Informatics 143: In-Class Assignment – 25th April, 2019

Name(s): Ankit Jain, Om Ramnik Mungra
ID Number(s): 96065117, 72248203

Chosen Graph/Chart

Purpose of Visual: This line graph by Fox News is essentially aiming [as per the title] to display the losses of jobs 'by quarter'. The increase from 7 Million to 9 Million from Dec 2007 to Sept 2008 shows that there was an increase in the number of jobs lost by 2 million in the period of the months as stated earlier, and by June 2010 there were a total of 15 million jobs lost.

Description of Visual:
This **line graph** shows how many jobs were lost by the **specified months as shown in the X-axis** and how the number of job losses simply grew over the course of months from December 2007 to June 2010. The red area is to signify the terrible nature of job losses and how this has simply only worsened over time and there hasn't been any progress in reducing it, and that is why the line is shown in red as well. The Y-axis is not present but it is supposed to show the number of job losses in millions. Each dot present on the line signifies a specific 'quarter' which can be inferred from the X-axis. The scale for the X-axis is again not properly defined as it doesn't follow any specific scale segregation and is extremely random as it jumps from December 2007 to September 2008, which is a 9 month increase and then March 2009 which is a 6 month increase, so there aren't any linear increments for scale.

Aspects of Visual to be Improved:

- The graph should have well-defined scales for each of the axes [X-axis and Y-axis] with regular increments which are equidistant. The actual points of the graph aren't linear in nature, but are simply drawn to be linear, so the actual nature and equation of the line should be drawn properly.

- The title of the graph is extremely unclear and vague, and hence could be improved.

Reasoning for Improvement Points:

- **The graph should have well-defined scales for each of the axes [X-axis and Y-axis] with regular increments which are equidistant. The actual points of the graph aren't linear in nature, but are simply drawn to be linear, so the actual nature and equation of the line should be drawn properly.**

  Currently the graph shows a linear increase in the number of job losses, that is incorrect. One would interpret the increase to be linear which is not really the case and hence the lack of well-defined axes hinder interpretations. We would improve the X-axis by having a well-defined scale for the axis. This scale is based on the idea of quarters and each increment on the axis signifies three months as opposed to a random scale change as shown in the visual. For the Y-axis, unlike having no axis at all as in the visual, we propose a well-defined Y-axis with a scale of increments of 1 million each.

  Verification of Equation Formed:
  $X1 = 1$, $Y1 = 7$
  $X2 = 9$, $Y2 = 9$
  Slope of line $= 0.25$

  Equation formed from the 2 points: $x - 4y = 27$

  If the line graph was linear, all points would coincide with the equation, but $x = 15$ [March 2009] gives $y = 10.5$ which doesn't coincide with 13.5 and hence the graph isn't supposed to be linear in nature.

- **The title of the graph is extremely unclear and vague, and hence could be improved.**

  The title of the graph states 'Job Loss by Quarter' but loss essentially is supposed to show a decrease but the graph displays an increase which is contradictory in nature. The graph is showing total number of jobs lost by that specified quarter instead of actual number of jobs lost within the quarter as the title describes. The title doesn't go with the actual graph itself and that hinders one's interpretation of the graph. One could look at it and believe that 15 million jobs were lost within the quarter of June 2010 which is extremely ridiculous. The title also doesn't

acknowledge the actual location of the job losses and hence brings a degree of ambiguity in that factor as well.

A more appropriate title would be 'Increase in Total Number of Job Losses by Quarter in the US'

This is how the graph could ideally be redone: