

**UNCTAD**  
**Ad Hoc Expert Meeting on**  
**Assessing Port Performance**

Room XXVI  
Palais des Nations  
Geneva, Switzerland

**12 December 2012**

**The Role of**  
**External Factors Versus Managerial Ability**  
**in Determining Relative Efficiency**

by

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## **The Role of External Factors Versus Managerial Ability in Determining Relative Efficiency**

Ad Hoc Experts Meeting on Assessing Port  
Performance

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AFTERNOON SESSION: A RESEARCH PERSPECTIVE

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### **Main consideration**

- Often port performance measures focus only/mainly *within* the port
- Greater attention should be given to external elements → those on which port managers have little or no influence
- Among developed countries, especially in continental Europe, but, generally, in developing countries ports are strictly embodied within the territorial context

## Consequences

- Often, elements which determine a port's choice by shippers and shipping companies are beyond control of port authorities;
- However, performance is evaluated on output produced with available inputs (labour, capital, ecc.)
- Evaluating performance without taking into account institutional and other external elements might be misleading:
  - With respect to port management;
  - With respect to governments and transport agencies;
  - With respect to clients.

## Objective – Variable choice

- If the objective of the port performance index is, among others :
  - Accountability of port managers and decision makers;
  - Across countries benchmarking;
  - Identifying critical elements of port functioning;
  - Financing/Investment decision;
  - Across country code of conduct
  - Explain shippers and shipping company choices of calling at a port
  - Draw policy guidelines...
- Need to *clear* port performance from “context performance”

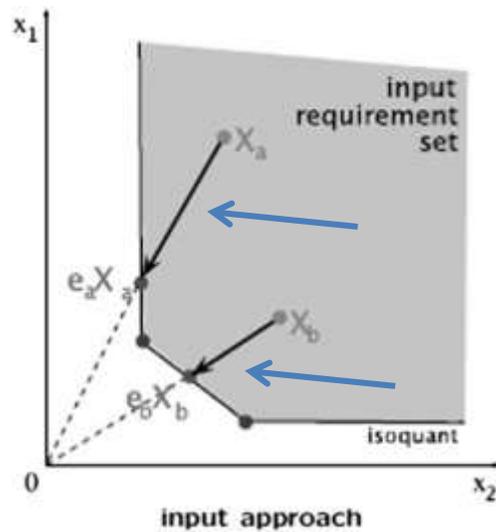
## The role of operating environment

- The role played by **non-discretionary characteristics** in affecting performances has been gaining momentum in the literature investigating the **determinants of efficiency in industries with relevant involvement of the public sector**
- Efficiency gaps might be due to:
  - managerial lack of capability,
  - high degree (or the form) of government involvement
    - i.e. **alternative governance regimes might give rise, *ceteris paribus*, to inefficiency differentials across operators**
  - different operating conditions, that are not controlled by operators.
- These considerations fit well the transport sector in general and the port industry in particular.

## Which exogenous variables?

- Variables of three types:
  - 1) environmental, non-discretionary, variables:
    - impact of the **different characteristics of the area** where the port is located  
→ control for heterogeneity among ports.
  - 2) policy variables:
    - relate to the **governance set-up**
      - aim to pin-point the potential changes in the economic environment that occurs after the introduction of new regulatory framework
      - vary across country and time, but is not differentiated for ports belonging to the same country (port regulation is, generally, determined at national level).
  - 3) time trend (TREND) to account for any technological changes
    - It **captures only technological shifts**, and not, instead, changes in managerial performances

## What do we want to identify?



### Original DEA Ranking (average).

Bergantino A.S. and E. Musso, 2011, The role of external factors versus managerial ability in determining seaports' relative efficiency, Maritime Economics and Logistics, 13, 121–141. doi:10.1057/mel.2011.1

- Algeciras,
- Rotterdam,
- Antwerp,
- Valencia,
- Gioia Tauro,
- Marseilles,
- Genoa,
- La Spezia,
- Bremen-Bremenhaven,
- Hamburg,
- Le Havre,
- Amsterdam,
- Bilbao,
- Trieste,
- Goteborg,
- Dublin,
- Helsinki,
- Liverpool,
- Cagliari,
- Piraeus,
- Felixstowe,
- Thamesport,
- Bari,
- Salerno,
- Barcelona,
- Taranto,
- Thessaloniki

### Adjusted DEA Ranking (average).

Spearman's correlation test:  
0,38

- Algeciras,
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- Taranto,
- Bremen-Bremenhaven,
- Valencia,
- Marseilles,
- Antwerp,
- Rotterdam,
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- Amsterdam

## Bottom line

- When defining a set of port performance indicators, identifying and taking into account environmental elements would avoid that key elements in the final outcome are actually lost in the process and, thus, not taken into account in policy decisions.
- This would lead to under-evaluation of “physical and institutional bottlenecks” to port performance.
- A process approach should be adopted.