

Working and Country Prosperity

Team 8 --
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**Working is a central part
of our lives...**



Problems

- How long people work annually and how much value they created by working?
- Is there any relationship between the working hours and working productivity?
- Are there any changes in different continents or different countries?
- How about in different eras?



Our Tasks

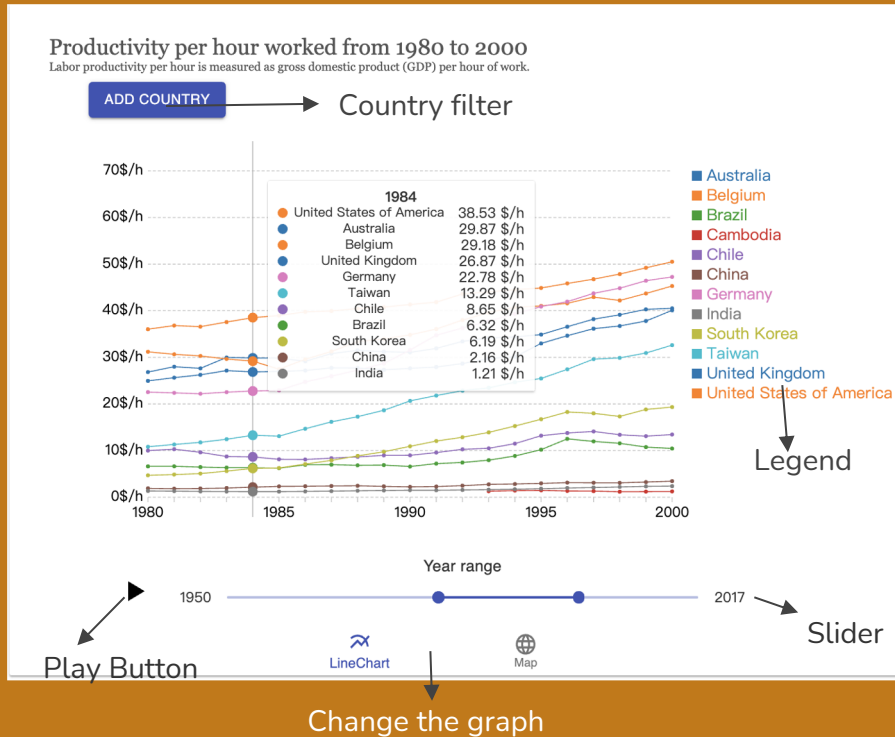
- ❑ Process the data of working hour and labor productivity of different countries
- ❑ Visualize the relationship between working hour and labor productivity
- ❑ Compare the working hour and productivity in different countries or different continents
- ❑ Analyze the development of working productivity and country prosperities during 1950-2017

Data Processing

- Source: University of Groningen (Netherland)
- Time span: 1950-2017
- More than 60 countries in 6 continents
- Variables: Productivity & Annual working hour

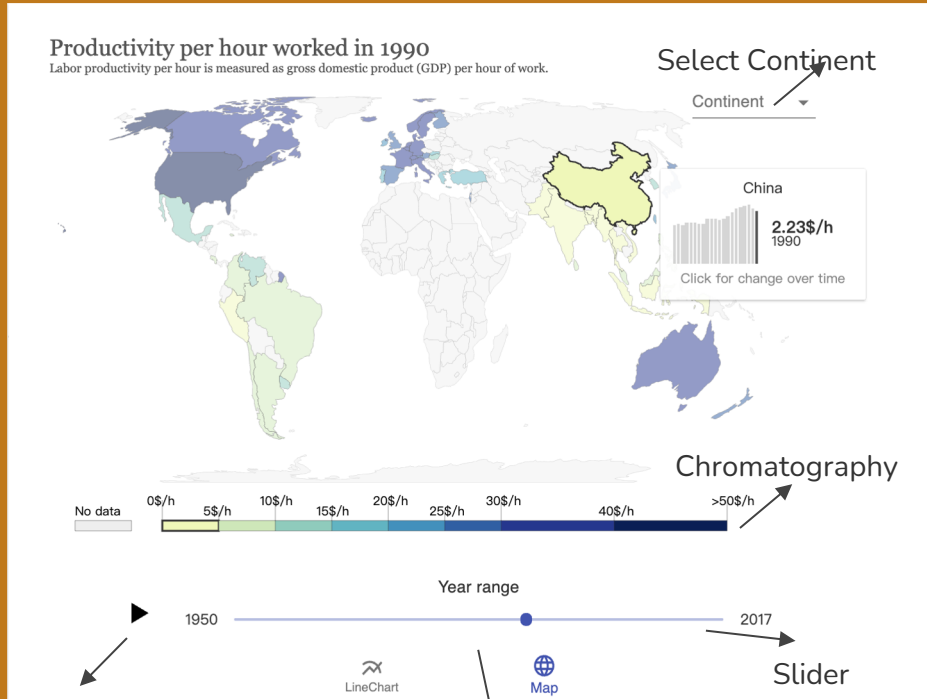
Categorical		Ordinal	Quantitative			Categorical	
Entity	Code	Year	Avh_worker	Productivity	Population	Continent	
Argentina	ARG	1954	2049.5112	3.0450959	18443000	South America	
Argentina	ARG	1955	2053.4075	3.2100456	18789000	South America	
Argentina	ARG	1956	2057.311	3.2442515	19132000	South America	
Argentina	ARG	1957	2061.2222	3.3627226	19472000	South America	
Argentina	ARG	1958	2065.1406	3.5632772	19810000	South America	
Argentina	ARG	1959	2069.0667	3.305795	20146000	South America	
Argentina	ARG	1960	2073	3.5032043	20482000	South America	
Argentina	ARG	1961	2066.2004	3.5834718	20817000	South America	

Line Chart: Labor Productivity vs. Time



- Mark: Line
- Channel: Color Hue
- Task: Compare trends

Map Chart: Labor Productivity vs. Time

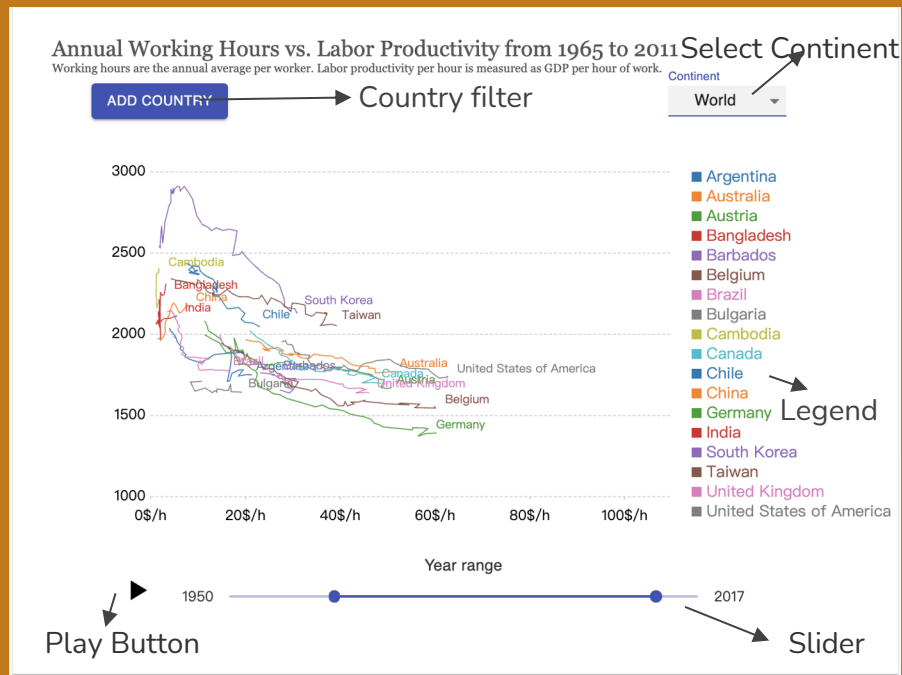


- Mark: Area
- Channel: Color Saturation
- Task: Discover distribution
- Color choose: yellow-green-blue

Play Button

Change the graph

Line Chart: Annual Working Hour vs. Labor Productivity



- Mark: Line
- Channel: Color Hue, 2-D position
- Task: Discover and compare trends

Play Button

```
React.useEffect(()=>{
  setTimeout();
  if (state===true){
    timeoutRef.current = setTimeout(()=>{
      setCounter((prevalue)=>prevalue+1);
      setYear((prevalue)=>prevalue[1]===2017?[prevalue[0],prevalue[0]]:[prevalue[0],prevalue[1]+1]);
      setValue((prevalue)=>prevalue[1]===2017?[prevalue[0],prevalue[0]]:[prevalue[0],prevalue[1]+1]);
    },delay);
  }
  return ()=>{
    setTimeout();
  }
},[state,counter])
```

- Inspired by useEffect and useRef function
- Explorable visualization
- User-friendly / Reduce Operational Difficulties
- Automatically and dynamically show the trends



Demo

Conclusion

- ❑ From the visualization, we obtain that workers in poorer countries who tend to work more than those in richer countries.
- ❑ The working productivity is increasing through years, however, there still exists strong inequality across different countries.
- ❑ A malign circle of the development of the poorer countries' prosperity.

Thank you!