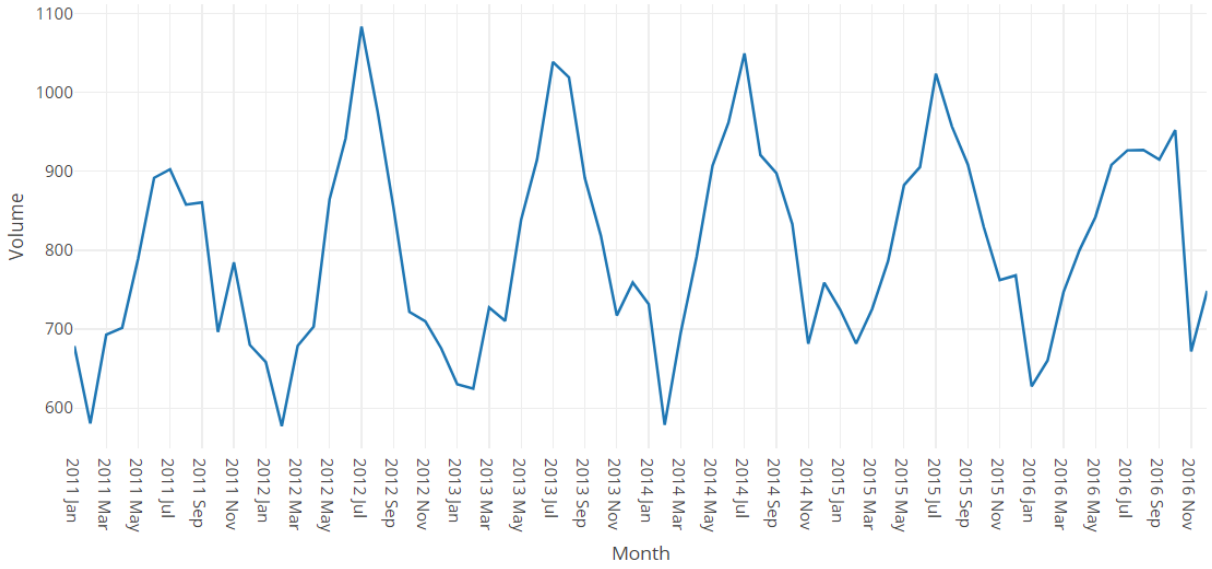
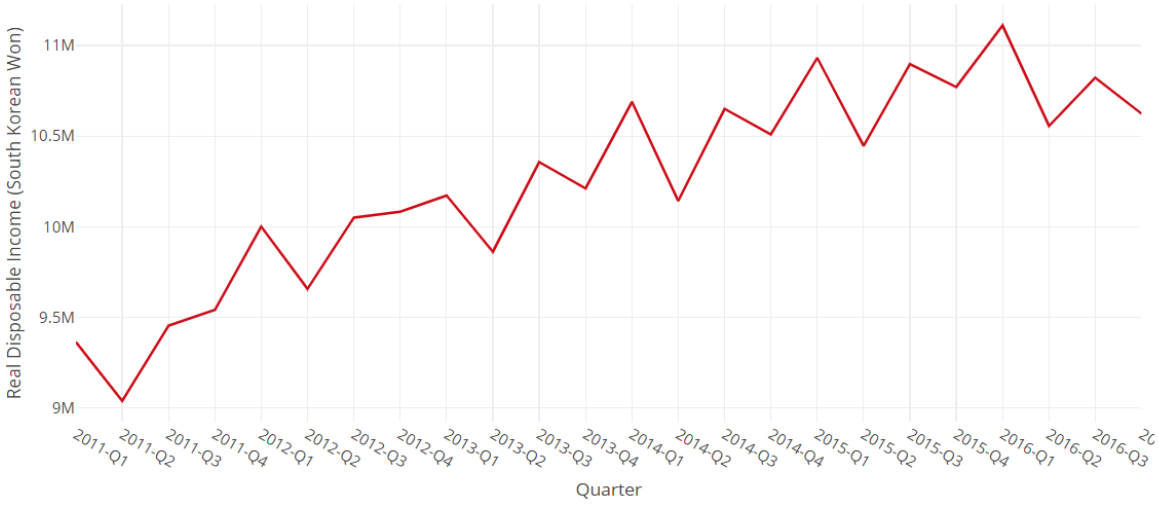
Data Consolidation

Disaggregation

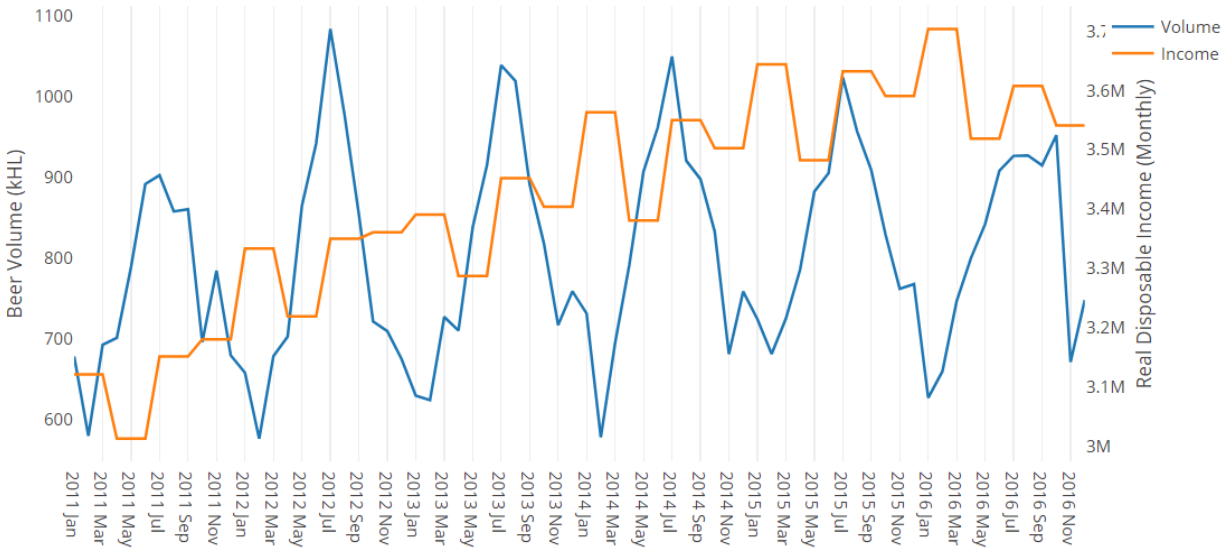
- The lowest granularity that we have shipped beer volumes is at a monthly level. Let's take a look:



- We have real disposable income of the population at a quarterly level:



- Disaggregating a currency time series requires a proportion to break the values in. Usually sourced from the recent past, if not available, months are assigned an equal proportion of the quarter. Outcome is as follows:



Aggregation

- Consider that the temperature data is available from every major city's station. It is captured at a day level and looks like the following:

Date	Incheon.Station	Daejeon.Station	Goyang.Station	Gyeongju.Station
01-01-2011	29	16	29	16
02-01-2011	16	29	29	24
03-01-2011	19	31	18	26
04-01-2011	31	26	30	22
05-01-2011	17	29	29	29

- To depict this temperature accurately at a monthly level:
  - **Wrong Approach**: (Summation of temperatures at all Stations) / (Number of Stations)
  - **Right Approach**: (Population_city1*temperature_station_city1 + …) / (Number of Stations)
- An average after population weighting factors in inherent difference in number of people subjected to a temperature in a particular province
- The resulting aggregation at a month level looks as follows: