{-1}$, T
14	cnst, $\log(HF/HFS)_{-1}$, $\log[JF/(JHMIN/HFS)]_{-1}$, $\Delta \log Y_{-1}$, T, $\log[(JG \cdot HG + JM \cdot HM + JS \cdot HS)/POP]$, $\log(PIM/PF)_{-1}$, $100[(PD/PD_{-1})^4 - 1]_{-1}$, RS_{-1}, RS_{-2}, UR_{-1}
17	cnst, T, $\log(MF/PF)_{-1}$, $\log(X - FA)_{-1}$, $RS(1 - D2G - D2S)_{-1}$, T, $\log(1 - D1GM - D1SM - D4G)_{-1}$, $\log(IM/POP)_{-1}$, $\log(EX/POP)_{-1}$, $\log[(JG \cdot HG + JM \cdot HM + JS \cdot HS)/POP]$, $\log(PIM/PF)_{-1}$, $\log[YNL/(POP \cdot PH)]_{-1}$, $100[(PD/PD_{-1})^4 - 1]_{-1}$, $\log[(COG + COS)/POP]$, RS_{-2}, RB_{-1}, $\log(Y/POP)_{-1}$, $\log(V/POP)_{-1}$, UR_{-1}
18	cnst, $\log[(PIEF - TFG - TFS)/DF_{-1}]_{-1}$, $\log[(JG \cdot HG + JM \cdot HM + JS \cdot HS)/POP]$, $\log(PIM/PF)_{-1}$, $100[(PD/PD_{-1})^4 - 1]_{-1}$, RS_{-1}, RS_{-2}, UR_{-1}

Table A.9 (continued)

Eq.	First Stage Regressors
23	cnst, RB_{-1}, RB_{-2}, RS_{-1}, RS_{-2}, RS_{-3}, $\log(1 - D1GM - D1SM - D4G)_{-1}$, $\log(IM/POP)_{-1}$, $\log(EX/POP)_{-1}$, $\log[(JG \cdot HG + JM \cdot HM + JS \cdot HS)/POP]$, $\log(PIM/PF)_{-1}$, $\log[YNL/(POP \cdot PH)]_{-1}$, $100[(PD/PD_{-1})^4 - 1]_{-1}$, $\log[(COG + COS)/POP]$, $\log[(TRGH + TRSH)/(POP \cdot PH_{-1})]$, $\log(Y/POP)_{-1}$, $\log(V/POP)_{-1}$, $\log(AA/POP)_{-1}$, UR_{-1}, T
24	cnst, RM_{-1}, RS_{-1}, RS_{-2}, $\log(1 - D1GM - D1SM - D4G)_{-1}$, $\log(IM/POP)_{-1}$, $\log(EX/POP)_{-1}$, $\log[(JG \cdot HG + JM \cdot HM + JS \cdot HS)/POP]$, $\log(PIM/PF)_{-1}$, $\log[YNL/(POP \cdot PH)]_{-1}$, $100[(PD/PD_{-1})^4 - 1]_{-1}$, $\log[(COG + COS)/POP]$, $\log[(TRGH + TRSH)/(POP \cdot PH_{-1})]$, $\log(Y/POP)_{-1}$, $\log(V/POP)_{-1}$, $\log(AA/POP)_{-1}$, UR_{-1}, T
25	cnst, ΔRB_{-1}, $[[\Delta(PIEF - TFG - TFS + PX \cdot PIEB - TBG - TBS)]/(PX_{-1} \cdot YS_{-1})]_{-1}$, T, $\log(1 - D1GM - D1SM - D4G)_{-1}$, $\log(IM/POP)_{-1}$, $\log(EX/POP)_{-1}$, $\log[(JG \cdot HG + JM \cdot HM + JS \cdot HS)/POP]$, $\log(PIM/PF)_{-1}$, $\log[YNL/(POP \cdot PH)]_{-1}$, $100[(PD/PD_{-1})^4 - 1]_{-1}$, $\log[(COG + COS)/POP]$, $\log[(TRGH + TRSH)/(POP \cdot PH_{-1})]$, RS_{-1}, RS_{-2}, RB_{-1}, $\log(Y/POP)_{-1}$, $\log(V/POP)_{-1}$, UR_{-1}, $\log(AA/POP)_{-1}$
26	cnst, $\log[CUR_{-1}/(POP_{-1}PF)]_{-1}$, $\log[(X - FA)/POP]_{-1}$, RSA_{-1}, $\log[CUR_{-1}/(POP_{-1}PF_{-1})]$, T, $\log(1 - D1GM - D1SM - D4G)_{-1}$, $\log(IM/POP)_{-1}$, $\log(EX/POP)_{-1}$, $\log[(JG \cdot HG + JM \cdot HM + JS \cdot HS)/POP]$, $\log(PIM/PF)_{-1}$, $\log[YNL/(POP \cdot PH)]_{-1}$, $100[(PD/PD_{-1})^4 - 1]_{-1}$, $\log[(COG + COS)/POP]$, $\log[(TRGH + TRSH)/(POP \cdot PH_{-1})]$, RS_{-2}, RB_{-1}, $\log(Y/POP)_{-1}$, $\log(V/POP)_{-1}$, UR_{-1}, $\log(AA/POP)_{-1}$
27	cnst2, cnst, $\log(IM/POP)_{-1}$, $\log[(CS + CN + CD + IHH + IKF + IHB + IHF + IKB + IKH)/POP]_{-1}$, $\log(PF/PIM)_{-1}$, $D691$, $D692$, $D714$, $D721$, $\log(1 - D1GM - D1SM - D4G)_{-1}$, $\log(EX/POP)_{-1}$, $\log[(JG \cdot HG + JM \cdot HM + JS \cdot HS)/POP]$, $\log[YNL/(POP \cdot PH)]_{-1}$, $100[(PD/PD_{-1})^4 - 1]_{-1}$, $\log[(COG + COS)/POP]$, $\log[(TRGH + TRSH)/(POP \cdot PH_{-1})]$, RS_{-1}, RB_{-1}, $\log(Y/POP)_{-1}$, $\log(V/POP)_{-1}$, UR_{-1}, $\log(AA/POP)_{-1}$, T
28	cnst, $\log UB_{-1}$, $\log U_{-1}$, $\log WF_{-1}$, $\log UB_{-2}$, $\log(1 - D1GM - D1SM - D4G)_{-1}$, $\log(IM/POP)_{-1}$, $\log[(JG \cdot HG + JM \cdot HM + JS \cdot HS)/POP]$, $\log(PIM/PF)_{-1}$, $\log[YNL/(POP \cdot PH)]_{-1}$, $100[(PD/PD_{-1})^4 - 1]_{-1}$, $\log[(COG + COS)/POP]$, $\log[(TRGH + TRSH)/(POP \cdot PH_{-1})]$, RS_{-1}, RS_{-2}, T
30	cnst, RS_{-1}, $100[(PD/PD_{-1})^4 - 1]_{-1}$, UR_{-1}, ΔUR_{-1}, $PCM1_{-1}$, $D794823 \cdot PCM1_{-1}$, ΔRS_{-1}, ΔRS_{-2}, T, $\log(1 - D1GM - D1SM - D4G)_{-1}$, $\log(IM/POP)_{-1}$, $\log(EX/POP)_{-1}$, $\log[(JG \cdot HG + JM \cdot HM + JS \cdot HS)/POP]$, $\log(PIM/PF)_{-1}$, $\log[YNL/(POP \cdot PH)]_{-1}$, $\log[(COG + COS)/POP]$, $\log[(TRGH + TRSH)/(POP \cdot PH_{-1})]$, $\log(Y/POP)_{-1}$, $\log(V/POP)_{-1}$, $\log(AA/POP)_{-1}$