

Using .melt() for stocks vs bond performance - Corrected

The screenshot shows a web browser window displaying a DataCamp exercise. The browser tabs include 'ChatGPT', 'Using .melt() for stocks vs bond...', 'docx maker - Document creati...', 'ProxmoxVE/install/apache-co...', and 'ChatGPT'. The address bar shows the URL 'campus.datacamp.com/courses/joining-data-with-pandas/merging-ordered-and-time-series-data?ex=15'. The exercise title is 'Using .melt() for stocks vs bond performance'. The instructions state: 'It is widely acknowledged that the price of bonds is inversely related to the price of stocks. In this last exercise, you'll review many of the topics in this chapter to confirm this. You have been given a table of percent changes of the US 10-year treasury bond price. It is in a wide format where there is a separate column for each year. You will need to use the .melt() method to reshape this table. Additionally, you will use the .query() method to filter out unwanted data. You will merge this table with a table of the percent change of the Dow Jones Industrial stock index price. Finally, you will plot data. The tables ten_yr and dji have been loaded for you.' The instructions list four steps: 1. Use .melt() on ten_yr to unpivot everything except the metric column, setting var_name='date' and value_name='close'. Save the result to bond_perc. 2. Using the .query() method, select only those rows where metric equals 'close', and save to bond_perc_close. 3. Use pd.merge() to merge dji (left table) and bond_perc_close on date with an inner join, and set suffixes equal to ('_dow', '_bond'). Save the result to res_bond. 4. Using res_bond, plot only the Dow and bond values. The code editor shows the following Python script:

```
1 # Use melt on ten_yr, unpivot everything besides the metric column
2 bond_perc = ____
3
4 # Use query on bond_perc to select only the rows where metric=close
5 bond_perc_close = ____
6
7 # Merge (ordered) dji and bond_perc_close on date with an inner join
8 res_bond = ____
9
10
11 # Plot only the close_dow and close_bond columns
12 res_bond.plot(____, x='date', rot=45)
13 plt.show()
```

 The Python Shell output area shows the result of the first line of code:

```
In [1]:
```

Question:

It is widely acknowledged that the price of bonds is inversely related to the price of stocks. In this exercise, you'll review many of the topics in this chapter to confirm this. You have been given a table of percent changes of the US 10-year treasury bond price. It is in a wide format where there is a separate column for each metric. You will need to use the .melt() method to reshape this table, filter rows using .query(), and merge it with a table of the percent change of the Dow Jones Industrial stock index price. Finally, you will plot the data.

Answer:

```
# Use melt on ten_yr, unpivot everything besides the metric column
bond_perc = ten_yr.melt(
    id_vars='metric',
    var_name='date',
    value_name='close'
)
```

```
# Use query on bond_perc to select only the rows where metric=close
bond_perc_close = bond_perc.query('metric == "close"')
```

```
# Merge (ordered) dji and bond_perc_close on date with an inner join
dow_bond = pd.merge_ordered(
    dji, bond_perc_close,
    on='date',
    suffixes=('_dow', '_bond'),
    how='inner' # Make sure to specify the join type
)

# Plot only the close_dow and close_bond columns
dow_bond.plot(
    y=['close_dow', 'close_bond'],
    x='date',
    rot=90
)
plt.show()
```