Appendix

The column TCODE denotes the following data transformation for a series x: (1) no transformation; (2) Δx_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	20	2	CUMFNS	Capacity Utilization: Manufacturing	$M{-}116461602$	Cap util

Group 2: Labor market

	Group 2: Labor market							
	id			fred	description	gsi	gsi:description	
1	21*			HWI	Help-Wanted Index for United States		Help wanted indx	
2	22*	k	2	HWIURATIO	Ratio of Help Wanted/No. Unemployed	$M_{-}110156531$	Help wanted/unemp	
3	23		5	CLF16OV	Civilian Labor Force	M_110156467	Emp CPS total	
4	24			CE16OV	Civilian Employment	$M_{-}110156498$	Emp CPS nonag	
5	25			UNRATE	Civilian Unemployment Rate	$M_{-}110156541$	U: all	
6	26			UEMPMEAN	Average Duration of Unemployment (Weeks)	$M_{-}110156528$	U: mean duration	
7	27		5	UEMPLT5	Civilians Unemployed - Less Than 5 Weeks	$M_{-}110156527$	U < 5 wks	
8	28		5	UEMP5TO14	Civilians Unemployed for 5-14 Weeks	$M_{-}110156523$	U 5-14 wks	
9	29			UEMP15OV	Civilians Unemployed - 15 Weeks & Over	$M_{-}110156524$	U 15+ wks	
10	30			UEMP15T26	Civilians Unemployed for 15-26 Weeks	$M_{-}110156525$	U 15-26 wks	
11	31			UEMP27OV	Civilians Unemployed for 27 Weeks and Over	$M_{-}110156526$	U 27+ wks	
12	32*	k		CLAIMSx	Initial Claims	$M_{-}15186204$	UI claims	
13	33		5	PAYEMS	All Employees: Total nonfarm	$M_{-}123109146$	Emp: total	
14	34		5	USGOOD	All Employees: Goods-Producing Industries	$M_{-}123109172$	Emp: gds prod	
15	35		5	CES1021000001	All Employees: Mining and Logging: Mining	$M_{-}123109244$	Emp: mining	
16	36			USCONS	All Employees: Construction	$M_{-}123109331$	Emp: const	
17	37			MANEMP	All Employees: Manufacturing	$M_{-}123109542$	Emp: mfg	
18	38			DMANEMP	All Employees: Durable goods	$M_{-}123109573$	Emp: dble gds	
19	39		5	NDMANEMP	All Employees: Nondurable goods	$M_{-}123110741$	Emp: nondbles	
20	40		5	SRVPRD	All Employees: Service-Providing Industries	$M_{-}123109193$	Emp: services	
21	41			USTPU	All Employees: Trade, Transportation & Utilities	$M_{-}123111543$	Emp: TTU	
22	42		5	USWTRADE	All Employees: Wholesale Trade	$M_{-}123111563$	Emp: wholesale	
23	43		5	USTRADE	All Employees: Retail Trade	$M_{-}123111867$	Emp: retail	
24	44		5	USFIRE	All Employees: Financial Activities	$M_{-}123112777$	Emp: FIRE	
25	45		5	USGOVT	All Employees: Government	$M_{-}123114411$	Emp: Govt	
26	46		1	CES0600000007	Avg Weekly Hours : Goods-Producing	$M_{-}140687274$	Avg hrs	
27	47		2	AWOTMAN	Avg Weekly Overtime Hours: Manufacturing	$M_{-}123109554$	Overtime: mfg	
28	48		1	AWHMAN	Avg Weekly Hours: Manufacturing	$M_{-}14386098$	Avg hrs: mfg	
29	127	7	6	CES0600000008	Avg Hourly Earnings: Goods-Producing	$M_{-}123109182$	AHE: goods	
30	128	3	6	CES2000000008	Avg Hourly Earnings: Construction	$M_{-}123109341$	AHE: const	
31	129)	6	CES3000000008	Avg Hourly Earnings: Manufacturing	$M_{-}123109552$	AHE: mfg	
					C 2. IIi			
-		id	tcode	fred	Group 3: Housing description	mai	gairdeserintion	
-	1	50	4		Housing Starts: Total New Privately Owned	gsi M 11015552	gsi:description Starts: nonfarm	
						M_110155536		
	2	51	4		Housing Starts, Northeast	M_110155538	Starts: NE	
	3	52	4		Housing Starts, Midwest	M_110155537	Starts: MW	
	4	53	4		Housing Starts, South	M_110155543	Starts: South	
	5	54	4		Housing Starts, West	M_110155544	Starts: West	
	6	55 5c	4		New Private Housing Permits (SAAR)	M_110155532	BP: total	
	7	56	4		New Private Housing Permits, Northeast (SAAR)	M_110155531	BP: NE	
	8	57	4		New Private Housing Permits, Midwest (SAAR)	M_110155530	BP: MW	
	9	58	4		New Private Housing Permits, South (SAAR)	M_110155533	BP: South	
-	10	59	4	PERMITW	New Private Housing Permits, West (SAAR)	M_110155534	BP: West	
				C	Froup 4: Consumption, orders, and inventoric	es		
	id		tcode	fred	description	gsi	gsi:description	
1	3		5	DPCERA3M086	SBEA 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			5	ACOGNO	New Orders for Consumer Goods	$M_{-}14385863$	Orders: cons gds	
5			5	AMDMNOx	New Orders for Durable Goods	$M_{-}14386110$	Orders: dble gds	
6			5	ANDENOx	New Orders for Nondefense Capital Goods	$M_{-}178554409$	Orders: cap gds	
7	67	*	5	AMDMUOx	Unfilled Orders for Durable Goods	$M_{-}14385946$	Unf orders: dble	
8	68*	*	5	BUSINVx	Total Business Inventories	$M_{-}15192014$	M&T invent	
9	69*	*	2	ISRATIOx	Total Business: Inventories to Sales Ratio	$M_{-}15191529$	M&T invent/sales	
10	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	BOGMBASE	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	132	6	DTCOLNVHFNM	Consumer Motor Vehicle Loans Outstanding	N.A.	N.A.
12	133	6	DTCTHFNM	Total Consumer Loans and Leases Outstanding	N.A.	N.A.
_13	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	TWEXAFEGSMTHx	Trade Weighted U.S. Dollar Index		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

				Group 1. Trices		
	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	113	6	CPIAUCSL	CPI : All Items	$M_{-}110157323$	CPI-U: all
8	114	6	CPIAPPSL	CPI : Apparel	$M_{-}110157299$	CPI-U: apparel
9	115	6	CPITRNSL	CPI : Transportation	$M_{-}110157302$	CPI-U: transp
10	116	6	CPIMEDSL	CPI : Medical Care	$M_{-}110157304$	CPI-U: medical
11	117	6	CUSR0000SAC	CPI : Commodities	$M_{-}110157314$	CPI-U: comm.
12	118	6	CUSR0000SAD	CPI : Durables	$M_{-}110157315$	CPI-U: dbles
13	119	6	CUSR0000SAS	CPI : Services	$M_{-}110157325$	CPI-U: services
14	120	6	CPIULFSL	CPI : All Items Less Food	$M_{-}110157328$	CPI-U: ex food
15	121	6	CUSR0000SA0L2	CPI : All items less shelter	$M_{-}110157329$	CPI-U: ex shelter
16	122	6	CUSR0000SA0L5	CPI : All items less medical care	$M_{-}110157330$	CPI-U: ex med
17	123	6	PCEPI	Personal Cons. Expend.: Chain Index	gmdc	PCE defl
18	124	6	DDURRG3M086SBEA	Personal Cons. Exp: Durable goods	gmdcd	PCE defl: dlbes
19	125	6	DNDGRG3M086SBEA	Personal Cons. Exp: Nondurable goods	gmdcn	PCE defl: nondble
_20	126	6	DSERRG3M086SBEA	Personal Cons. Exp: Services	gmdcs	PCE defl: service

Group 8: Stock market

	Group of 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	VIXCLSx	VIX					