

CMD-MD: A Monthly Database for Macro-financial Research

Steven J. Sabol

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Abstract

This paper lists the contents of the Capital Markets Data Project monthly database, CMD-MD. The database is free to download and complements the economic content of the FRED monthly database. CMD-MD contains 367 series centered around the capital markets and a subset of the data is available for download at <https://capitalmarketsdata.blogspot.com/>

The Capital Markets Data Project Monthly Database (CMD-MD) is the culmination of two years of unfunded data collection.¹ Much effort was put towards parsing the Federal Reserve's publications archive *FRASER* to extended series as far back as possible.

Macro-financial research relies on a host of data. In order to be effective, a proper dataset must include all the series necessary to perform the analysis. For example, in order to build a proper term structure model, one must have interest rates, macroeconomic data, inflation expectations and so on. In order to study the Treasury markets one must have all the variables identified in previous research, this includes issuance, outstandings, Federal Reserve holdings, foreign transactions, and information about mortgage originations. If you are interested in forecasting labor markets you will need job-finding rates, quit rates, and wages. If you want to forecast the effect of steel and aluminum tariffs of the trade balance you will need their respective prices, imports and exports. And if you want to forecast GDP you will need monthly business sales, trade balances, labor market indicators, and construction series. The point is, you want your dataset to be all inclusive with the relevant series at hand.

The broad inclusiveness of CMD-MD allows one to see the big picture behind economic growth. Yet it makes no effort to dig too deep, instead it focuses in on relevant and economically meaningful time-series such as commodity trade balances and the vacancy-unemployment ratio. With CMD-MD you will be able to tell the story of America post 1900. You will find great value in data which covers such a critical time-period.

CMD-MD can be used as a tool for understanding. How do commodities markets work? What drives wages? How do primary dealers respond to the changing economic environment and what impact on financial prices does that have? How does economic growth respond to fluctuating asset prices and vice-versa?

CMD-MD includes 367 series and is broken into 16 sections:

1. Issuance
2. Amounts Outstanding
3. Transaction volume
4. Primary Dealer net positions
5. Primary Dealer repo financing

¹Contact: sabol.steven@gmail.com. The author is actively seeking employment. Also contact me if you are interested in acquiring the full database.

6. Federal Reserve holdings of Treasury securities
7. Yields and returns
8. Foreign net purchases and transactions in long-term securities and Treasury Bills
9. Mortgage Markets
10. Agency Debt Outstanding
11. Bilateral Trade by Country and Region
12. Commodities Trade-Balances
13. Fuel Consumption, Production, Stocks and Trade
14. Inflation
15. Labor Markets
16. Other includes series pertaining to risk premiums, expectations and miscellaneous

Originally, the database was heavily skewed toward fixed-income and Treasury securities in particular. The database includes a plethora of detail on the primary dealers whom are undoubtedly the primary intermediaries in the capital markets. A subset of the database is available for download at <https://capitalmarketsdata.blogspot.com/p/downloads.html>.

The CMD-MD will save time in research. It is unique in one dimension: time. The depth of the data is average, but the time-dimension is absolutely a leap forward. For example, the Treasury TIC data begins in 1977, whereas I've been able to extend most of the headline series back to at least 1942. Similarly, the New York Fed primary dealer data goes back to 1998, whereas I've been able to extend a few key series back to at least 1961. I have also hand collected data on the Federal Reserve balance sheet to get Treasury holdings by class back to 1919. Some of the capital market issuance series in CMD-MD are also the result of sleuthing through archived publications.

Although the above grunt-work contributions are entirely my own, there are some series that I was able to find via the appendixes of research papers. In particular, the historical Treasury term-structure data comes from Stephen G. Cecchetti (1987) and J. Huston McCulloch and Shiller (1987).

FRED-MD is clearly for business cycle research and factor analysis. As factor analysis is the main objective, there is no attempt to gather data prior to 1959. CMD-MD is not meant for factor analysis, it is instead meant to help researchers understand the big picture. Although FRED-MD does have a different technical objective, the economic data content of FRED-MD is substantial and therefore complements CMD-MD. When one combines both datasets, macro-financial linkages become readily apparent. That being said, I am actively working to increase the history of the series found in FRED-MD.

FRED-MD falls short on a lot of details because it relies almost exclusively on data found in the FRED database. CMD-MD on the other hand incorporates a substantial amount of data not on FRED. This provides a competitive advantage for researchers using CMD-MD.

Source Abbreviations

key	Source
FRBMB	Federal Reserve Monthly Bulletin
FRB	Federal Reserve Board
SPF	Survey of Professional Forecasters

key	Source
MSPD	Monthly Statement of the Public Debt ²
SCB	Survey of Current Business. Business Statistics (Biennial Supplement)
HMDA	Home Mortgage Disclosure Act
SMLA	HUD Survey of Mortgage Lending Activity
CFPB	Consumer Financial Protection Bureau

Issuance

Identifier	Definition & Notes	Sources	Start
corpbond_iss	Gross Corporate Bond Issuance	NBER:M10071USM311NNBR, FRBMB ³	1900/1
mbs_iss	Gross Agency MBS Issuance	Bank of America, Ginnie Mae, FHLMC, FNMA, SIFMA	1978/1
muni_iss	Gross Total State and Local Govt Bond Issues	Commercial and Financial Chronicle, FRBMB, FRB ⁴	1900/1
muni_newcapital_iss	Gross New Capital Issuance	FRBMB, FRB	1919/1
muni_refunding_iss	Gross Refunding Issuance	FRBMB, FRB	1919/1
corpstock_iss	Gross Corporate Equity Issuance	NBER:M10029M144NNBR, FRBMB, FRB	1900/1
nfc_seo	Nonfinancial Corporate Seasoned Equity Offerings	FRB Enhanced Financial Accounts ⁵	1994/1
nfc_ipo	Nonfinancial Corporate Initial Public Offerings	FRB Enhanced Financial Accounts	1994/1
usbill_iss	Gross Issuance of US Bills	Hall, Payne, and Sargent (2018), Treasury Bulletin, SIFMA	1929/1
usnote_iss	Gross Issuance of US Notes	Hall, Payne, and Sargent (2018), SIFMA	1900/1
usbond_iss	Gross Issuance of US Bonds	Hall, Payne, and Sargent (2018), SIFMA	1900/1
ustotal_iss	Gross Issuance of US Treasuries	Hall, Payne, and Sargent (2018), Treasury Bulletin, SIFMA	1900/1
ustotal_iss_sa	Gross Issuance of US Treasuries, Seasonally Adjusted	SIFMA	1980/1
usbondandnotes_iss	Gross Issuance of US Notes and Bonds	Hall, Payne, and Sargent (2018), SIFMA, MSPD	1900/1

²:<https://www.treasurydirect.gov/govt/reports/pd/mspd/mspd.htm>

³:<https://www.federalreserve.gov/data/corpsecure/current.htm>

⁴:<https://www.federalreserve.gov/data/govsecure/current.htm>

⁵:<https://www.federalreserve.gov/releases/efa/efa-project-equity-issuance-retirement.htm>

Identifier	Definition & Notes	Sources	Start
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Outstandings

Identifier	Definition & Notes	Sources	Start
fcbbc_out	Farm Credit Banks Funding Corp debt outstanding	FRBMB, https://www.farmcreditfunding.com/ffcb_live/activitySummary.html	1940/1
fhlb_out	Federal Home Loan Banks debt outstanding	FRBMB, FHLB http://www.fhlb-of.com/ofweb_userWeb/resources/fhlbanalystdata.xlsx	1940/1
fnma_out	Federal National Mortgage Association debt outstanding	FRMB, FNMA Monthly Volume Summary	1956/1
fhlmc_out	Federal Home Loan Mortgage Corporation debt outstanding	FRMB, FHLMC Monthly Volume Summary	1971/1
tva_out	Tennessee Valley Authority debt outstanding	FRMB, SIFMA	1960/11
uscorpbonds_out	Corporate Bonds Outstanding	NBER:M10083USM311NNBR, FRED:NCBDBIQ027S	1900/1
usbills_out	Bills Outstanding	MSPD	1932/1
usbillsandcertif_out	Bills and Certificates Outstanding	MSPD	1900/1
usnotes_out	Notes Outstanding	MSPD	1900/1
usbonds_out	Bonds Outstanding	MSPD	1900/1
usnotesandbonds_out	Notes and Bonds Outstanding	MSPD	1900/1
usttotala_out	Sum of Nominal Interest-Bearing Bills, Certificates, Notes, and Bonds Outstanding	MSPD	1900/1
usgross_out	Gross US Federal Debt Outstanding	Hall, Payne, and Sargent (2018) ⁶ , Dallas Fed ⁷	1900/1
usgf_to_gdp	Gross US Federal Debt Outstanding divided by GDP	MSPD	1900/1

⁶:<https://github.com/jepayne/US-Federal-Debt-Public>

⁷:<https://www.dallasfed.org/~media/documents/research/govdebt.xlsx>

Identifier	Definition & Notes	Sources	Start
usttotala_to_gdp	Sum of Nominal Interest-Bearing Bills, Certificates, Notes, and Bonds Outstanding divided by GDP	MSPD	1900/1
usnotesandbonds_to_gdp	US Notes and Bonds Outstanding divided by GDP	MSPD	1900/1
avgmatprivheld	Average maturity of gross federal debt spliced with average maturity of privately held marketable Treasury securities	Hall, Payne, and Sargent (2018), Treasury Bulletin	1900/1

Transactions

Identifier	Definition & Notes	Sources	Start
pdtranagencyandmbs	Primary Dealer Transactions in Agency Debt and MBS securities, avg monthly	FRBMB, NYFED	1961/3
pdtrantotal	Primary Dealer Transactions all Treasuries	FRBMB, NYFED	1961/1
pdtrantbills	Primary Dealer Transactions in Tbills	FRBMB, NYFED	1976/11
pdtranl1	Primary Dealer Transactions in Treasuries less than 1yr	FRBMB, NYFED	1961/1
pdtranl5	Primary Dealer Transactions in Treasuries less than 5yr	FRBMB, NYFED	1961/1
pdtrang5	Primary Dealer Transactions in Treasuries greater than 5yr	FRBMB, NYFED	1961/1
pdtran5to10	Primary Dealer Transactions in Treasuries between 5 and 10yrs	FRBMB, NYFED	1961/1
pdtran10plus	Primary Dealer Transactions in Treasuries greater than 10yrs	FRBMB, NYFED	1961/1

Primary Dealer Net Positions

Identifier	Definition & Notes	Sources	Start
pd_npos_gse_and_mbs	Primary Dealer net positions in Agency Debt and MBS securities	FRBMB, NYFED	1960/9
pd_npos_mbs	Primary Dealer net positions in Agency MBS securities	FRBMB, NYFED	1990/7
pd_npos_gse	Primary Dealer net positions in Agency Debt	FRBMB, NYFED	1990/7

Identifier	Definition & Notes	Sources	Start
total_npos	Primary Dealer net positions all Treasuries	FRBMB, NYFED	1957/10
total_npos_to_gdp	Primary Dealer net positions all Treasuries divided by nominal GDP	FRBMB, NYFED	1957/10
total_npos_to_parpriv	Primary Dealer net positions all Treasuries divided Par Privately held Treasuries Outstanding	FRBMB, NYFED	1957/10
pd_npos_tbills	Primary Dealer net positions in Tbills	FRBMB, NYFED	1976/10
pd_npos_l1	Primary Dealer net positions in Treasuries less than 1yr	FRBMB, NYFED	1957/10
pd_npos_g1	Primary Dealer net positions in Treasuries greater than 1yr	FRBMB, NYFED	1957/10
pd_npos_g1l7	Primary Dealer net positions in Treasuries greater than 1yr but less than 7yr	FRBMB, NYFED	1957/10
pd_npos_g7	Primary Dealer net positions in Treasuries greater than 7yr	FRBMB, NYFED	1957/10
pd_npos_g10	Primary Dealer net positions Treasuries greater than 10yr	FRBMB, NYFED	1969/9
netdur_npos	Net Duration of Primary Dealer net positions in Treasuries	FRBMB, NYFED	1957/10

$$NPOS^{Net\ Dur} = \frac{.5*NPOS^{TBILL} + 1.5*NPOS^{L2} + 2.5*NPOS^{G2L3} + 4.5*NPOS^{G3L6} + 6.5*NPOS^{G6L7} + 9*NPOS^{G7L11} + 14*NPOS^{G11}}{|NPOS|}$$

Primary Dealer Financing

Identifier	Definition & Notes	Sources	Start
repo_tsynom_on	Primary Dealer Repo O/N	FRBMB, NYFED	1980/9
repo_tsynom_term	Primary Dealer Repo Term	FRBMB, NYFED	1980/9
revrepo_tsynom_on	Primary Dealer Reverse Repo O/N	FRBMB, NYFED	1980/9
revrepo_tsynom_term	Primary Dealer Reverse Repo Term	FRBMB, NYFED	1980/9
repoandreversetotal	Primary Dealer sum of Reverse Repo and Repo	FRBMB, NYFED	1980/9
net_repo_on	Primary Dealer Net Repo O/N	FRBMB, NYFED	1980/9
net_repo_term	Primary Dealer Net Repo Term	FRBMB, NYFED	1980/9
net_repo	Primary Dealer Net Repo	FRBMB, NYFED	1963/10

Identifier	Definition & Notes	Sources	Start
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Federal Reserve Treasury holdings by remaining maturity and class

Identifier	Definition & Notes	Sources	Start
fedhold_total	Fed Holdings of Treasury Securities	H.4.1	1914/12
fedl15d	Fed Holdings of Treasury Securities with maturity remaining of Less than 15 days	H.4.1	1941/1
fedl15to90d	Fed Holdings of Treasury Securities with maturity between 15 and 90 days	H.4.1	1941/1
fedl90to1y	Fed Holdings of Treasury Securities with maturity between 90 days and 1 year	H.4.1	1941/1
fedl1to5y	Fed Holdings of Treasury Securities with maturity remaining 1 and 5 years	H.4.1	1941/1
fedl5to10y	Fed Holdings of Treasury Securities with maturity remaining between 5 and 10 years	H.4.1	1941/1
fedgreater10y	Fed Holdings of Treasury Securities with maturity remaining of greater than 10 years	H.4.1	1941/1
fed_net_tsy_dur	Duration (in years) of Feds' Treasury holdings	Calc	1941/1
fedhold_bills	Fed Holdings of Treasury Bills	H.4.1	1932/1
fedhold_notes	Fed Holdings of Treasury Notes	H.4.1	1919/1
fedhold_bonds	Fed Holdings of Treasury Bonds	H.4.1	1919/1
fedhold_certifandbills	Fed Holdings of Tbills and Certificates	H.4.1	1919/1
fedhold_notesandbonds	Fed Holdings of Treasury Notes and Bonds	H.4.1	1919/1

$$Fed^{Net\ TSY\ Dur} = \frac{7.5*L15D + 52.5*15Dto90D + 227.5*90Dto1Y + 1095*1to5Y + 2737.5*5to10Y + 7300*G10Y}{365 * FED^{TSY}}$$

Yields and Returns

Identifier	Definition & Notes	Sources	Start
mort_rate	30yr Mortgage Rate	FHLMC, M13045USM156NNBR	1949/1
muni_yield	Index of Yields of High Grade Municipal Bonds for United States & Bond Buyer 20 Index	Pre 1917/01: M13023USM156NNBR, after 1916/12: Bond Buyer	1900/1

Identifier	Definition & Notes	Sources	Start
aaa	Moody's AAA and Frederick R. Macaulay	FRED M13021USM156NNBR, M1319AUSM156NNBR Theoretical Problems Suggested by the Movements of Interest Rates, Bond Yields and Stock Prices in the United States since 1856, Frederick R. Macaulay	1900/1
baa	Moody's BAA	FRED	1919/1
threem	3M Tbill	FRED	1929/1
one..twenty	1yr - 20yr Treasury Zero Coupon Yields	Stephen G. Cecchetti (1987); J. Huston McCulloch and Shiller (1987); and FRB	1929/1
rx2...rx30	Treasury rolling annual excess returns	calc	1930/1
ret3..ret30	Treasury rolling annual returns	calc	1930/1
rx_avg	Average of Treasury rolling annual excess returns for 2yr through 10yr, 15yr, 20yr,25yr, and 30yr, brought forward one-year	calc	1954/12
ret_avg	Average Treasury rolling annual returns 2yr through 10yr, 15yr, 20yr,25yr, and 30yr, brought forward one-year	calc	
yield_avg	Average of Treasury yields for 1yr through 30yr	calc	1954/12
tsypi	Treasury price index $\ln \frac{TSY^{MV}}{TSY^{Par}}$	Dallas Fed	1942/1
cp_rate	30 day Non-financial Commercial Paper yield	NBER, FRED	1900/1

Foreign Purchases and Sales

Identifier	Definition & Notes	Sources	Start
st_liabs_to_for	Short-term liabilities of U.S. residents held by foreigners	TIC: bltype_history	1929/5
tbill_for_total	Foreign Holdings of Tbills	TIC: bltype_history	1950/1

Identifier	Definition & Notes	Sources	Start
tbill_foi_total	Foreign Official Holdings of Tbills	TIC: bltype_history	1961/1
tbill_priv_total	Private Foreign Holdings of Tbills	TIC: bltype_history	1961/1
tbill_net	Foreign Net purchases of Tbills	TIC: bltype_history	1950/2
tbill_foi_net	Foreign Official Net purchases of Tbills	TIC: bltype_history	1961/2
tbill_priv_net	Foreign Private Net purchases of Tbills	TIC: bltype_history	1961/2
total_net_frn	Net purchases of US and Foreign LT secs	TIC: s1_99996	1935/1
total_net_bond	Net purchases of US and Foreign Bonds	TIC: s1_99996	1943/1
total_net_stock	Net purchases of US and Foreign Stocks	TIC: s1_99996	1943/1
dom_ltsecs_pur	Gross purchases of US LT secs	TIC: s1_99996	1936/2
dom_ltsecs_sales	Gross sales of US LT secs	TIC: s1_99996	1936/2
dom_ltsecs_net	Net purchases of US LT secs	TIC: s1_99996	1935/1
corp_agency_bond_pur	Gross purchases of US Corp and Agency Bonds	TIC: s1_99996	1950/1
corp_agency_bond_sales	Gross sales of US Corp and Agency Bonds	TIC: s1_99996	1950/1
corp_agency_bond_net	Net purchases of US Corp and Agency Bonds	TIC: s1_99996	1950/1
corp_bond_pur	Gross purchases of US Corp Bonds	TIC: s1_99996	1977/1
corp_bond_sales	Gross sales of US Corp Bonds	TIC: s1_99996	1977/1
agency_gross_pur	Gross purchases of Agency Bonds	TIC: s1_99996	1977/1
agency_gross_sales	Gross sales of Agency Bonds	TIC: s1_99996	1977/1
frn_ltsecs_pur	Gross purchases of Foreign LT secs	TIC: s1_99996	1942/1
frn_ltsecs_sales	Gross sales of Foreign LT secs	TIC: s1_99996	1942/1
frn_ltsecs_net	Net purchases of Foreign LT secs	TIC: s1_99996	1935/1
dom_stocks_pur	Gross purchases of US Equities	TIC: s1_99996	1942/1
dom_stocks_sales	Gross sales of US Equities	TIC: s1_99996	1942/1
dom_stocks_net	Net purchases of US Equities	TIC: s1_99996	1942/1
dom_bonds_pur	Gross purchases of US Bonds	TIC: s1_99996	1942/1
dom_bonds_sales	Gross sales of US Bonds	TIC: s1_99996	1942/1
dom_bonds_net	Net purchases of US Bonds	TIC: s1_99996	1942/1
frn_bonds_pur	Gross purchases of Foreign Bonds	TIC: s1_99996	1943/1
frn_bonds_sales	Gross sales of Foreign Bonds	TIC: s1_99996	1943/1
frn_stocks_pur	Gross purchases of Foreign Stocks	TIC: s1_99996	1943/1
frn_stocks_sales	Gross sales of Foreign Stocks	TIC: s1_99996	1943/1
ust_sales	Gross sales of UST Notes and Bonds	TIC: s1_99996	1950/1
ust_pur	Gross purchases of UST Notes and Bonds	TIC: s1_99996	1950/1
ust_net	Net purchases of UST Notes and Bonds	TIC: s1_99996	1950/1
ust_foi_net	Net purchases by Foreign Official Institutions of US Notes and Bonds	TIC: s1_99996	1963/5
ust_other_frners_net	Net purchases of UST Notes and Bonds by Private	TIC: s1_99996	1963/5

Identifier	Definition & Notes	Sources	Start
ust_iro_net	Net purchases of UST Notes and Bonds by International and Regional Organizations	TIC: s1_99996	1962/11

Mortgage Markets

Mortgage markets are a big deal and therefore deserve some careful attention.

Identifier	Definition & Notes	Sources	Start
fhagross	FHA gross insurance of single-family homes (in millions)	SCB, HUD: https://www.hud.gov/program_offices/housing/hsgroom/fhaprodrpt	1935/1
vagross	VA gross guarantees of single-family homes (in millions)	SCB, VA (private correspondence)	1947/1
gnma_iss	GNMA gross issuance of single-family MBS	H.16, Bank of America, GNMA ⁸	1978/1
fhlmc_iss	FHLMC gross issuance of single-family MBS	H.16, Bank of America, FHLMC ⁹ , Global Market Analysis Report ¹⁰	1978/1
fnma_iss	FNMA gross issuance of single-family MBS	H.16, Bank of America, FNMA Monthly Volume Summary ¹¹ , Global Market Analysis Report	1978/1
fnma_mort_hold	FNMA Mortgage Holdings	FNMA Monthly Volume Summary, Table 1, column 1	1955/3
fnma_purch	FNMA Mortgage purchases	FNMA Monthly Volume Summary, Table 2, column 1	1955/3
fhlmc_mort_hold	FHLMC Mortgage Holdings	FHLMC Monthly Volume Summary, Table 2, column 4	1971/1
fhlmc_purch	FHLMC Mortgage Purchases - "No idea" where the Federal Reserve Bulletin numbers came from	FHLMC Monthly Volume Summary, Table 1, column 1	1971/1

⁸:https://www.ginniemae.gov/data_and_reports/reporting/Pages/monthly_issuance_reports.aspx

⁹:<http://www.freddiemac.com/investors/financials/monthly-volume-summaries.html>

¹⁰:https://www.ginniemae.gov/data_and_reports/reporting/Pages/global_market_analysis.aspx

¹¹:<http://www.fanniemae.com/portal/about-fm/investor-relations/monthly-summary.html>

Identifier	Definition & Notes	Sources	Start
fhlmc_sales	FHLMC Mortgage “sales” - this is how it is labelled in the Federal Reserve Monthly Bulletin, However the number used in that publication corresponds to issuance ¹²	FHLMC Monthly Volume Summary, Table 4, column 1	1971/1

Mortgage Originations

mort_orig	Definition & Notes	Sources
1900/1 - 1938/12	Monthly number of mortgages recorded in nine counties scaled to annual volume of mortgage loans made on 1-to-4 family nonfarm homes	Ernest M. Fisher (1951) ¹³
1939/1 - 1965/2	New Non-Farm Mortgages Recorded, \$20,000 and Under for United States	Federal Home Loan Banks, M02173USM398NNBR
1965/3 - 1969/12	Total loans originated by Savings and Loans plus FHA Insured Mortgages plus VA Guaranteed Mortgages	SCB
1970/1 - 1995/12	Originations of Mortgage Loans for 1-4 Family Nonfarm homes	HUD SMLA ¹⁴ , Table 1
1996/1 - 2003/12	Originations of single-family mortgage loans	HMDA, Federal Reserve Bulletin 2017 Q3 ¹⁵
2004/1 - 2004/12	Originations of single-family mortgage loans	HMDA, CFPB ¹⁶
2005/1 - 2018/12	Originations of single-family mortgage loans	One of the three nationwide consumer reporting agencies, CFPB ¹⁷

Bank Holdings

¹²:From the *Monthly Volume Summary*: “Issuances. Consists of: (a) guaranteed securities issued by Freddie Mac where the underlying collateral are mortgage loans or mortgage-backed securities; and (b) Other mortgage-related guarantees include tax-exempt multifamily housing revenue bonds, HFA bonds, and credit-related commitments with respect to single-family mortgage loans.”

¹³:<https://www.nber.org/chapters/c3184.pdf> and <https://www.nber.org/chapters/c3180.pdf>

¹⁴:https://catalog.archives.gov/search?q=*&f.parentNaId=624419&f.level=fileUnit&sort=naIdSort%20asc&rows=100&offset=100

¹⁵:https://www.federalreserve.gov/publications/files/HMDA_data_94-16.CSV

¹⁶:https://www.consumerfinance.gov/documents/6492/bcfc_hmda_2017-mortgage-market-activity-trends_tables.xlsx

¹⁷:<https://www.consumerfinance.gov/data-research/consumer-credit-trends/mortgages/origination-activity/>

Identifier	Definition & Notes	Sources	Start
ldom_bank_tsy	Large domestic bank holdings of Treasuries	H.8	1919/1
ldom_bank_mbs	Large domestic bank holdings of Agency MBS	H.8	1996/1
all_bank_tsy_agency	All bank holdings of Treasuries and Agencies	H.8	1947/1

Labor Markets

Identifier	Definition & Notes	Sources	Start
unempl	Total Unemployment	NBER, FRED, BLS	1930/1
empl	Total Nonfarm Payroll Employment	NBER, FRED	1900/1
empl_d12	12M change in Total Nonfarm Payroll Employment	NBER, FRED	1900/1
findingrate	Job finding or Hiring rate	NBER, BLS, FRED, JOLTS	1910/1
quitsrate	Quits rate	NBER, BLS, FRED, JOLTS	1912/1
ic	Initial Claims for state unemployment insurance, monthly average	NBER, FRED	1945/8
wages	Average Hourly Private Earnings	NBER, FRED	1910/1
v	Nonfarm Job Openings	NBER, SCB, FRED, JOLTS	1919/1
vu	Nonfarm Job Openings-to-Unemployment ratio	NBER, SCB, FRED, JOLTS	1930/1
ismempl	ISM Employment index	Institute for Supply Management	1948/1

Commodities

Identifier	Definition & Notes	Sources	Start
refining_cu_sa	U.S. Percent Utilization of Refinery Operable Capacity, SA	SCB, EIA	1926/5
refining_cu_nsa	U.S. Percent Utilization of Refinery Operable Capacity, NSA	SCB, EIA	1926/5
oilexportertsyhold	Treasury holdings of Oil Exporters	calculated	1974/12
copper	Copper Futures, Continuous Contract #1 (HG1) (Front Month)	Quandl: CHRIS/CME_HG1, NBER, FRED	1900/1
wheat	wheat prices	NBER, FRED	1900/1
energy_exp	Energy exports spliced with Mineral Fuels & Lubricants exports	EIA: TOTAL.TEEXVUS.M, SCB	1951/1
energy_imp	Energy imports spliced with Mineral Fuels & Lubricants imports	EIA: TOTAL.TEIMVUS.M, SCB	1965/1
noncmd_nx	Trade Balance excluding Energy, Agricultural goods, copper, steel and iron and aluminum	EIA, USDA, SCB, Census	1971/1

Identifier	Definition & Notes	Sources	Start
cmd_nx	Trade balance in Energy, Agricultural goods, copper, steel and iron and aluminum	EIA, USDA, SCB, Census	1971/1
copper_imp	Copper Imports in millions of dollars, SITC3	SCB, Census	1923/1
copper_exp	Copper Exports in millions of dollars, SITC3	SCB, Census	1923/1
alum_imp	Aluminum Imports in millions of dollars, SITC3	SCB, Census	1955/1
alum_exp	Aluminum Exports in millions of dollars, SITC3	SCB, Census	1971/1
petrolproducts_imp	Crude oil and Petroleum Products imports in millions of dollars, SITC3	EIA, SCB, Census	1938/1
petrolproducts_exp	Crude oil and Petroleum Products exports in millions of dollars, SITC3	EIA, SCB, Census	1938/1
gas_stations	Advance Retail Sales: Gasoline Stations, SA	FRED:RSGASS, SCB, Census	1938/1
gas_stocks	Stocks of Finished Motor Gasoline, thousands of barrels	EIA: MGFSTUS1, SCB, FRED: M05F4AUSM387NNBR	1917/7
gas_exp	Exports of Finished Motor Gasoline, thousands of barrels	EIA: PET_W_EPM0F_EEX_NUS_Z00_MBBLD_W, SCB	1923/1
gas_imp	Imports of Finished Motor Gasoline, thousands of barrels	EIA: PET_W_EPM0F_IM0_NUS_Z00_MBBLD_W	1945/1
gas_prod	U.S. Refinery and Blender Net Production of Finished Motor Gasoline (Thousand Barrels)	EIA:MGFRPUS1, SCB, FRED:M01126USM387NNBR	1917/1
gas_cons	Domestic Consumption of Finished Motor Gasoline	EIA, SCB, FRED: M0127BUSM386NNBR	1917/8
gas_refinery	U.S. Total Gasoline Wholesale/Resale Price by Refiners	EIA: PET_EMA_EPM0_PWG_NUS_DPG_M, SCB, FRED	1918/1
gas_ny_spot	New York Harbor Conventional Gasoline Regular Spot Price FOB	EIA: PET_EER_EPMRU_PF4_Y35NY_DPG_W, SCB	1914/1
gas_retail	U.S. All Grades All Formulations Retail Gasoline Price	EIA: PET_EMM_EPM0_PTE_NUS_DPG_W, SCB	1924/1
crude_prod	Crude Oil Domestic Field production	EIA: PET_WCRFPUS2_W, SCB	1920/1
crude_exp	U.S. Exports of Crude Oil	EIA: PET_WCREXUS2_W, SCB	1920/1
crude_imp	U.S. Imports of Crude Oil	EIA: PET_WCRIMUS2_W, SCB	1920/1
crude_cons	Domestic Consumption of Crude Oil	EIA, SCB	1920/1

Identifier	Definition & Notes	Sources	Start
crude_cons_sa	Domestic Consumption of Crude Oil, SA	EIA, SCB	1920/1
crude_stocks	U.S. Ending Stocks of Crude Petroleum Oil	EIA, SCB	1918/1
crude_exp_val	Crude Petroleum export value	EIA	1920/1
crude_imp_val	Crude Petroleum import value	EIA	1920/1
crude_prod_val	U.S. Crude Oil field production value	EIA	1920/1
crude_price	Pennsylvania/Kansas/Oklahoma Oil prices spliced with WTI/ Brent spot price	NBER, FRED, SCB, EIA: DCOILBRENTU	1900/1
crude_prod_gdp	U.S. Crude Oil field production-to-GDP	NBER, EIA	1920/1
crude_nx_gdp	Crude Petroleum trade balance-to-GDP	NBER, EIA	1920/1
nx_x_crude_gdp	NonPetroleum trade balance-to-GDP	NBER, EIA	1920/1
nx_x_crude	NonPetroleum trade balance	NBER, EIA	1920/1
crude_nx	Crude Petroleum trade balance	EIA	1920/1
residual_cons	Domestic Consumption of Residual Fuel Oil	EIA, SCB	1938/1
residual_imp	U.S. Imports of Residual Fuel Oil	EIA: PET_WREIMUS2_W, SCB	1936/1
residual_exp	U.S. Exports of Residual Fuel Oil	EIA: PET_WREEXUS2_W, SCB	1936/1
residual_price	U.S. Residual Fuel Oil Wholesale/Resale Price by Refiners	EIA: PET_EMA_EPPR_PWG_NUS_DPG_M, SCB	1923/1
residual_prod	U.S. Refiner and Blender Net Production of Residual Fuel Oil	EIA: PET_WRERPUS2_W, SCB	1932/1
residual_stocks	U.S. Ending Stocks of Residual Fuel Oil	EIA: PET_WRESTUS1_W, SCB	1936/1
distillate_cons	Domestic Consumption of Distillate Fuel Oil	EIA, SCB	1938/1
distillate_imp	U.S. Imports of Distillate Fuel Oil	EIA: PET_WDIIMUS2_W, SCB	1945/1
distillate_exp	U.S. Exports of Distillate Fuel Oil	EIA: PET_WDIEXUS2_W, SCB	1938/1
distillate_price	New York Harbor Ultra-Low Sulfur No 2 Diesel Spot Price	EIA: PET_EER_EPD2DXL0_PF4_Y35NY_DPG_D, SCB	1923/1
distillate_prod	U.S. Refiner and Blender Net Production of Distillate Fuel Oil	EIA: PET_WDIRPUS2_W, SCB	1932/1
distillate_stocks	U.S. Ending Stocks of Distillate Fuel Oil	EIA: PET_WDISTUS1_W, SCB	1932/1

Identifier	Definition & Notes	Sources	Start
fuel_cons	Sum of Crude Petroleum, Distillate, Residual Fuel Oil and Finished Motor Gasoline Consumption, thousands of barrels	EIA, SCB	1938/1
fuel_exp	Sum of Crude Petroleum, Distillate, Residual Fuel Oil and Finished Motor Gasoline exports, thousands of barrels	EIA, SCB	1938/1
fuel_imp	Sum of Crude Petroleum, Distillate, Residual Fuel Oil and Finished Motor Gasoline imports, thousands of barrels	EIA, SCB	1945/1
fuel_prod	Sum of Crude Petroleum, Distillate, Residual Fuel Oil and Finished Motor Gasoline production, thousands of barrels	EIA, SCB	1932/1
fuel_stocks	Sum of Crude Petroleum, Distillate, Residual Fuel Oil and Finished Motor Gasoline stocks, thousands of barrels	EIA, SCB	1936/1

Inflation

Identifier	Definition & Notes	Sources	Start
cpi	Consumer Price Index	FRED:CPIAUCNS, M04051USM324NNBR	1900/1
cpi_food	Consumer Price Index: Food	FRED:CPIUFDNS, M04061USM350NNBR	1900/1
farmprod	PPI for Farm Products	FRED:WPU01, M04058USM350NNBR	1900/1
metal	PPI for Metal and Metal Products	FRED:WPU10, M0466AUSM336NNBR	1900/1
fuel	PPI Fuels and Related Products & Power	FRED:PPIENG, M04H5AUSM336NNBR	1900/1
steelironscrap	PPI for Metals and Metal Products: Iron and Steel Scrap	FRED:WPU1012, M0442DUS16980M288NNBR	1900/1
lumber	PPI for Lumber and Wood Products: Lumber	FRED:WPU081, M0464AUSM336NNBR	1913/1
textiles	PPI for Textile Products and Apparel	FRED:WPU03, M04H4AUSM336NNBR	1900/1
wpi	Wholesale Commodities Price Index spliced with PPI All Commodities	Warren, G.F. and F.A. Pearson (1933) provided by David S. Jacks and FRED: PPIACO	1900/1

Trade Database

The trade database consists of bilateral trade flows with the United States.¹⁸ “_imp” denotes U.S. imports from that country; “_exp” denotes U.S. exports to that country.

Identifier	Region	Sources	Start
africa_imp	Africa	SCB, FT990, FRED ¹⁹	1920/1
asia_imp	Asia	SCB, FT990, FRED:IMP0016	1959/1
asia_and_oceania_imp	Asia and Oceania	SCB, FT990, FRED	1920/1
australia_and_oceania_imp	Australia and Oceania	SCB, FT990, FRED:IMP0018	1959/1
aud_imp	Australia	SCB, FT990, FRED:IMP6021	1938/1
europa_imp	Europe	SCB, FT990, FRED ²⁰	1920/1
north_america_imp	North America	SCB, FT990, FRED:IMP0010	1923/1
central_and_south_america_imp	Central and South America	SCB, FT990, FRED:IMP0009	1923/1
can_imp	Canada	SCB, FT990, FRED:IMPCA	1920/1
mex_imp	Mexico	SCB, FT990, FRED:IMPMX	1923/1
south_america_imp	South America	SCB, FT990, FRED ²¹	1920/1
egy_imp	Egypt	SCB, FT990, FRED:IMP7290	1938/1
zar_imp	South Africa	SCB, FT990, FRED:IMP7910	1938/1
sgp_imp	Singapore	SCB, FT990, FRED:IMP5590	1959/1
chn_imp	China	SCB, FT990, FRED:IMPCH	1938/1
ind_imp	India	SCB, FT990, FRED:IMP5330	1938/1
pak_imp	Pakistan	SCB, FT990, FRED:IMP5350	1959/1
mal_imp	Malaysia	SCB, FT990, FRED:IMP5570	1947/1

¹⁸: See https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3245138 for more information about data coverage and definitions

¹⁹: see <https://research.stlouisfed.org/pdl/1028> for the list of codes for African nations

²⁰: see <https://research.stlouisfed.org/pdl/1029> for the list of codes for European nations

²¹: see <https://research.stlouisfed.org/pdl/1193> for the list of codes for South America

Identifier	Region	Sources	Start
idn_imp	Indonesia	SCB, FT990, FRED:IMP5600	1938/1
php_imp	Philippines	SCB, FT990, FRED:IMP5650	1938/1
jpn_imp	Japan	SCB, FT990, FRED:IMPJP	1920/1
fra_imp	France	SCB, FT990, FRED:IMPFR	1920/1
ger_imp	Germany	SCB, FT990, FRED:IMPGE	1920/1
ita_imp	Italy	SCB, FT990, FRED:IMP4759	1920/1
rus_imp	USSR/Russia	SCB, FT990, FRED:IMP4621	1938/1
gbr_imp	United Kingdom	SCB, FT990, FRED:IMPUK	1920/1
arg_imp	Argentina	SCB, FT990, FRED:IMP3570	1920/1
bra_imp	Brazil	SCB, FT990, FRED:IMP3510	1923/1
chl_imp	Chile	SCB, FT990, FRED:IMP3370	1923/1
col_imp	Colombia	SCB, FT990, FRED:IMP3010	1941/1
ven_imp	Venezuela	SCB, FT990, FRED:IMP3070	1941/1

Other Series

Identifier	Definition & Notes	Sources	Start
aaasurvvp	$E_t^{SPF}[AAA_{t+1}] - AAA_t$ $E_t^{SPF}[AAA_{t+1}]$ is interpolated to a monthly frequency	SPF, Moody's	1981/9
epu	Economic Policy Uncertainty	Baker, Bloom, and Davis	1900/1
ngdpm	Nominal GDP interpolated monthly and extended with GDPNOW, in millions divided by 12	Òscar Jordà, Moritz Schularick, and Alan M. Taylor. (2017), FRED: Q0860AUSQ027SNBR, Q0860BUSQ027NNBR/Q0860CUSQ027SNBR, Atlanta Fed	1900/1
taungdppercapita	Trend Nominal GDP per capita	Capital Markets Data	1957/12

Identifier	Definition & Notes	Sources	Start
taucorecpi	Trend core CPI	Cieslak and Povala (2011)	1967/1
infexpst	Short-term inflation expectations - expectations of 1yr or less, interpolated	UMICH, Greenbook, SPF	1967/3
infexplt	Long-term inflation expectations - an average of 1yr ahead or greater inflation expectations. Lots of interpolation.	UMICH, Greenbook, SPF, Livingston Survey	1946/12
ismprices	ISM Price index	Institute for Supply Management	1948/1
ismnoinv	ISM New Orders index divided by Inventories index	Institute for Supply Management	1948/1
ism	ISM Manufacturing index	Institute for Supply Management	1948/1
coreinffactor	Core inflation factor	Gospodinov, N. and Ng, S., (2013)	1968/1
gz_spread	Corporate Bond Spread	Gilchrist, Simon, and Egon Zakrajšek. 2012	1973/1
ebp	excess bond premium	Gilchrist, Simon, and Egon Zakrajšek. 2012	1973/1
onset_sad	Monthly Onset (Seasonal Depression)	Jan Kamenta's website	1900/1
nyse_vol	NYSE Trading Volume daily average	NYSE, SIFMA	1900/1
cp	Commercial Paper Outstanding	FRMB	1919/1
res_construct	Total Residential Construction	Dodge, Census	1915/1
construction	Total Construction	Dodge, Census	1900/1
autosales	Total Auto and Truck Sales, SA	NBER, FRED	1925/1
conscredit	Total Consumer Credit	NBER, FRED	1929/1
autocredit	Total Auto Credit	NBER, FRED	1929/1
personalincome	Personal Income	NBER, FRED	1921/1
rsales	Nominal Retail Sales	NBER, FRED	1914/7
bsales	Nominal Manufacturing and Trade Sales	NBER, FRED, SCB	1939/1
sp_rsales	Stock Price to Retail Sales Ratio	NBER, FRED	1914/7
mergeacquis	Number of Mergers and Acquisitions - monthly average	Institute of Mergers, Acquisitions and Alliances (IMAA) ²² , FTC ²³	1900/1

²²:<https://imaa-institute.org/mergers-and-acquisitions-statistics/>

²³:<https://www.ftc.gov/policy/reports/policy-reports/annual-competition-reports>

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