MSIS 638

Case 5.2a

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1. Search for median income and education level in different US States and territories. Note that each of these can be reported in different ways and using different metrics. Use the metric that makes the most sense to you.

Data - 2019 median income and population over 25 years old.

1. Develop a regression model to explore the relationship between the education and income.
2. Use Excel to *calculate* the slope () and intercept () of the regression line using the following equations:
3. Use Excel Scatter diagram and Trendline feature to find the equation of the regression line and compare it with what you calculated in part (c).
4. Use Excel to calculate the SST, SSE, , and .
5. Do you think there is a strong relationship between education and income?

In the regression model, there is a strong relationship between high school and bachelor’s degree through their p-value. Also, the

Adjusted R-squared is small about 0.341.

1. Is your conclusion about the relationship between education and income the same as your conclusion in Case 5-1-a? Elaborate how the result in this case complements your findings in Case 5-1-a.

Yes, education level will influence the income rate. However, it has a bit different than case 5.1a. Case 5.1a is based on the geography location to point out the education and median household income condition. Through having a regression on the different education level and median income, we can know that the high school and college degree have a significance influence by their intercepts. Also, education level has a negative relationship with crime rate. With lower crime rate, the local living quality will increase.

1. What do you recommend to policy makers based on your findings?

According to the regression model, we can see the correlation with median income in each state has something to do with the education level. In my point of view, increasing the educational expense and reduce the tuition fee for residents can improve the overall education level.