Green and Sustainability Bonds and Environmental Performance

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Background

- **Green, Social, and Sustainability Bonds**
  - Financial securities issued by organizations to raise funding for a portfolio of projects…
  - …that are expected to generate "green" or "social" (or both!) benefits
  - Borrowers are expected to provide allocation and impact reports
- **Environmental Performance Index (EPI)**
  - Provided by Yale and Columbia
  - Uses 58 performance indicators across 11 issue categories
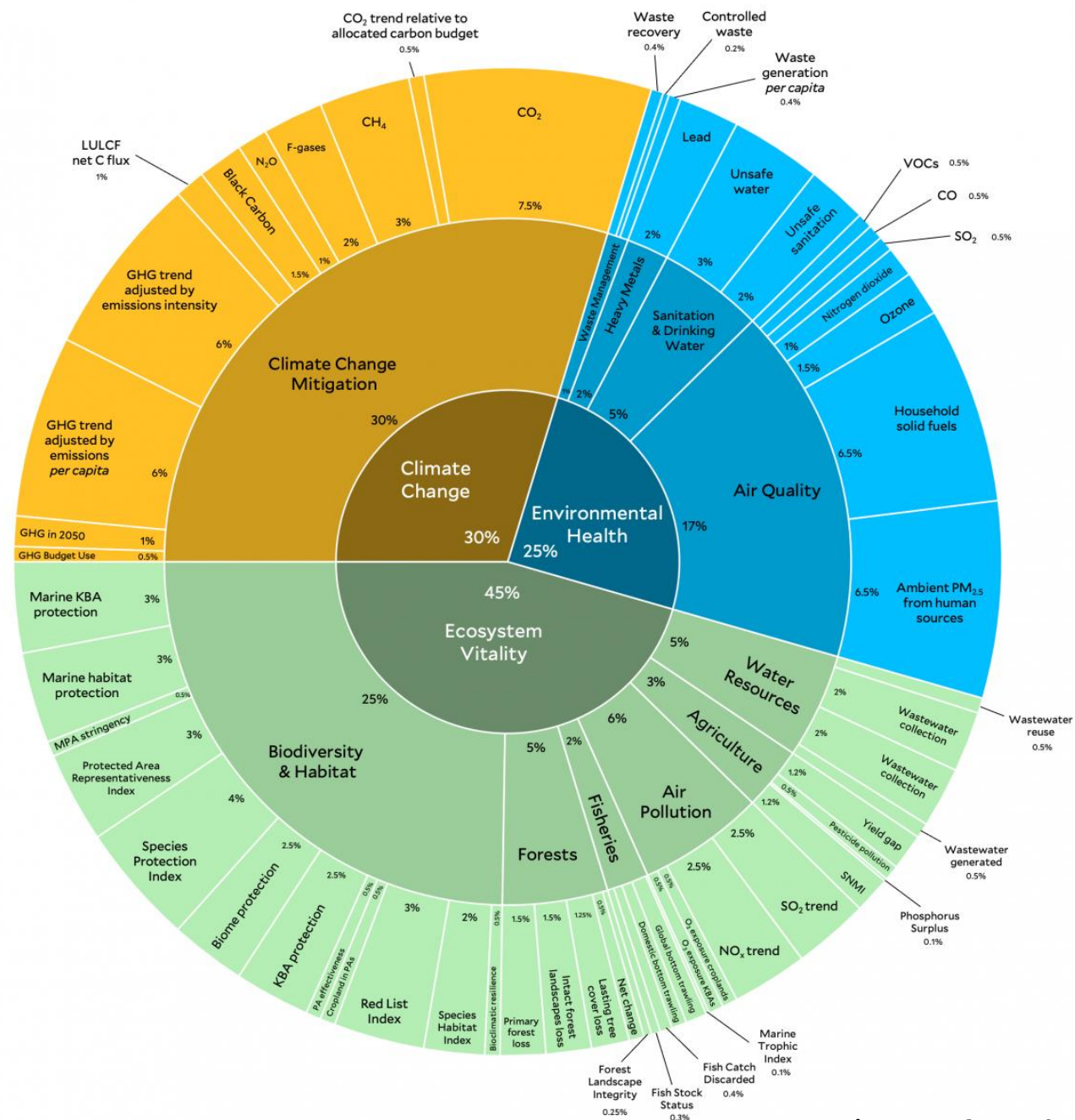 - Ranks 180 countries on climate change performance, environmental health, and ecosystem vitality

image from https://epi.yale.edu/about-epi

Research Question

What is the relationship between the amount of funding raised through Green and Sustainability bonds and a country's EPI score?

Dataset 1: Bond issuances

- Green and Sustainability bond issuance volumes (USD millions)
- Total local currency bond issuance volumes (USD millions)
- Broken down per issuer (Government and Corporate) and bond label (Green and Sustainability)
- Limited to ASEAN+3 economies
- Taken from the Asian Development Bank's AsianBondsOnline portal

Dataset 2: EPI

- Aggregated into a score
- Comprehensively covers a wide range of environmental issues, not just a single or limited issues
- Though this analysis is focused on ASEAN+3, dataset contains global information which can be useful especially when comparing against world standards
- Two-year time horizon which does not directly match Bond data
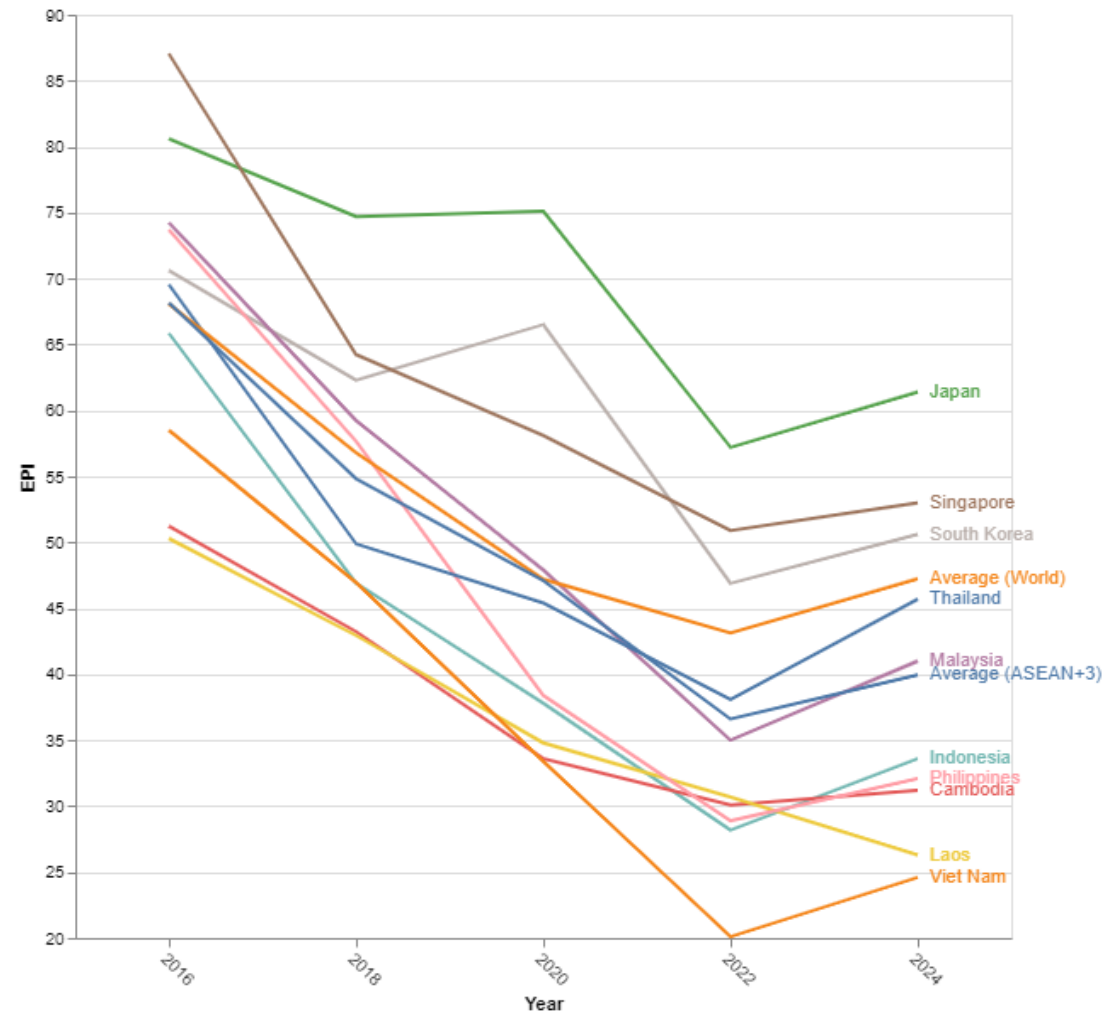
Finding:
Rising issuance volume

- Upward trending (in nominal terms)

- Possible reasons:
  - Paris commitments
  - Energy crisis due to geopolitical conflicts
  - Growth of ESG market segment
  - More generally, higher deficits due to the pandemic
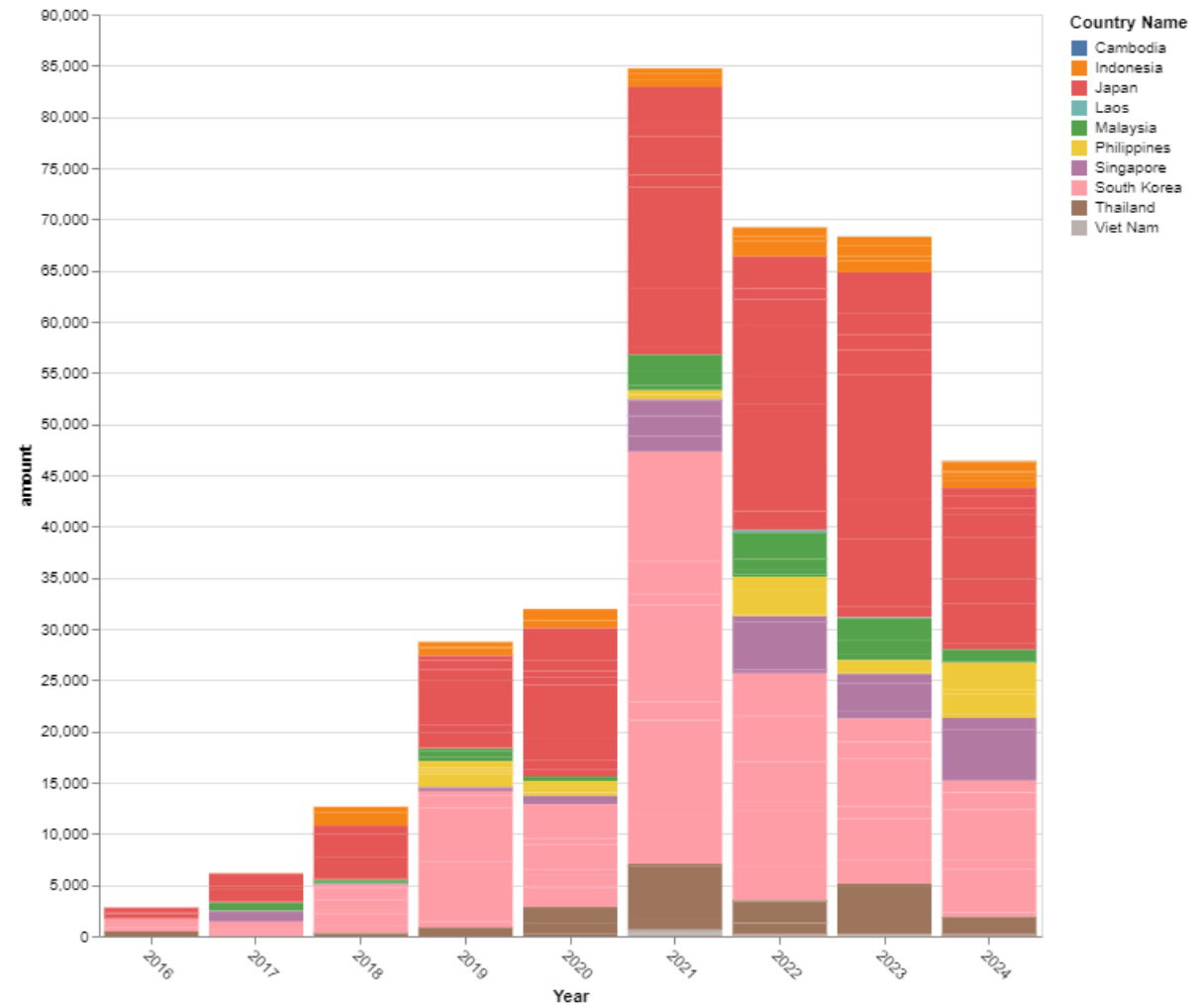
Finding:
Global downtrend in EPI

- Regional (and global) drop in EPI scores

- Possible reasons:
  - Higher standards for performance
  - More developments focused on economic growth rather than environmental targets

Finding:
Weak to negative relation

- Example: South Korea

- Linear regression on time series data to draw trend lines

- Normalized data for more meaningful comparison

  - Bonds are expressed in USD millions

  - EPI scores are 0 to 100
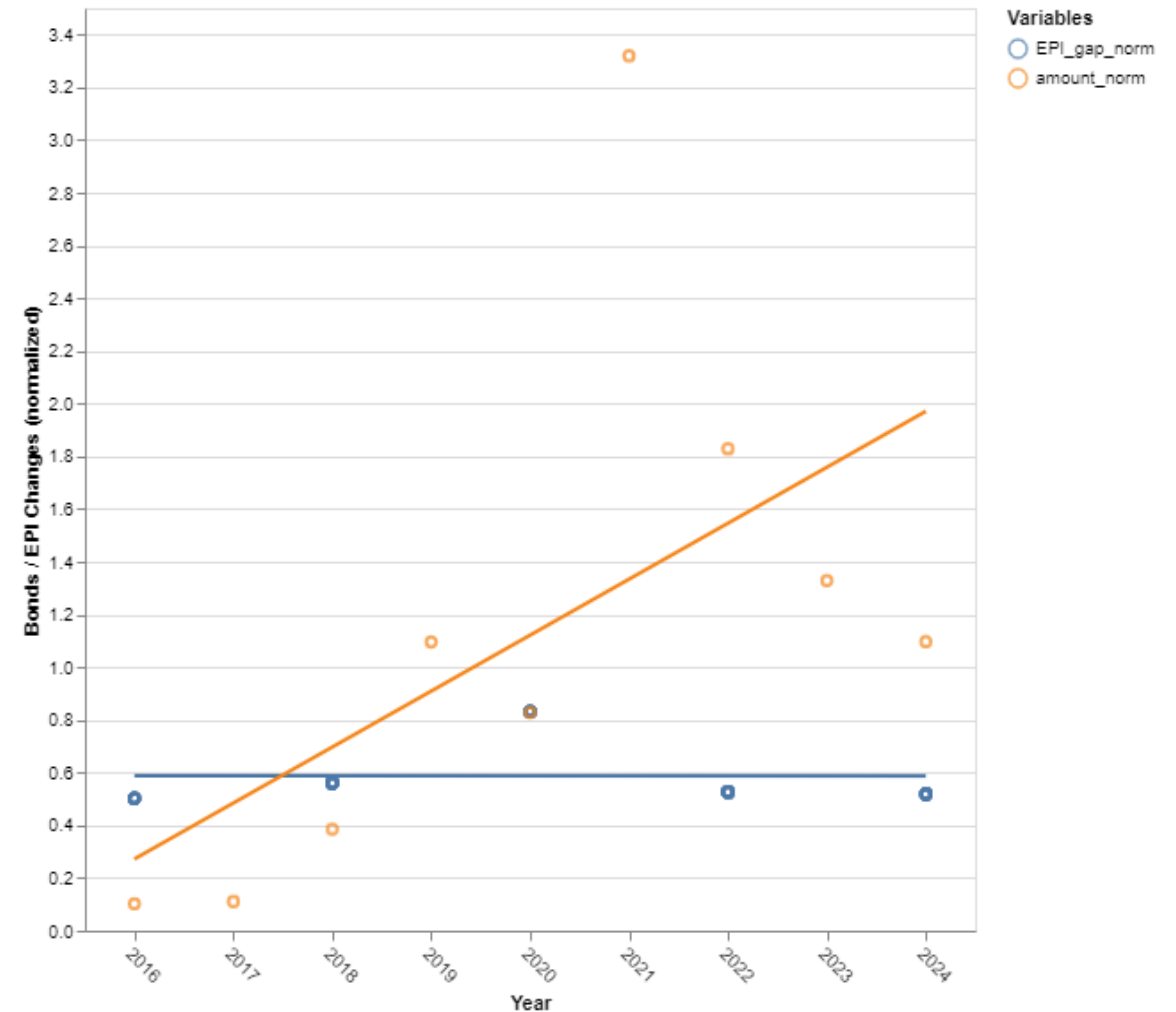
Summary and areas for further research

- Lower scores observed despite higher issuance volumes
- Possible that EPI scores would have decreased even more if not for these investments
- Could be a signal of "greenwashing"

- Use of project-level data or more specific categorization of use of proceeds
- Other potential determinants of EPI scores (e.g. GDP, specific investments into renewable energy, etc.)
- Other peer comparisons aside from region