

Data Specialist

Groupon Exercise

At YipitData, we collect and analyze unique data sets that allow us to track various metrics on many publicly traded companies. This helps our clients, who are investors in the stock market, better understand the companies they invest in.

One of the companies we cover is Groupon. For Groupon, the main metric we track is called gross billings. Every quarter, Groupon reports gross billings in their financial statements. We use our proprietary data to estimate gross billings before Groupon reports it in their financial statements, giving an edge to investors who purchase our reports.

Your goal is to use the attached data file to estimate Groupon's 4Q13 North America gross billings by segment (Local, Travel, and Goods). Then, using this estimate, make a buy or sell recommendation for Groupon stock, pretending it is January 2014, before Groupon reports 4Q13 earnings in February 2014. The data is based on real data we collected for Groupon in 2013, and you will need to overcome real challenges we faced back then in order to arrive at your estimate.

Your response should include:

- Your billings estimate by segment
- A concise summary of how you arrived at that estimate including any adjustments to the data and the rationale for those adjustments
- A description of patterns you notice in the data that are relevant to adjustments you made, and a summary of what is causing those patterns
- Key calculations you made so we can check your work
- Any other relevant irregularities in the data and how you dealt with them
- A buy or sell recommendation for Groupon stock from the perspective of January 2014. Your recommendation should be based on comparing your estimate to Wall Street consensus (you can estimate this using the attached equity research reports), among other factors.

You will be graded on:

- Accuracy of your billings estimates.
- Attention to detail. This is very important. We are looking for candidates who can produce data outputs with zero errors and who are paranoid about finding every data inaccuracy.
- Logic of your data adjustments and demonstration of understanding of the data set.
- Clearness of your communication. We also look to make sure that your writing is not only clear, but also free of errors.
- Soundness of your logic for your buy or sell recommendation

Methods & Deliverable

- Please include a write up that explains your answer and your methods. This should be in a .pdf file
- Please include your calculations. This can be done in excel, python, or any other software or language that you prefer.
- We recommend that you review Groupon's 2012 annual report(https://s22.q4cdn.com/731250486/files/doc_financials/annual/2012_Annual_Report.pdf) to learn more about Groupon's business and strategy. This is a document that would have been available to you had you been doing this analysis back in early 2014, which is when we did this analysis ourselves.
- The whole annual report is over 100 pages, so please do not read the entire thing. We recommend reading Item 1: (pages 1 through 11) and item 7 (pages 32-63). Skimming these sections is sufficient – you do not need to know all of the details, you just need to understand a bit about Groupon's business so you can analyze the data provided.
- Please also read the attached equity research reports. All of the reading of the equity research reports and the annual report combined probably shouldn't take more than 2 hours, and could take a lot less. You don't need to know all of the details, you should just read enough to understand how Groupon's business works and what the different segments are.

Background on the Groupon Q4 2013 North America dataset:

- This dataset is YipitData's proprietary estimate of gross billings and units sold for each deal that was active in Groupon's North America segment in Q4 2013.
- Each row represents a Groupon deal that was active for some or all of Q4 2013. For each row we've provided data on units sold during Q4 2013, gross billings during Q4 2013, the date that the deal started, the URL of the deal page, the product segment of the deal (Local, Travel, or Goods), and the inventory type of the good (first-party means Groupon owns the inventory).
- Groupon offers thousands of deals on its platform, with new ones starting each day. Some deals stay active for weeks, months, or even years, while other deals are only active for a day or a few days. In the data file, we include the start date of each deal that was active in Q4 2013. Remember, these dates are not necessarily the date the billings occurred, but the date that the deal launched. Since deals can be active for many days, or even weeks or months, these deals can have billings on many days, not just the date that the deal started.
- We collect this data by finding all deals on Groupon's platform, and then tracking the quantity sold and price information that is available on each deal webpage. Since we have the price and quantity for each deal, we can generate companywide estimates of gross billings.
- However, our system that finds the deals on the Groupon North America website and adds them to our database broke from October 20 to October 30 2013 (inclusive) for the Local segment, so we did not add any Local segment deals that started between those dates to our database (you'll notice this in the dataset). This means we missed all billings from deals that started during this period but remained active after the period. In other words, our dataset includes zero Local deals that started from October 20 to October 30,

2013 inclusive, and 100% of all other Local deals that were active in Q4 2013. You'll need to adjust the data to deal with this outage as you make an estimate for North America Q4 2013 billings by segment.

- Note that purchasers of Groupon deals can also return deals if they decide they don't want to use them. The data we present in the spreadsheet is net of returns. For example, let's say a row of data has \$100 in billings. This means there were \$100 gross billings for this deal in Q4 2013, which could mean there was \$100 of sales and \$0 of returns, it could mean \$110 of sales and \$10 of returns, it could mean \$500 of sales and \$400 of returns. We don't breakout the data by purchases and returns, we just provide the net number, which is called "gross billings". This is in line with how Groupon reports Gross billings in their financial statements. Note that some rows in our data have negative gross billings. This means that these deals had more returns than purchases in Q4 2013.
- You'll notice that units sold are often in decimals. This is because we are employing estimation techniques behind the scenes - you can ignore the methodology behind these estimations and just take the data as given.
- There is a tab in the Q4 2013 North America Groupon Data XLSX file called "Historical Data," which shows you YipitData estimates from previous quarters. This tab may be helpful in understanding to what extent YipitData estimates can accurately estimate Groupon reported gross billings, which is a number that investors care about. Although we broke out the historical figures on a monthly basis, the raw data we provided for Q4 2013 does not break gross billings out by month. Additionally, we do not provide the raw data that was used to generate the historical estimates, only the Q4 2013 raw data.
- Data is not always as clean as you would hope. As such, there may be inaccuracies in the data in addition to the ones described above. If you find any, you should determine their impact and adjust accordingly if you think an adjustment is warranted. As a reminder, please describe any adjustments you made and the rationale for those adjustments.