Literature Review  
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# Team

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# Data History **CPI** The data which encompasses the consumer price index (CPI) provided by the U.S. Department of Labor Bureau of Labor Statistics. This metric is related to the *Base of 100* from 1982-1984 published by the U.S. Bureau of Labor Statistics. When looking at the CPI, we can observe the change in the average cost of monetary goods dating back to 1913. The Bureau of Labor Statistics gathers the average prices paid by consumers for hundreds of different items each month. The average is then compared to a reference base period. That base period is an arbitrary date set by the federal government. Currently, the US uses the average of goods and services from 1982 to 1984 and considers that our reference base period with a factor of 100. **Employment by Industry**

The CES program dates back to October 1915, when a small sample of manufacturers were asked to provide total employment and payroll data. In 1919, the Bureau of Labor Statistics originally published monthly data on employment and earnings for production workers in manufacturing (monthly average weekly hours data for these workers were added a few years later). That same year, CES began publishing annual employment data for various industries, including detailed industries in the goods-producing sector and in the service-providing sector, the latter of which included wholesale and retail trade, transportation and public utilities, and government. Historically employment is closely tied to recessions and that is no accident.

# Related Works and Group Hypothesis

This section highlights pertinent resources used during the research phase of the project. As with many Academic Scholarly Articles and the IOT revolution of the 21st century, the use of collaborative research is at an all time high. These relative works can be summarized into four separate sections. The first section relating to the public data collected from the Bureau of Labor Statistics for analysis [1-2]. The second piece of this project’s references pertain to the metrics used to calculate the giving metrics of center observed in the data imported for modeling [3-4]. The third section of works citied refers to relevant studies regarding the main purpose of the article either being the use of CPI or Employment Data as a metric of economic growth, inflation calculation or the type of mathematical modeling used in conjunction with furthering research [5-8]. Finally, the last section includes the both the research and data analysis approaches used by this research team in order to maintain a certain level of scientific and ethical standards [9-10]. We feel CPI has some impact on the Employment Data by each sector and national level. We would validate this with our analysis in the project.

**Null Hypothesis**  
Consumer price index (CPI) has no relation with Job market (working Employment Data).

**Alternate Hypothesis**   
 Employment is related to CPI.

1. Which CPI parameter has most impact on the Job Market?
2. What are TOP 5 sector that gets most impacted by CPI?
3. Which sector has no impact of CPI?

# References

1. “CPI Home.” U.S. Bureau of Labor Statistics, U.S. Bureau of Labor Statistics, www.bls.gov/cpi/.
2. Labor, U.S. Department of. "Bureau of Labor Statistics." 31 July 2020, https://www.bls.gov/news.release/pdf/eci.pdf. 9 October 2010.
3. “How to Use the Consumer Price Index for Escalation.” U.S. Bureau of Labor Statistics, U.S., Bureau of Labor Statistics, www.bls.gov/cpi/factsheets/escalation.htm.
4. Matthes, Regis Barnichon and Christian. “The Natural Rate of Unemployment over the Past 100 Years.” Federal Reserve Bank of San Francisco, Federal Reserve Bank of San Francisco, 14 Aug. 2017, www.frbsf.org/economic-research/publications/economic-letter/2017/august/natural-rate-of-unemployment-over-past-100-years/.
5. “Effective Federal Funds Rate.” FRED, 1 Oct. 2020, fred.stlouisfed.org/series/FEDFUNDS.
6. Wang, Ye, et al. “A New Application of the Support Vector Regression on the Construction of Financial Conditions Index to CPI Prediction.” Procedia Computer Science, Elsevier, 2 June 2012.
7. Bryan, Michael F., and Stephen G. Cecchetti. The Consumer Price Index as a Measure of Inflation, vol. 4505, Oct. 1993. NBER Working Paper Series.
8. Idris, Miftahu, and Rosni Bakar. “The Relationship between Inflation and Econmic Growth in Migeria: A Conceptual Approach.” Asian Research Journal of Arts &amp; Social Sciences, 10 May 2017.
9. “Research Methods.” Research, research-methodology.net/research-methods/.
10. “Data Analysis.” ori.hhs.gov/education/products/n\_illinois\_u/datamanagement/datopic.html.