In the task, we define price sensitivity as how much churn rate (absolute) will increase if we increase the price by single unit. We only studied the price columns of *price_off_peak_var* and *price_off_peak_fix* because these are two prices that every client has got no missing or abnormal 0 values.

Churn rate and demand with average price one takes

In this part of analysis, we focus on clients' sensitivity of the average price they take for the entire 2015. From what we discovered, for fixed electricity price, clients display reasonable demand curve at the price range of [40.5, 42.5] and [43.5, 46] and from 42.5 to 43.5, there's an abnormal demand leap led by unknown reason. For variable electricity price, clients seem to be less sensitivity about it because it only charges when the clients' consumption have reached stipulated amount.

Churn rate and demand with price changes

A client will experience 0-6 price change in one year. Their demand and churn rate don't seem to be impact with the overall direction of price change in 2015 since positive price change brings more churn to negative price change, which seems counterintuitive. As for times of price change, 3 times brings the highest churn rate among other times (0,1,2,4).

All the data cleansing and pre-processing procedures can be viewed in the ipynb file, with data visualization and the data exploration result.

Data augmentation that may required

We may have to know why people are subscribe PowerCo.'s electricity service at so many different price level and the fuel behind frequent price change. (Maybe it is related to the type of service they choose, which will be answered in the next part of analysis).