Using CRSP Access

Plan of Talk

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Introduction

The Center for Research in Security Prices (CRSP) is a financial research center at the University of Chicago. It provides U.S. historical data series for research purposes. In particular, the CRSP US stock databases provides stock prices and returns (plus many other information) on all listed NYSE, AMEX, and NASDAQ common stocks, together with many indices. For monthly data, it starts at 1925/12 and for daily data, it starts at 1962/7.

To manipulate the CRSP data for a research project, one needs to know some programming knowledge, Fortran or C. However, many casual users of the CRSP databases may not have the time to do this. In recent years, CRSP provides a set of utilities that greatly improves the access of the CRSP databases. In particular, an interactive program called `TS_PRINT` is an easy to learn but yet very powerful and flexible program that can most of the jobs done. This program is the main focus of today's talk.

Setup

The Finance Lab is already equipped with CRSPAccess. For Ph.D. students and faculty, you can install CRSPAccess in your office. Installation instructions are available on the Rotman Financial Research and Trading Lab website:

`http://www.rotman.utoronto.ca/finance/lab/crsp.htm`

Besides online help, manual of the CRSPAccess utilities are available at

`http://gsbwww.uchicago.edu/research/crsp/support/downloads/documentation/stock_ind_utilities.pdf`

For a lot of users, not setting up the environmental variables properly maybe the main reason why the program is not running properly. Setting up environmental variables varies across different operating systems. There is a program that can help you to do this, and it is located at

`Q:\Research_data\CRSP\set_stock_environment.zip`

Simply unzip it and run setup and fill in the appropriate information should cure all the problems.

TS_PRINT in a few easy steps

See Powerpoint slides

Some Simple Examples

1. Getting monthly prices, returns, and market capitalization for one stock.

   - In the Entities screen, find the stock that you want. Choose "Company" as header. Then click "Add Entity."[1]
   - In the Data Items screen, choose "Find – Monthly – Prices – Price, End of Period." Click "Add item." Then choose "Find – Monthly – Returns – Returns." Click "Add item." Then choose "Find – Monthly – Capitalization – Capitalization, End of Period." Click "Add item."
   - In the Date screen, change "Calendar Name" to monthly, choose the "Fixed Date Range." Then click "Add Date Specification."
   - In the Report Format screen, specify the "Output File Name." Then click "Add Options."
   - Finally, click "Process File" and then "View File" after the job is done.

2. Running a market model

   You need three return series to run a market model. Namely, the return on a stock, the return on a market index, and possibly the return on T-bill.

   - In the Entities screen, find the stock that you want. Choose "Company" as header. Then click "Add Entity."
   - Again in the Entities screen, choose "Index" and find an index that you like. Then click "Add Entity."
   - Again in the Entities screen, choose "Index" and find the 30-day Treasury bill (INDNO: 1000708) under "Treasury & Inflation." Then click "Add Entity."
   - In the Data Items screen, choose "Find – Monthly – Returns – Returns." Click "Add item."
   - In the Date screen, change "Calendar Name" to monthly, choose the "Fixed Date Range." Then click "Add Date Specification."
   - In the Report Format screen, specify the "Output File Name." Then click "Add Options."
   - Finally, click "Process File" and then "View File" after the job is done.

[1] You can get information on more than one stock by adding other companies in this screen.

3. Creating Returns on a Portfolio

   You can create portfolios using equally weighted, value-weighted, user provided share weighted and user specified weights. Suppose you have a list of permanent numbers in a ASCII file, say `permno.dat`. Let's we want to create a value-weighted portfolio of a number of stocks. It should have two columns, column 1 is the permanent number, column 2 is the portfolio number (0 if you have just one portfolio).

   - In the Entities screen, choose "Portfolio – File." Browse or simply enter the filename. Click "PERMNO" as the first field, and "Portfolio ID" as the second field.

     find the stock that you want. Choose "Company" as header. Then click "Add Entity."
   - Again in the Entities screen, choose "Index" and find an index that you like. Then click "Add Entity." Then choose "value-weighted" and then choose "delimited" and enter S (stands for space) as the delimiter. Click "Add Entity."
   - In the Data Items screen, choose "Find – Daily – Returns – Returns." Click "Add item."
   - In the Date screen, change "Calendar Name" to daily, choose the "Fixed Date Range." Then click "Add Date Specification."
   - In the Report Format screen, specify the "Output File Name." Then click "Add Options."
   - Finally, click "Process File" and then "View File" after the job is done.