

# Inflations, Hyperinflations, and Perceptions

Everyone has been complaining about inflation since COVID. What does the data show?

## Questions

- 1) Is the post-COVID inflation rate unusually high?
- 2) Are there specific sectors of the economy that have more inflation?
- 3) When and where has high inflation occurred historically?
- 4) Are people's perceptions of the economy reflective of the inflation rates?
- 5) How do opinions on the economy at my school compare with the rest of the nation?

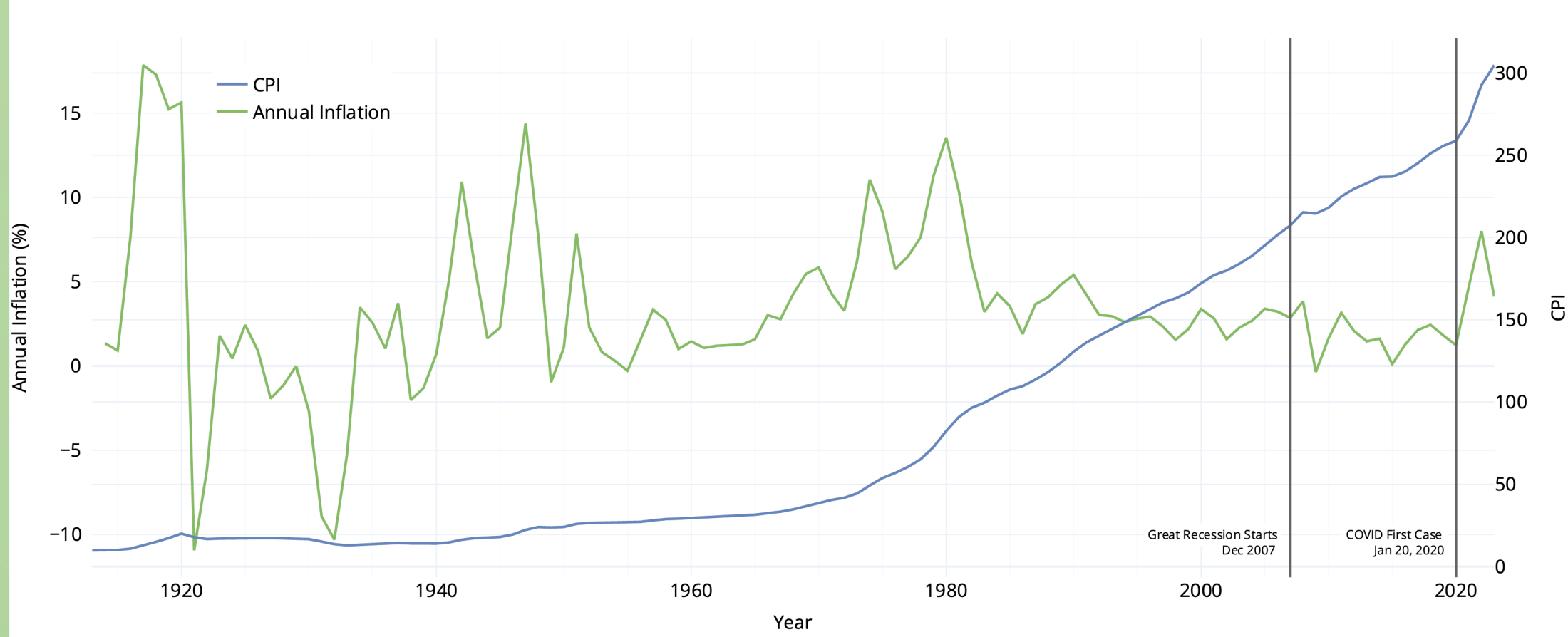
## Hypotheses

- 1) Inflation was unusually high during and after COVID.
- 2) Food and transportation have higher inflation compared to everything else.
- 3) Highest inflation occurred during major wars (WW1 and WW2) globally.
- 4) People's opinions are negative when inflation is high, and vice versa.
- 5) Opinions at my school would not be representative of the rest of the nation.

## Terminology

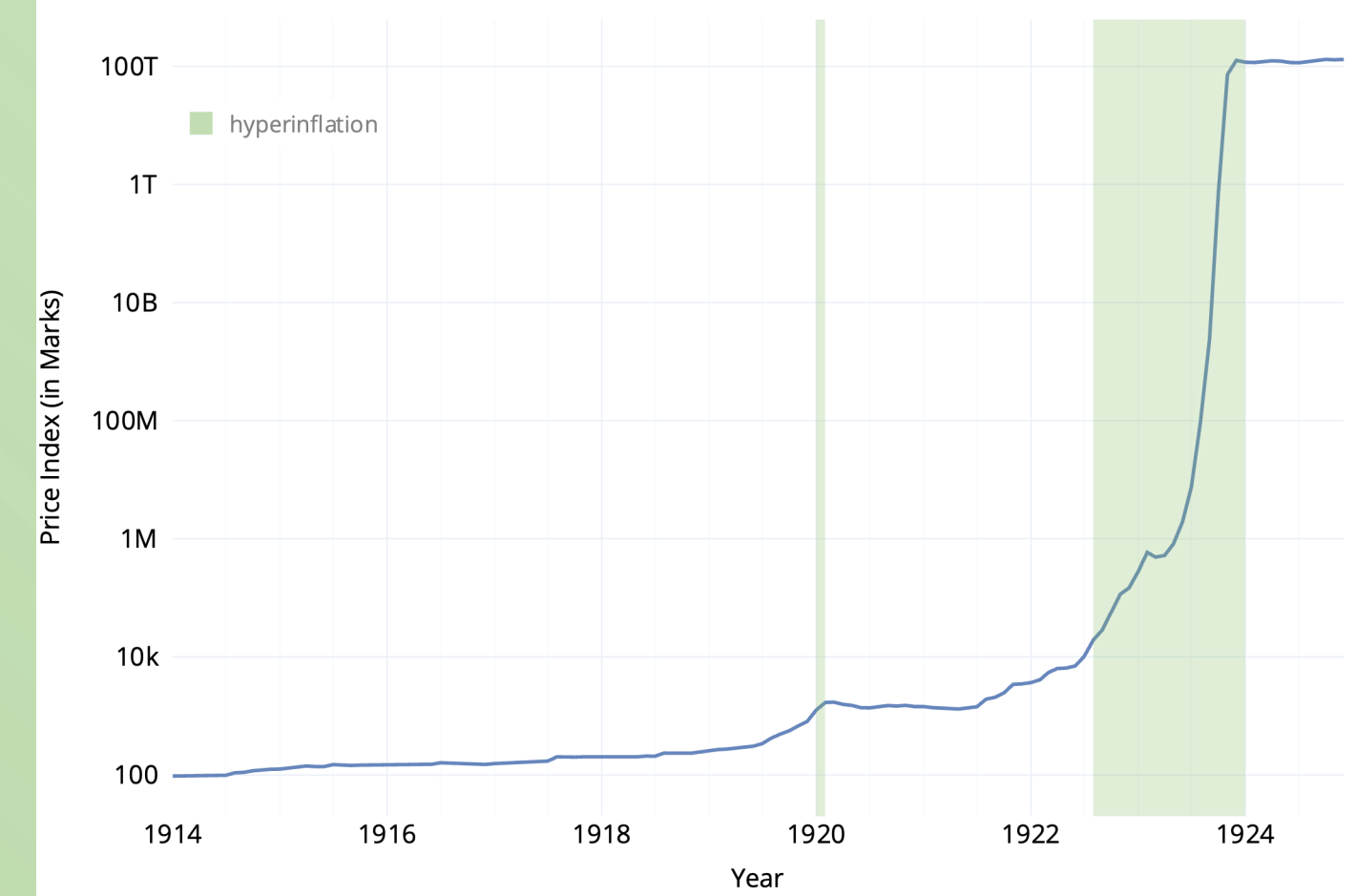
**CPI** – consumer price index; a measure of average price change over time where 100 is the average cost from 1982-1984 in the US  
**CSI** – consumer sentiment index; a measure of how consumers feel about the economy based on current economic status as well as expectations for the future  
**Hyperinflation** – usually defined as monthly inflation  $\geq 50\%$

Consumer Price Index and Inflation in the US



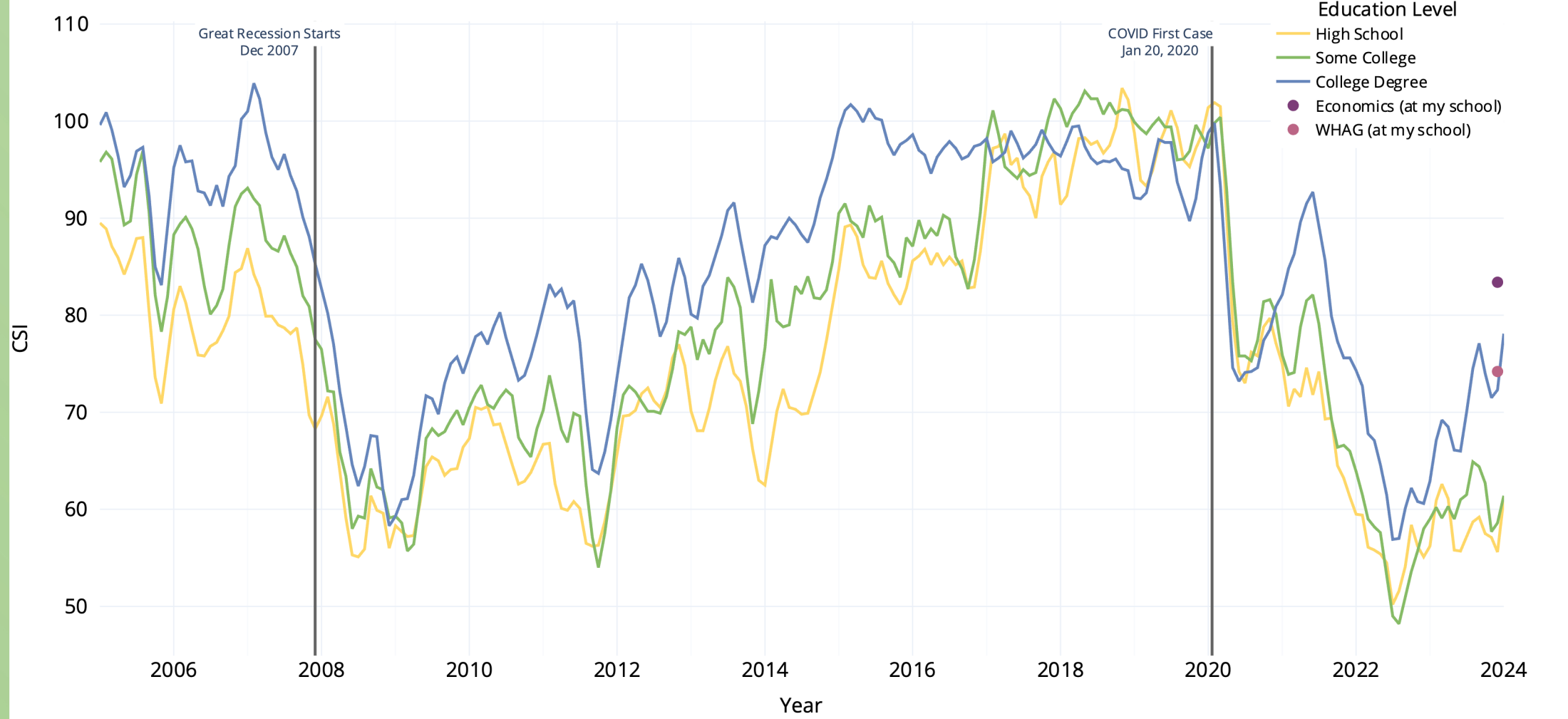
**Hypothesis 1 is not supported** by the line charts to the left and right. The inflation rate climbed during COVID, reaching up to 8%—highest for my lifetime. However, inflation has been higher in the US in the past, for example, in the 1910s, 1940s, and 1970s. Furthermore, comparing to one of the most famous hyperinflations—Germany, in the 1920s—which is plotted with a log scale y-axis shows how US's post-COVID inflation is not unusually high by historical standards.

Hyperinflation in Weimar Republic (Germany)

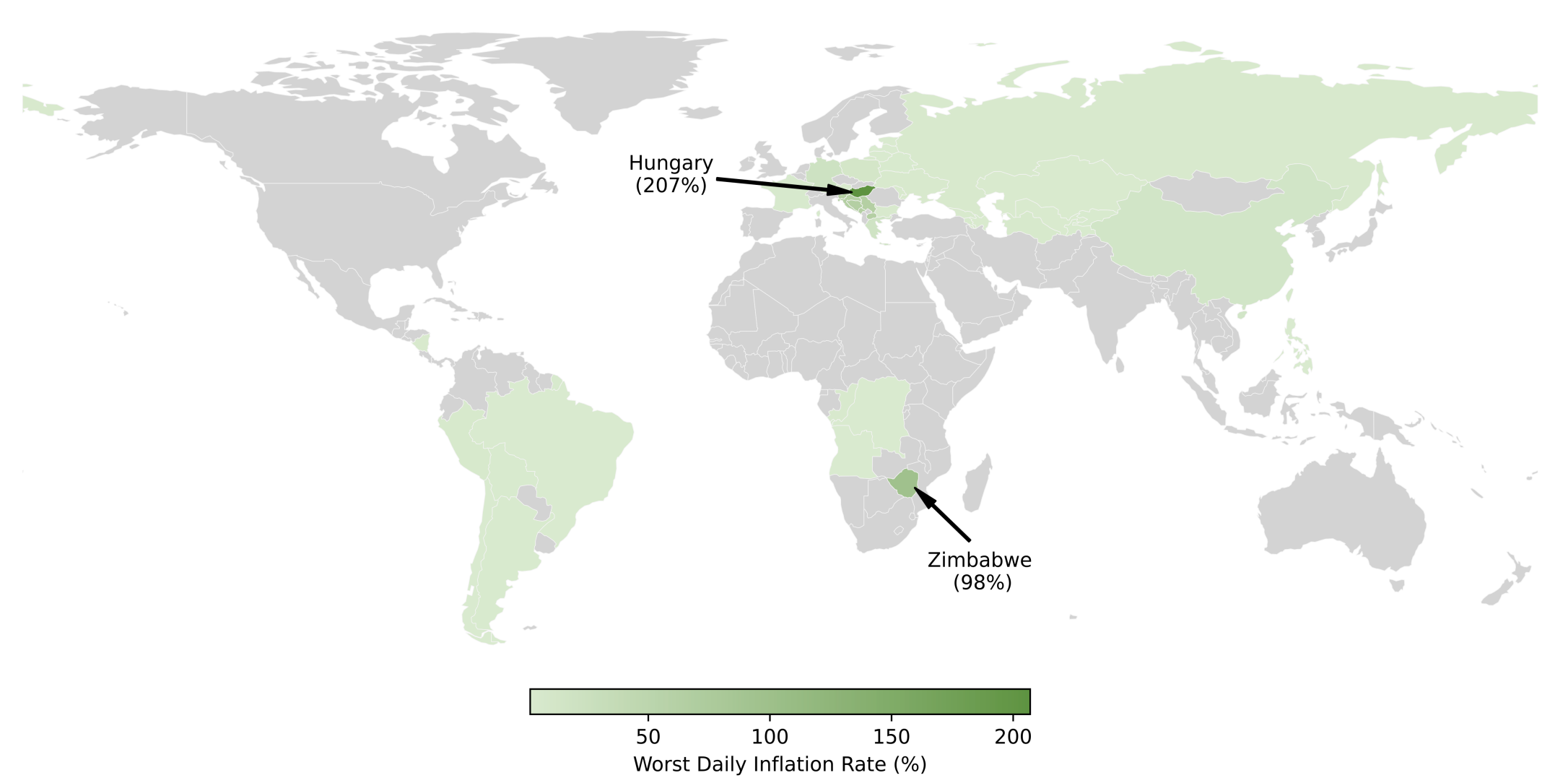


**Hypothesis 4 is not supported** by the line charts above and below. Comparing CSI to inflation, post-COVID inflation was increasing and CSI was decreasing. However, during the Great Recession, both inflation and CSI dropped. Note that the major drop right as COVID hit in CSI is comparable to the one during the Great Recession of 2008.

Consumer Sentiment Index by Education Level



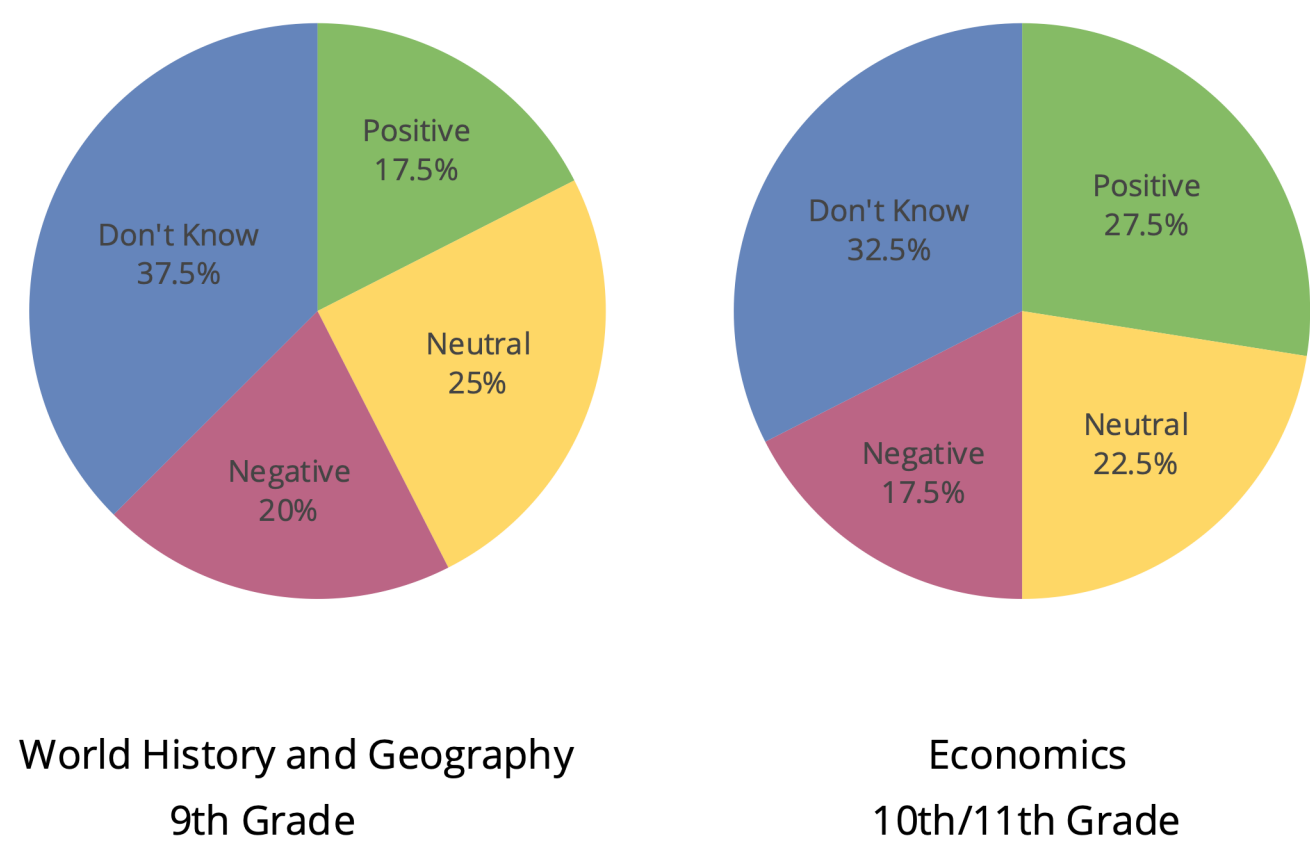
Worst Daily Inflation Rate for Hyperinflations Around the Globe



**Hypothesis 3 is partially supported** by the world map above and timeline below. Some hyperinflations did occur during and after WW1 and WW2 (early 1920s and 1940s respectively). However, some occurred at other times, especially those around the 1990s. While frequently multiple countries were in a period of hyperinflation at a time showing the international impacts of hyperinflation, it was not global either since it was only in Asia, Southern Africa, and South America. The map highlights Hungary and Zimbabwe as they had the highest inflation rate in history, with prices doubling or tripling in a day.

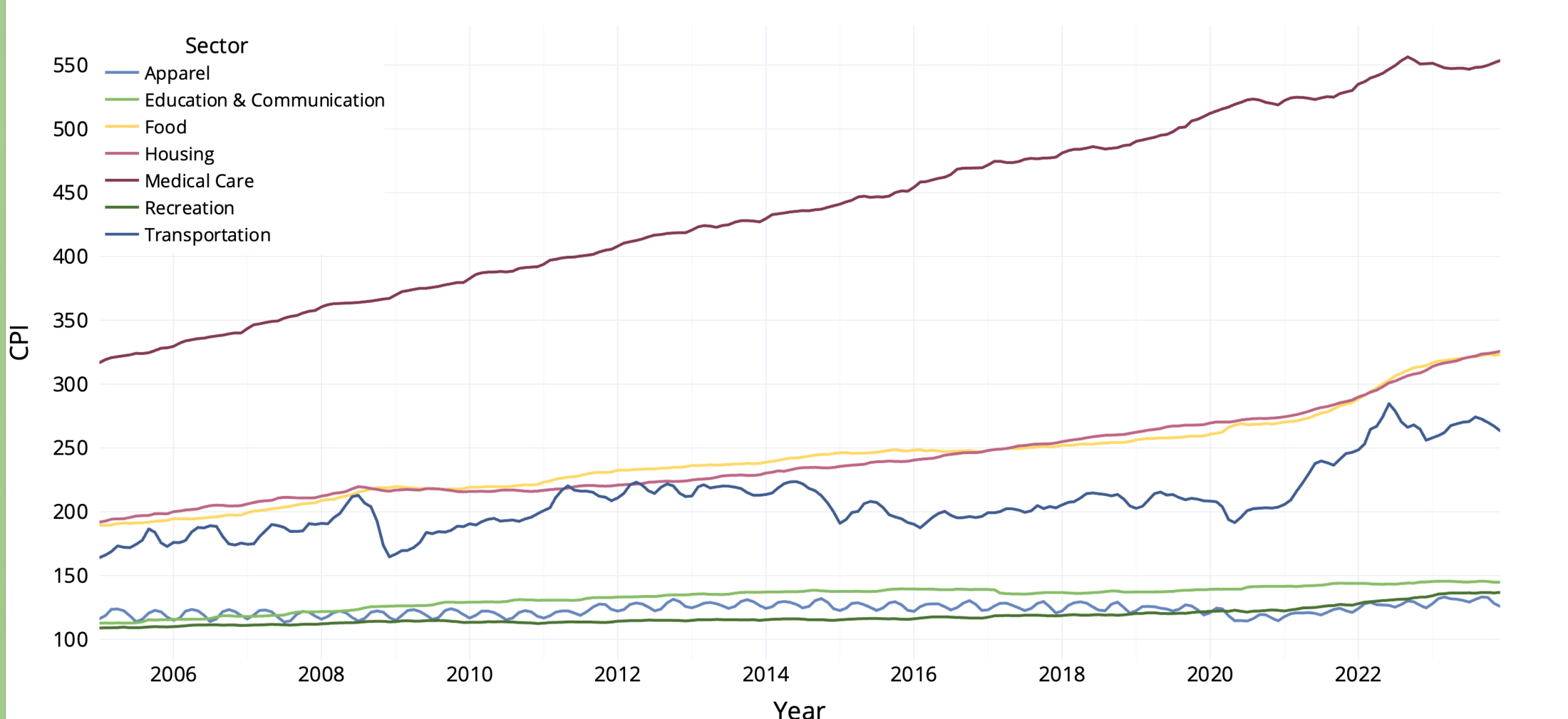
*Note:* On the map, countries in grey, such as the US, never had hyperinflation. Hyperinflation data only includes hyperinflations up till 2012. Over the years, country boundaries have changed so this map reflects the current day countries. Hyperinflation in France from May 1795 to Nov 1796 shown on the map was not plotted in the timeline.

## Consumer Sentiment of Students at My School



**Hypothesis 5 is partially supported** by the line chart above and pie charts to the left. The CSI is a bit more positive at my school than across the nation. One interesting trend was the same for both my school and the nation: higher levels of education resulted in more positive sentiment. The pie charts emphasize how in my school's two classes that I surveyed—World History and Geography (WHAG) as well as Economics—students with more years of education have higher positive responses. In the line chart, people with college degrees almost always had higher CSI than people with only a high school education.

Consumer Price Index by Sector of Economy



**Hypothesis 2 is not supported** by the line chart to the left. Medical care was substantially more inflated than food and transportation. Food did not have much change in its trend post-COVID though transportation had an uptick followed by a decrease. Something I found interesting was the oscillation in apparel's CPI with a period of half a year, which is possibly due to end-of-season sales.

Timeline of Hyperinflations



## Data Collection

Data about hyperinflations came from [this data table](#), which is part of a paper in *The Handbook of Major Events in Economic History*. Weimar Republic's hyperinflation data came from [table G1](#) in *The Ends of Four Big Inflations*. CPI data in the US came from [this data access](#) from the U.S. Bureau of Labor Statistics. CSI data came from [this data access](#) from the University of Michigan Surveys of Consumers. I collected my school's CSI data using a Google Form with [data here](#) and interpreted based on [this document](#).