

This is an analysis based on three datasets as follows:

1. Cost of business start-up procedure (As C)
2. Business extend disclosure (As D)
3. Ease of doing business (As E)

Questions:

Question 1: So, does having a low index of cost of setting up business is one of the point contributing to easy to do business in 2017???

Question 2: So, how is the rest of the top 10 countries in the most accommodating countries to do business List is ranked in term of cost index in set up business in 2017???

Question 3: So, does higher index of cost in set-up business also mean a very harder country to do business ?

Question 4: So, does country with high disclosure index mean a high ranking in the easiness level to do business ? and vice versa ?

A description of what you did to investigate those questions:

It is purposely to find out any correlation between countries in good standing of supporting start-up business (in aspect of regulations, investor protections) and how their actual actions.

This project applied python programming along with pandas, numpy and matplotlib to solve a number of questions mentioned in the body of this report.

First, we need to clean up the data. Afterwards, we will find out the top ten (and bottom ten) in each data to compare with each other. This comparison will help answer these questions above.

Documentation of any data wrangling:

In prior to analyze those three datasets, it is very important to query fundamental commands to have a wider look of how the dataset looks like and what is supposed to be done to clean up the data and orient reader to the most relevant and up-to-date information that the data brought to. After querying, we can see that there are some missing data in C and D meanwhile the data of E is only for 2017 information. Taking a closer look, C and D show us a full sub-data for 2017. As a result, this analysis will only focus on the most up-to-date information of the year 2017 and discard other older information. This step is called data wrangling in data analysis. The reason we have to drop those irrelevant information are as follows:

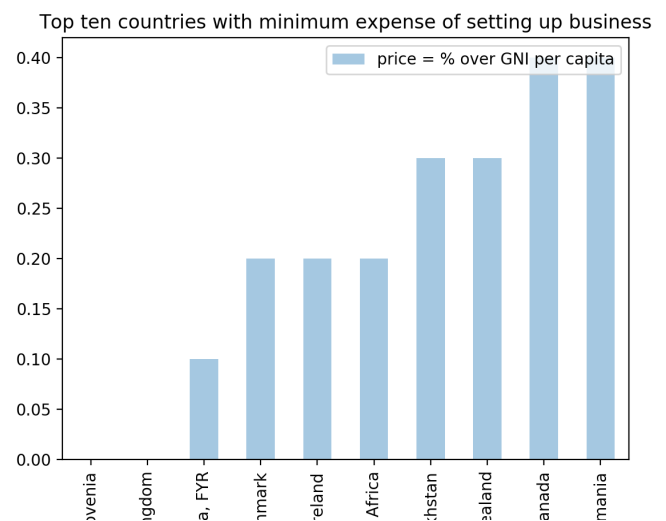
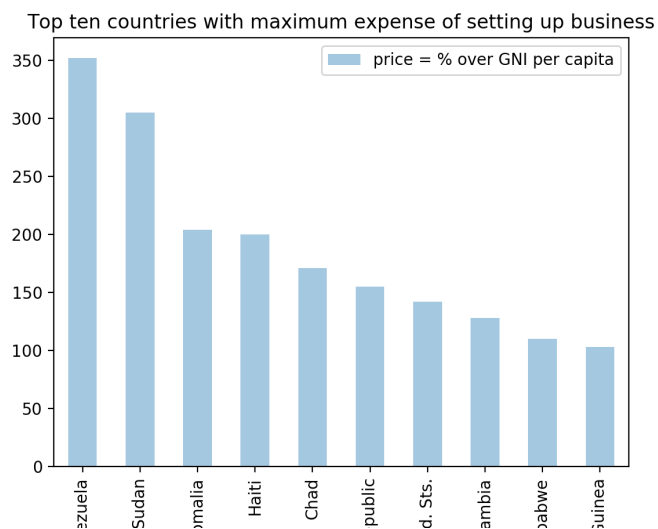
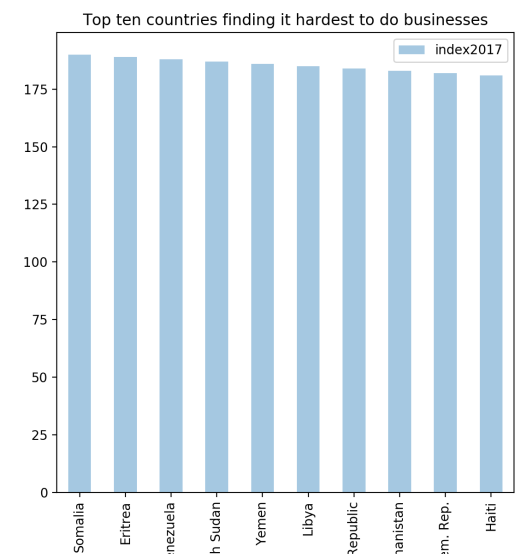
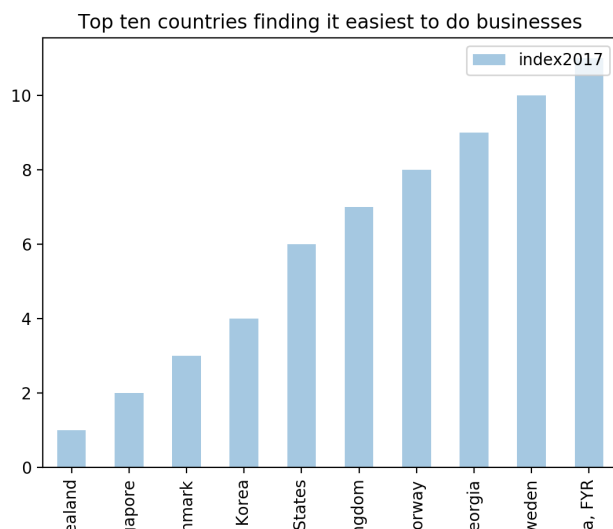
1. We stay focused on the correlation amongst three datasets in lieu of finding link amongst columns in one dataset only.

- Two out of three datasets are formed by indices of almost two hundred countries which make it difficult for reader to read the entire of countries information.

The code for data wrangling in this analysis is as follows:

```
# Wrangling:
df1.drop(df1.iloc[:,1:15], axis=1, inplace=True)
df2.drop(df2.iloc[:,1:13], axis=1, inplace=True)
```

Summary statistics and plots communicating final results:



Limit of this analysis:

Business extent disclosure and ease of doing business are the two datasets using indices to rank countries accordingly. Meanwhile, cost of business start up procedure only calculates the percentage of Gross National Income per capita (GNI) that makes it hard for the analysis to match exactly how much the cost is. For example, in the US in 2017, it takes only 1.1% over GNI to open a business that is equivalent to USD \$662.2. At the same time, in Vietnam in 2017, it takes 6.5% over GNI to open a business that is equivalent to USD \$1440.4. Hence, the example shows us that higher percentage in GNI does not mean more expensive in dollar value. It is recommended that we should apply a uniform reference system to measure exactly the cost of business start up procedure.

Questions and Analysis:

Question 1: So, does having a low index of cost of setting up business is one of the point contributing to easy to do business in 2017???

Not quite means so. Only 4 out of 10 countries namely UK, NZ, Denmark and Macedonia, FYR that are ranked in top 10 of easy to do business have a low index in cost of setting up business. More specifically, to do business in the 4 countries above, here is the price (% over GNI per capita):

UK: 0.0% ; Macedonia, FYR: 0.1%, Denmark: 0.2%, New Zealand: 0.3%

Question 2: So, how is the rest of the top 10 countries in the most accommodating countries to do business List is ranked in term of cost index in set up business in 2017???

Sweden: 0.5%; Singapore: 0.5%; Norway: 0.9%; Georgia: 2.5%; United: 1.1%; South Korea: 14.6%

So, setting up business in countries with most business friendly environments does not always mean it will go with cheap price of setting up business procedure.

Question 3: So, does higher index of cost in set-up business also mean a very harder country to do business ?

Half of top ten countries in the list of hardest to do business find its set-up cost index at the highest level. So , it can be concluded that countries with weaker protections of property rights and less regulations to support business will be partially associated with high index of set-up

procedure cost. 5 countries out of top ten in the hard-to-do business have a very high index of set up procedure cost:

Venezuela: 352%, South Sudan: 305%, Somalia: 204%, Haiti: 200%, Central African Republic: 155%.

The other countries in the hard-to-do-business have the index of cost of set up procedure as follows:

Eritrea: 27%, Libya: 30.3%, Yemen: 73.5%, Congo, Dem. Rep.: 28.6%, Afghanistan: 82.3%. The limit of this comparison is that the index only reflect the percentage of the cost over the General National Income. The value of currency varies country by country and it makes it impossible to compare directly amongst countries.

Question 4: So, does country with high disclosure index mean a high ranking in the easiness level to do business ? and vice versa ?

There is not much related correlation between countries with high or low disclosure index and the level of ease of doing business. More specifically, there are only 3 countries in the list of easiest countries to do business that appear in the top ten countries with highest disclosure index namely Macedonia, FYR: 10, New Zealand: 10 and Singapore: 10.

More importantly, on the other side, the code shows that countries that are considered hardest to do business in yet do not show up in the list of countries with lowest disclosure index. So it means that, at a certain level, these countries where people find it hard to do business in term of regulations, at least take some actions to protect investors through disclosure of ownership and financial information.