

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

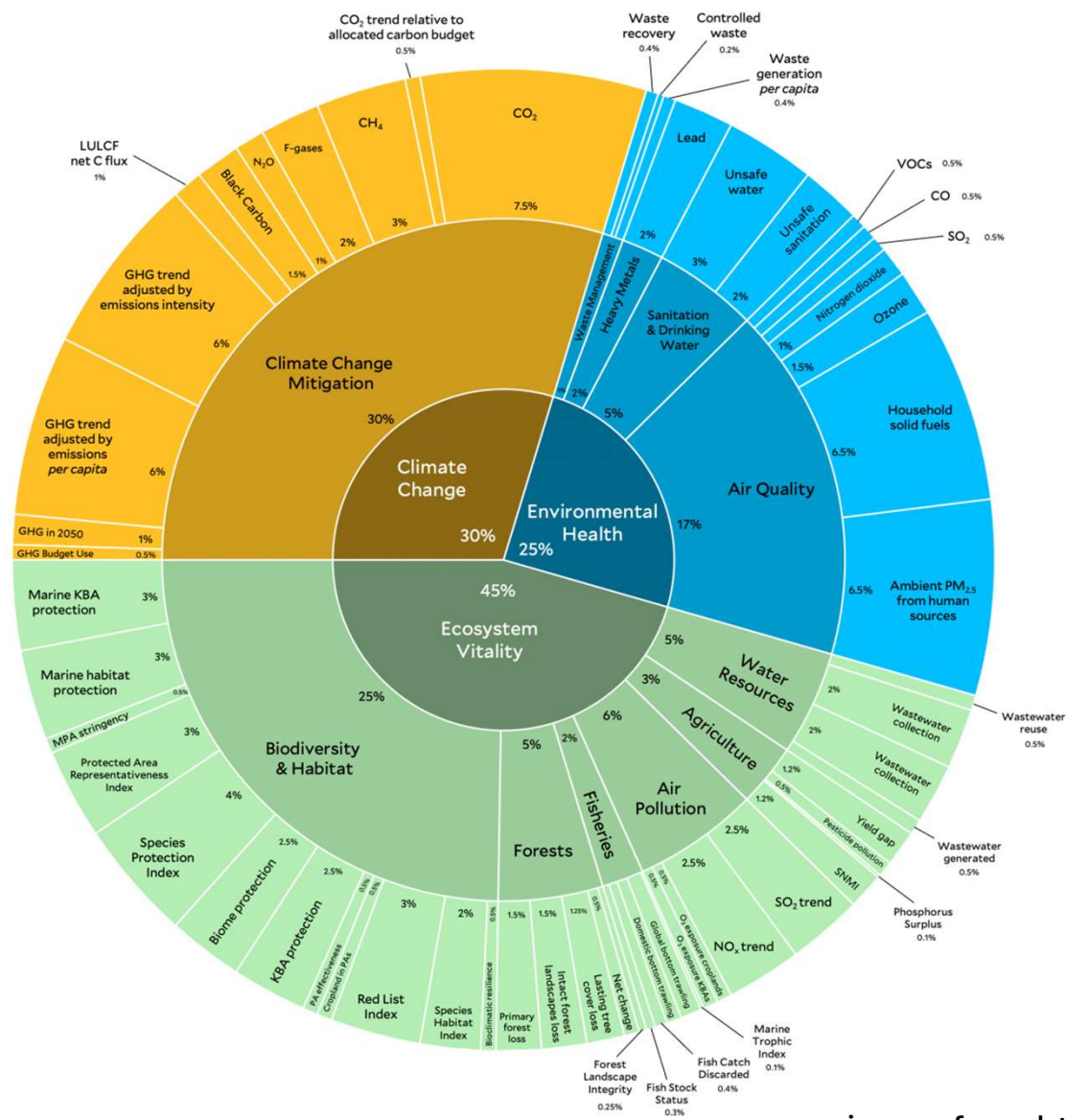


image from <https://epi.yale.edu/about-epi>

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

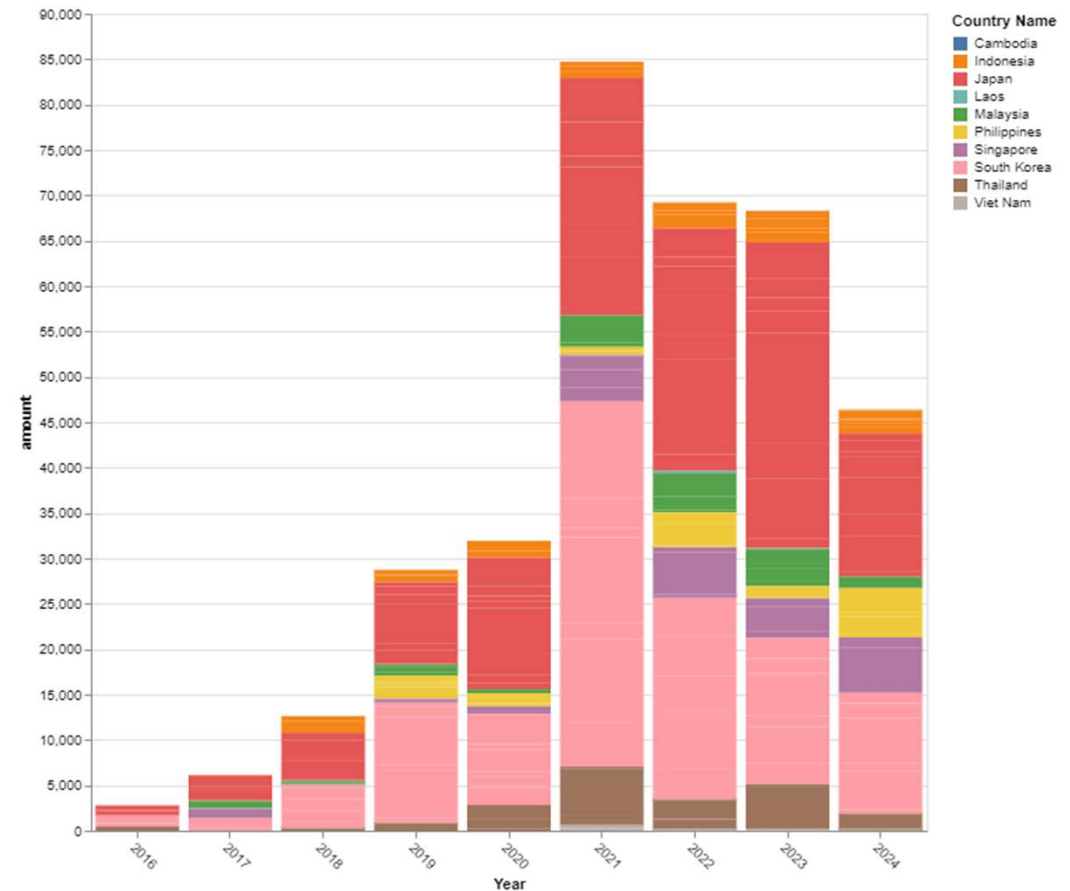
- Green and Sustainability bond issuance volumes (USD millions)
- Total local currency bond issuance volumes (USD millions)
- Broken down per issuer (Government and Corporate) and bond label (Green and Sustainability)
- Limited to ASEAN+3 economies
- Taken from the Asian Development Bank's AsianBondsOnline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

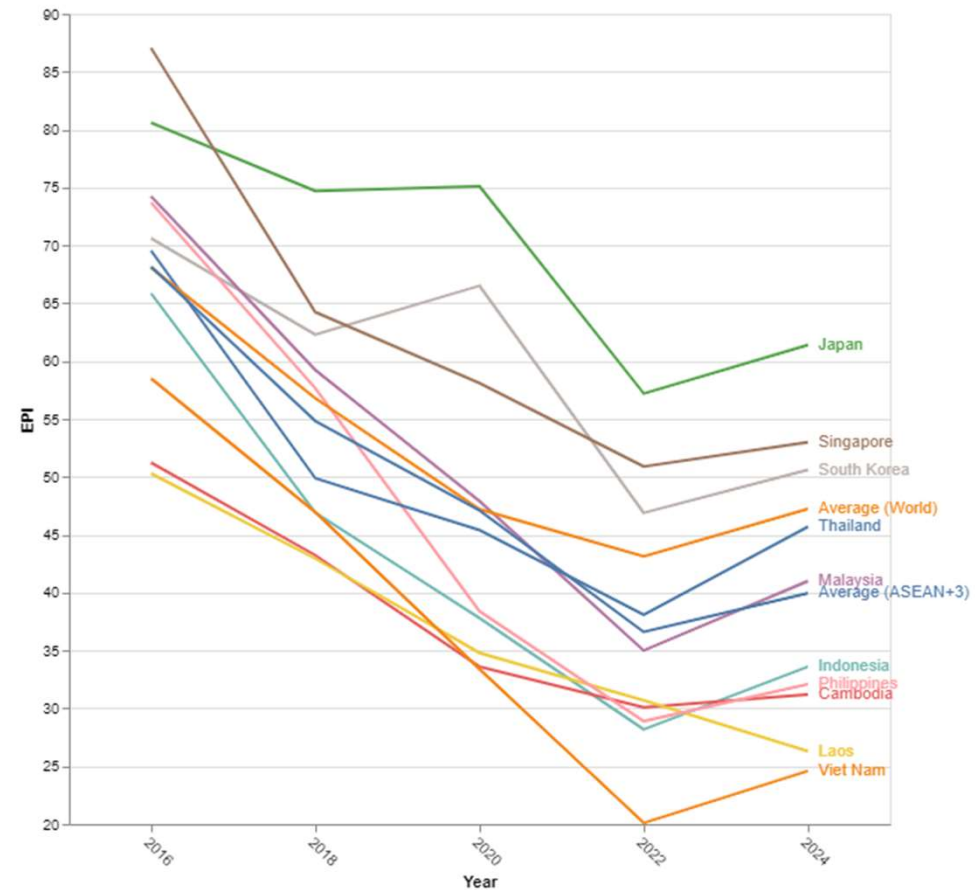
Finding: Rising issuance volume

- 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



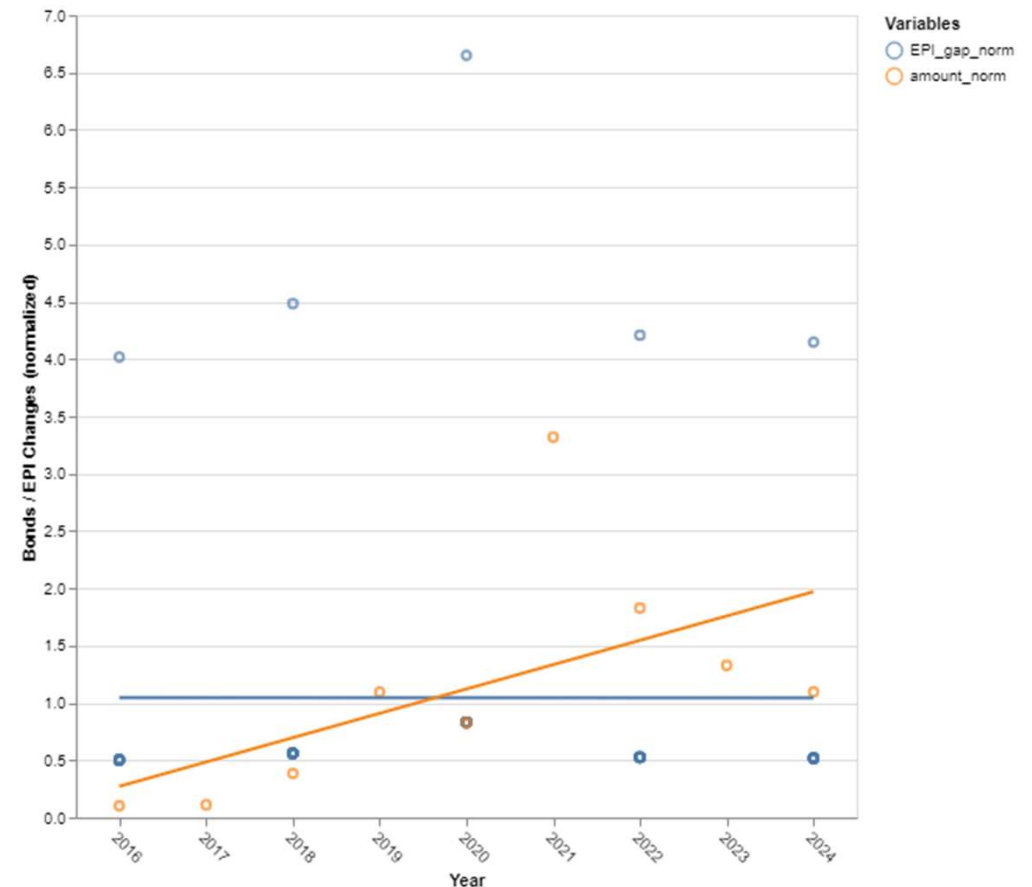
Finding: Global downtrend in EPI

- 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