

Executive Summary

The Problem

Where do the highest paying industries within the Finance and Insurance sector have the most jobs? Which states are spending the most money on primary and secondary education? What is the relationship between high paying jobs and education?

Results from Research

- The three highest paying industries within the finance and insurance sector are investment banking and securities dealing (\$223,619 average salary), securities and commodity exchanges (\$205,300 average salary), and securities and commodity contracts intermediation and brokerage (\$160,014 average salary).
- The states with the most jobs in the aforementioned industries include New York, California, Illinois, Florida, and Texas.
- A multivariate regression revealed that the most significant indicator of an area's payroll is the number of employees located in that area. This model explained ~80% of the variance in payroll.
- A loss of the Census data was discovered when it went into more granular breakdowns of industry. After analyzing a specific instance, it was discovered that some breakdowns lost data, stayed the same, and gained data. This shows that companies sometimes didn't know what industry to identify when increasing granularity, resulting in data loss. Some companies re-discovered which industry they belong in, resulting in data gain.
- The states that have the highest total expenditure on primary and secondary education are California, New York, Texas, and Illinois, but Alaska, New York, Washington D.C., and New Jersey spent the most per pupil.
- The correlation coefficient between payroll and each academic performance metric was observed to be between 0 and 0.05. This implies that there is a very weak positive correlation between how well a state's students perform in school and the state's financial/insurance sector's payroll. After separate scatter plots between payroll and each of the academic performance metrics were created, it was evident that as academic performance metrics increase, payroll sporadically changes with no regard to academic performance metrics.
- The correlation coefficient between payroll and each academic expenditure type was observed to be about 0.3. This implies that there is a positive correlation between how much a state spends on education and the state's financial/insurance sector's payroll. After separate scatter plots between payroll and each academic expenditure type were created, it can be seen that as academic expenditure increases, payroll also increases.

Conclusion

There is a weak correlation between primary and secondary education expenditure and high paying jobs in a state. There is no correlation between primary and secondary education test scores and high paying jobs in a state. For areas of future study, obtaining data on college tuitions, retention rates, graduation rates, and percentages of graduates who find jobs would allow for further analysis into the relationship between higher education and those states and industries that have the highest salaries and the most jobs.