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Mini-project #2: Temporal

# Visualization 1

- How does the amount donated vs. amount received change over time across all countries?
- Are there countries that mostly send or mostly receive and countries that have a similar amount of donations they receive and send?
- Are there countries that change their role over time? That is, they used to mostly send donations and turn into mostly receiving donations and vice-versa?
- Are there countries in which you can find a sudden increase ("peak") or a sudden decrease ("valley")?



As can be seen in the graph above, most countries fall in a 'yellow' range, where the amount of donations they send verses the amount they receive is close to neutral.

The countries that receive more than they send are near the top, whereas the countries that send more are near the bottom. Poland is the country that's received the most donations in one year, whereas India is the country that receives the most total.

Japan is the country that sent the most in a year, and the USA is the country that has sent the most overall. Poland, Kuwait, Thailand, Korea, India, and Brazil are the countries that noticably receive aid, with Poland and Kuwait having a jump in amount of donations ("peak") they received one year.

The United States, Germany, and Japan are the countries that noticably send aid, and France and the UK are just starting to turn blue towards 2012. The US and Japan have a jump in donations ("peak") sent one year.
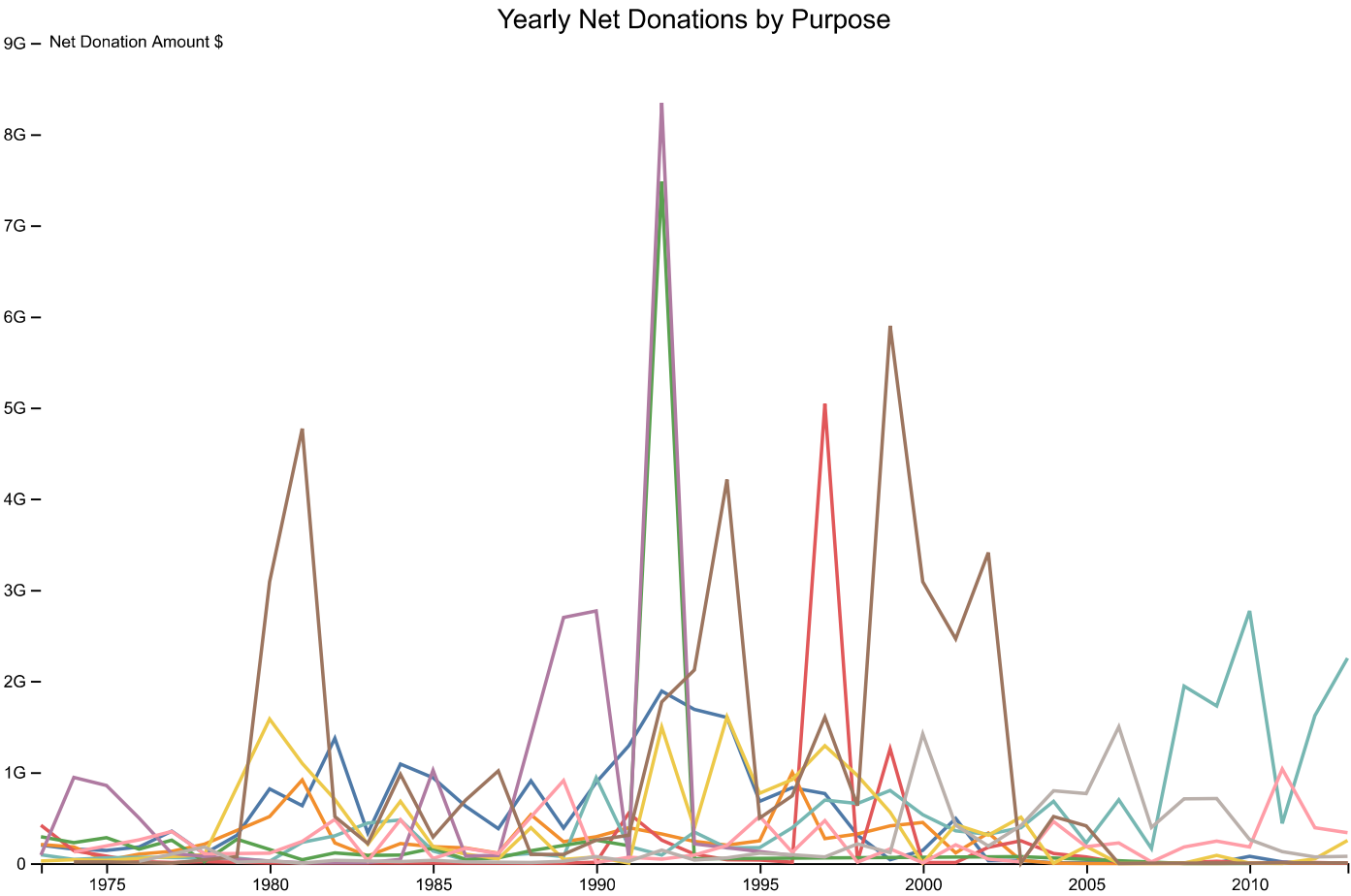
# Visualization 2

- What are the top 10 purposes of disbursements (in terms of total amount of disbursement) and how does their relative amount compare over time?
- Are there purposes that tend to be prominent for a period of time and others that become more prominent during other periods?

Note that the 3 following visualizations use the same color key, as given below.

## Top 10 Purposes Color Key
- ■ industrial development
- ■ telecommunications
- ■ general budget support
- ■ rail transport
- ■ import support (capital goods)
- ■ power generation/non-renewable sources
- ■ rescheduling and refinancing
- ■ power generation/renewable sources
- ■ air transport
- ■ social/ welfare services

### Yearly Net Donations by Purpose



The first visualization I tried for this problem was a line chart. I kept it because it very clearly shows the purposes that peak and reach much higher values than the others, but the majority of the lines overlap and it makes it very hard to compare the lower-valued purposes due to the clutter.

## Yearly % Donations by Purpose

Percent Donations
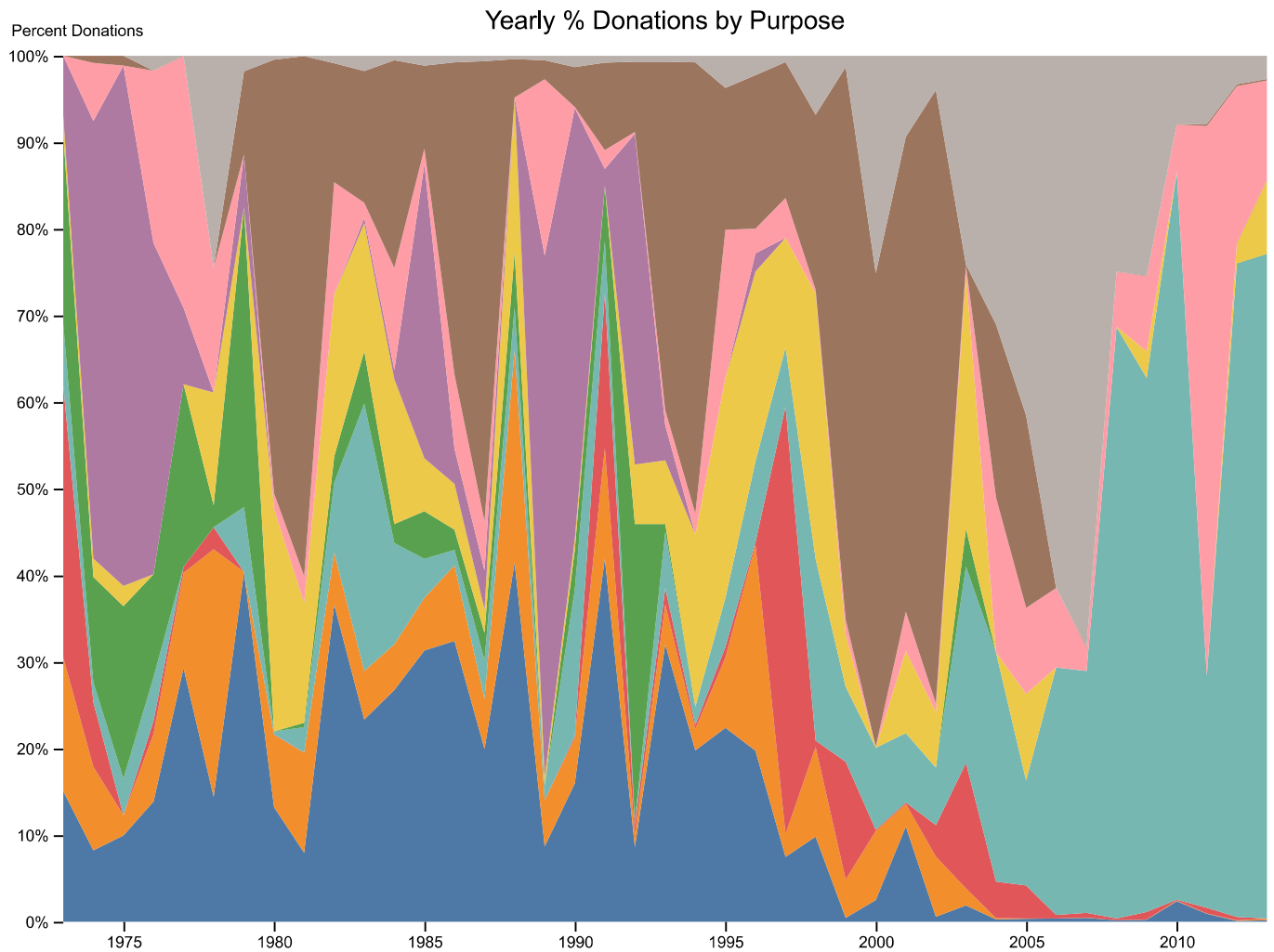


The second visualization I tried for this problem was a stacked area chart. Due to the nature of the data, and the fact that different purposes are prominent for different periods, and some don't have a value at all for some years, it looks... kind of like something a child would make on ms paint. You can get an idea of how prominent different purposes were in given years, but I personally think it's easier to read the line chart, just due to how messy this one looks. It's easier to see and compare all the purposes, but there's so many points and dips and so much going on that the overall graph is kind of overwhelming.

## Yearly % Donations by Purpose

Percent Donations
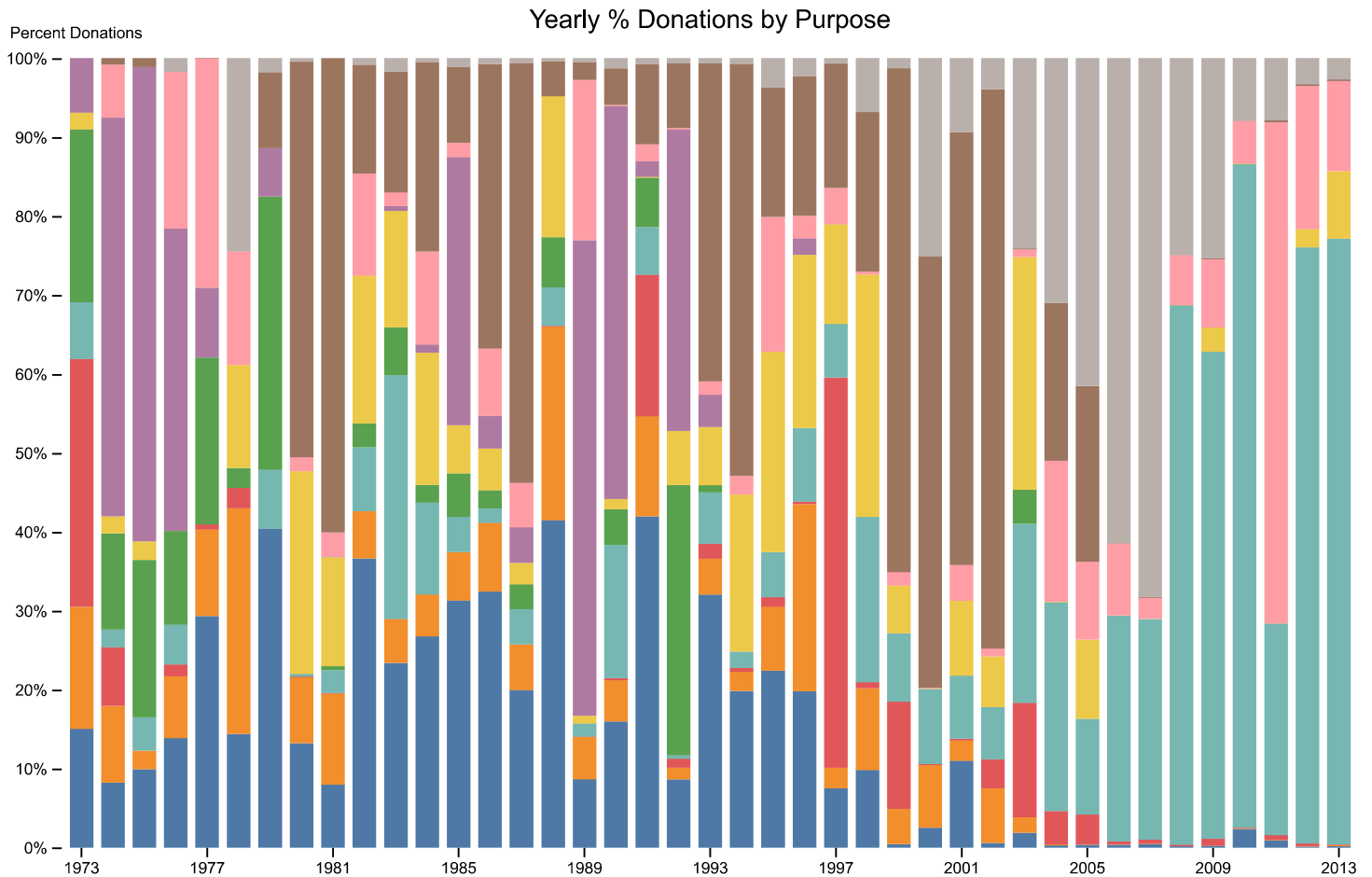


I still wanted something that would make it easier to compare every value than the line chart, so I kept the same idea of using area and made it a with bars instead. Since using the bars removes the connection between each year, it makes it look a lot cleaner and doesn't feel as overwhelming. It's also much easier to compare the length of the bars than it is to compare the area between the lines / peaks of the previous chart.

I still think it's the easiest to see which purposes are most prominent for any given year in the line chart, but the stacked bar chart makes it easier to compare all purposes across all years. I honestly don't like the stacked area chart at all for this dataset, but I kept it for comparison with the bar chart.

One thing to note is that, because this is using percentages, the length of the bars doesn't actually tell the value of donations given for each year. The bars can look to be similar sizes across multiple years, but that doesn't actually mean those purposes got the same amount of donations, since the overall amount of donations for that year could be lower and therefore result in a high percentage even though the actual value isn't as high as a different purpose might have in another year.