

SQL (Portfolios) & Bloomberg

Note 5

Financial Database
BAF 507E

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KAIST

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1 Working on Portfolios using SQL

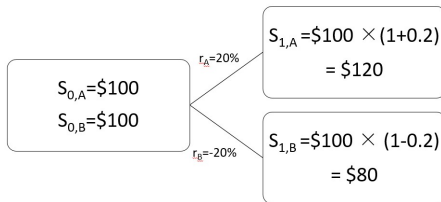
2 Bloomberg

Portfolio formation and return calculation

- Refer to FDNote5W2025.ipynb to learn how to construct a pandas dataframe for calculating portfolio returns by merging several files and generating the required additional columns.
- It is crucial to understand that when calculating value-weighted returns, the **weights** must be **based on** the **values at the start** of the return measurement period, **rather than** the values at the period's **end**.
- Therefore, it is important to correctly identify the lagged values for each firm as explained in the file.

Calculation of portfolio returns

- Equally-weighted and value-weighted portfolio returns can be easily calculated using SQL.
- Need to understand the difference between equally- and value-weighted portfolio returns.
- Even though you start with an equally-weighted portfolio, as time passes by, the weight of each stock will not be same anymore unless you rebalance your portfolio in each period.



$$P_0 = \$100 + \$100 = \$200$$

$$W_A = \$100 / \$200 = 50\%$$

$$W_B = \$100 / \$200 = 50\%$$

$$P_1 = \$120 + \$80 = \$200$$

$$W_A = \$120 / \$200 = 60\%$$

$$W_B = \$80 / \$200 = 40\%$$

Calendar time portfolio formation

- Utilizing SQL, one can efficiently create calendar-time portfolios consisting of stocks that have **experienced** a specific **corporate event within the preceding n-month period**.
- The data should include both event dates and monthly return data.
- Follow the following procedures:
 - Find out the list of companies that satisfy the conditions in each month.
 - After identifying all firms satisfying the conditions in each month, one can calculate the average returns of all those satisfying stocks to calculate the portfolio returns in each month.

Calendar time portfolio formation

- Assume that there are four companies (A - D) that had at least one event during the past nine months.
 - For example, company A had the event in months 1 and 6.
- If you form a calendar time portfolio composed of the stocks of the firms that experience the event within the past one month (or two months), company A will belong to the portfolio in months 2 and 7 (or 2, 3, 7 and 8).

	1	2	3	4	5	6	7	8	9
Event A	O					O			
Event B			O			O			
Event C					O			O	
Event D				O					
One-Month	None	A	None	B	None	C	A & B	None	C
Two-Month	None	A	A	B	B & D	C & D	A, B & C	A & B	C
Three-Month	None	A	A	A & B	B & D	B, C & D	A, B, C & D	A, B & C	A, B & C

Value Premiums

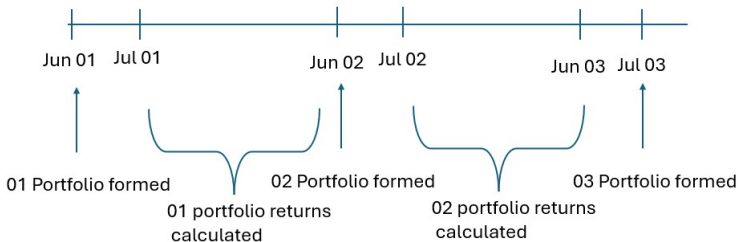
- Value stocks earn higher returns than growth stocks
- Average monthly returns of size and BM portfolios

	Book-to-Market Portfolios										
	All	Low	2	3	4	5	6	7	8	9	High
All	1.23	0.64	0.98	1.06	1.17	1.24	1.26	1.39	1.40	1.50	1.63
Small-ME	1.47	0.70	1.14	1.20	1.43	1.56	1.51	1.70	1.71	1.82	1.92
ME-2	1.22	0.43	1.05	0.96	1.19	1.33	1.19	1.58	1.28	1.43	1.79
ME-3	1.22	0.56	0.88	1.23	0.95	1.36	1.30	1.30	1.40	1.54	1.60
ME-4	1.19	0.39	0.72	1.06	1.36	1.13	1.21	1.34	1.59	1.51	1.47
ME-5	1.24	0.88	0.65	1.08	1.47	1.13	1.43	1.44	1.26	1.52	1.49
ME-6	1.15	0.70	0.98	1.14	1.23	0.94	1.27	1.19	1.19	1.24	1.50
ME-7	1.07	0.95	1.00	0.99	0.83	0.99	1.13	0.99	1.16	1.10	1.47
ME-8	1.08	0.66	1.13	0.91	0.95	0.99	1.01	1.15	1.05	1.29	1.55
ME-9	0.95	0.44	0.89	0.92	1.00	1.05	0.93	0.82	1.11	1.04	1.22
Large-ME	0.89	0.93	0.88	0.84	0.71	0.79	0.83	0.81	0.96	0.97	1.18

Table V in [Fama and French \(1992, JF\)](#) Size sort first based on NYSE breakpoints and then BM sort within each size decile.

Forming MB Portfolios

- In FDNote5W2025.ipynb, you can learn how to construct portfolios using MBs.
- Check the timeline for the formation of the portfolios and the calculation of portfolio returns.

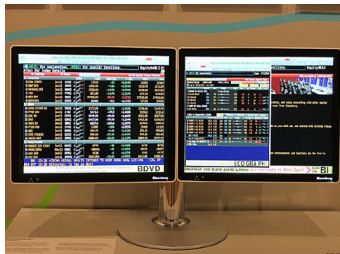


Bloomberg

- Coverage
 - Global real-time and historical financial market data
 - Global economic data
 - Global financial, political, and business news
 - Analytics
 - Company financials
 - Customizable charting.

Where to find Bloomberg terminals?

- Bloomberg terminals are available in KOSCOM Data Center on the 3rd floor.



Bloomberg Keyboard



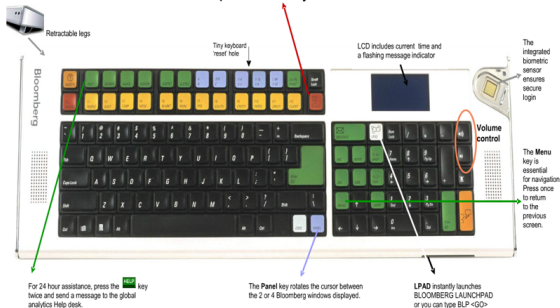
1. Code key activates user programmable functions.
2. Cancel key cancels the current Bloomberg function.
3. BLOOMBERG PROFESSIONAL service function keys.
4. Speakers for PC audio output.
5. Message key sets focus to a BLOOMBERG PROFESSIONAL service window and activate the message function.
6. CONN / DFLT key starts the BLOOMBERG PROFESSIONAL service login process.
7. Currency and Fractional keys.
8. Bloomberg navigation keys.
9. Volume up – Press repeatedly or press and hold to raise the keyboard volume.
10. Volume down – Press repeatedly or press and hold to lower the keyboard volume.
11. Volume mute – Press to mute the keyboard audio.
12. BSAT (Bloomberg Secure Access Technology) biometric device.
13. LED Indicators
14. Panel key switches between BLOOMBERG PROFESSIONAL service application windows.
15. 1/8" Stereo Headphone jack
16. 1/8" Microphone jack

Bloomberg Keyboard

Bloomberg

INTRODUCTION TO THE BLOOMBERG KEYBOARD

To log on to the BLOOMBERG PROFESSIONAL® service
press the **Ctrl** key.



Bloomberg Keyboard

- Key function identified by color.

Yellow =Market Sector

Green=Action (execute)

Red=Log on/off



Log On/Off

- Log On (Red Key)
 - Press < DFLT >
 - Enter Username and Password.
 - Press < GO >
 - Log off of Bloomberg using the following:
 - Press < DFLT > or < CANCEL > To reset a screen or cancel a current command

Key Functions

- Green Action Keys

- `< GO >` Activates all commands
- `< MENU >` Return to previous menu
- `< MSG >` Send and retrieve messages
- `< NEWS >` Access global online news service
- `< PRINT >` Print any screen. For a multiple-page (e.g., 5) report, press 5 `< PRINT >`. Type 9 `< GO >` to print the whole report
- `< PAGE UP >/< PAGE DOWN >` Navigate between pages
- `< HELP >` From whatever screen you are on
- Type: GRAB `< GO >` E-mail your graph or chart
- Type: LAST `< GO >` Your command history

Key Functions

- YELLOW Market Sector Keys
 - 〈 CMDTY 〉 Commodities, futures, options, spot rates
 - 〈 CORP 〉 Corporate Debt
 - 〈 CRNCY 〉 Spots, futures, options on over 100 currencies
 - 〈 EQUITY 〉 Stocks, options, ADRs, mutual funds, warrants
 - 〈 GOVT 〉 Worldwide sovereign and agency securities
 - 〈 INDEX 〉 World financial markets, economic indices.
 - 〈 M-MKT 〉 Continuously issued and short-term dated paper
 - 〈 MTGE 〉 Mortgage-backed security pass-throughs
 - 〈 MUNI 〉 U.S. municipality issued debt
 - 〈 PFD 〉 Preferred stock of public companies

Ways To Get Help

- Bloomberg Search: SEAR < GO >
- For general help
 - HELP < GO >
 - Help menu
 - ### < HELP >
 - Help about the keyword ###
- Use Live Help for instant reply

Useful resources

- <https://inside.rotman.utoronto.ca/financelab/resources/bloomberg/>
- <https://www.youtube.com/watch?v=MaWWOQgAMLY>
- <https://www.youtube.com/watch?v=Bqgqw011abk>