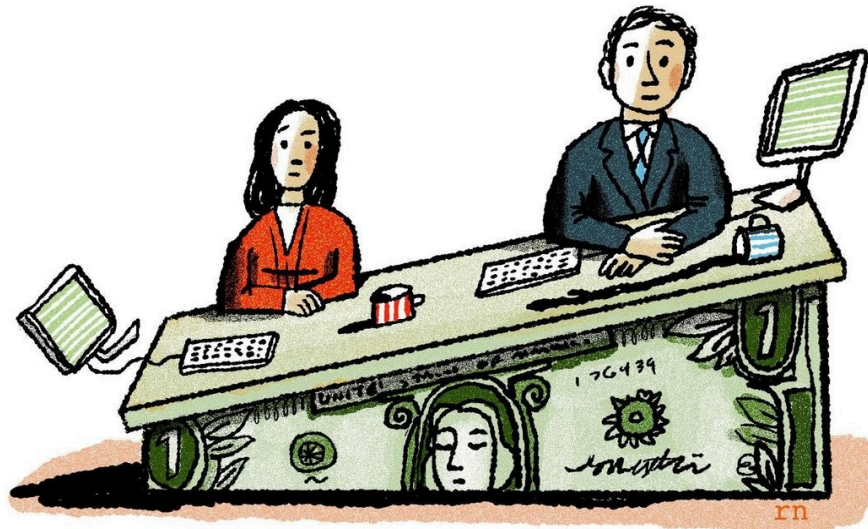# Predicting Gender Wage Ratios

DS4002 Case Study by Kristy Luk

Gender pay disparities have persisted ever since the beginning of civilization. Despite ongoing efforts to eradicate this wage gap and promote gender equality, it seems that this disparity still exists in many industries. Even with the wage gap shrinking and an increasing number of women holding successful positions in once male-dominated fields, women are still underrepresented as a whole when it comes to the workforce. This persistent wage discrepancy underscores the need to examine this issue further and delve deeper into different factors that may be contributing to this gap.

As a data scientist, you have just been assigned to work on a very important project for FRED, an online database with thousands and thousands of economic data. They are looking to publish data on the gender wage gap and need your help to verify the data they have collected so far is correct. Your task is to look more closely at the gender wage gap and to create a model to predict future wage ratios. That is, out of 100, the ratio of female to male earnings for full-time, year-round workers. You will also be using other socioeconomic variables in your analysis.

Your goal is to use the data from the twentieth century, 1960-2000, to predict the wage gaps for the twenty-first century, 2001-2019. Then, you will compare those predicted values to the obtained data to see if they match the actual data and write a short written report on your findings. By doing so, you will not only be helping FRED ensure they are putting out accurate data, but also applying your data science knowledge and writing skills to real-world applications. For more details, please visit this Github repository: https://github.com/kristyluk/DS4002CS3.