

## Appendix

The column TCODE denotes the following data transformation for a series  $x$ : (1) no transformation; (2)  $\Delta x_t$ ; (3)  $\Delta^2 x_t$ ; (4)  $\log(x_t)$ ; (5)  $\Delta \log(x_t)$ ; (6)  $\Delta^2 \log(x_t)$ ; (7)  $\Delta(x_t/x_{t-1} - 1.0)$ . The FRED column gives mnemonics in FRED followed by a short description. The comparable series in Global Insight is given in the column GSI.

Some series require adjustments to the raw data available in FRED. We tag these variables with an asterisk to indicate that they been adjusted and thus differ from the series from the source. A summary of the adjustments is detailed in the paper <https://research.stlouisfed.org/wp/2015/2015-012.pdf>.

### Group 1: Output and income

	id	tcode	fred	description	gsi	gsi:description
1	1	5	RPI	Real Personal Income	M_14386177	PI
2	2	5	W875RX1	Real personal income ex transfer receipts	M_145256755	PI less transfers
3	6	5	INDPRO	IP Index	M_116460980	IP: total
4	7	5	IPFPNSS	IP: Final Products and Nonindustrial Supplies	M_116460981	IP: products
5	8	5	IPFINAL	IP: Final Products (Market Group)	M_116461268	IP: final prod
6	9	5	IPCONGD	IP: Consumer Goods	M_116460982	IP: cons gds
7	10	5	IPDCONGD	IP: Durable Consumer Goods	M_116460983	IP: cons dble
8	11	5	IPNCONGD	IP: Nondurable Consumer Goods	M_116460988	IP: cons nondble
9	12	5	IPBUSEQ	IP: Business Equipment	M_116460995	IP: bus eqpt
10	13	5	IPMAT	IP: Materials	M_116461002	IP: matls
11	14	5	IPDMAT	IP: Durable Materials	M_116461004	IP: dble matls
12	15	5	IPNMAT	IP: Nondurable Materials	M_116461008	IP: nondble matls
13	16	5	IPMANSICS	IP: Manufacturing (SIC)	M_116461013	IP: mfg
14	17	5	IPB51222s	IP: Residential Utilities	M_116461276	IP: res util
15	18	5	IPFUELS	IP: Fuels	M_116461275	IP: fuels
16	19	1	NAPMPI	ISM Manufacturing: Production Index	M_110157212	NAPM prodn
17	20	2	CUMFNS	Capacity Utilization: Manufacturing	M_116461602	Cap util

Group 2: Labor market

id	tcode	fred	description	gsi	gsi:description
1	21*	2	HWI		Help-Wanted Index for United States
2	22*	2	HWIURATIO		Ratio of Help Wanted/No. Unemployed
3	23	5	CLF16OV	M_110156467	Civilian Labor Force
4	24	5	CE16OV	M_110156498	Civilian Employment
5	25	2	UNRATE	M_110156541	Civilian Unemployment Rate
6	26	2	UEMPMEAN	M_110156528	Average Duration of Unemployment (Weeks)
7	27	5	UEMPLT5	M_110156527	Civilians Unemployed - Less Than 5 Weeks
8	28	5	UEMP5TO14	M_110156523	Civilians Unemployed for 5-14 Weeks
9	29	5	UEMP15OV	M_110156524	Civilians Unemployed - 15 Weeks & Over
10	30	5	UEMP15T26	M_110156525	Civilians Unemployed for 15-26 Weeks
11	31	5	UEMP27OV	M_110156526	Civilians Unemployed for 27 Weeks and Over
12	32*	5	CLAIMSx	M_15186204	Initial Claims
13	33	5	PAYEMS	M_123109146	All Employees: Total nonfarm
14	34	5	USGOOD	M_123109172	All Employees: Goods-Producing Industries
15	35	5	CES1021000001	M_123109244	All Employees: Mining and Logging: Mining
16	36	5	USCONS	M_123109331	All Employees: Construction
17	37	5	MANEMP	M_123109542	All Employees: Manufacturing
18	38	5	DMANEMP	M_123109573	All Employees: Durable goods
19	39	5	NDMANEMP	M_123110741	All Employees: Nondurable goods
20	40	5	SRVPRD	M_123109193	All Employees: Service-Providing Industries
21	41	5	USTPU	M_123111543	All Employees: Trade, Transportation & Utilities
22	42	5	USWTRADE	M_123111563	All Employees: Wholesale Trade
23	43	5	USTRADE	M_123111867	All Employees: Retail Trade
24	44	5	USFIRE	M_123112777	All Employees: Financial Activities
25	45	5	USGOVT	M_123114411	All Employees: Government
26	46	1	CES0600000007	M_140687274	Avg Weekly Hours : Goods-Producing
27	47	2	AWOTMAN	M_123109554	Avg Weekly Overtime Hours : Manufacturing
28	48	1	AWHMAN	M_14386098	Avg Weekly Hours : Manufacturing
29	49	1	NAPMEI	M_110157206	ISM Manufacturing: Employment Index
30	127	6	CES0600000008	M_123109182	Avg Hourly Earnings : Goods-Producing
31	128	6	CES2000000008	M_123109341	Avg Hourly Earnings : Construction
32	129	6	CES3000000008	M_123109552	Avg Hourly Earnings : Manufacturing

Group 3: Housing

id	tcode	fred	description	gsi	gsi:description
1	50	4	HOUST	M_110155536	Housing Starts: Total New Privately Owned
2	51	4	HOUSTNE	M_110155538	Housing Starts, Northeast
3	52	4	HOUSTMW	M_110155537	Housing Starts, Midwest
4	53	4	HOUSTS	M_110155543	Housing Starts, South
5	54	4	HOUSTW	M_110155544	Housing Starts, West
6	55	4	PERMIT	M_110155532	New Private Housing Permits (SAAR)
7	56	4	PERMITNE	M_110155531	New Private Housing Permits, Northeast (SAAR)
8	57	4	PERMITMW	M_110155530	New Private Housing Permits, Midwest (SAAR)
9	58	4	PERMITS	M_110155533	New Private Housing Permits, South (SAAR)
10	59	4	PERMITW	M_110155534	New Private Housing Permits, West (SAAR)

Group 4: Consumption, orders, and inventories

id	tcode	fred	description	gsi	gsi:description	
1	3	5	DPCERA3M086SBEA	Real personal consumption expenditures	M_123008274	Real Consumption
2	4*	5	CMRMTSPLx	Real Manu. and Trade Industries Sales	M_110156998	M&T sales
3	5*	5	RETAILx	Retail and Food Services Sales	M_130439509	Retail sales
4	60	1	NAPM	ISM : PMI Composite Index	M_110157208	PMI
5	61	1	NAPMNOI	ISM : New Orders Index	M_110157210	NAPM new ordrs
6	62	1	NAPMSDI	ISM : Supplier Deliveries Index	M_110157205	NAPM vendor del
7	63	1	NAPMII	ISM : Inventories Index	M_110157211	NAPM Invent
8	64	5	ACOGNO	New Orders for Consumer Goods	M_14385863	Orders: cons gds
9	65*	5	AMDMNOx	New Orders for Durable Goods	M_14386110	Orders: dble gds
10	66*	5	ANDENOx	New Orders for Nondefense Capital Goods	M_178554409	Orders: cap gds
11	67*	5	AMDMUOx	Unfilled Orders for Durable Goods	M_14385946	Unf orders: dble
12	68*	5	BUSINVx	Total Business Inventories	M_15192014	M&T invent
13	69*	2	ISRATIOx	Total Business: Inventories to Sales Ratio	M_15191529	M&T invent/sales
14	130*	2	UMCSENTx	Consumer Sentiment Index	hhsntn	Consumer expect

Group 5: Money and credit

id	tcode	fred	description	gsi	gsi:description	
1	70	6	M1SL	M1 Money Stock	M_110154984	M1
2	71	6	M2SL	M2 Money Stock	M_110154985	M2
3	72	5	M2REAL	Real M2 Money Stock	M_110154985	M2 (real)
4	73	6	AMBSL	St. Louis Adjusted Monetary Base	M_110154995	MB
5	74	6	TOTRESNS	Total Reserves of Depository Institutions	M_110155011	Reserves tot
6	75	7	NONBORRES	Reserves Of Depository Institutions	M_110155009	Reserves nonbor
7	76	6	BUSLOANS	Commercial and Industrial Loans	BUSLOANS	C&I loan plus
8	77	6	REALLN	Real Estate Loans at All Commercial Banks	BUSLOANS	DC&I loans
9	78	6	NONREVSL	Total Nonrevolving Credit	M_110154564	Cons credit
10	79*	2	CONSPI	Nonrevolving consumer credit to Personal Income	M_110154569	Inst cred/PI
11	131	6	MZMSL	MZM Money Stock	N.A.	N.A.
12	132	6	DTCOLNVHFNM	Consumer Motor Vehicle Loans Outstanding	N.A.	N.A.
13	133	6	DTCTHFNM	Total Consumer Loans and Leases Outstanding	N.A.	N.A.
14	134	6	INVEST	Securities in Bank Credit at All Commercial Banks	N.A.	N.A.

Group 6: Interest and exchange rates

id	tcode	fred	description	gsi	gsi:description	
1	84	2	FEDFUNDS	Effective Federal Funds Rate	M_110155157	Fed Funds
2	85*	2	CP3Mx	3-Month AA Financial Commercial Paper Rate	CPF3M	Comm paper
3	86	2	TB3MS	3-Month Treasury Bill:	M_110155165	3 mo T-bill
4	87	2	TB6MS	6-Month Treasury Bill:	M_110155166	6 mo T-bill
5	88	2	GS1	1-Year Treasury Rate	M_110155168	1 yr T-bond
6	89	2	GS5	5-Year Treasury Rate	M_110155174	5 yr T-bond
7	90	2	GS10	10-Year Treasury Rate	M_110155169	10 yr T-bond
8	91	2	AAA	Moody's Seasoned Aaa Corporate Bond Yield		Aaa bond
9	92	2	BAA	Moody's Seasoned Baa Corporate Bond Yield		Baa bond
10	93*	1	COMPAPFFx	3-Month Commercial Paper Minus FEDFUNDS		CP-FF spread
11	94	1	TB3SMFFM	3-Month Treasury C Minus FEDFUNDS		3 mo-FF spread
12	95	1	TB6SMFFM	6-Month Treasury C Minus FEDFUNDS		6 mo-FF spread
13	96	1	T1YFFM	1-Year Treasury C Minus FEDFUNDS		1 yr-FF spread
14	97	1	T5YFFM	5-Year Treasury C Minus FEDFUNDS		5 yr-FF spread
15	98	1	T10YFFM	10-Year Treasury C Minus FEDFUNDS		10 yr-FF spread
16	99	1	AAAFFM	Moody's Aaa Corporate Bond Minus FEDFUNDS		Aaa-FF spread
17	100	1	BAAFFM	Moody's Baa Corporate Bond Minus FEDFUNDS		Baa-FF spread
18	101	5	TWEXMMTH	Trade Weighted U.S. Dollar Index: Major Currencies		Ex rate: avg
19	102*	5	EXSZUSx	Switzerland / U.S. Foreign Exchange Rate	M_110154768	Ex rate: Switz
20	103*	5	EXJPUSx	Japan / U.S. Foreign Exchange Rate	M_110154755	Ex rate: Japan
21	104*	5	EXUSUKx	U.S. / U.K. Foreign Exchange Rate	M_110154772	Ex rate: UK
22	105*	5	EXCAUSx	Canada / U.S. Foreign Exchange Rate	M_110154744	EX rate: Canada

Group 7: Prices

id	tcode	fred	description	gsi	gsi:description	
1	106	6	WPSFD49207	PPI: Finished Goods	M110157517	PPI: fin gds
2	107	6	WPSFD49502	PPI: Finished Consumer Goods	M110157508	PPI: cons gds
3	108	6	WPSID61	PPI: Intermediate Materials	M_110157527	PPI: int matls
4	109	6	WPSID62	PPI: Crude Materials	M_110157500	PPI: crude matls
5	110*	6	OILPRICEx	Crude Oil, spliced WTI and Cushing	M_110157273	Spot market price
6	111	6	PPICMM	PPI: Metals and metal products:	M_110157335	PPI: nonferrous
7	112	1	NAPMPRI	ISM Manufacturing: Prices Index	M_110157204	NAPM com price
8	113	6	CPIAUCSL	CPI : All Items	M_110157323	CPI-U: all
9	114	6	CPIAPPSL	CPI : Apparel	M_110157299	CPI-U: apparel
10	115	6	CPITRNSL	CPI : Transportation	M_110157302	CPI-U: transp
11	116	6	CPIMEDSL	CPI : Medical Care	M_110157304	CPI-U: medical
12	117	6	CUSR0000SAC	CPI : Commodities	M_110157314	CPI-U: comm.
13	118	6	CUSR0000SAD	CPI : Durables	M_110157315	CPI-U: dbles
14	119	6	CUSR0000SAS	CPI : Services	M_110157325	CPI-U: services
15	120	6	CPIULFSL	CPI : All Items Less Food	M_110157328	CPI-U: ex food
16	121	6	CUSR0000SA0L2	CPI : All items less shelter	M_110157329	CPI-U: ex shelter
17	122	6	CUSR0000SA0L5	CPI : All items less medical care	M_110157330	CPI-U: ex med
18	123	6	PCEPI	Personal Cons. Expend.: Chain Index	gmcdc	PCE defl
19	124	6	DDURRG3M086SBEA	Personal Cons. Exp: Durable goods	gmcdc	PCE defl: dlbes
20	125	6	DNDGRG3M086SBEA	Personal Cons. Exp: Nondurable goods	gmcdcn	PCE defl: nondble
21	126	6	DSERRG3M086SBEA	Personal Cons. Exp: Services	gmcdcs	PCE defl: service

Group 8: Stock market

id	tcode	fred	description	gsi	gsi:description	
1	80*	5	S&P 500	S&P's Common Stock Price Index: Composite	M_110155044	S&P 500
2	81*	5	S&P: indust	S&P's Common Stock Price Index: Industrials	M_110155047	S&P: indust
3	82*	2	S&P div yield	S&P's Composite Common Stock: Dividend Yield		S&P div yield
4	83*	5	S&P PE ratio	S&P's Composite Common Stock: Price-Earnings Ratio		S&P PE ratio
5	135*	1	VXOCLSx	VXO		