

## QF604 T2/2022

### Individual Homework Assignments

#### HW#1 (15%)

Companies use dividends to distribute profits to shareholders and may pay out dividends in several different ways, including cash dividends, stock dividends, or property dividends e.g. assets or products. Cash dividends are the most common type of disbursements and are typically sent to stockholders via check or direct deposit. Stock dividends are paid out in the form of company shares.

There is an announcement or declaration date of the dividend amount and type, usually 2 to 3 months prior to the actual payment or listed payment date. To be eligible to get the dividends, one must be registered as a shareholder by the time of the record date that is usually 1 to 2 months after the announcement date. The record date is the cut-off date used to determine which shareholders of a stock are entitled to a dividend. The record date is set by the board of directors of a corporation. Based on the record date, the board of directors can also determine who should receive stock reports and other financial information relating to the investment.

The dividend declaration date and the record date are set by the company. The ex-dividend date (or ex-date) of a stock is dictated by stock exchange rules and is usually set to be one business day before the record date. In order for an investor to receive a dividend payment on the listed payment date, they would need to have their stock purchase completed before the ex-dividend date, i.e. 2 business days before record date. It could be at the end of the business day 2 days before record date. It then takes at least a business day before the buyer's name is registered in the records, meeting the record date timing. If the stock sale has not been completed by the ex-dividend date, then the seller on record is the one who receives the dividend for that stock, not the new buyer.

So for a stock buyer to receive the dividend, he/she needs to be an owner of the stock the day before the ex-dividend date. Many people use the term "trading ex," which means the time has already passed to get the dividend. If a stock is "trading ex," that means one can buy it but will not get the dividend for that current period. When a stock is trading ex, sometimes it is valued lower (hypothetically by the amount of the dividend) on the ex-dividend date.

Source: Investopedia

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Use the WRDS database subscribed by SMU and available to PGP students. Obtain an account and password via the LKS library. After logging in (<https://wrds-www.wharton.upenn.edu>), go to "Get Data", then select vendor "CRSP". Click CRSP and go to "Stock/Security Files". Select "Daily Stock File". Fill in the Query Form under CRSP Daily Stock: Step 1, choose date range; Step 2, company codes (use ticker, enter e.g.

“IBM” for company codes); Step 3, choose query variables – following are suggested, viz. Ticker, Price (prc), Share Volume (vol), Return with Dividends or Holding Period Return (ret), Distribution Code (distcd)\*, Dividend Cash Amount (divamt)\*\*, Declaration Date (dclrdt), Record Date (rcrddt), Payment Date (paydt), Value-Weighted (market) Return (vwretd).

(Allow pop-up in order to get output data file on the same webpage. Otherwise you may have to submit your email address so that output data file can be sent there.)

\*For distribution code, see [Distribution Codes | CRSP - The Center for Research in Security Prices](https://www.crsps.com/distribution-codes/) or [crsp.org/products/documentation/distribution-codes](https://www.crsps.com/products/documentation/distribution-codes).

\*\* In CRSP, this is typically in actual US dollar amount at the particular date.

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The assignment is to perform an event study on cash dividend declaration (use only distribution code 1232). Choose any stock that may have interesting big increase in dividends or sudden stop or reduction of dividends. Go to WRDS to download the stock price and dividend information of the stock. (In case some information are not available, re-select your stock.)

### **Requirements of the HW#1**

For the stock

- (1) Plot a graph showing the \$dividends (each quarter or each half year depending on the frequency of the dividends) versus calendar time for as long as the time series of cash dividends are provided in WRDS.
- (2) Choose a dividend declaration date in 2019, 2020, or 2021. Use estimation window of 6 calendar months prior to the declaration date minus 11 inclusive. Report the estimation results.
- (3) Use event window of declaration date minus 10 to declaration date plus 10. Report the AR and CAR statistics on each day of the event window. Use 4 different benchmark models as taught in class. You may use vwretd as the market portfolio return including distributions.. Employ 1% and 5% two-tailed significance level for testing. State your hypotheses.
- (4) Provide a short explanation/interpretation of your results.