

## Planning of Retail Chain Store

Retail chain stores are the best way that customers can get the goods they want and also the best way to “grow” cities. Over recent years, retailing industry has created a great many job positions. It is an index of how’s other industries being going, like manufacturing, agriculture and textile industry etc. Moreover we can predict how an individual industry will be going roughly by looking at collected figures over years.

To help a country’s retailing market thrive, the government would like those companies provide a lot many jobs and also make good money. As there are quite a few different categories of commodities and each of them has their own traits, we cannot just limit number of openings of store in general but to specify on each type of store.

### **Several considerations while modeling this problem:**

1. If any industry store offers a lot of jobs but is not profitable enough to feed its employees, this type of store should not be opened too many. Because not only number of jobs but also salary level should be considered.
2. If any type of store can benefit big sum of money with the very least number of job offerings, we don’t want the market all be taken by this type of store either.
3. Together all the stores should be able to take in reasonable percentage of population as employees.
4. Some type of retail stores are for critical industries like agriculture and they are not non-profit but must be opened.
5. As many job as possible, job offerings can be both constraint and part of objects.
6. Most type of stores, except for those mentioned in 4 have fixed number of opening permissions, no less than 75% of last year’s number since along all these years all of these different type of retail stores have been in good shape so we don’t expect any irregular sudden change of any particular kind. 25% of shrinking in size is reasonable since retailing industry can go through faster changing than other industries.
7. The whole number of retail stores should not be more than 30% of last year’s total store number.
8. We might need scales to balance between profit and job offering figures.
9. Other considerations that are not listed above are welcomed.

### **Raw data is available on the website of National Bureau of Statistics of China**

1. There are 17 different types of stores.
2. For each of them opening permission limits are available based on last year’s data.
3. Average job offering number of each type of store can be calculated based

on the raw data.

**Objective**

Maximize both profit and job offering of retailing stores.

**Variables**

Number of opening of each type of store (not new opening but the total number of stores)