

PORT GREENING MEASURES - CAUSES AND CONSEQUENCES: A FRAMEWORK FOR ANALYSIS



Elizabeth DeSombre and Jette Steen Knudsen

This paper provides an overview of a database collecting information on the environmental measures adopted and/or enforced by the busiest 210 ports from 2005-2018 globally with the intent of conducting analysis on how and why specific regulatory forms emerge and vary across locations, and providing information that can assist future research by others.

APPROACH:

This paper characterizes various environmental initiatives enacted by ports. It avoids aggregating them, instead looking at the range of types of measures that ports can take to become more environmentally sustainable. The paper identifies 6 greening measures that ports can impose on ships, as well as 12 measures that ports can adopt themselves and 2 measures that apply to non-ship transport of goods from the port and examines them across the busiest 210 sea ports.. The database the paper describes also measures a variety of factors that might account for the greening measures ports take on, and provides a set of possible ways to measure effects of these port greening decisions.

MAIN FINDINGS:

As this paper is an overview of an upcoming database meant to assist future research, it does not seek to offer definitive conclusions on the shipping industry. However, the paper does highlight the benefits of this database, including that:

- The research conducted expands the traditional port literature which typically focuses on only a select few ports or environmental initiatives to emphasize the wider trends in the shipping industry. This overcomes selection bias where only ports with easily accessible information or explicit environmental goals are examined, potentially ignoring the differing characteristics and motivations of ports without these specific characteristics.
- The breadth of data facilitates both international and intranational analysis, allowing researchers to determine whether port greening measures are primarily due to factors at the state level or other influences.
- The database could be used to analyze trends in what causes ports to adopt green initiatives, which particular ones do they adopt, and a wide variety of potential internal and external factors that could lead ports to do so. Through multivariate analysis examining multiple factors at once, it would be possible to ascertain which ones have the most or least explanatory power.
- This database will be able to shed light on whether the initiatives ports adopted amount to meaningful change or if they are simply forms or greenwashing.