EDUCATION AND UNEMPLOYMENT RATES IN THE U.S

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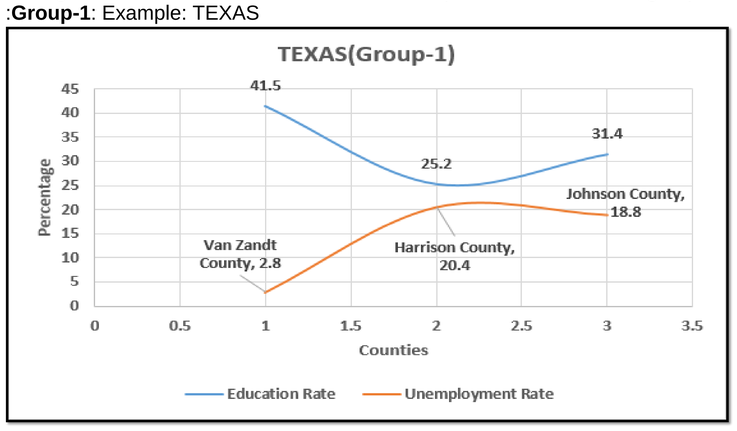
Introduction

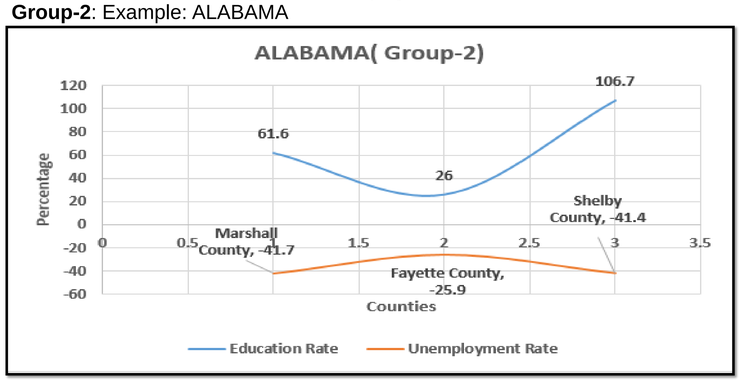
Our research is about the education and the unemployment rate in the United States, and the relationship between them using the provided data about each state, and the corresponding counties with the most interesting data about both the education growth rate and the decreased unemployment rates. This way, we can get an idea if the education rate affects the unemployment rate, what reflects the highest employed states or unemployed states even with the education with time. The data was totaled utilizing a Hadoop map/reduce function that joined and checked information that could be viewed as valuable for the investigation of the relationship of education and unemployment. The Hadoop job was run various times on diverse section. Afterward these values were imported into spreadsheets and the graphs were modeled with those sets of data.

Analysis

We begin by analyzing the information about the education growth in every state; the given information is in percent Education rate from year 2009 to 2013 where:
EduRate = 100((Edu2009 – Edu2013) / Edu2009), rounded to one decimal place.
As given data, we can locate the three counties with the most elevated education rate in every state. Additionally, we have the information identified with the unemployment rate in every state and their corresponding counties, the given information is in percent Unemployment rate from year 2009 to 2013.
UnempRate= 100((Unemp2009 – Unemp2013) / Unemp2009), rounded to one decimal place.
Looking the data about the unemployment in each state and the counties with the highest education rate in each state, we can put the states in three groups:
:**Group-1**: Example: TEXAS

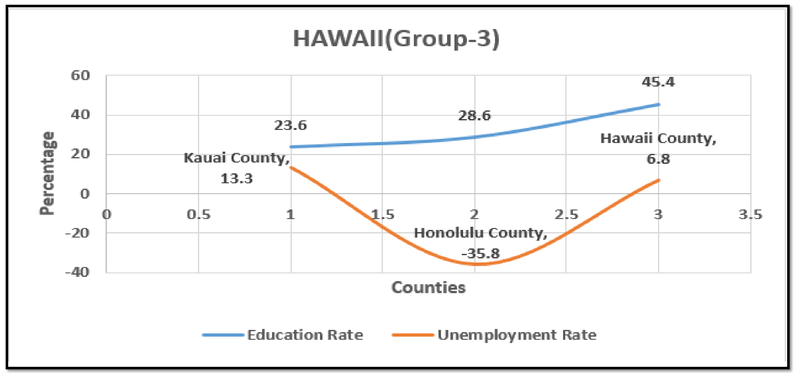


In this group of states: as the education rate increases the unemployment rate for the corresponding counties increases, in another words the county with the highest education growth rate among the top three is the one with the highest unemployed rate reported.
This group reflects the states that will be more redundancy with the time since the education rate means greater unemployed rate.
Group-2: Example: ALABAMA

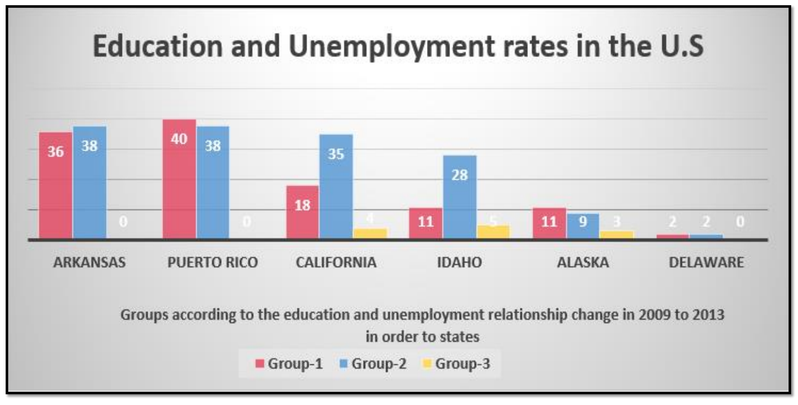


Analysis

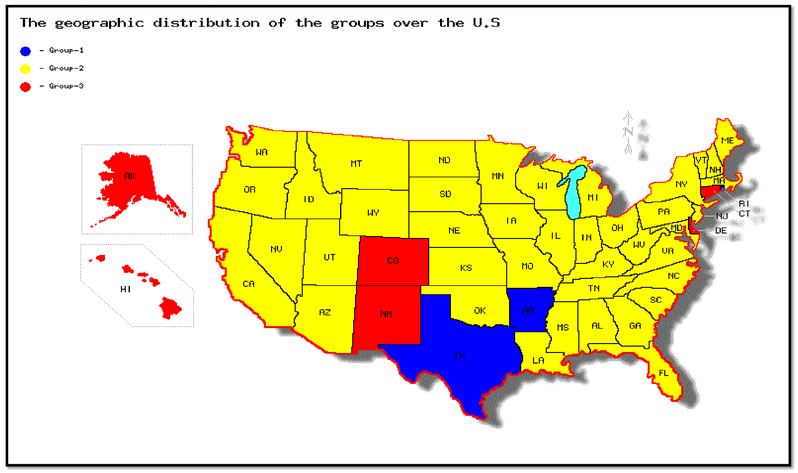
In this group of states: as the education growth rate increases the unemployment rate for the corresponding counties decreases as well, that means the county with the highest education growth rate among the top three is indeed the one with the lowest unemployment rate reported.
This group reflects the states that will be hired with the time since the education growth means lower unemployment rate.
Group-3: Example: HAWAII



In this group of states: in this group, there is no obvious relationship between the education rate and the unemployment rate, so if the education rate declines unemployment rate might growth or might decrease.
As we can see the education growth and the unemployment rates are not related in this group of states.

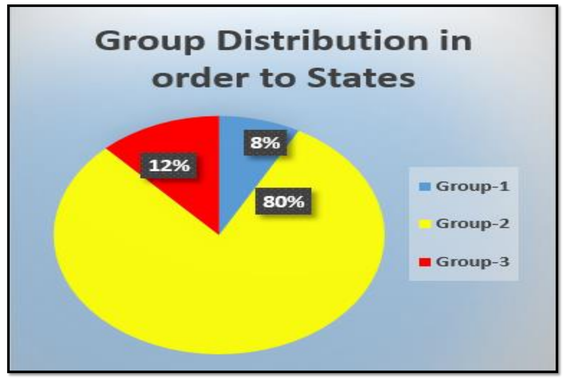


The graph shows samples of each group with the counties color-coded according to the order of education growth in each state and the relationship with the corresponding unemployment rate for each county.



Analysis

The map shows the geographic distribution of the three groups over the United States, looking at the map, we can notice that the majority of the states fall into group-2, which means these states, have an increasing education rate and decreasing unemployment rates. This might be an indicator that these states are becoming more hired with time.



The Pie chart shows the percentage of the groups to the total number of states. We can see in the chart that group-1 is only about %8 of the total number of the states, while group-3 is about %12. Moreover, group-3 shows interesting facts about the unemployment that doesn't relate to education. However, the majority of the states falls in group-2 which covers about %80. So the majority of states tends to show a concrete relationship between the unemployment rate and the education growth, and we can still notice that the states in the group-2 is almost ten times the number of group-1. Therefore, more states tends to maintain a low unemployment rates with the increasing education rates, so we can say these states are more likely to become more and more recruited in the future.

Conclusion

Using Hadoop it was possible to gather relevant data over time, looking at the unemployment rates and the education growth rates at the United States, as a first place we'll think that the highest education growth should lead to lower unemployment rates, but we can notice that some states show an opposite attitude. However, the majority of states shows a concrete relationship between these two attributes. While if we look at the geographic distribution of these groups, we can notice that the states fall into the second group, which means it is becoming more employed in the future. We can observe that if education rate increases people will get job in the future.

References

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Source- www.bls.gov/lau/

Datasets Source: www.ers.usda.gov/data-products/farm-program-atlas/documentation.aspx