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Project Proposal – Modeling the Financial Crisis and Its Impact on Individual States and Metropolitan Areas

Motivation

There was much debate in our group about what the main theme of our project should be—we thought about everything from sports statistics to consumer products like cell phones and automobiles to music listening preferences as illustrated in the visualizations discussed in class. All of the above seemed to be niche categories with respect to our group, with only one or two members really excited about them. We finally came around to the Financial Crisis, a topic that is perhaps a bit overplayed. However, one thing that we unanimously noted was the difference in impact that the financial crisis had on different areas around the country. For example, St. Paul, MN seemed to be less much affected than areas like Phoenix, AZ. The entire group is interested in economics and we believe a topic that everyone is attached to would produce a much more effective team.

Project Objectives

The primary questions we are trying to answer with this visualization are: 1) Is there a significant difference in impact that the financial crisis had on different states in America? 2) Did states see a differentiated response time to the financial crisis in terms of economic indicators? 3) What data best supports the argument that there was a significant difference in impact on states? 4) Can we show unbiased data clearly and concisely, and allow for the audience to both playfully interact with and make concrete conclusions from it? 5) How big of a "wow" factor can we introduce to visitors?

With the accomplishment of all of the aforementioned goals, we would gain significant specific field-knowledge about best-practice visualization portrayal, the usage of D3 and its incorporation into Javascript, and how to efficiently scape all of the related data from the web.

Data

We are considering the following data sources:

Data.gov

- **FDIC Failed Bank List**
  - http://catalog.data.gov/dataset/fdic-failed-bank-list
- **Quarterly House Price Indexes for Metropolitan Areas**
  - http://catalog.data.gov/dataset/quarterly-house-price-indexes-for-metropolitan-areas/resource/9fb1e508-f257-46c0-b23f-4e3eac0e9a9a
- **Local Area Unemployment Statistics**
  - http://data.bls.gov/pdq/querytool.jsp?survey=la
- **Terminated Multifamily Mortgages**
  - http://portal.hud.gov/hudportal/HUD?src=/program_offices/housing/comp/rpts/mfh/mf_f47t
- **Employment Hours/other data by area**
  - http://catalog.data.gov/dataset/employment-hours-and-earnings-from-the-current-employment-statistics-survey-stat
- **Low-income Housing problems**
  - http://catalog.data.gov/dataset/housing-problems-of-low-income-households/resource/799c2406-28b9-453d-b736-da6fdb617a00
- **County Business Patterns**
  - http://catalog.data.gov/dataset/county-business-patterns/resource/2bfcc388-170b-4c60-8b41-addba3bef1d4

Federal Reserve Data

- http://www.federalreserve.gov/datadownload/Format.aspx?rel=G19&series=3c6a4ac614fd9bfe319d90b0a54d401b&lastObs=&from=&to=&filetype=csv&label=include&layout=seriescolumn&type=package

Census

- http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml
- http://www.census.gov/econ/currentdata/
-

Freebase

- http://www.freebase.com/

Bureau of Economic Analysis

- http://bea.gov/regional/index.htm

More searching

- http://www.zanran.com/q/

Data Processing

We do anticipate substantial data cleanup, mostly done with either R or STATA. Specifically we hope to do things like linearly regressing previous years to show the irregularities in actual data based on past trends. We also hope to look at residuals and derivatives of the data to find more complex trends that are capable of being related back to the audience in a simple fashion.

Visualization

Front and center we would like an interactive graph of the United States using a color scale accompanied by scroll-over popup bar charts/line graphs/dot plots. The color

scale will be based on many interactive features, specifics like failed banks, state gdp, and unemployment in both absolute and relative scales. Outside of the major visualization, we are imagining line graphs and bar charts that will have interactive components. Ideally we would include Hierarchical Edge Bundling, Parallel Coordinate, Chloropleth, and Co-occurrence Matrix visualizations

Must Have Features

1) A central, interactive Chloropleth map of the United States
2) An interactive visualization of some shape/form that portrays individual state data (preferably something that loads as you scroll over a state)

Optional Features

1) An interactive Parallel Coordinate visualization to compare states in different categories.
2) An interactive Hierarchical Edge Bundling that shows connections between different states, times, and/or specific economic indicators.
3) Cool Javascript tour of our website and how to do certain interactions with it

Project Schedule

Sunday, March 23 – Data scraping and compilation completion. Basic framework of website and start on the Chloropleth map.
Sunday, March 30 – Chloropleth map interactivity and connection with data complete
Sunday, April 6 – Implementation of individual state visualization and hover-over responsiveness
Thursday, April 10 – All must have features completed and looking good
Sunday, April 13 – A start on the Parallel Coordinate and Hierarchical Edge Bundling interactions
Sunday, April 20 – Nearing completion on all interactive features of the d3 implementation. Start documentation for finished project. Maybe dig up a few potential Easter eggs for our finished product
Sunday, April 27 – All visualizations completed, hopefully all Javascript done – possibly still working on our virtual tour (a small detail that we need all implementation completed for). Continue to work on the documentation
Friday, May 2 – Turn in finished final project. Be proud of a good job well done, have a few beers with the fellas.