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## Empirical Project

This project will be due by **5pm on Thursday, November 30th**. Assignments should be submitted by email as a pdf document. Any tables or figures you include should be contained within that pdf document. The assignment will be graded on a 20-point scale. A one point deduction will be taken for assignments turned in late. The deduction will increase by one point every 48 hours. This deduction is capped at five points: anything turned in more than 10 days late will receive a five point deduction. No assignments will be accepted after the last day of final exams (December 19th).

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## The Big Picture

Perhaps the most studied economic shock in American history is the Great Depression. The Depression had a profound negative impact on the macroeconomy and on individual workers and families. The recovery from the Great Depression included a transformation of the federal government's role in the functioning of the national economy and the lives of individual Americans. It also changed the way we regulate the banking sector and pursue monetary policy. As with the Great Recession a decade earlier, the COVID-19 pandemic provided a modern test of how the policies introduced during the Great Depression and evolving ever since helped or hurt recovery from a major economic downturn.

The goal of this project is to compare the Great Depression with the economic impacts of the COVID pandemic. In doing so, you will gain valuable experience related to finding appropriate economic data and presenting those data in the most useful way. You will be searching for both traditional economic data (think real GDP per capita series) and less traditional but equally useful qualitative data (think stump speeches by politicians). You will also consider the best ways to present these various types of evidence to make the most meaningful comparisons between the Great Depression and the pandemic.

## Project Details

The basic idea is to create a series of comparisons between the Great Depression and the COVID pandemic to understand the similarities and differences between two of the biggest economic downturns in American history. Your submission should contain your numbered responses to each component enumerated below. There is no need to include any additional writing (e.g., no need for abstracts, introductions or conclusions beyond what is asked for below).

1. Before you can really compare the two events, it is necessary to decide when each one began and when it ended. There are a variety of ways to define the start and end of

any economic downturn. The key here is that you should apply the same approach to both events in order to make meaningful comparisons. Come up with a set of data-based criteria that can be applied to determine the start and end dates of an economic downturn. You only need to determine the start and end dates in terms of year (not quarter, month or day).

In one paragraph, explain the reasoning behind your chosen criteria and provide the beginning and end dates of each downturn based on your criteria. Note that depending on how you are defining the end of the downturn, you may not have an end date for the COVID downturn yet. If this is the case, explain what criteria must be met to declare it over in the future.

Note that you must be determining the start and end dates through the application of your chosen criteria. You should not simply cite the start and end dates given by an organization like the National Bureau of Economic Research (NBER). Even if you use a methodology inspired the approach of something like the NBER's, you must still provide your argument for why that is the best methodology and you must apply the methodology for yourself.

2. Create a single graph that compares the scale of the economic downturns during the Great Depression and the COVID pandemic. The variable you focus on and the type of figure you create is entirely up to you. Choose a variable that allows for meaningful comparisons across the two events and a figure design that most effectively conveys similarities or differences to the reader. Provide one paragraph justifying your choice of variables and a second paragraph interpreting the graph.
3. Create a graph that compares the standard of living for the typical consumer or worker during the Great Depression and the COVID pandemic. Here your choice of variable is up to you but your graph should have your measure of the standard of living on the vertical axis and time on the horizontal axis. Note that you still have quite a bit of flexibility with how you use those axes (what time range to choose, what units to use for both axes, normalizations, etc.). Once again, your goal is to present the data in the most effective way possible. Provide one paragraph explaining why your chosen variable is the best available proxy for the typical standard of living and a second paragraph interpreting the graph. (*Note: you must use a different variable than the variable you used in Part 2.*)
4. Create a figure that shows the geographic variation in both economic downturns across the United States (note that this could be a figure with two different panels if you think that is more effective than a single-panel figure). The level of geography you choose (regions, states, commuting zones, etc.) is up to you but whatever you choose, your figure must capture experiences across the entire United States. The variables you choose to capture the impacts of the downturn are also up to you. Provide one paragraph interpreting your figure and presenting a potential explanation for any key patterns you identify. Note that this explanation can be pure (but logical) speculation

on your part; I am not expecting you to turn to the academic literature to come up with or confirm your hypothesis.

5. Identify one major piece of federal legislation aimed at aiding recovery from the economic downturn for the Great Depression and one for the COVID pandemic. In two to three sentences for each, describe the main features of the legislation. In an additional two to three sentences, explain whether the two pieces of legislation represent a similar approach by the federal government to both downturns or different approaches.
6. Find two contemporary quotes from each economic downturn (four in total), one representing the general attitudes of workers or consumers to the downturn and one representing the general attitudes of manufacturing firms or other corporations to the downturn. These quotes can come from op-eds, political platforms, interviews, speeches or a variety of other sources. In addition to the quotes, include one paragraph based on your quotes explaining how attitudes toward the downturns differed between the Great Depression and the pandemic.

Note that these quotes should come from individuals living through the downturns, even if they are speaking retrospectively at a later date. These should not be quotes from historians or other academics offering their interpretation of what people were thinking at the time.

The final product should be a single pdf document presenting the evidence you have found through the combination of text and figures asked for in each part. Please number each part. For the figures, be certain to think carefully about the clearest way to present the information. Include all titles, labels, legends, captions, and footnotes necessary for a reader to clearly and correctly interpret the data being presented. All figures should be made by you.<sup>1</sup>

Be certain to cite all of your sources. You are welcome to use any standard citation style (APA, MLA, Chicago, etc.). Also make certain that your sources are reliable, particularly for your quotations (there are many misattributed quotes floating around on the internet). For the figures, you should include figure notes that clearly state where the data come from and describe any ways in which you manipulated the data unless those are implied by axis titles, legends or something else on the graph itself. If you have any questions about when citations are required or exactly what information to include in your citation, feel free to email me or stop by my office hours.

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<sup>1</sup>You may use a service such as [Datawrapper](#) to construct your figure, but you need to provide the raw data. Using [FRED](#) to create your figures does not meet this requirement (FRED directly produces the figure without you working with the data at all). You can certainly download data from FRED and then feed it into another program like Datawrapper or Excel to create your figure. The key here is that I want you to develop the skills of taking a dataset and using those data to create a figure, making deliberate decisions about data manipulation, figure type and figure formatting along the way.

## Potentially Useful Links

- [Google Scholar](https://scholar.google.com): <https://scholar.google.com>

Google Scholar has become the easiest way to search for scholarly articles on any subject. Simply search for academic research in the same way that you would search for anything else on Google. When you find a relevant article, Google Scholar provides several nice features. It can often provide a link to a pdf version of the article, it provides a link to the article in the Swem library database, it can show you articles citing the current article and it provides simple tools for copying citation details for the article.

- [Google Books](https://books.google.com): <https://books.google.com>

Google Books provides a wealth of digitized, searchable texts ranging from novels to government reports. If you click on ‘Search tools’ you will be able to narrow your search to specific dates of publication, to only documents fully available online, and to specific types of documents. Particularly if you are looking at older time periods, Google Books may be a valuable source for the text of political speeches, historical newspaper articles and op-eds, or for published economic data series.

- [FRED: Federal Reserve Economic Data](https://fred.stlouisfed.org/): <https://fred.stlouisfed.org/>

FRED provides one of the quickest and easiest ways to get time series of various macroeconomic indicators. FRED provides tools for generating graphs of a wide range of macroeconomic variables for the exact time periods you specify and provides options for downloading the data so that you can use it with other spreadsheet or statistical analysis programs.

- [Historical Statistics of the United States](https://hsus-cambridge-org.proxy.wm.edu/): <https://hsus-cambridge-org.proxy.wm.edu/>

The Historical Statistics of the United States provides a wide range of economic and demographic data series covering the entire history of the United States. The series are easily searchable and can be displayed in tables or downloaded for offline analysis. The volume also provides a series of articles describing the trends in various features of the economy over time. Much of the data is derived from various federal censuses.

- [Integrated Public Use Microdata Series](https://www.ipums.org/): <https://www.ipums.org/>

IPUMS is a tremendous resource for creating individual-level data series from historical census data (as well as Current Population Survey data and a variety of other survey data). The data are cleaned and harmonized across years, well documented, and remarkably easy to use compared to other sources of

survey data. This is one of the best places to acquire historical data for economic research and lies at the heart of many of the research articles we discuss in class. However, it may be overkill for this particular project given that you will be more focused on aggregate data.

- [IPUMS National Historical GIS](https://www.nhgis.org/): <https://www.nhgis.org/>

This is another part of the IPUMS project that focuses on historical mapping data. It is an excellent source for historical shapefiles for the United States and historical datasets, largely taken from population, agriculture and manufacturing census data, that can be spatially joined to those shapefiles. This is the best starting place if you are considering constructing maps to display historical data for the United States.

- [World Bank Open Data](http://data.worldbank.org/): <http://data.worldbank.org/>

This is the data portal for the World Bank. You can find a broad range of variables for different countries through this site. Students often find the [World Development Indicators](#) particularly useful. These data include detailed statistics on the population, economy, environment and markets of individual countries.

- Various government statistics websites

Some of the best sources of data for a country are the governmental agencies responsible for gathering and publishing economic statistics. In the United States, these agencies would include the [Census Bureau](#), the [Bureau of Labor Statistics](#), the [Bureau of Economic Analysis](#) and many others. If you go to any of these websites, you will find links to detailed datasets.

- [Purdue Online Writing Lab](https://owl.english.purdue.edu/owl/section/2/): <https://owl.english.purdue.edu/owl/section/2/>

This online writing lab provides helpful guides to citation styles including APA style, MLA style and the Chicago Manual of Style. Note that the site also provides useful guides for conducting research and general writing.

- [William & Mary Libraries](https://libraries.wm.edu/): <https://libraries.wm.edu/>

Always remember that we have an excellent library with excellent librarians ready to help you. Research librarians have extensive knowledge about available data sources and can help point you down the right path, making the research process far more efficient. You can even click [here](#) to make a research appointment.

- [Wikipedia](https://www.wikipedia.org/): <https://www.wikipedia.org/>

While Wikipedia should never be your final source for information, it is often an excellent initial source for information, particularly for dry economics topics that do not attract contentious edits. A quick trip to Wikipedia can often help you get your bearings, identify key terms to search for on Google Scholar, and provide a few initial citations to track down as a good start to your research.

- [Datawrapper](https://www.datawrapper.de/): <https://www.datawrapper.de/>

While the majority of students will make their figures in Excel, a perfectly fine option, a relatively new online option for constructing very effective graphs is Datawrapper. Access to the resource is free and the default formatting of figures is far nicer than Excel, while still giving you plenty of options to customize figures. Datawrapper also has a very intuitive interface for making maps, something that anyone who has ever struggled with GIS software in the past will appreciate.

- Articles, books and blogs on representing data

There are many articles, books and blogs out there focused on the visualization of data and in particular the visualization of economic data. For a true classic, take a look at Tufte (1983). More recent takes on data visualization can be found in Chen et al. (2007) and Wong (2010) while a short guide more specific to the economist is provided by Schwabish (2014). Note that Schwabish also has a book specifically on data visualization in Excel which is available [online](#) from the William & Mary library (Schwabish, 2023). You may also find inspiration from the variety of data visualization blogs out there including [Flowing Data](#) and [Junk Charts](#).

## References

- Chen, C.-h., Härdle, W. K., & Unwin, A. (2007). *Handbook of data visualization*. Springer Science & Business Media.
- Schwabish, J. (2023). *Data Visualization in Excel: A Guide for Beginners, Intermediates, and Wonks*. CRC Press.
- Schwabish, J. A. (2014). An economist's guide to visualizing data. *Journal of Economic Perspectives*, 28(1), 209–34.
- Tufte, E. (1983). *The visual display of quantitative information, Second Edition*. Graphics Pr.
- Wong, D. M. (2010). *The Wall Street Journal guide to information graphics: The dos and don'ts of presenting data, facts, and figures*. WW Norton.