A Guide to Bloomberg and Datastream for OSU Ph.D Students in Macroeconomics and International Economics[1]

Abstract

Bloomberg and Datastream are independent, paid data services that provide both current and historical financial and economic data. The two services are aimed mainly at professionals in the financial industry. Nonetheless, both services contain a wealth of data that is useful to researchers. Also, both services are available to OSU students at on-site terminals at the Business School Library. There is little to no documentation available there. This manual: (i) gives an overview of both services; (ii) explains operationally how to use and download data; (iii) provides an annotated bibliography for further information on using each service; (iv) provides many examples of macro and international series available and how to locate the series.

[1] This report was prepared by Shuhei Takahashi and Bill Dupor with support from the Ohio State Economics Department. Comments are welcome. February 2009.

Contents

1. What are Datastream and Bloomberg?

They are very useful databases for economic and financial data. For general descriptions, please see the following page.

http://fisher.osu.edu/library/databases/inhouse.htm

2. How to Get Started

Datastream and Bloomberg are available only at the Business School Library. Just go to the terminal of each database. There is no need to go to the library counter and both are free.

Datastream is available at Computer #4. Neither Login nor Password is required. Just double-click Datastream's icon and then it will start. In order to log off, just close the window. The Internet is available at the terminal and so you can send data by email. Of course, you can also save data in your flash drive. You can access the online manual and tutorial by clicking on **Help**. You may want to use the help line at 800-443-6850.

Bloomberg is available at Computer #1. Both Login and Password are 123. Press the red <CONN DELT> key first. Then, type Login and Password and press the green <GO> key. It is often already logged in by a former user, though. In order to log off, press the red <CONN DELT> key. Internet explorer is not available at this terminal and thus you need a flash drive to save data. By pressing <HELP><HELP> twice, you can access the online help.

3. Basic Instructions: From Finding to Downloading Data[2]

Let us explain how to find a series and then download the data in Excel. Although specific steps may depend on the data you need, the following procedure can be widely applied to data that we are interested in.

A. Datastream

Step 1: Select a category from "Data Categories." By holding the mouse over the category you selected, you can choose "Help Browse," "Criteria Search," or "Explorer" to find a specific series. Note that all of them are not necessarily available for every category. Find and click the mnemonic for the data you want.[3] Now you have chosen the series.

Step 2: In "Analysis," you need to choose the output format and report type. For example, you can choose time-series data or a chart of it. Note that available formats also depend on categories and data. Now you have chosen how to present your data.

Step 3: If you choose time-series data, you need to select frequency, etc in the "Setting" area. You may also need to choose "Datatype" if applicable.[4] Now you have specified the details of your output.

Step 4: If you click "Run Now," you should see the result in "Output Window."

Step 5: From Tools => Transfer, you can download the output to Excel, Word or PowerPoint.

B. Bloomberg

---

[2] The explanation here mainly follows "Database Guide Datasteam" and "Database Guide Bloomberg" by Jackson Library at Stanford University. Hence, this section may be redundant. See the annotated bibliography below.

[3] For example, if you need unemployment rates in the United States, type "unemployment rate" in "Name" and "united states" in "Market." Then, you will find 227 different unemployment rate series. If you already know the mnemonic of the data, you can just type it in "Enter Series" with checking "Expert."

[4] For example, when you choose a stock price index, "Datatype" may include PI (Price Index), PH (High Price), etc.

Step 1: Select “Market Sector” by pressing one of the yellow keys and then press <GO>. “Market Sector” works like “Data Categories” in Datastream. This step takes you to one of the sectors. Example: <INDEX> <GO>.

Step 2: Type **TK** and press <GO> and then the ticker search screen appears. You can also click **Ticker** on the screen. Find the ticker for the data you want.[5] Clicking it leads you to the screen for the data description, which varies across data. If you already know the ticker, just type it and press <GO>. Now you are at the specific series you want.

Step 3: Now you are ready to analyze the series. If you want to see the historical series, type **HP** and press <GO>. If you want to see a time-series graph, type **GP** and press <GO>. If you want to return to the data description, type **DES** and press <GO>. There are many other functions.

Step 4: Although Step 3 allows us to look at the series, it is more convenient if we could download it in Excel. In order to download the data in Excel,

1) Open Excel
2) Choose “Import Data” from “Bloomberg” in the toolbar
3) Choose “Historical End of Day”
4) Security identifier = Ticker (e.g. HPI NE)
   Market sector = market sector (e.g. INDEX)
   Identifier type = Ticker-Exchange
   Click “Add” and then “Next”
5) Field source = Bloomberg Fields
   Categories => Market Activity => Last=> Last Price[6]
   Click “Add” and then “Next”
6) Follow instructions and obtain the data

[5] Note that all the series, not only individual stocks, have their own ticker.
[6] Since many data series are not prices, “Last Price” should then be interpreted as “most recent data.”

4. Annotated Bibliography

There are several useful references on the Web. This section introduces some of them.

A. Datastream

1. “Database Guide Datastream” by Jackson Library at Stanford University, Last updated 11/04/2008
http://www.gsb.stanford.edu/Library/articles/databases/dbguides/Datastream.pdf

Most references available on the Web explain how to use older versions of the database. This newly updated guide is very helpful for those who have never used Datastream before. It explains everything you need in order to start using the database with a lot of illustrations and examples. Because it was recently updated, the explanation is applicable to the terminal at the Business School Library.

2. “Datastream Advance 4.0 Search Guide” by James A. Gibson Library at Brock University, August 2007.
http://www.library.brocku.ca/guides/dstream.pdf

This guide is similar to the one above and also applicable to the terminal at the Business School Library. It particularly explains how to use the search engine of the database.

3. “Data Coverage” by Thomson Financial, 08/2007.
http://www.datastream.com/resources/Thomson%20Datastream%20Content.pdf

You may want to know which category you should choose for a particular series. Given the large number of series available in Datasteream, it is impossible to explain all of them. “Data Coverage” by Thomson Financial gives helpful tips. But, the categorization is slightly different from that of the terminal at the Business School Library.

4. “Datastream Advance 4.0 User Guide Issune 1” by Thomson Financial Limited 2001 (downloadable from Boston College)

http://libguides.bc.edu/data/files/859/Datastream%20User%20Guide.pdf

This 188-page guide explains how to use the database in detail. The problem is that it explains the older version and thus may not be directly applicable to our terminal. Nevertheless, some people might find it helpful.

B. Bloomberg

1. "Bloomberg 101" by Lippincott Library at the Wharton School
http://gethelp.library.upenn.edu/guides/business/bloomberg.ppt

As the title suggests, this PowerPoint presentation is perfect for a quick start. It explains the unique keyboard navigation of Bloomberg with illustrations. Sample searches include economic data, such as unemployment rates and CPI, as well as individual stocks and bonds.

2. "Database Guide Bloomberg" by Jackson Library at Stanford University, Last updated on 09/03/2008
http://www.gsb.stanford.edu/library/articles/databases/dbguides/bloomberg.pdf

This guide is very helpful for those who have never used Bloomberg before. It explains everything you need in order to start using the database with a lot of illustrations and examples. However, some explanations do not work for the terminal at the Business School Library. In addition, the focus is on data on individual stocks and thus not closely related to macro data. Furthermore, little information is available on how to download data in Excel.

3. "Bloomberg Basic Manual" by Bloomberg LP, Last updated on 05/18/2004.
http://firestone.princeton.edu/econlib/blp/docs/bloombergmanuallehighuniversity.pdf

This document gives detailed explanations on how to use each "Market Sector" (i.e. category). It also suggests which "Market Sector" we should use for a particular series even though the explanation is not complete. The history of Bloomberg is also included

for interested readers.

4. QCF Lab, Georgia Institute of Technology, Atlanta.
http://www.qcf.gatech.edu/academic/Bloomberg/

This site contains several word documents about using Bloomberg. An example is "Bloomberg Documentation Data Download." These materials are for advanced users.

5. "Bloomberg Help Guide" by the Business and Economics Library at Columbia University and "Bloomberg Help Guide" by Lippincott Library at the Wharton school.
http://www.columbia.edu/cu/lweb/indiv/business/guides/bloomberg.html
http://gethelp.library.upenn.edu/guides/business/bloombergguide.html

These two sites are almost identical. They provide quick references for basic commands. They are particularly helpful for those who are interested in finance.

6. "Bloomberg Tutorial" by Western Libraries at the University of Western Ontario.
http://www.lib.uwo.ca/business/bloomtutor.html

This site is very helpful because it provides many commands that we can use for each "Market Sector" (i.e. category).

5. Examples of Available Data

	Bloomberg	Datastream
Commodities	**CMDTY** **USCRWRIC**: Cushing Crude Oil Spot Price **CLF9**: Crude Oil Future **GOLDS**: Gold Spot Price **GCG9**: Gold Future **ELGFNPON**: Electricity Spot Prices (Northern California)	**Commodities** **CRUDOIL**: Cushing Crude Oil Spot Price **GSCLSPT**: Crude Oil Price **MLCXGCS**: Gold Spot Index **GSGCSPT**: Gold Spot Price **DJCOBFP**: Electricity, Firm on Peak
House Price Index (by region)	**INDEX** **HPI LEVL**: US House Price Index **HPI YOY%** : US House Price YOY **HPI NE**: US House Price Index, N. England **HPI ENC**: US House Price Index, NE Central **HPI PURC**: US House Price Index, Purchase	**Economics** **USHPI…F**: House Price Index, All transactions **USHPPURMF**: House Price Index, Purchase Only (Monthly) **USHPPUR.F**: House Price Index, Purchase Only (Quarterly) **USHPIEN.F**: House Price Index, All transactions, East North Central
International Data GDP & GDP Deflator	**INDEX** **ENGCEU15**: EU Nominal GDP (15 Countries) **ENGCEU25**: EU Nominal GDP (25 Countries) "ECMX" gives "Global Economic Matrix." You can see the data (Real GDP YOY, GDP Deflator, etc) for several countries at once.	**Economics** **EUROCFGPNE**: EU GDP (nominal) **EUOCFGDPG**: EU GDP (real) **UKOF%DGD**: UK GDP Deflator (%YOY)

Exchange Rate	**CRNCY** **EUR**: Euro Spot (US dollar) **JPY**: Japanese Yen Spot (US dollar) **GBP**: British Pound Spot (US dollar)	**Exchange Rates** **BBEURSP**: Euro Spot (US dollar) **BBEUR1F**: Euro 1M FWD (US dollar) **USJAPYN**: Japanese Yen Spot (US dollar)
Interest Rate (Short, Long-Term)	**INDEX** **FFF9**: Fed Funds Future 30 Day **FFIP**: Federal Funds Implied Probability **SPWC3A1**: Corp. Bond Yields AAA 1 Year **SPWC3A10**: Corp. Bond Yields AAA 10 Year **SPWC3B1**: Corp. Bond Yields BBB 1 Year **SPWC3B10**: Corp. Bond Yields BBB 10 Year	**Derivatives (Options)** **CFFC.SERIESC**: Fed Funds Future 30 Day **Interest Rates** **FRMCAAA**: Corp. Bond Moody's AAA **FRMCBAA**: Corp. Bond Moody's BAA
Stock Market	**INDEX** **SPX**: S&P 500 Index **SPICTOTL**: S&P 500 Net Income **SPCNTOTL**: S&P 500 Net Income from Continuing Operation **SPXEWTR**: S&P 500 Equal Weighted Total Return **INDU**: Dow Jones Indus. Avg. **USEPDJIA**: Dow Jones Indus. Avg. Earning Price Ratio **DJITR**: Dow Jones Indus. Avg. Total Return Index **HS50S**: HS50 Shariah Index **NKY**: Nikkei 225 **UKX**: FTSE 100 Index	**Equity Indices** **S&P COMP**: S&P 500 Index PI (Price Index), DY (Dividend Yield), etc **NASA100**: NASDAQ100 PI (Price Index), RI (Total Return Index), etc **DJINDUS**: Dow Jones Industrial PI (Price Index), RI (Total Return Index), etc

Bond Market	**INDEX** **H15F090D**: Financial CP 90 Day **H15N090D**: Nonfinancial CP 90 Day	**Economics** **US79CM3DB**: Debt Outstanding, Financial **US38CM3DB**: Debt Outstanding, Nonfinancial **US14CM3DB**: Debt Outstanding, Nonfinancial Business **US10CM3DB**: Debt Outstanding, Nonfinancial Corp. Business
Aggregate Economic Indicator (US)	**INDEX** **GDPACHA$**: US GDP **GDPADEFL**: US GDP Deflator, % Change **CPI YOY**: CPI Urban Consumer YOY "ECOR" takes you the list of complete US economic releases, such as CPI, inventory, unemployment rate, etc.	**Economics** **USGDP…D**: US GDP **USOF%DGD**: GDP Deflator (%YOY) **USCPCOREE**: CPI, All Items Less Food and Energy (Core) **USUN%TOTQ**: Unemployment Rate **USCNFCONQ**: Consumer Confidence Index **USCRDCONB**: Consumer Credit Outstanding **USUMCONSH**: University of Michigan Consumer Sentiment Index **USIPMAN.G**: Industrial Production (Manufacturing) **USIPTOT.G**: Industrial Production (Total Index)

Bold represents "Market Sector" in Bloomberg and "Data Category" in Datastream. **Bold** represents "Ticker" in Bloomberg and "Mnemonic" in Datastream.

6. Deficiencies

Bloomberg and Datastream are used mainly by professionals in the financial industry. As such, their data focuses mainly on asset prices rather than quantities. While there is a substantial amount of quantity data available here (as well as the free data sources listed in the appendix), there are deficiencies.

One important example is COMPUSTAT. This paid service is not available, as far as we know, to OSU Economics grad students. For every publically traded company in the U.S., COMPUSTAT contains earnings, employment, investment and inventory data. This is very useful to researcher doing disaggregate firm level data.

Another example is CRSP. CRSP contains data on public traded firms that extends back beyond the series contained in Bloomberg and Datastream.

7. Appendix: Other Commonly Used Data by Macroeconomists and International Economists

1. FRED—basic aggregate macro/international data collected from a variety of original sources, well organized, updated quickly

Series: price level and output (aggregate and by GDP component), exchange rates, interest rates, labor, monetary aggregates, some regional data
Period: mainly post-WWII, monthly, quarterly, annual
Website: research.stlouisfed.org/fred2/

2. Bureau of Economic Analysis—key source for national and regional output data, international and industry data, well organized, easy to download specific series

Series: GDP, income, expenditures, balance of payments, trade in goods and services, also data broken down by region and industry

Period: varies, quarterly and annual
Website: www.bea.doc.gov/

3. Industrial Production and Capacity Utilization--manufacturing, mining, electric and gas utilities, capacity index, which is an estimate of sustainable potential output; industrial production is only quality measure of part of GDP at monthly level; collected by Federal Reserve Board

Series: see above
Period: earliest begins in 1917 until present, monthly
Website: www.federalreserve.gov/releases/g17/

4. Input-Output Tables-- how industries interact at the detailed level; i.e. approximately 500 industries provide input to, and use output from, each other to produce gross domestic product, extremely detailed tables available every five years; maintained by Bureau of Economic Analysis

Series: see above
Period: 1947-2002, annual and every five years
Website: www.bea.doc.gov/bea/dn2.htm

5. Greenbook Data Sets--several different data sets containing projections from the Federal Reserve's Greenbook, Greenbook used internally by the FOMC preceeding each meetings; maintained by Philadelphia Federal Reserve

Series: inflation, GDP, unemployment, consumer spending, many others
Period: 1965-1999, approximately six times per year, at least temporarily discontinued
Website: http://www.phil.frb.org/econ/forecast/greenbookdatasets.html

6. Livingston Survey--oldest continuous survey of (professional and academic) economists' expectations; summarizes the forecasts of economists from industry, government, banking, and academia; maintained by the Philadelphia Federal Reserve Bank

Series: inflation, interest rates, GDP growth, unemployment
Period: post-WWII to present, bi-annually
Website: www.phil.frb.org/econ/liv/

7. Survey of Consumer Finances—household level data on balance sheet, pension, income, and other demographic characteristics of U.S. families; very widely used in research on consumption and savings; unwieldy because of data's level of detail; collected by the Federal Reserve Board

Series: many, includes demographic traits, family income, net worth, housing status, breakdown of savings by type of financial account, breakdown of debt by type
Period: 1962-present, three times per year
Website: www.federalreserve.gov/pubs/oss/oss2/scfindex.html

8. International Financial Statistics—macro and financial statistics for each country, seeks to standardize definitions of various series across countries, I don't have much experience with this data, compiled by the International Monetary Fund

Series: many, includes GDP and components, inflation, interest rates, exchange rates
Period: not sure
Website: not publicly available, a few professors here have subscriptions to monthly CD ROM, ask around

9. Penn World Tables—purchasing power parity and national income accounts converted to international prices for 168 countries for some or all of the years 1950-2000; constructed at Univ. of Pennsylvania

Series: many, including GDP, consumption, investment, government spending, capital stock, demographics
Period: 1950-2000, annual
Website: pwt.econ.upenn.edu/

10. Scanner Micro Price Data—scanners read the price from UPC labels on products, this data records the price of goods at grocery stores to construct a detailed time series for many individual products at different locations. Actually two separate data collections; warehoused by the Univ. of Chicago School of Business; macroeconomists use data to evaluate various models of nominal frictions

Series: good, location, date specific nominal prices
Period: varies across two datasets, weekly
Website: gsbwww.uchicago.edu/kilts/research/index.shtml

11. Survey of Consumers—household survey about expectations for future personal and aggregate economic variables at horizons up to one year, most reported variable in press is index of consumer sentiment; collected by the Univ. of Michigan

Series: personal income, inflation, current financial situation compared to a year ago, etc.
Period: 1955 to 1977 quarterly; afterwards monthly
Website: www.sca.isr.umich.edu/main.php

12. Bureau of Labor Statistics—vast amount of aggregate, state and sector data on prices, consumer expenditures, wages, employment, productivity; also maintains the National Longitudinal Survey (NLS)

Series: many including sectoral and state unemployment rate, wage by industry and state, producer price index, export/import price indices
Period: varies
Website: stats.bls.gov/

13. NBER Productivity Database—output and input data for manufacturing industries at 4-digit SIC level of disaggregation, approximately 450 industries

Series: output, employment, payroll and other input costs, investment, capital stocks

Period: 1958-1996, annual

Website: www.nber.org/nberprod/