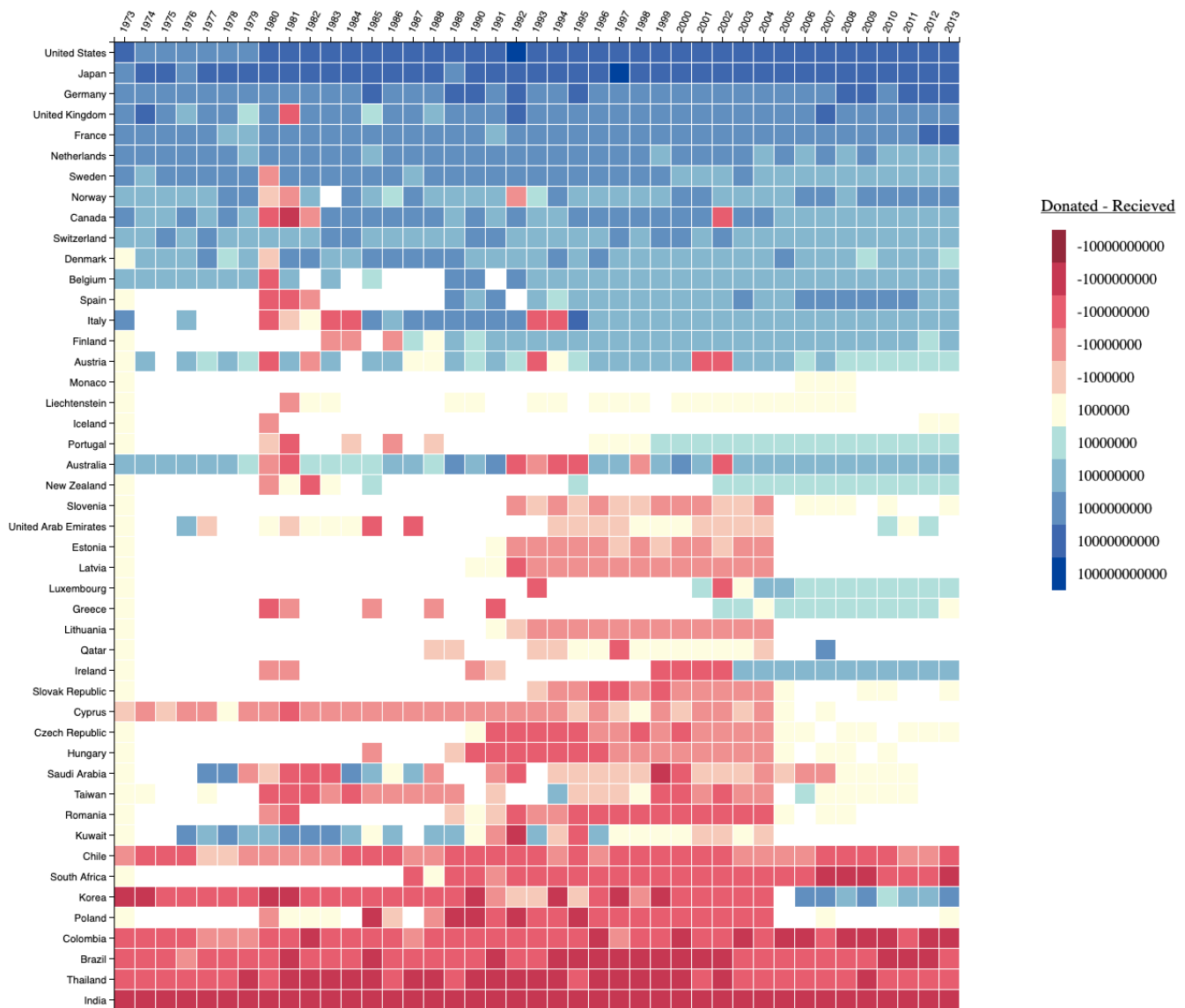Exercise: Graph Design (Time)

Visualization 1: a) How does the amount donated vs. amount received change over time across all countries?; b) Are there countries that mostly send or mostly receive and countries that have a similar amount of donations they receive and send?; c) 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?; d) Are there countries in which you can find a sudden increase ("peak") or a sudden decrease ("valley")?

VISUALIZATION 1

How does the amount donated vs. amount received change over time across all countries

Countries are sorted as per difference of Donated – Received amount in descending order

- I have used diverging scale to differentiate between positive and negative values
- Countries with shades of blue donated more than they received and Countries with shades of red received more than they donated

I have used heatmap with diverging scale as with this visualization we can observe:

a) How amount donated and received change over time across all the countries
b) Which countries mostly donates or receives, also countries that receive and donate similar amount
c) Countries that change their role over time
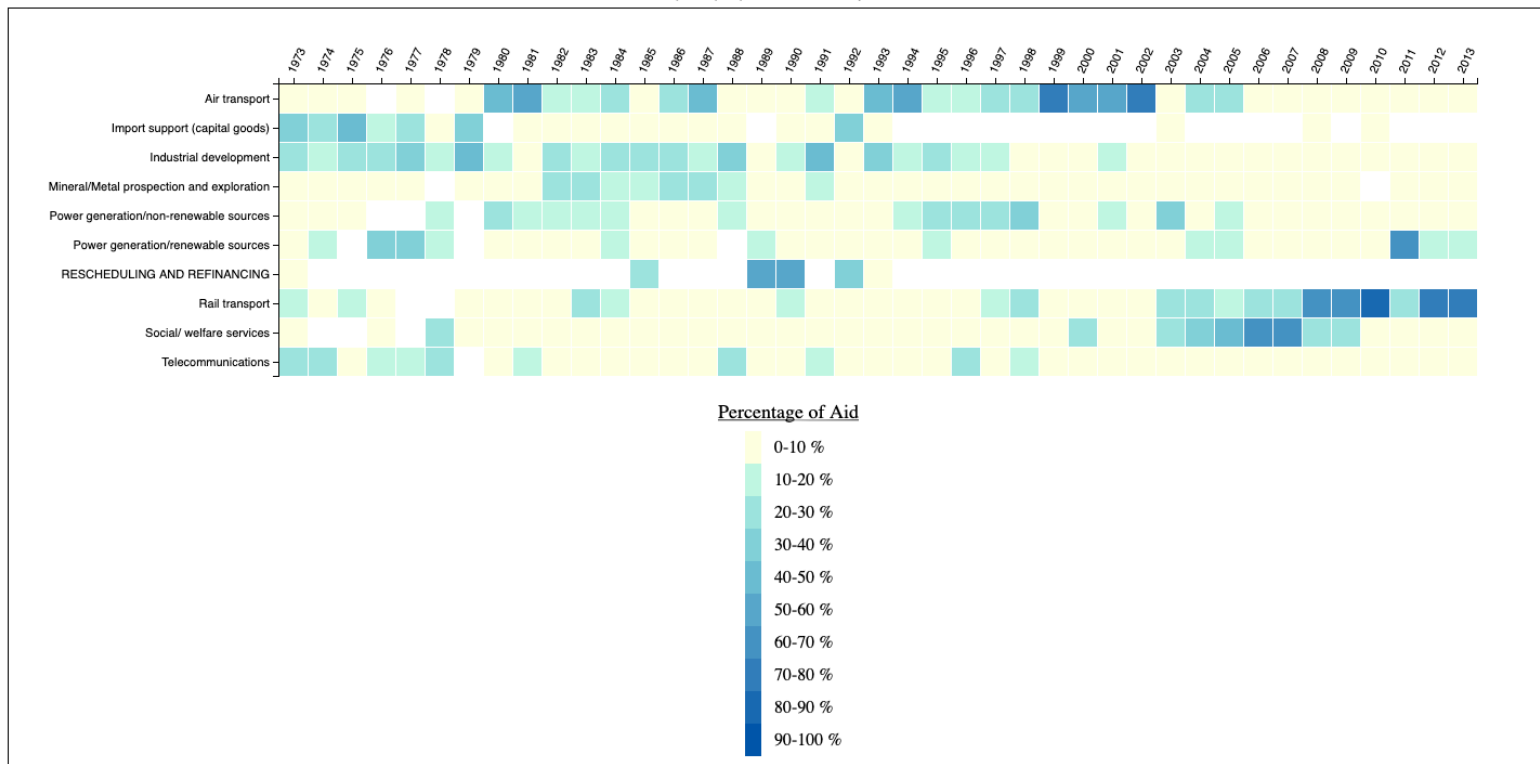d) Countries in which a sudden peak or sudden valley occurs

Observation

- Top donor across years is US
- Top Receiver across years is India
- Countries in the top are countries that donate more than they receive
- Countries in the bottom are countries that receive more than they donate
- Countries in the centre are countries that are somewhat similar in donating and receiving
- We see Korea change its role from receiving more amount to donating more amount in 2006
- We see Canada changes its role from donating more amount to receiving more amount in 1980
- We see sudden valley for UK in 1981, similar observations for various other countries (Blue to Red Transition)
- We see sudden peak for Italy in 1995, similar observations for various other countries (Red to Blue Transition)

Visualization 2: Focusing on the Coalesced Purpose of the donations, focus on the top 10 donations purposes. What are the top 10 purposes of disbursements (in terms of total amount of disbursement) and how does their relative amount compare over time? E.g., are there purposes that tend to be prominent for a period of time and others that become more prominent during other periods? Hint: looking at the graph one should be able to say something like: "Ah! During these years donations were mostly about X but then there were way more donations about Y".

VISUALIZATION 2

Top 10 purposes over the years

Percentage of Aid

0-10 %
10-20 %
20-30 %
30-40 %
40-50 %
50-60 %
60-70 %
70-80 %
80-90 %
90-100 %

- Top 10 Purposes are selected based of total amount of donation.
- Color across one particular year is encoded according to proportion of total donation in that particular year (Percentage)
- Purposes have been sorted alphabetically

I have chosen to use heatmap as with this visualization we can observe how relative amount of purposes compare over time. We can observe if there are purposes that tend to be prominent for a period of time.

Observation:
- Air transport is prominent across other purposes in years: 1980,1981,1987,1999,2000,2001,2002
- We observe sudden rise in proportion for Power generation/renewable source in 2011
- Proportion of amount for Social Welfare services was less than 10% for majority of years. It became prominent from 2003-2009
- Proportion for rail transport became prominent from 2003-2013, with highest in 2010
- Proportion for industrial development remains consistent from 1973-1997