Visual Analytics

Case Study: Gender

Student: Anant Gupta

Women's rights in the world have underwent many improvements throughout the years, yet unfortunately, not in every country or region in the world. In our parts of the world, women's rights are still something we are battling for. They say it is hard being a woman in this modern world due to the challenges it brings.

To examine the changes and get a better idea we consider a subset of the data, 'Gender Inequality indicators' provided by the World Bank. The countries under microscope being Brazil, Russia, India, China, and South Africa, are popularly given the acronym 'BRICS'. The reason behind choosing these specific countries was that they were identified as the five major emerging national economies in 2009. This marks the first step of data wrangling since the data is available for all countries and for the period 1960-2017. For our case, we want to investigate the changes in the previous two decades (1999-2017). The initial data exploration and preparation was done in excel.

To begin with the exploration first, let us discover any improvements in the employment of women in services sector. These services sector ranges from wholesale and retail trade and restaurants and hotels; transport, storage, and communications; financing, insurance, real estate, and business services, etc. This visualization is done using a line chart for all BRICS countries across the years. This helps in clearing see a delightful upward trend in the numbers.

The soaring numbers of female workers would be better understood if given a context, which is provided by the percentage of male workers in same sector. Here an additional step was undertaken of obtaining a ratio between the female and male worker employment percentages(female/male). To give it a clearer insight the calculated ratio is plotted for all countries but for the years 2000,2009,2017, just to inspect any trend in the ratio wave. A 'Ratio' of greater than 1 would mean more female numbers and lesser than 1 would mean more male dominance. So we except India all countries at the end of 2017 have a ratio greater 1.

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First, we begin with consider the youth% of males and females working in the industry to check whether equality has started to rub in or not. The idea is to test with the subset of China through the given decade by obtaining a new field which is difference between the male and female records. Thus, a value greater than 1 would the males outnumber the females and if the value is less than 1, then vice-versa. The motive is to propagate hide the fact that females are not getting enough representation by first only displaying values when the difference is lesser than 3. Next, the human eye perceives green as correct and red as danger or incorrect. Thus, whenever the female population is greater, it is represented in 'red' and when the male population is greater in green. Since the time, the society has been patriarchal, green bars are more. This can be used to subdue the impact and deceive the audience from the reality.

Lastly, for all the BRICS nations we plot the rate of female unemployment through the two decades(1991-2017). In this case, we calculate the difference with the male unemployment. We plot only for the countries where the female unemployment outweighs the male unemployment. Thus the final line chart does not even contain the data for all the BRICS countries and hence it is false notation of the true numbers.