

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 | 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 | | Help wanted indx |
| 2 | 22* | 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 | 5 | CE16OV | Civilian Employment | M_110156498 | Emp CPS nonag |
| 5 | 25 | 2 | UNRATE | Civilian Unemployment Rate | M_110156541 | U: all |
| 6 | 26 | 2 | 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 | 5 | UEMP15OV | Civilians Unemployed - 15 Weeks & Over | M_110156524 | U 15+ wks |
| 10 | 30 | 5 | UEMP15T26 | Civilians Unemployed for 15-26 Weeks | M_110156525 | U 15-26 wks |
| 11 | 31 | 5 | UEMP27OV | Civilians Unemployed for 27 Weeks and Over | M_110156526 | U 27+ wks |
| 12 | 32* | 5 | 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 | 5 | USCONS | All Employees: Construction | M_123109331 | Emp: const |
| 17 | 37 | 5 | MANEMP | All Employees: Manufacturing | M_123109542 | Emp: mfg |
| 18 | 38 | 5 | 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 | 5 | 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 | 49 | 1 | NAPMEI | ISM Manufacturing: Employment Index | M_110157206 | NAPM empl |
| 30 | 127 | 6 | CES0600000008 | Avg Hourly Earnings : Goods-Producing | M_123109182 | AHE: goods |
| 31 | 128 | 6 | CES2000000008 | Avg Hourly Earnings : Construction | M_123109341 | AHE: const |
| 32 | 129 | 6 | CES3000000008 | Avg Hourly Earnings : Manufacturing | M_123109552 | AHE: mfg |

Group 3: Housing

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

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 | | |