

# *Liner Shipping Connectivity Index (LSCI)*

Conference on Port Logistics Performance

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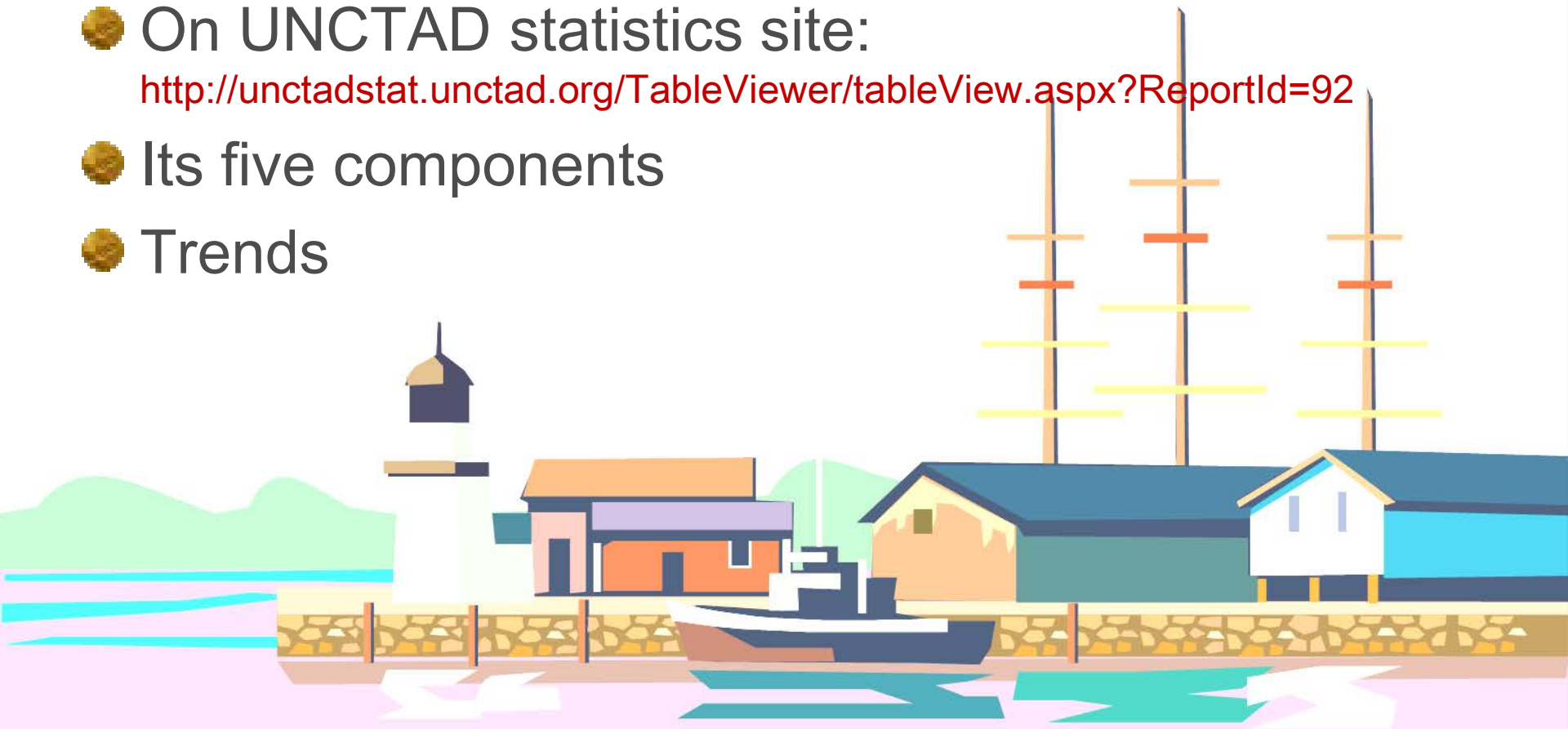
# *UNCTAD Liner Shipping connectivity Index*

- On UNCTAD statistics site:

<http://unctadstat.unctad.org/TableViewer/tableView.aspx?ReportId=92>

- Its five components


- Trends




# On UNCTAD statistics site


<http://unctadstat.unctad.org/TableViewer/tableView.aspx?ReportId=92>




UNCTAD.org | Methodology & Classifications | Tables & Indicators | Updates












Reports Table Chart

Actions 

**Liner shipping connectivity index, annual, 2004-2012** 

Other:  MEASURE  - Index (Maximum 2004=100) 

YEAR	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>ECONOMY</b>									
United Arab Emirates	38.06	39.22	46.70	48.21	48.80	60.45	63.37	62.50	61.09
United Kingdom	81.69	79.58	81.53	76.77	77.99	84.82	87.53	87.46	84.00
United Republic of Tanzania	8.10	8.59	8.71	10.58	10.46	9.54	10.61	11.49	11.07
United States	83.30	87.62	85.80	83.68	82.45	82.43	83.80	81.63	91.70
Uruguay	16.44	16.58	16.81	21.28	22.88	22.28	24.46	24.38	32.00
Uzbekistan	..	..	..	..	..	..	..	..	..
Vanuatu	3.92	4.48	4.41	4.34	4.36	4.22	3.75	3.70	3.88
Venezuela (Bolivarian Republic of)	18.22	19.90	18.62	20.26	20.46	20.43	18.61	19.97	18.93
Viet Nam	12.86	14.30	15.14	17.59	18.73	26.39	31.36	49.71	48.71
Wallis and Futuna Islands	..	..	..	..	..	..	..	..	..
Western Sahara	..	..	..	..	..	..	..	..	..
Yemen	19.21	10.18	9.39	14.28	14.44	14.61	12.49	11.89	13.19

# *An example: LSCIs in the Middle East*

<b>Countries</b>	<b>LSCI 2012</b>	<b>Rank 2012</b>	<b>LSCI 2004</b>	<b>Rank 2004</b>	<b>LSCI 2011</b>	<b>Change 2012/2011</b>
United Arab Emirates	61.09	16	38.06	18	62.50	-1.42
Saudi Arabia	60.40	17	35.83	19	59.97	0.43
Egypt	57.39	18	42.86	16	51.15	6.24
Oman	47.25	23	23.33	31	49.33	-2.09
Lebanon	43.21	30	10.57	67	35.09	8.11
Jordan	22.75	54	11.00	66	16.65	6.10
Iran, Islamic Republic of	22.62	55	13.69	52	30.27	-7.65
Bahrain	17.86	65	5.39	111	9.77	8.09
Djibouti	16.56	67	6.76	98	21.02	-4.46
Syrian Arab Republic	15.64	70	8.54	86	16.77	-1.13
Yemen	13.19	80	19.21	38	11.89	1.30
Iraq	7.10	106	1.40	156	4.19	2.92
Kuwait	6.60	108	5.87	106	5.60	1.00
Qatar	6.53	110	2.64	144	3.60	2.93

# Five components of LSCI

## Five components of LSCI

Total number of ships deployed  
Total TEU capacity  
Number of companies  
Number of companies offering services  
Maximum vessel size

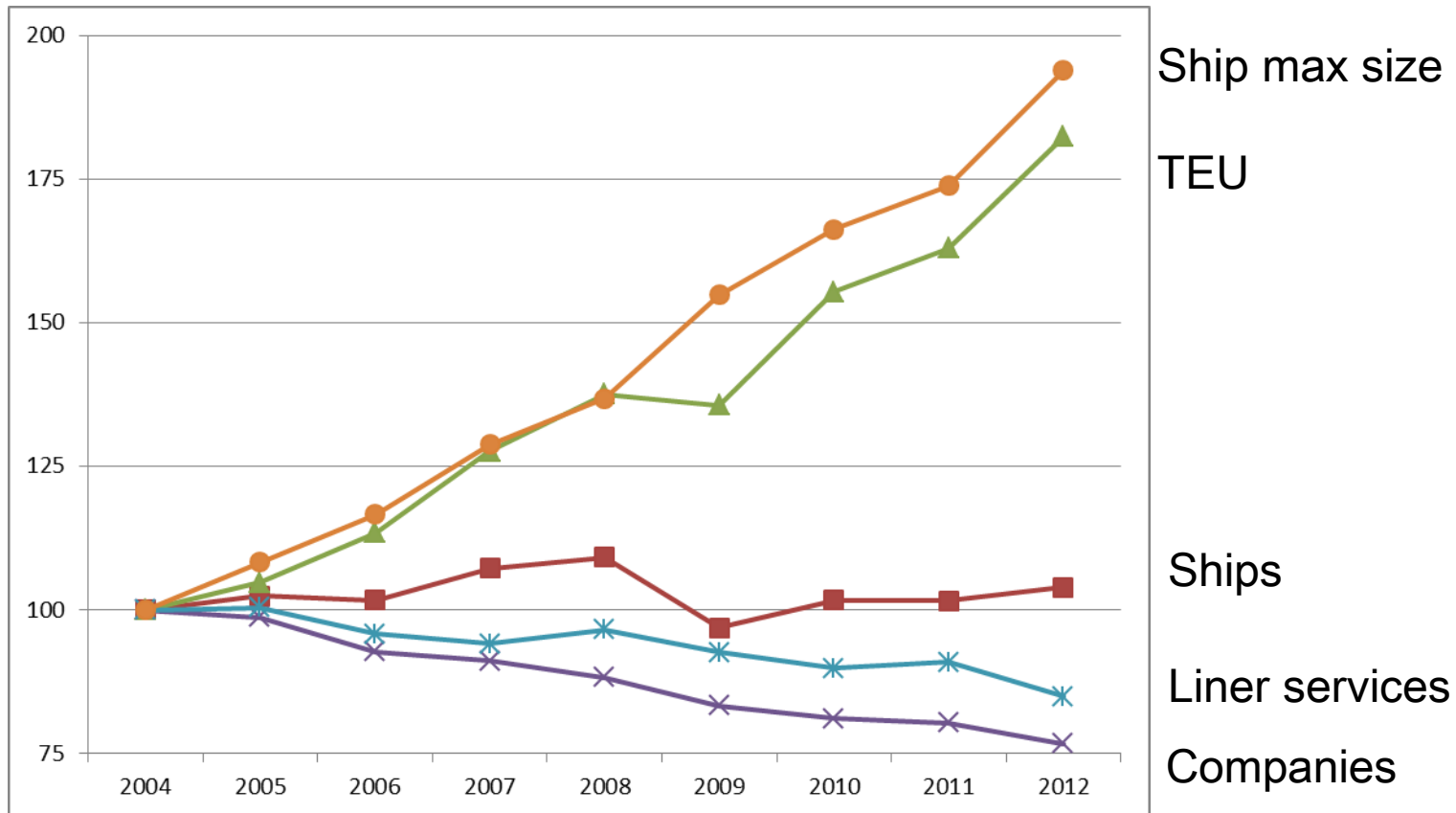
Countries	Ships	Total TEUs	Companies	Services	Max Size	Average	LSCI 2012
United Arab Emirates	0.27	0.46	0.29	0.16	1.70	0.58	61.09
Saudi Arabia	0.28	0.51	0.22	0.14	1.70	0.57	60.40
Egypt	0.26	0.35	0.31	0.20	1.59	0.54	57.39
Oman	0.12	0.26	0.08	0.06	1.70	0.45	47.25
Lebanon	0.07	0.11	0.12	0.04	1.70	0.41	43.21
Jordan	0.05	0.06	0.09	0.03	0.85	0.21	22.75
Iran, Islamic Republic of	0.04	0.05	0.12	0.03	0.83	0.21	22.62
Bahrain	0.01	0.01	0.04	0.01	0.77	0.17	17.86
Djibouti	0.04	0.04	0.06	0.03	0.62	0.16	16.56
Syrian Arab Republic	0.04	0.02	0.10	0.04	0.55	0.15	15.64
Yemen	0.02	0.02	0.05	0.02	0.52	0.12	13.19
Iraq	0.01	0.00	0.04	0.02	0.27	0.07	7.10
Kuwait	0.01	0.00	0.02	0.01	0.27	0.06	6.60
Qatar	0.01	0.00	0.02	0.00	0.27	0.06	6.53

# *Five components of LSCI*

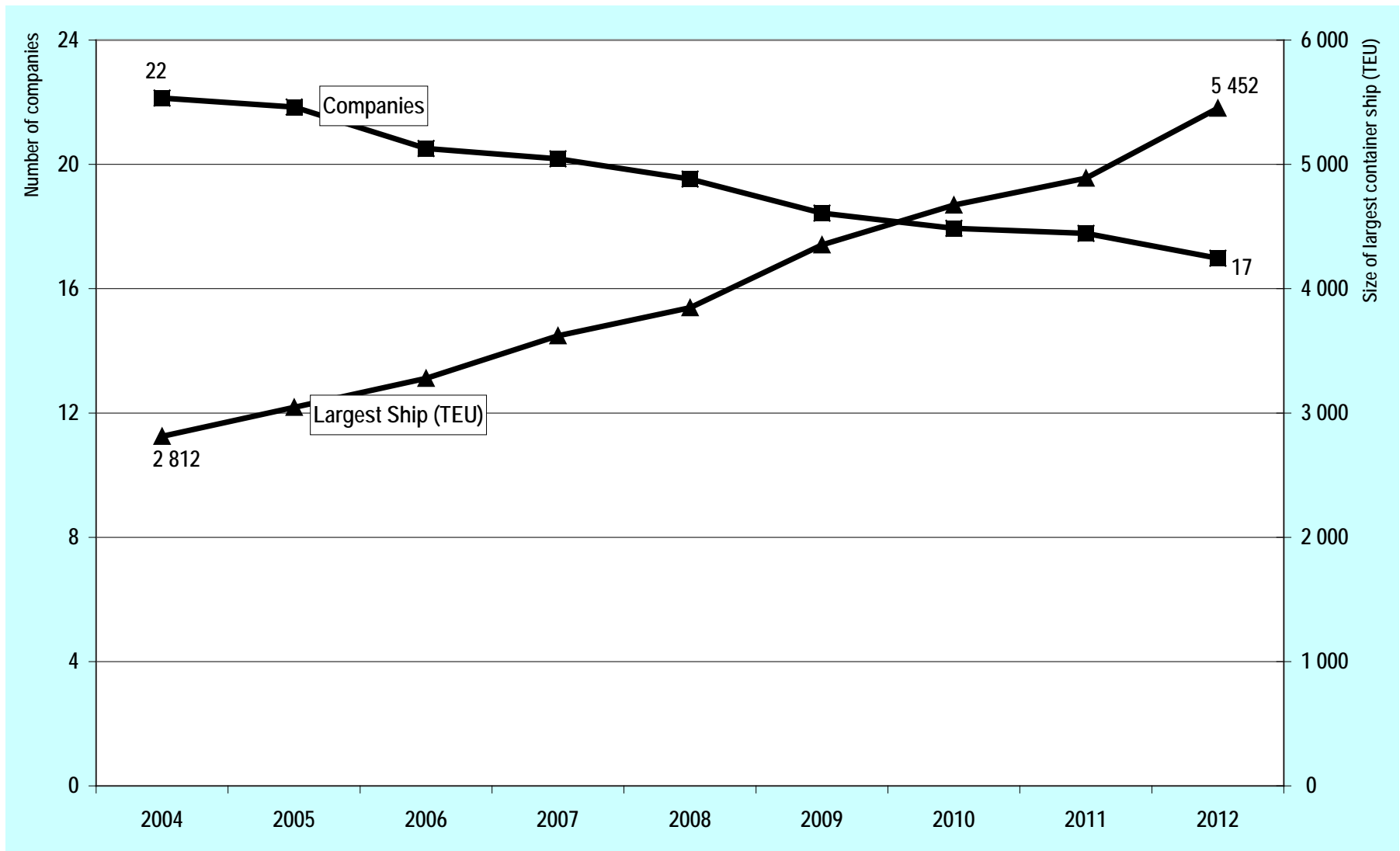
- **Fleet deployment:** number of ships that national and international liner shipping companies assign to liner services from and to the country.
- **Carrying capacity:** the number of slots for twenty-foot equivalent units (TEUs) deployed to a country
- **Liner companies:** Number of liner companies offering a service calling in the country's port
- **Liner services:** Number of services offered by the companies included the country's port in its rotation
- **Maximum vessel size:** Ship with max. TEU carrying capacity calling country's port

# Trend of LSCI components

## Average per country index

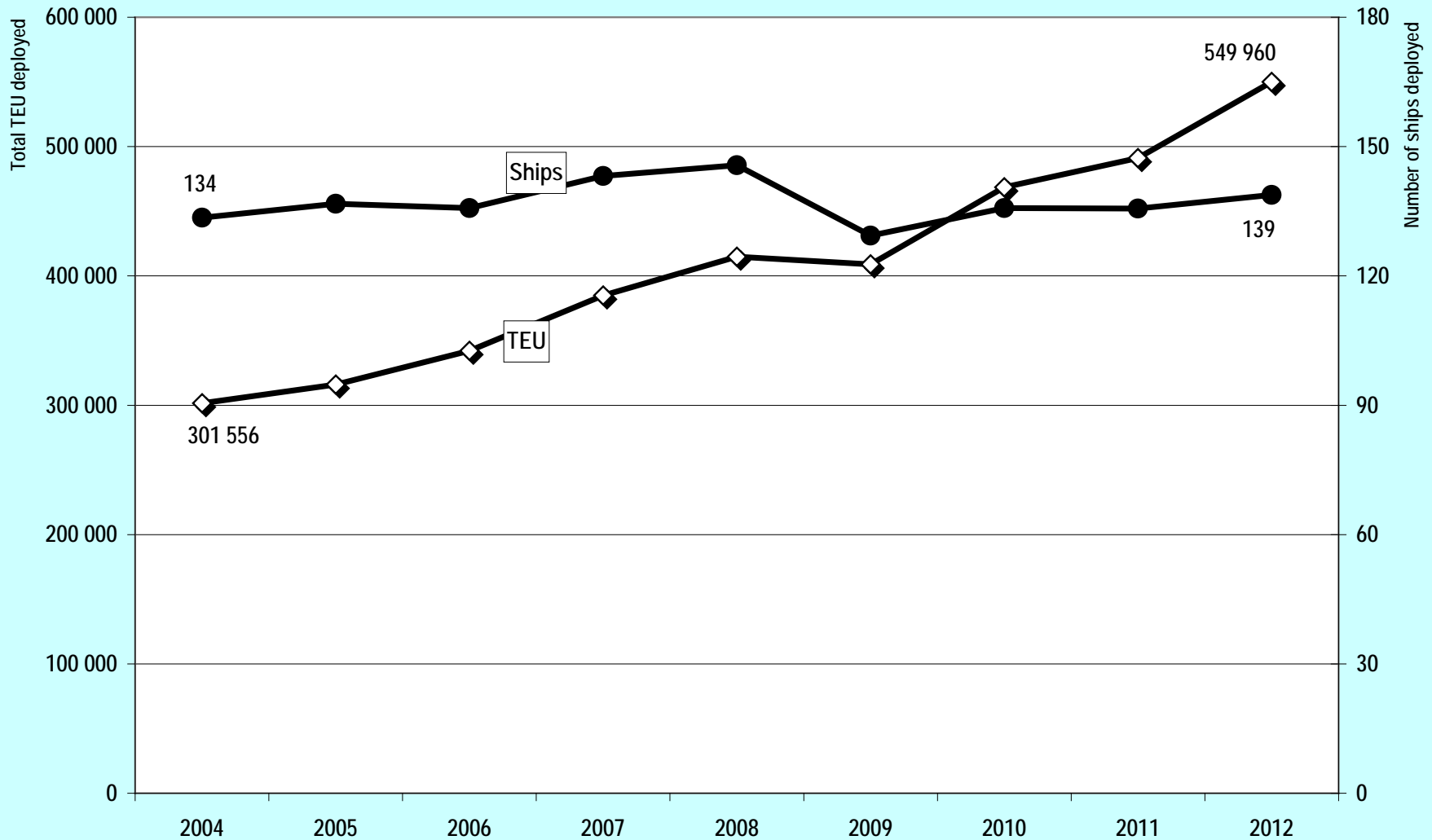


# Number of Companies ~ Max ship size





# Total TEU ~ Number of ships deployed



## *Trend*

“The long term picture as regards the global liner shipping network appears to be mixed.

On the positive side, larger ships and a higher total TEU carrying capacity can cater for the growing global trade in manufactured goods, and economies of scale help to reduce costs.

On the other hand, the larger ships also pose a challenge to smaller ports as regards the necessary investments in infrastructure. The network as such is not expanding in terms of companies or services. The trend seems to be towards lower costs but also towards less choice for shippers.”

# “A comparison of the LPI and the LSCI”

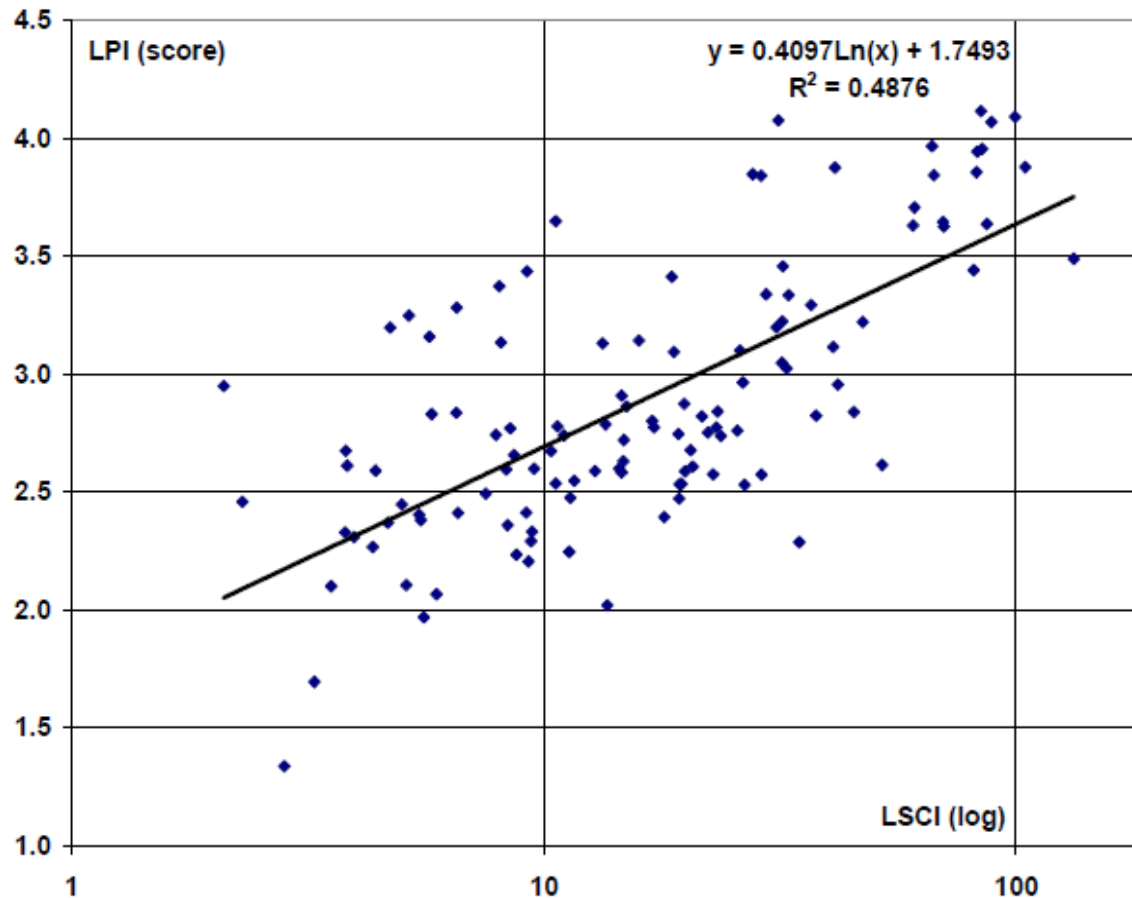
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Trade Logistics Branch, Division on Technology and Logistics

Transport Newsletter



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# Partial correlation coefficients

	<u>LSCI components</u>				
	Ships	TEU	Liner companies	Liner services	Ship size maximum
<b>LPI components:</b>					
Customs	0.63	0.60	0.69	0.61	0.68
Infrastructure	0.68	0.65	<b>0.74</b>	0.66	<b>0.73</b>
International Shipments	0.54	0.51	0.61	0.54	0.53
Logistics Quality and Competence	0.66	0.62	<b>0.74</b>	0.64	0.69
Tracking and Tracing	0.62	0.57	0.70	0.59	0.62
Timeliness	0.53	0.49	0.61	0.50	0.57

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Jan Hoffmann, Trade Logistics Branch, DTL, UNCTAD, [jan.hoffmann@unctad.org](mailto:jan.hoffmann@unctad.org).*

## *Causalities?*

- Better perceived **logistics performance**
  - > more attractive for carriers
  - > higher **LSCI**
- Better liner **shipping connectivity**
  - > better services
  - > higher **LPI**
- More trade
  - > higher **LSCI** + **LPI**
  - > More trade



# *Data*

- From CI-online
- Country level data, annually, since 2004
- Bilateral data: 2006, 2008, 2009, 2010, 2011, 2012
- Components of bilateral data:
  - ❖ Total TEU, Number of ships, Ship max size, Number of companies
- Transshipment connectivity index
- LSBCI (B for bilateral)

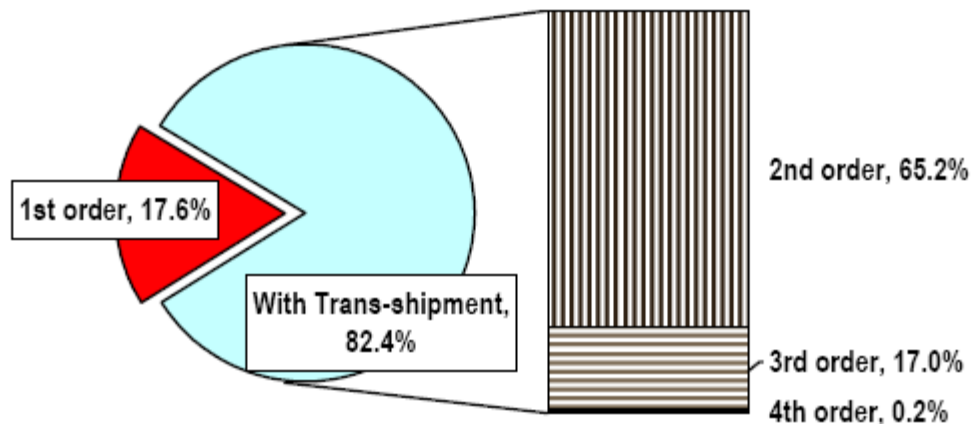
# Dataset 2006

12'561 possible bilateral connections

Direct service only on 2'213 (17,6%)

Trans-shipment in at least 1 port necessary for 8'881 (82.4%) connections. Majority one trans-shipment

Figure 2. Type of possible connections between 159 coastal countries





# Dataset 2008

- Number of connections by direct services: 2'296 (2'213 in 2006)
- Total number of connected countries Going up for:
  - ❖ Morocco (also high improvement in LSCI), Rep. of Korea, Malta, Mauritius, .Djibouti
- Going down for
  - ❖ Jamaica, Danemark, Aruba, Sweden, Israel, Philippines

Each region has its champions (possible hubs)

Africa: Egypt, SA, Ghana, Nigeria, Côte d'Ivoire

LA: Panama, Colombia, Mexico, Venezuela, DRep



# *In the works*

- TCI
- Some preliminary observations on LSCBI

*Thank you!*

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