Technology is progressing to a point that is on the cusp of having a drastic impact upon existing economic frameworks and disrupting the status quo for wage earners, businesses, and government. As technology has improved, there has been a wide-ranging spectrum of debate regrading the positive and negative externalities that will result. It is not the intent of this analysis to provide a conclusion to this debate but to empirically analyze existing theories and attempt to model these ideas through existing economic assertions or how these assertions may be modified. The analysis will be focused from the firm perspective within specified industries and how managerial decisions will ripple through the economy.

The technology discussed will revolve around two main categories that are grouped between their ability to handle physical tasks and the ability to handle more advanced and difficult cognitive tasks. Automation has been incorporated most heavily in the physical tasks as the technology need not be as advanced and has become cheaper to implement due to this feature. The technology most heavily concentrated in this category is robotics and sensors. Cognitive tasks take much more computing power that handle advanced algorithms and mathematical computations to function. The technology most heavily concentrated in this category deals with hot buzzwords like machine learning, artificial intelligence, and neural networks.

The industries that will be most heavily examined are retail trade, wholesale trade, manufacturing, and financial services. The corresponding North American Industry Classification System codes that correspond respectively are 4400rt, 4400wt, 33000, 52000. Data from these industries will be used from published government agencies such as the bureau of economic analysis, department of commerce, and bureau of labor statistics.

Stats:

* Industry wages elasticity of employment
* Employment volatility by firm (firms with new openings/total firms)
* R&D expenditure as sign of ability to invest in the cost of tech

**Spectrum of Debate**

**Retail Trade Industry Statistics:** [**https://www.bls.gov/iag/tgs/iag44-45.htm**](https://www.bls.gov/iag/tgs/iag44-45.htm)

**Whole Sale Trade Industry Statistics: <https://www.bls.gov/iag/tgs/iag42.htm>**

**Manufacturing Industry Statistics:** [**https://www.bls.gov/iag/tgs/iag31-33.htm**](https://www.bls.gov/iag/tgs/iag31-33.htm)

**Financial Activities:** [**https://www.bls.gov/iag/tgs/iag50.htm**](https://www.bls.gov/iag/tgs/iag50.htm)

* Use a regression model with data from above to generate forecasts for each industry. Then introduce changes based on McKinsey projections for automations and estimate new regression outcomes.
  + After regression, can extrapolate by exploring wages and employment correlation to other economic aggregates (GDI/GDP) and calculate those with the original and new regression outputs.
    - Could make just one section outlining regression methodology that will be applied to all industries. Then go through each industries regression results and discuss.