'Freestyle Sirens':
Reviewing a Decade of Cruise-related Research

Prof. Dr. Alexis Papathanassis

**2nd International Conference on Tourism,
Hospitality and Recreation**
Poznan – 19-21 of May 2014

Prof. Dr. Alexis Papathanassis

Cruise Management & E-Tourism

CRS Cruise Research Society

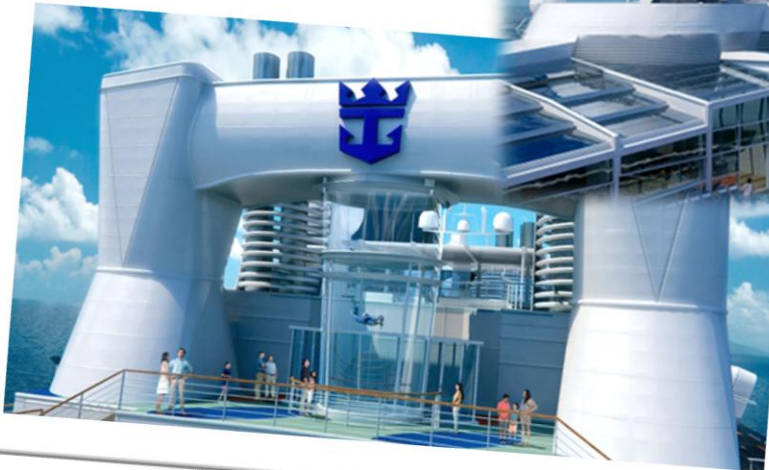J. W. Waterhouse – Ulysses and the Sirens (1891) – Photo taken in Groningen's Art Museum (02.04.2009)

The Modern Sirens!

Modern Floating Destinations Full of Unique Experiences
Some Impressions from the RCL Quantum of the Seas

Images Source: http://www.schiffsjournal.de/vorstellung-der-quantum-of-the-seas/

CLIA 2014 State of the Cruise Industry Report
Demand & Supply Growth

Employment and Economic Impacts?!

CLIA 2014 Global Fleet

410 Ships
Including River Cruise

467,629 Beds

Global Cruise Industry Investment

$7.2 Billion
Investment
in 2013/ 2014

29 new ships
with a capacity of 34,000+
pax in CLIA Global
Fleet 2013/2014

Another 20
ships will join the CLIA Global
Fleet (52,000+ beds) 2015-18

Global Passengers

2013 Estimate:
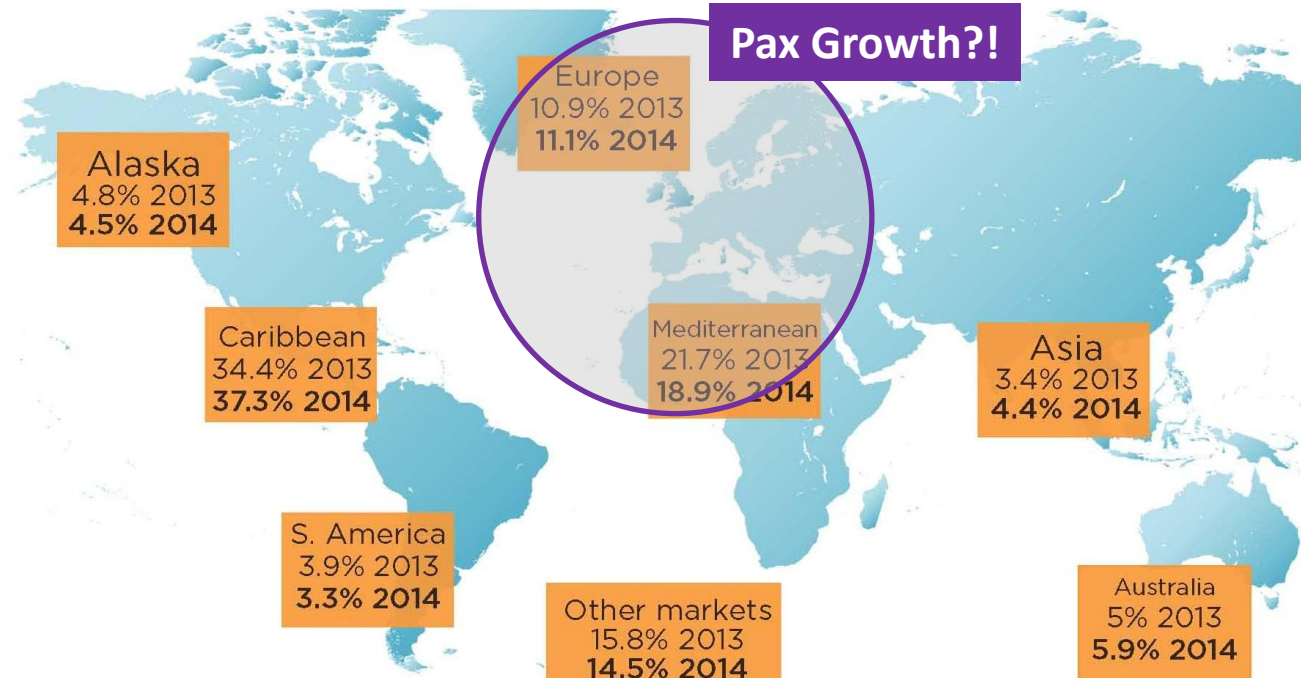**21,300,000**

2014 Forecast:
21,700,000

Global Cruise Itineraries and Ship Deployment
Capacity Market Share

Pax Growth?!

Europe
10.9% 2013
11.1% 2014

Alaska
4.8% 2013
4.5% 2014

Caribbean
34.4% 2013
37.3% 2014

Mediterranean
21.7% 2013
18.9% 2014

Asia
3.4% 2013
4.4% 2014

S. America
3.9% 2013
3.3% 2014

Other markets
15.8% 2013
14.5% 2014

Australia
5% 2013
5.9% 2014

Top 2014 Cruise Trends

- Improved technology and connectivity at sea
- Millennials will drive first-time cruiser growth
- Luxury resurgence
- More all-inclusive packages
- Multi-generational travel will increase
- Active vacations at sea

Source: http://www.cruising.org/sites/default/files/pressroom/Infographic.pdf

Top 10 Passenger Source Countries

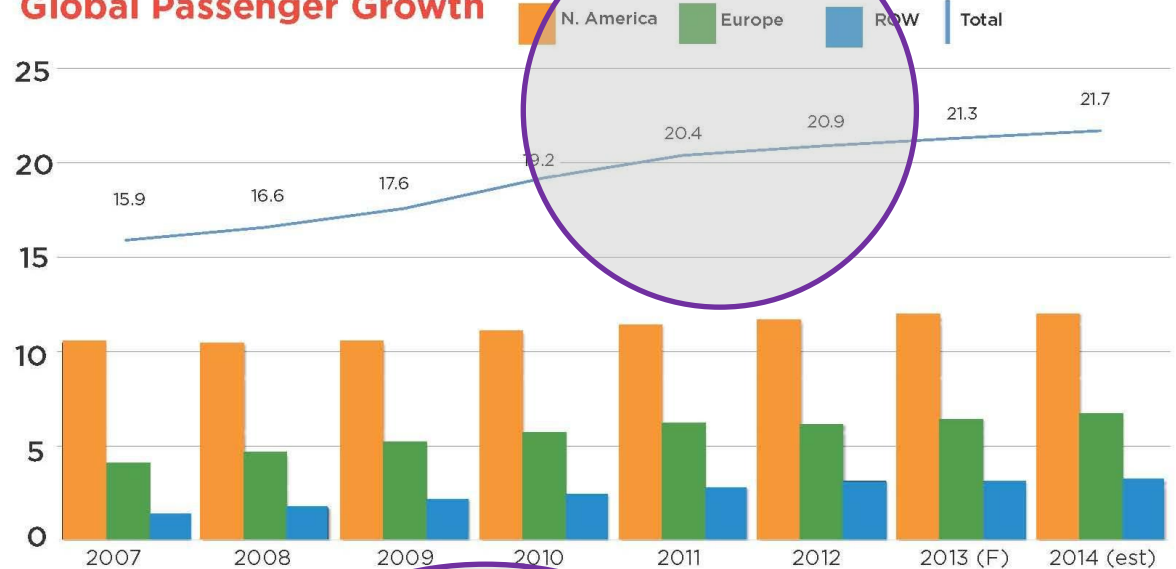| Country	%		Country	%
USA	51.7%		Brazil	3.4%
UK & Ireland	8.1%		Canada	3.4%
Germany	7.7%		Spain	2.8%
Italy	4.0%		France	2.4%
Australia & New Zealand	3.6%		Scandinavia & Finland	1.6%

Hot Cruise Destinations for 2014[1]

- Trans Pacific
- US Rivers/ exotic rivers
- South America
- Antarctic
- World Cruises
- Africa
- Middle East
- Canada/ New England

CLIA
CRUISE LINES INTERNATIONAL ASSOCIATION

Global Passenger Growth

Pax Growth?!

Legend: N. America — Europe — ROW — Total

Line (Total): 15.9, 16.6, 17.6, 19.2, 20.4, 20.9, 21.3, 21.7

Years: 2007, 2008, 2009, 2010, 2011, 2012, 2013 (F), 2014 (est)

Major Consumer Motivators to Take a Cruise[2]

- $ **86.6%** Value/ Price
- **77.7%** Desination/ Itineraires
- **76%** Cruise brand reputation
- **61.3%** Home Port
- **39.3%** Lifestyle Ammenities

Sustainability and Safety?!

[1] According to CLIA Cruise Line Member Survey [2] According to CLIA [...] Survey
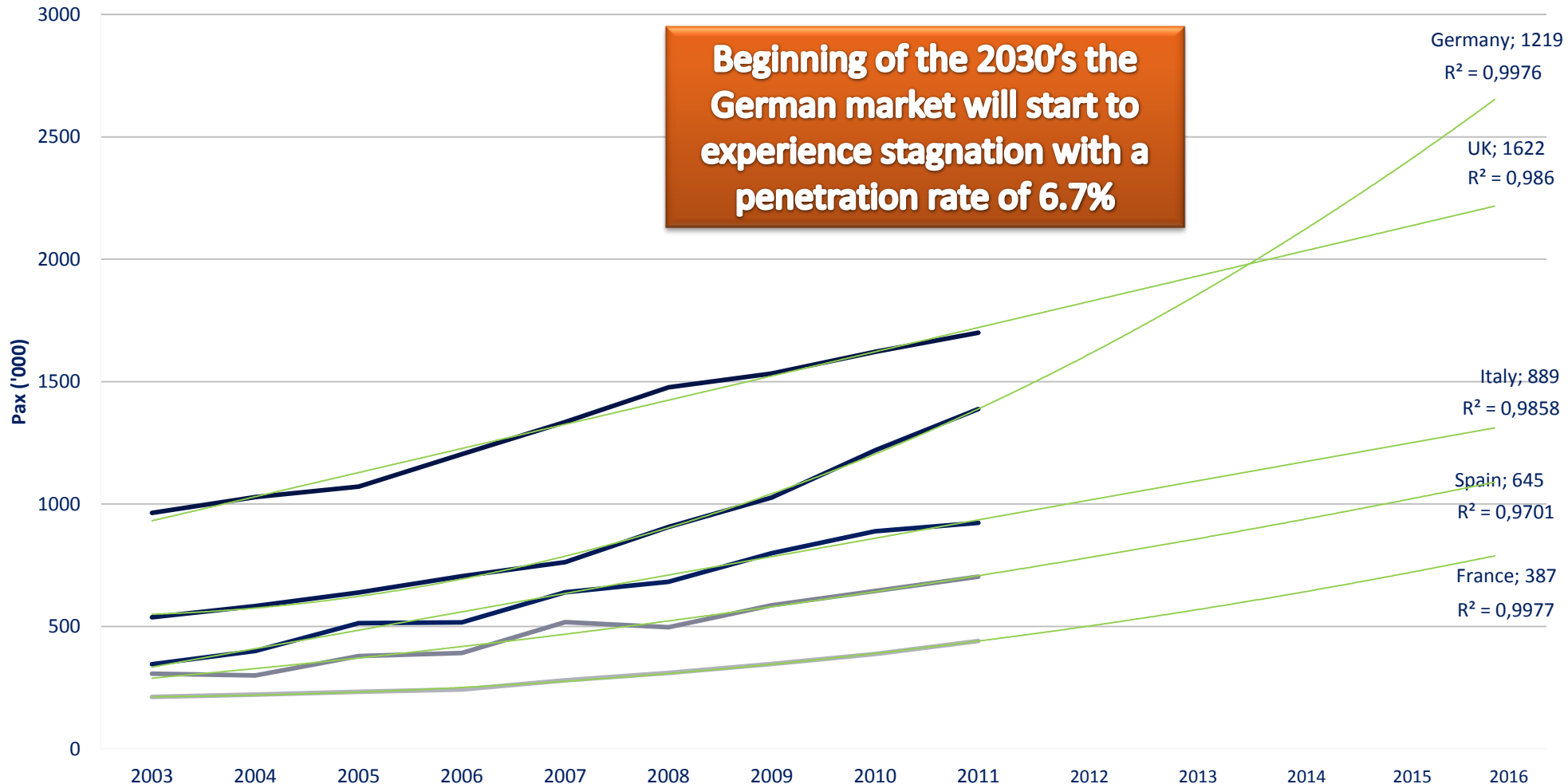
CRUISE TOURISM & GROWTH / PROFITABILITY

The 'Bucket Effect'

European Cruise Pax Development & Forecast
The EU Market is promising... Germany expected to be the leading EU source market by 2014

European Pax Development

Beginning of the 2030's the German market will start to experience stagnation with a penetration rate of 6.7%

Germany; 1219
R² = 0,9976

UK; 1622
R² = 0,986

Italy; 889
R² = 0,9858

Spain; 645
R² = 0,9701

France; 387
R² = 0,9977

Pax ('000)

Base data: European Cruise Council (2012 Online) - Own Forecast

A Critical View on Growth:
Extrapolation of Historical Data

Linear Extrapolation

Cruise Passengers (000) — R² = 0,9437

Quadratic Extrapolation

Cruise Passengers (000) — R² = 0,9873
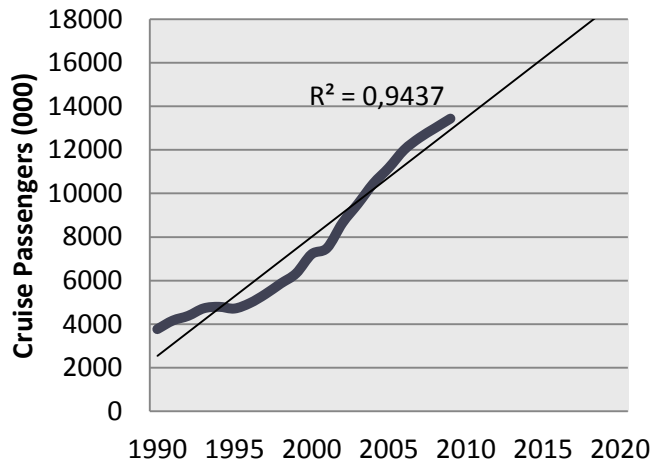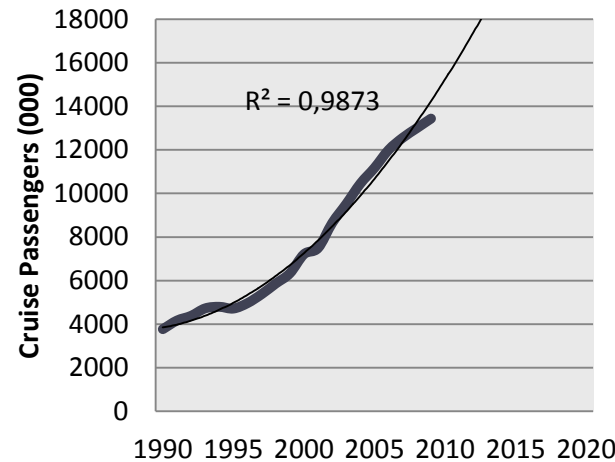
Cubic Extrapolation
(S-Shaped Curve)

Cruise Passengers (000) — R² = 0,9923
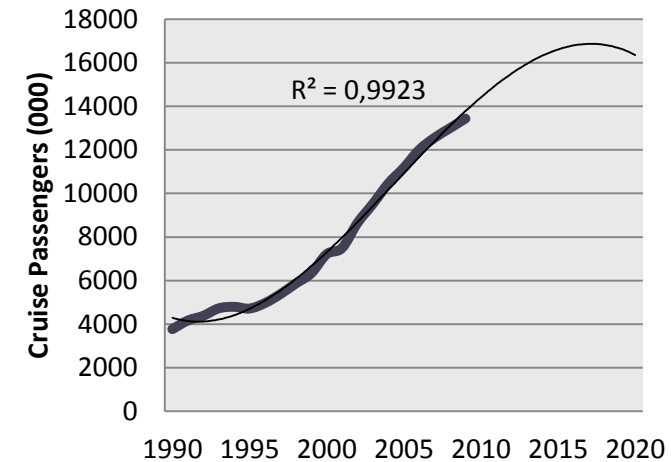
Linear Extrapolation
- ▶ Least data fit (R2 = 94%)
- ▶ 30 Million Pax by 2041
- ▶ Indefinite growth assumption

Quadratic Extrapolation
- ▶ Second best data fit (R2 = 98%)
- ▶ 69 Million Pax by 2041
- ▶ Indefinite growth assumption

Cubic Extrapolation
- ▶ Best data fit (R2 = 99%)
- ▶ Compatible with the Product Life Cycle concept
  - ▶ Historically applicable for tourist destinations (Butler 1980, 2006) and
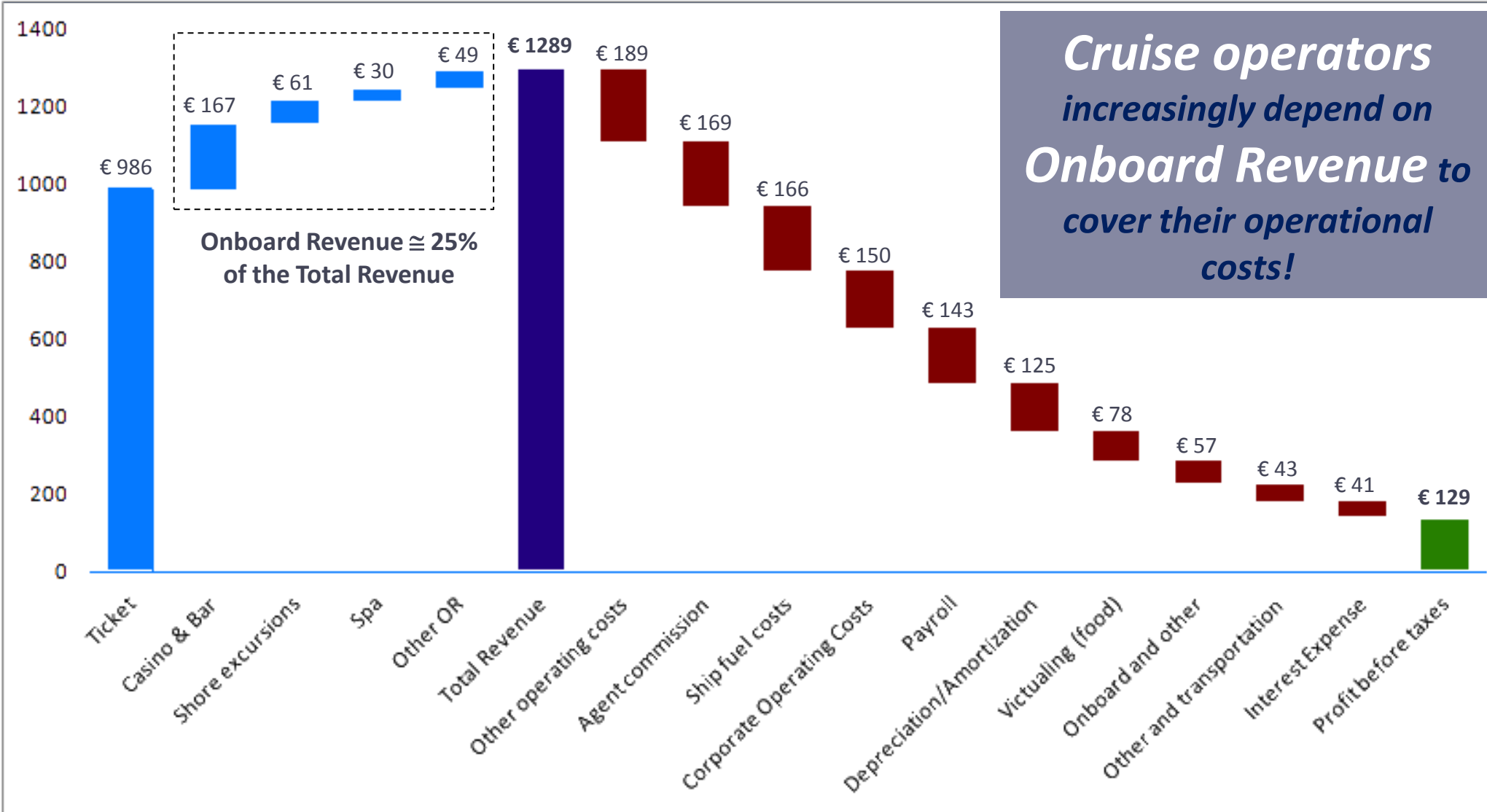 - ▶ Tourism segments (Zimmermann 1997)

Forecast Implications?
Weak signals (e.g. ticket price reductions; mega-ships / onboard revenue)
Validity of forecasting demand on the basis of supply?

Source data: CLIA (2010)

Average Cruiser 2013
*Financial Breakdown**

Onboard Revenue ≅ 25% of the Total Revenue

Chart values:
- Ticket: € 986
- Casino & Bar: € 167
- Shore excursions: € 61
- Spa: € 30
- Other OR: € 49
- Total Revenue: € 1289
- Other operating costs: € 189
- Agent commission: € 169
- Ship fuel costs: € 166
- Corporate Operating Costs: € 150
- Payroll: € 143
- Depreciation/Amortization: € 125
- Victualing (food): € 78
- Onboard and other: € 57
- Other and transportation: € 43
- Interest Expense: € 41
- Profit before taxes: € 129

Cruise operators increasingly depend on **Onboard Revenue** to *cover their operational costs!*

10

Balance Sheet Analyses (RCL & Carnival) 2011*
Dependence on Onboard Revenue

Carnival Cruise Lines

Millions of PCDs

Revenue per PCD (real US$) -2.2% p.a.

-20%

Passenger cruise days (PCD) +13.1% p.a.

2001 2003 2005 2007 2009 2011

Royal Caribbean International

Real US$ (2011)

Revenue per PCD (real US$) -1.8% p.a.

-17%

Passenger cruise days (PCD) +8.5% p.a.

2001 2003 2005 2007 2009 2011
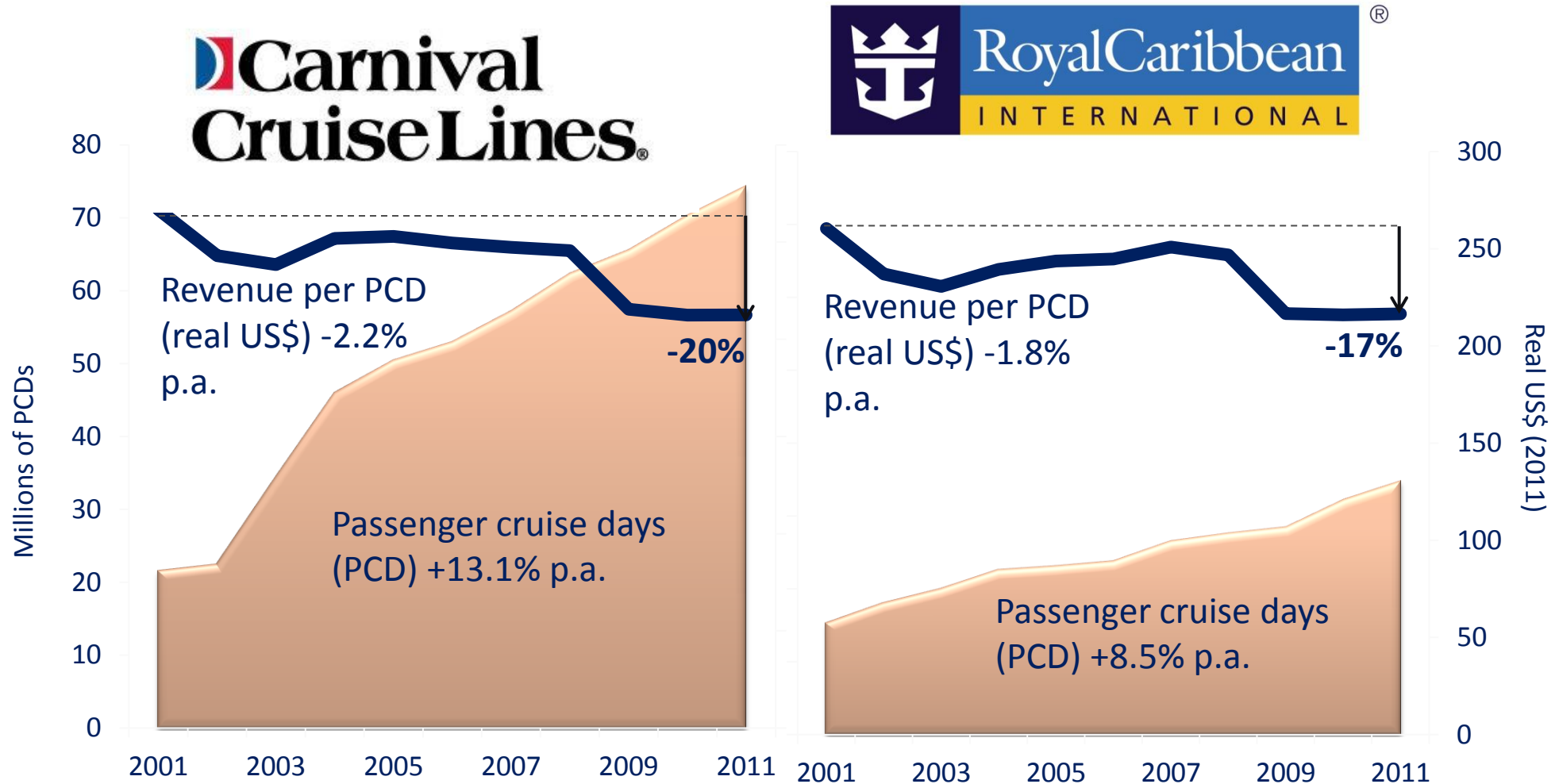
Balance Sheet Analyses (RCL & Carnival) 2011*
Cost-Saving Pressures?!

Carnival Cruise Lines

Cost per PCD (real US$)

- Fuel
- Food
- Deprec.
- Payroll
- Marketing
- Other
- Commission & transp.

-17%

$172.63

+143%

-16%
-6%
-14%
-36%
-36%
-31%

Cost reduction excluding fuel: **-25%**

Royal Caribbean INTERNATIONAL ®

$207.80

- Fuel
- Food
- Deprec.
- Payroll
- Marketing
- Other
- Commission & transp.

-16%

$174.36

+129%

-32%
-19%
1%
-27%
-8%
-38%

Cost reduction excluding fuel: **-21%**
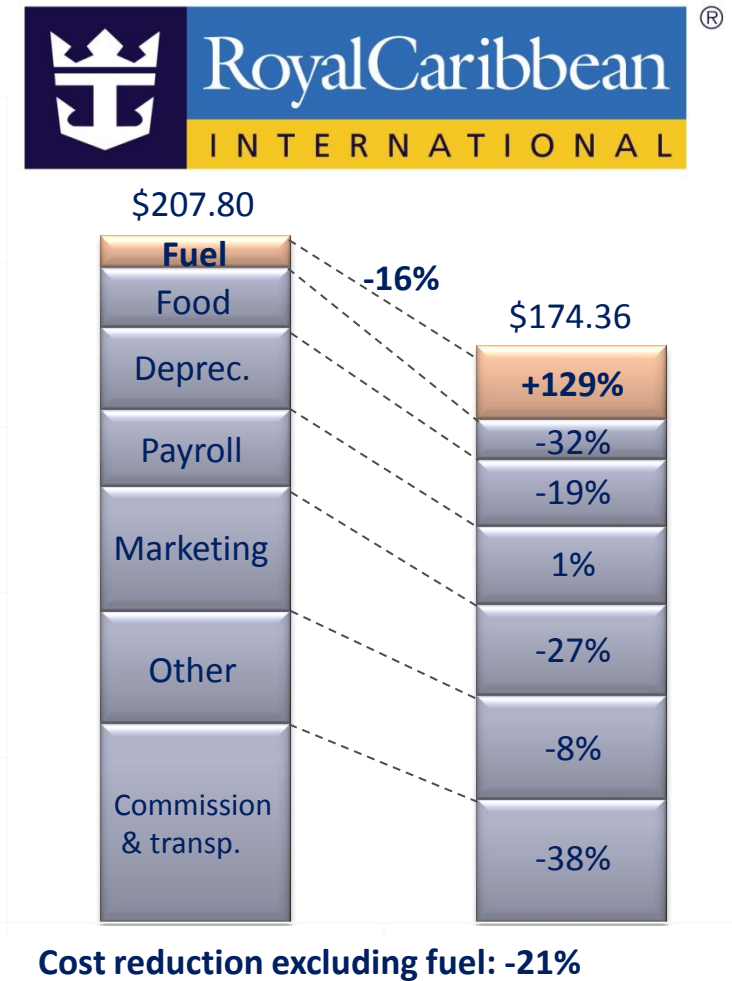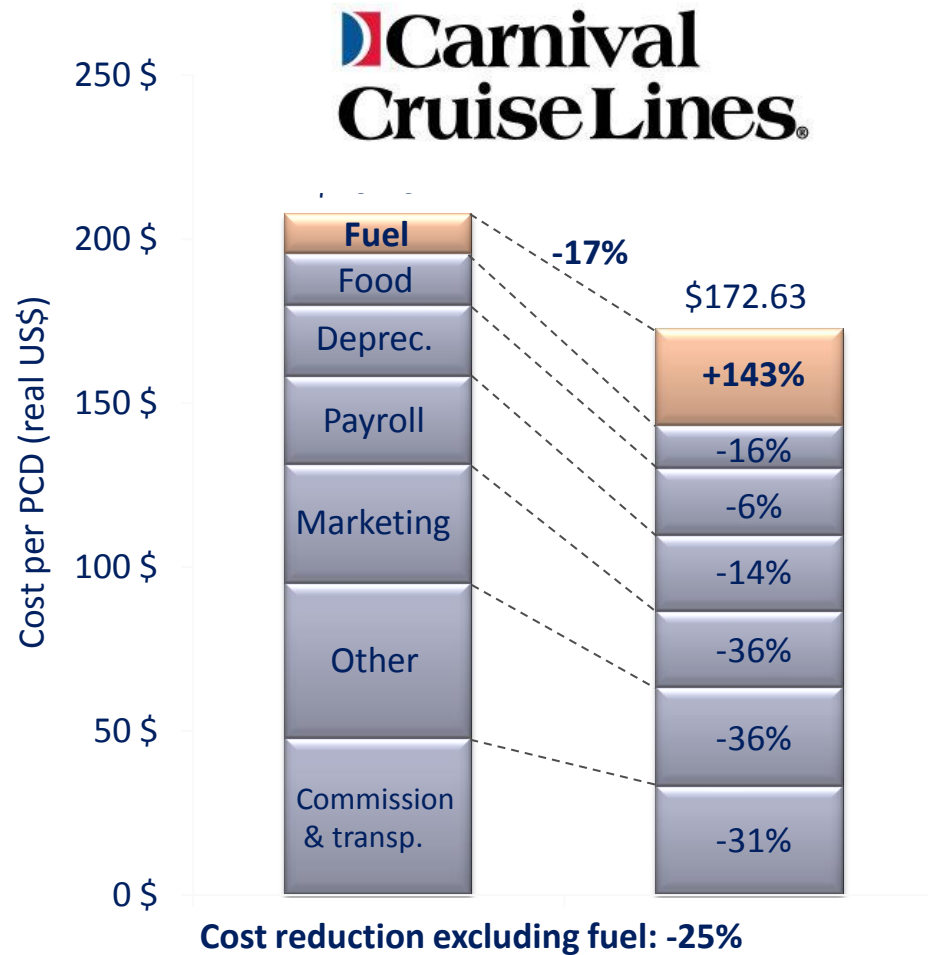
Costs per PCD 2001 vs. 2011 excluding cost of onboard sales

© Alexis Papathanassis

CRUISE DESTINATION PROSPECTS

The 'Sound of Money'… But where is it?

Pax Spending on Ports
Transit (Port of Call) vs. Turnaround (Arrival / Departure Port)

Transit — € 60 / Pax

- Accommodation: 2
- Transport & Parking: 10
- F&B: 15
- Shopping: 23
- Tours & Entrance fees: (5)
- Port Fees: 5
- Other: 5

Turnaround — € 95 / Pax

- Accommodation: 28
- Transport & Parking: 20
- F&B: 17
- Shopping: 11
- Tours & Entrance fees: 9
- Port Fees: 5
- Other: 5

Base data: European Cruise Council (2012). The Cruise Industry: Contribution of Cruise Tourism to the Economies of Europe, URL: http://www.europeancruisecouncil.com/content/economicreport.pdf

Environmental Externalities... Are they Worth the Money?
"Clean Ships?"

Main Sources:

- Incinerators
- Engines

An average cruise ship's daily emissions

- = 12.000 automobiles

401g of CO2 is emitted per Cruise Pax / Km

- 36 times more than a Eurostar Pax / Km
- 3 times more than a Boeing 747 Pax / Km
- An estimated 60,000 people die worldwide each year as a result of under-regulated shipping air emissions
- This estimated to grow by 40 percent by 2012

Black Water:

- Human Waste (Toilets, Medical Facilities)
- 30 Litres per Cruise Pax / day

Gray Water:

- Wastewater from sinks, showers, galleys, laundry, and cleaning activities
- 340 Litres per Cruise Pax / Day

Solid Waste:

- Plastic, paper, wood, cardboard, food waste, cans, glass, etc.
- 1990s: 3.5 Kg per Cruise Pax / Day
- 2010: 1.7 Kg per Cruise Pax / Day

Oily Bilge Water

- Water containing fuel, oil, wastewater from engines and other machinery
- Average cruise ship produces 8 tons in 24 hours of operation

Ballast Water:

- To stabilize the vessel during transport
- Often taken on in one location after a ship discharges wastewater or unloads cargo and then discharged at the next port of call
- Contains a variety of biological materials, including non-native plants, animals, viruses and bacteria

* Source: Ross (2009)

Friends of the Earth:
*2013 Cruise Ship Report Card**

2013 Cruise ship report card

Cruise line	Sewage treatment	Air pollution reduction	Water quality compliance	Change from 2012	2013 final grade
Disney Cruise Line	A	B	A	▲	A
Holland America Line	B+	C	A	▲	B
Princess Cruises	B-	B-	A	▼	B
Norwegian Cruise Line	A	D	A	▲	B
Celebrity Cruises	A	D	N/A	▲	C+
Royal Caribbean Int'l	A	F	N/A	▲	C
Carnival Cruise Lines	F	C-	A	▲	C-
Cunard Cruise Line	A	F	N/A	▬	C-
Seabourn Cruise Line	A	F	N/A	▬	C-
Regent Seven Seas Cruises	C+	F	B	▼	D+
Silversea Cruises	F	F	A	▬	D
Oceania Cruises	B	F	F	▼	D-
MSC Cruises	D	F	N/A	N/A	F
P&O Cruises	D-	F	N/A	▬	F
Costa Cruises	F	F	N/A	▬	F
Crystal Cruises	F	F	N/A	▬	F

Whether a cruise line has installed the most advanced sewage and wastewater treatment systems available instead of dumping raw or minimally treated sewage directly into the water

Whether a cruise line has retrofitted its ships to "plug in" to available shore-side electrical grids instead of running polluting engines when docked

To what degree cruise ships violated 2009 water pollution standards designed to better protect the Alaskan coast

http://yearof1989.wordpress.com/tag/eu/

http://yearof1989.wordpress.com/tag/eu/

Peter Schrank

"Therefore we (Carnival) have decided to **keep ships in North America** during this period rather than place capacity in Europe in 2014."*
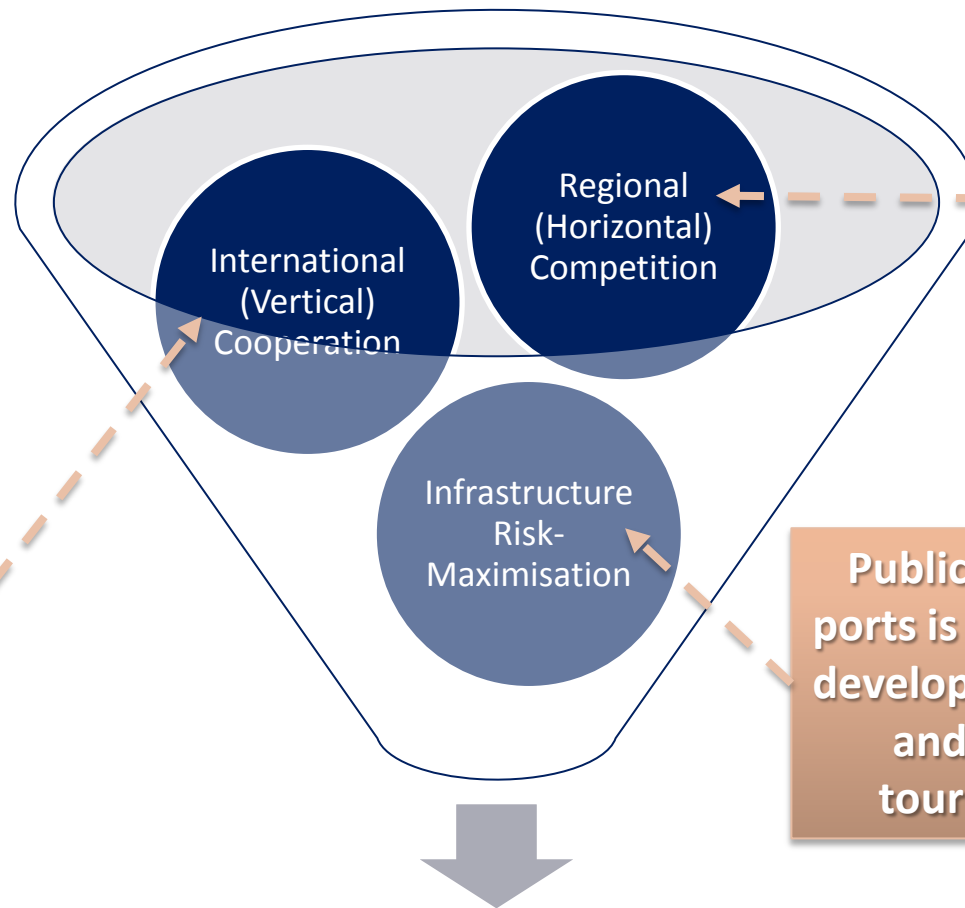
"Industry giant Royal Caribbean only will have seven ships in Europe in 2014, not eight as originally planned, as **soft demand in the region** prompts the company to cut back." **

"Both Royal Caribbean Cruises and Princess Cruises are reducing capacity in the Mediterranean. Royal Caribbean said it plans to **reduce 2014 year-on-year capacity in Europe** by a further 10 per cent." **

*   http://www.usatoday.com/story/cruiselog/2013/05/13/carnival-cruise-europe-2014/2156097
**   http://www.usatoday.com/story/cruiselog/2013/05/13/carnival-cruise-europe-2014/2156097
*** http://www.telegraph.co.uk/travel/cruises/cruise-news/10054416/Carnival-Cruise-Lines-abandons-Europe.html

Port Strategies
... Are we really talking about a long-term strategy ?!?!

International (Vertical) Cooperation

Regional (Horizontal) Competition
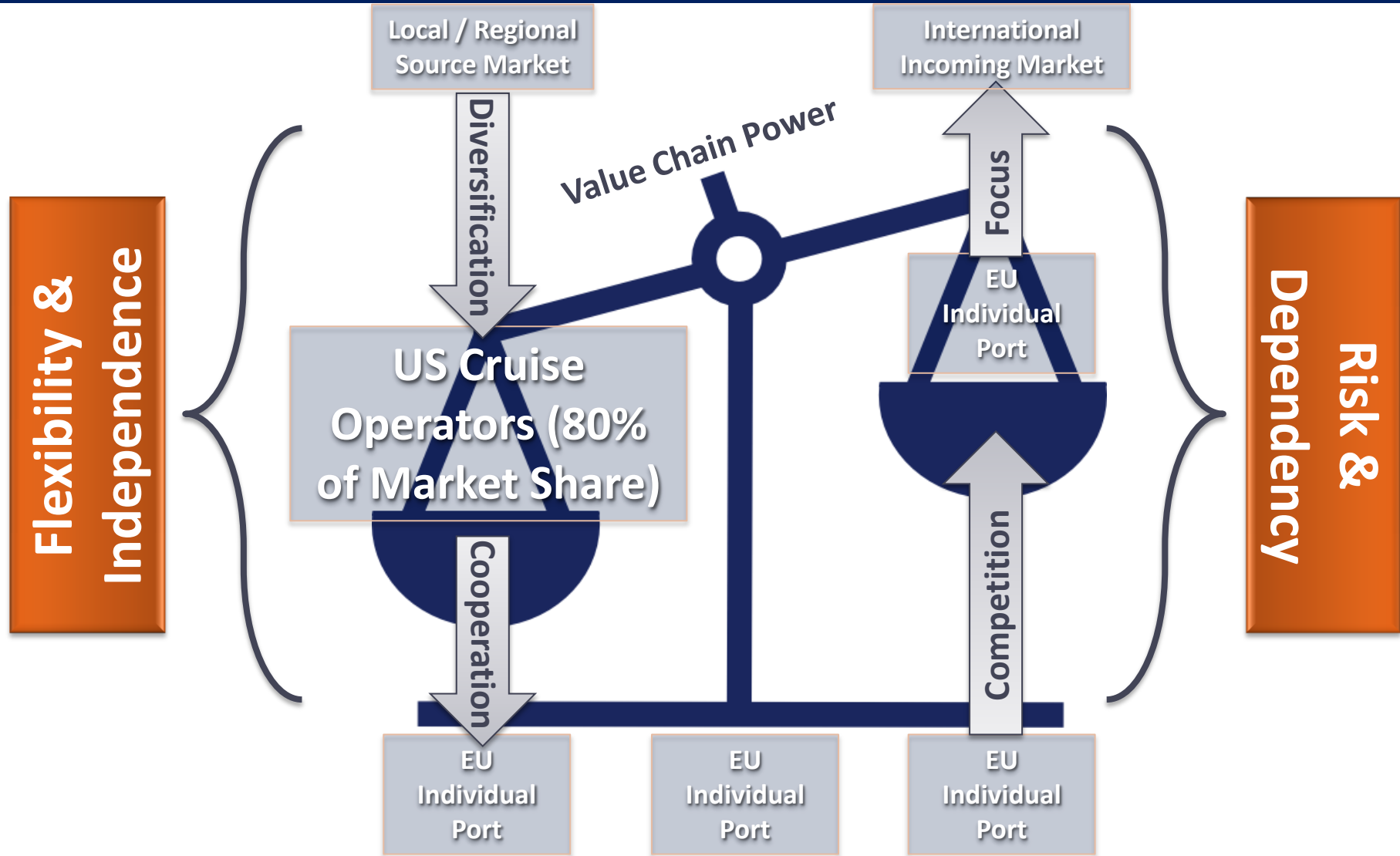
Infrastructure Risk-Maximisation

Ports negotiate as separate units with cruise operators and compete with each other for the same cruise segments

Alliances focus on attracting foreign cruisers and cruise operators – mainly common promotional material

Public investment in ports is not the same as developing a diversified and sustainable tourism portfolio

EU Port Reduced Vertical Power and Increased Upstream Dependency in the Cruise Value Chain

Flexibility & Independence

Risk & Dependency

Local / Regional Source Market

International Incoming Market

Diversification

Value Chain Power

Focus

US Cruise Operators (80% of Market Share)

EU Individual Port

Cooperation

Competition

EU Individual Port

EU Individual Port

EU Individual Port
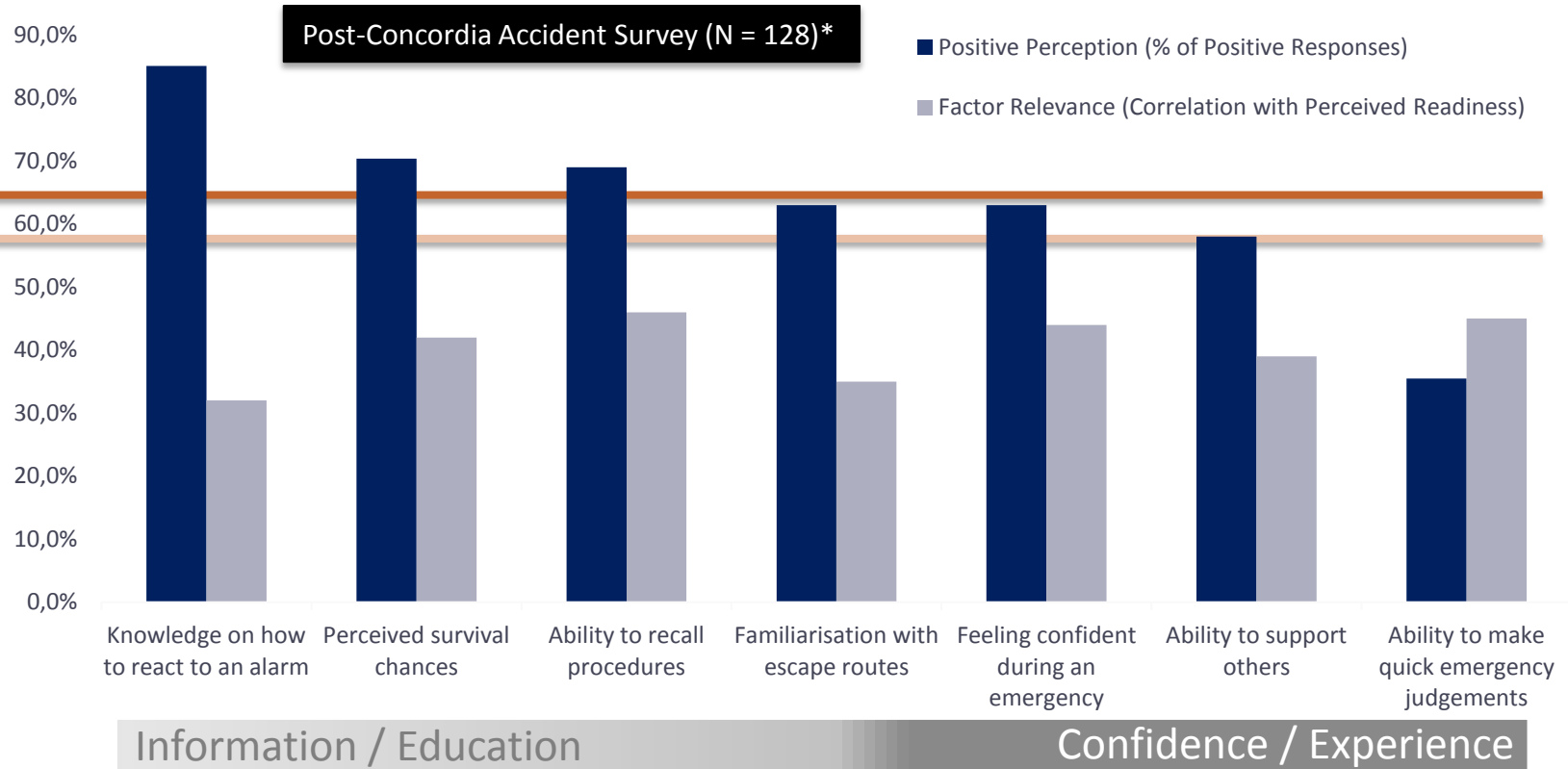
SAFETY & SOCIAL RESPONSIBLITY

Cruises are generally and comparatively (to other holiday forms) **safe.** Although there are several incidents at sea every year, the amount of injuries and death are relatively low...

YouTube — cruise sex crime — Kategorien | Video hochladen — alexis.papathanas.

Nightline from ABC News : Sex Crimes on Cruise Ships, the FBI gets Involved 2/22/2011

abcNEWS — Abonnieren — 11.333 Videos

5:58 / 7:05

HorrorDokuDeutsch — Abonnieren — 160 Videos

HorrorDokuDeutsch

... But the question is not whether cruises are safe or not! It about how can they become even **safer**?

Cruises & Safety Perceptions
Do Cruisers feel able to deal with an onboard emergency?

Post-Concordia Accident Survey (N = 128)*

- Positive Perception (% of Positive Responses)
- Factor Relevance (Correlation with Perceived Readiness)

Estimated Readiness

Expressed Readiness

Est. Readiness > Exp. Readiness indicates a **slight insecurity**?

Categories (x-axis):
- Knowledge on how to react to an alarm
- Perceived survival chances
- Ability to recall procedures
- Familiarisation with escape routes
- Feeling confident during an emergency
- Ability to support others
- Ability to make quick emergency judgements

Information / Education → Confidence / Experience

54% of respondents view safety as their **own responsibility** especially when travelling with their family?

53% of respondents do **not trust (or cannot assess)** the **crew's ability** to deal with an emergency… Staff perceived as highly motivated and willing to help, but less highly as able to provide information and communicate emergency info…

Incidents at Sea...
Beyond the Titanic and Concordia!

Image Source: http://www.cruiselawnews.com/tags/hearing/

Reported Incidents of Ships Sinking 1990-2013*:

- 48 in Total

Disabling and major events 1990-2013*:

- 448 in Total
  - *139 Shipboard Fires*
  - *106 Ship Collisions*
  - **203** *Other* **Disabling Events** *(Power loss, Propulsion problems, Engine Damage, etc.)*

'Too Big to Sail'*
The Costa Concordia Aftermath and Questions Raised

'Given the size of today's ships, any problem immediately becomes a very big problem,'

"The simple problem is they are building them too big and putting too many people aboard,"

"My answer is they probably exceeded the point of manageability."

The New York Times

October 27, 2013

Too Big to Sail? Cruise Ships Face Scrutiny

A recent report by the Coast Guard on the Splendor fire revealed glaring problems with the crew's firefighting abilities as well as failures in fire safety equipment.

The investigation did not address the size of the ship, which carried 3,299 passengers. But it showed that big vessels can quickly become crippled by small fires that disable complex systems. No passengers were hurt, but the damage to the engine room was severe, disabling the ship's power and forcing it to be towed to port in San Diego.

* Mouawad, J. (2013, October 27). Too big to sail? cruise ships face scrutiny. *New York Times*. Retrieved from http://www.nytimes.com/2013/10/28/business/too-big-to-sail-cruise-ships-face-scrutiny.html?_r=0

Image Source: http://www.nytimes.com/imagepages/2013/02/15/us/jp-cruise.html

Image Source: http://boards.cruisecritic.com/showthread.php?t=1789392&page=7
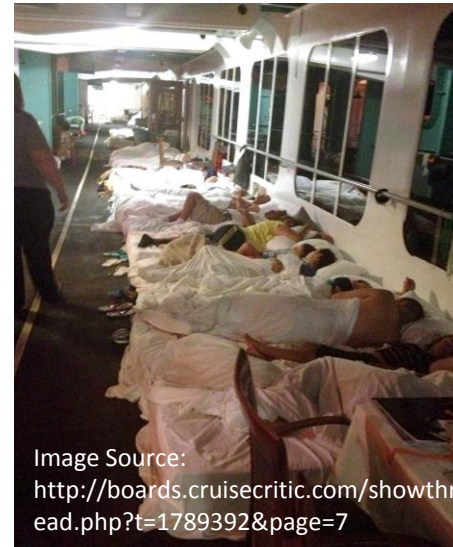

Image Source: http://photoblog.nbcnews.com/_news/2013/02/14/16968298-passengers-begin-disembarking-from-carnival-triumph-cruise-ship?lite

Image Source: http://www.nytimes.com/imagepages/2013/02/15/us/CRUISE.html

Image Source: http://www.theguardian.com/world/shortcuts/2013/feb/15/carnival-triumph-six-cruises-from-hell

Image Source: http://boards.cruisecritic.com/showthread.php?t=1789392&page=7

"In fact, the risk of sexual assault on a cruise ship is almost twice that of forcible rape in the US, and calculated as 48.065 per 100,000"

(Klein, 2007:68)**

Location of Incident (Where Known)

Location of Incident	RCI, 1998–2005 ($n = 316$)	Celebrity, 1998–2002 ($n = 37$)
Passenger cabin	36.4%	40.5%
Crew cabin/crew area	7.3%	27.0%
Bar	7.3%	5.4%
Dining room	6.6%	13.5%
Spa	5.7%	2.7%
Corridor	5.7%	2.7%
Deck	5.4%	2.7%
Public area	5.4%	—
Disco	5.1%	—
Public bathroom	4.4%	2.7%
Ashore	4.1%	2.7%
Youth program	3.2%	—
Elevator	1.9%	—
Pool	1.6%	—
Total	100.1%	100.1%

Work Role of Perpetrator

Work Role	RCI, 1998–2005 ($n = 136$)[a]	Celebrity, 1998–2002 ($n = 33$)[a]
Room steward[b]	34.8%	18.2%
Waiter[b]	25.0%	21.2%
Bar worker[b]	13.2%	24.2%
Officer	8.1%	18.2%
Musician/entertainer	5.1%	6.1%
Cleaner	2.9%	3.0%
Youth staff	2.9%	—
Security officer	2.2%	3.0%
Casino worker[b]	2.2%	—
Galley worker	1.5%	—
Other	2.9%	6.1%
	100.8%	100.0%

theguardian

News | Sport | Comment | Culture | Business | Money | Life & style
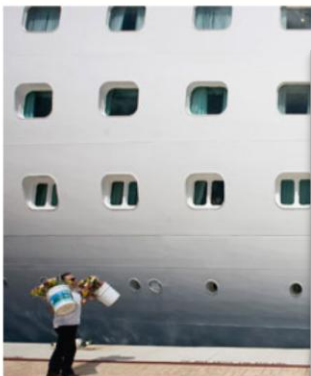
Comment is free ▶

Cruise ships are a floating microcosm of our global economic hierarchy

Titanic-style divisions below deck on luxury cruises are still evident 100 years on, exploiting an international workforce

Paul Mills
guardian.co.uk, Monday 1 October 2012 14.53 BST
💬 Jump to comments (92)

A vendor offers flowers for sale outside R⌀ of the Seas. Photograph: Reuters

The Titanic, and its striking imagery life, is vividly ingrained on our imagin opulence, champagne and chandeli⌀ Italian waiters, the toil and trouble of later, the luxury is no longer so exclu⌀ certainly aren't European – but not a⌀

You Tube cruises undercover 🔍 | Kategorien | Video hochladen | alexis.papathanas...

Dispatches | Cruises Undercover | Channel 4
channel4 ⊕ Abonnieren | 2.220 Videos ▾

I didn't do the contract earlier on

You Tube cruises undercover 🔍 | Kategorien | Video hochladen | alexis.papathana

Kreuzfahrt undercover / Die Schattenseite der Luxusdampfer
Neptunestrikesback ⊕ Abonnieren | 1 Video ▾

KREUZFAHRT
UNDERCOVER

28:01 / 28:16

Perhaps, maybe for a number of crew, the **wages and life on board are better than at home**... But are they fair? For how long? With what implications?

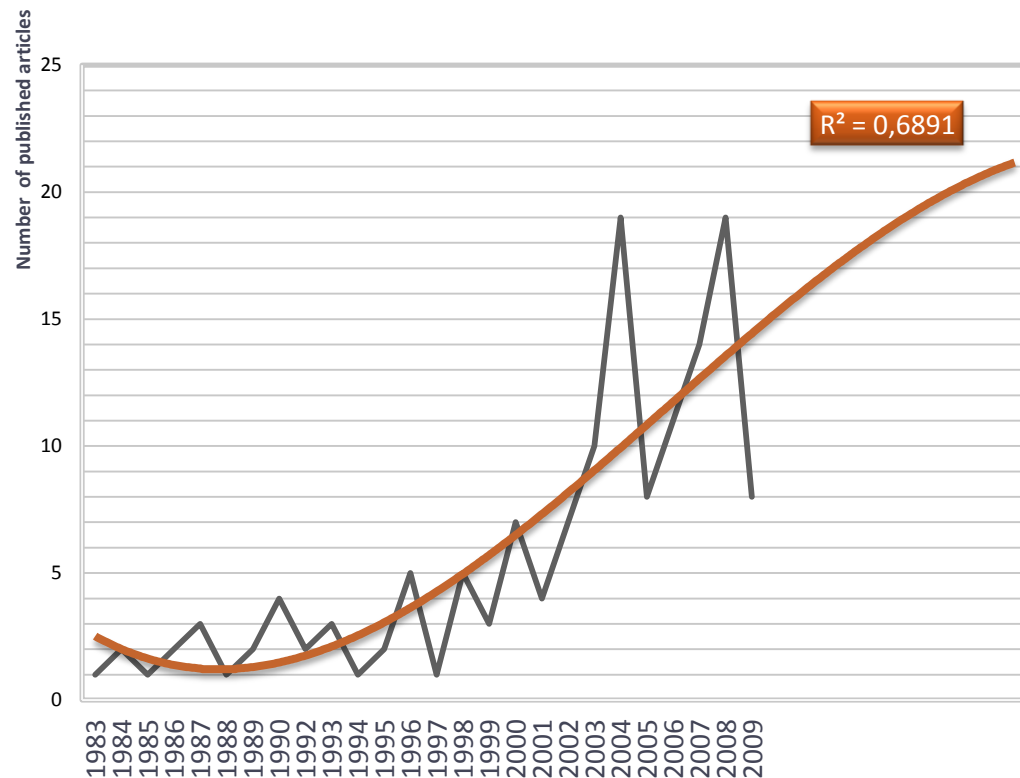# CRUISE TOURISM & 'RESEARCHABILITY'

Cubic Extrapolation of cruise-related published articles

Data Source: Papathanassis & Beckmann 2011

$R^2 = 0{,}6891$

Cubic extrapolation of CLIA members' passenger numbers.

Data source: CLIA (2010)

$R^2 = 0{,}9923$
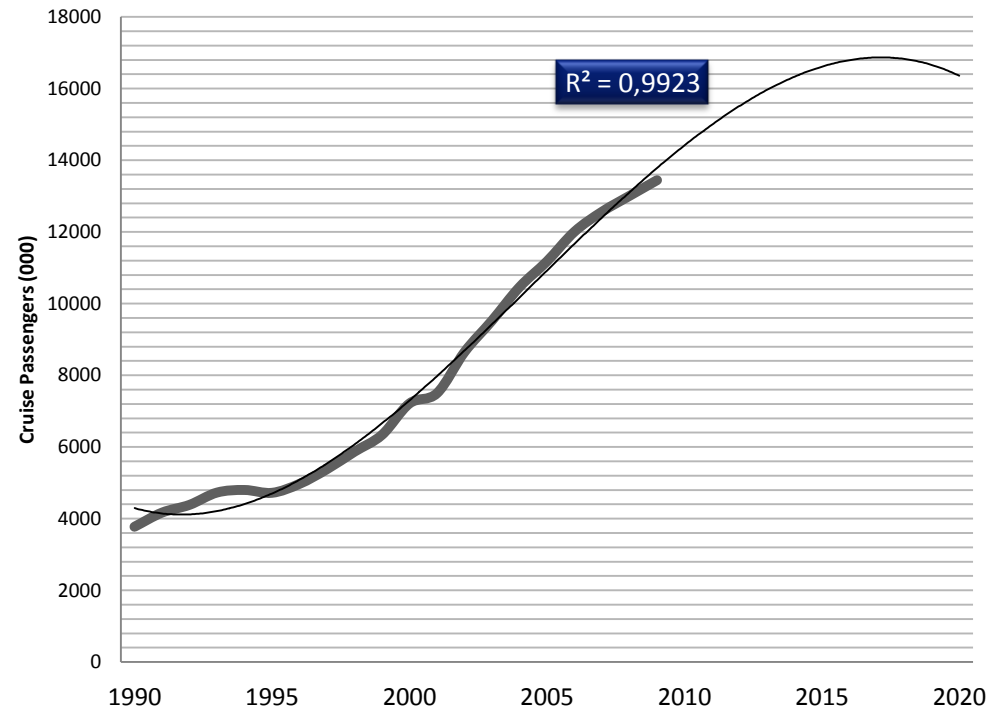
What & how?
Disciplinary scope & research paradigms employed

Disciplinary domain

Business & Management **38%**

Economics 11%

Engineering & Technology 7%

Environment & Geography 10%

Medicine 12%

Sociology & Psychology 22%

Research paradigm

Book reviews, conf. reports & editorials 7%

Quantitative research papers 30%

Conceptual / discussion papers 31%

Qualitative research papers 32%
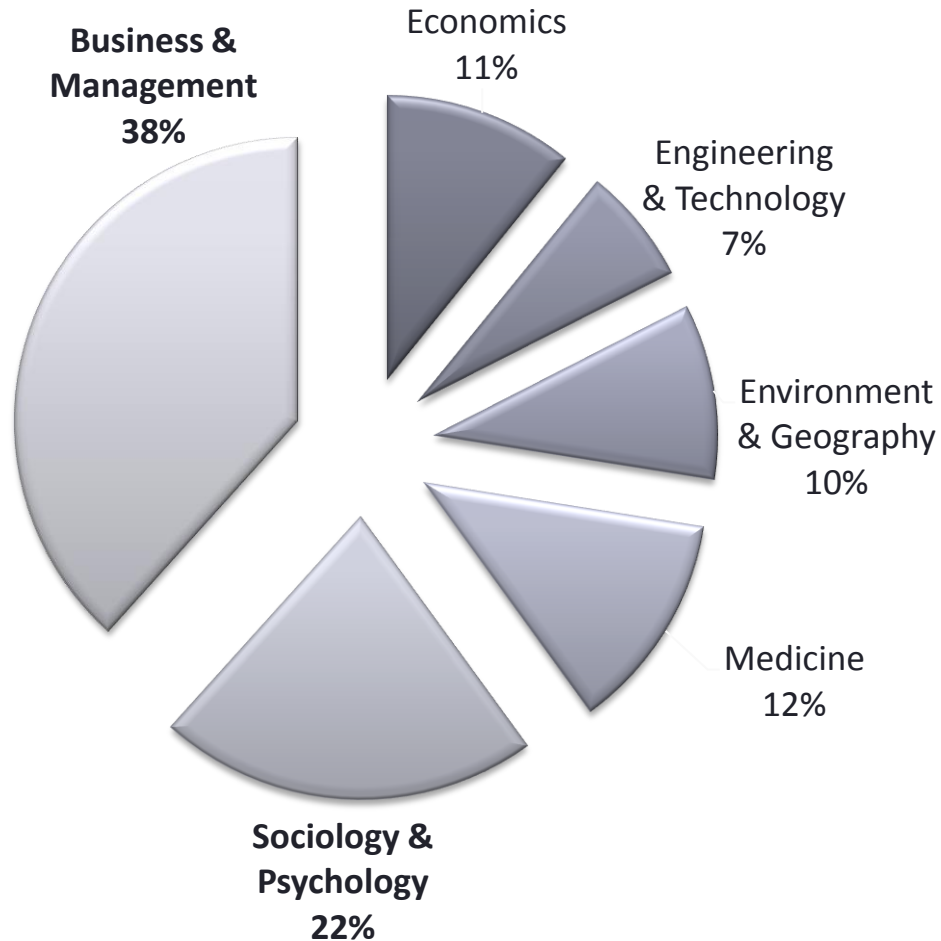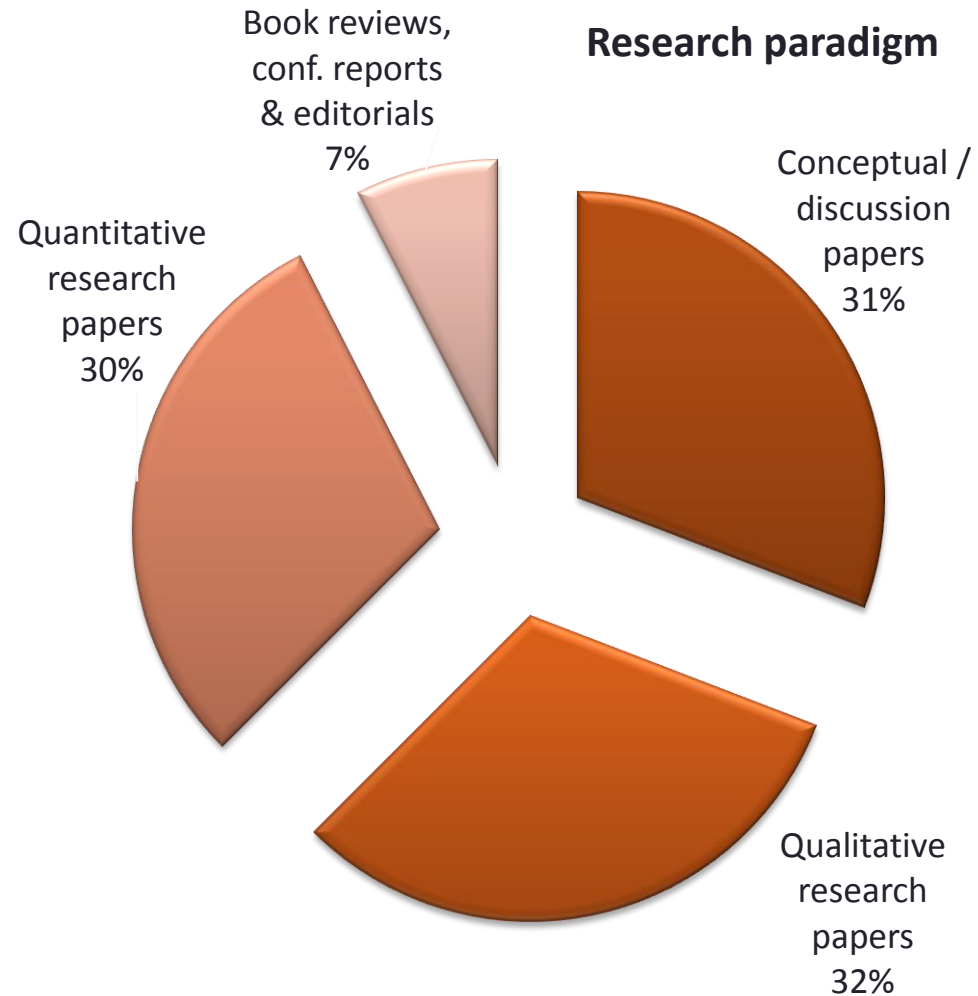
Cruise Research 1983 – 2010:
Thematic Analysis

LAND-BASED DOMAINS

ONBOARD DOMAINS

Ports / Destinations

- Economic Impacts
- Social Impacts

15.4%

Cruise Customers/ Passengers

8.5%

- Culture
- Social Interaction

- Environmental Impacts

9.4%

Cruise Vessels

19.7%

- Health & Safety
- Living Conditions

30.8%

- Demand Analysis & Forecasting
- Marketing & Branding
- Service Operations & Management

8.5%

- Logistics & Financing
- Supply Management
- Capacity Management

Cruise Operators

7.7%

- Human Resource Management
- Leadership

Cruise Staff

LEGEND:

Percentage of total publications dealing with the research domain (also indicated by the thickness of the line)

Research Themes

Quantitative Research & Cruising
Data Availability Determines Research Questions

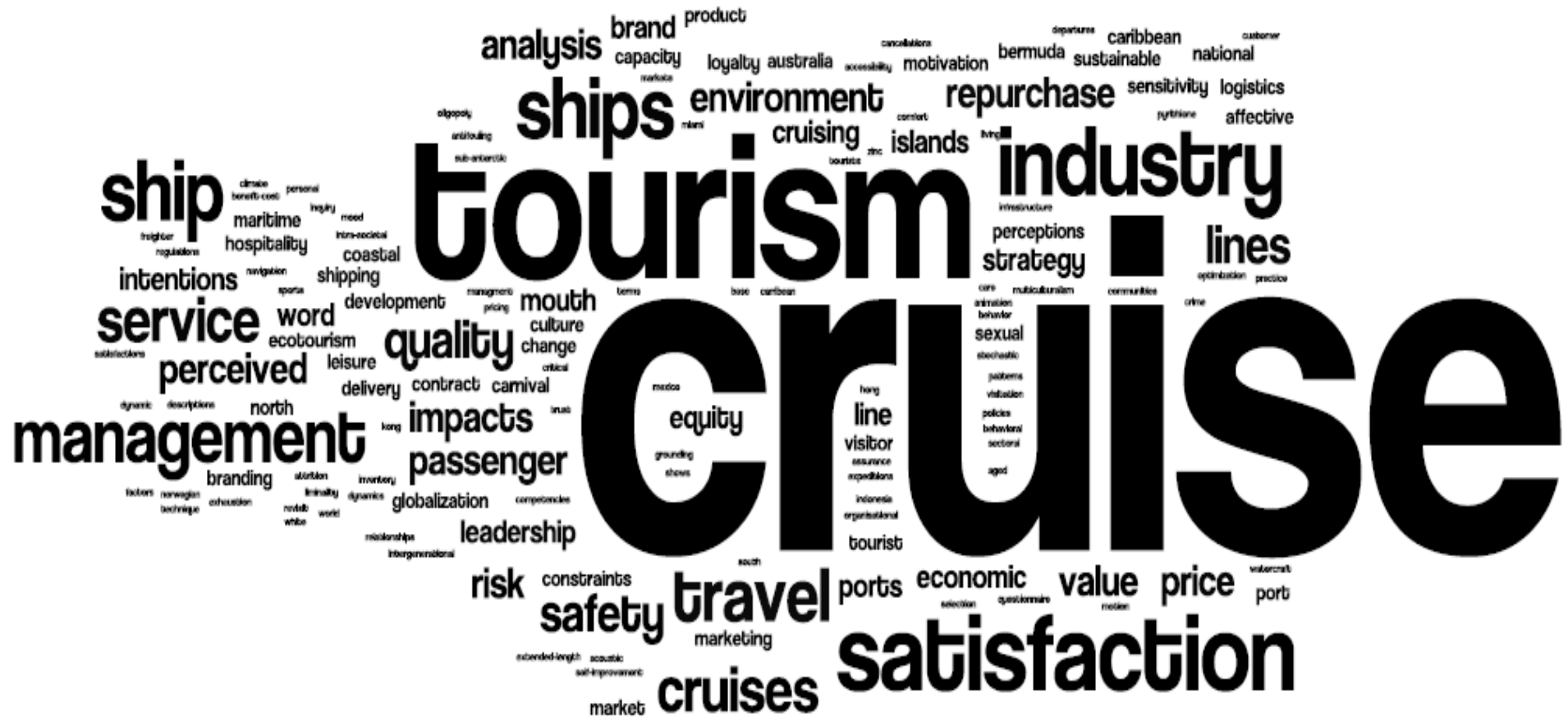| Descriptive Statistics	Comparisons (ANOVA, Ch-Square, Cluster Analysis, Z- & t-Tests)	Association / Modelling (Wald Test, Univariate Analysis, Exploratory Factor Analysis)
• Examples: Marti, 1992; Teye & Lecrerc, 1998; Douglas & Douglas, 2004 • Sampling Frame: Mostly single cruise (or cruises of the same company) • Average sample size (primary): 340 • Secondary Data Sources: Sector indicators, Incidents, Websites, Brochures • Data collection method: Questionnaire Survey (primary), Content analysis (secondary)	• Examples: Moscardo & Morrison, 1996; Miller & Tam, 2000; Petrick, 2003; Sirakaya & Petrick, 2004; Cramer & Blanton, 2006; Brownwell, 2008) • Sampling Frame: Different voyages – same ship, secondary sources (e.g. GISS data, market research data) • Average sample size: 1188 (primary), 15570 (secondary) • Data Collection Method: Questionnaire Survey • Data recycling: Petrick, 2003 – Sirakaya & Petrick, 2004)	• Examples: Marti, 2004; Gabe & Lynch, 2006; Jones, 2007; Hung & Petrick, 2010;) • Sampling Frame (Av. Sample Size): Single port visitors (394), single cruise (300), undergraduates • Data Collection Method: Questionnaire Survey & Semi-structured interviews • Data Recycling: Hung & Petrick, 2010 x 2 (Journal of Tourism Management / Annals of Tourism Research)
Majority of Quant. Research (Turning funded market research into a published paper?)	**Second Most Frequent Quant. Research** (Data access opportunism?)	**Rare Quant. Research** (Lack of appropriate sampling frames?)

Qualitative Inquiry in the Cruise Industry
Methods Applied, Strengths & Weaknesses

Interviews
(Tracy, 2000; Miller & Grazer, 2002; Toh et al., 2005; Stewart, 2006; Testa, 2007; Gibson, 2008; Szarycz, 2008)

Case studies
(Foster, 1986; Dwyer & Forsyth, 1998)

Secondary data analysis
(Douglas & Douglas, 1996; Dale and Robinson, 1999; Dev, 2006)

Critical incident analysis
(Petrick et al., 2008)

Observation (Tracy, 2000; Thompson, 2002 & 2004; Jaakson, 2004)

Strengths

- 'Grounded' data collection and analysis
- Creates understanding of complex situations (exploration)
- Individuals can be studied in more depth

Weaknesses

- The role of the researcher
- Generalisability
- Risk of portraying research findings descriptively (oversimplifying)
- Data analysis is a time consuming process

* Papathanassis, A. , Matuszewski, I. & Brejla, P. (2011). The 'Cruise Ship Railing Dance': Conducting academic research in the cruise domain, presented in the 3rd International Cruise Conference, University of Dubrovnik (Dubrovnik, Croatia). May 17th. Available URL: http://www.papathanassis.com/dlfiles/cruisacares.pdf

Growth & Profitability (Source Markets)

Growth & Profitability (Destinations)

Cruise Researcher

'Marketism'

'Critical Mindset' (Observes but has Ears Sealed)

Methodological rigour / Publication Poverty

Data Availability

Safety & Social Responsibility (Passengers & Crew)

Hochschule **Bremerhaven**

Prof. Dr. Alexis Papathanassis
Cruise Management & e-Tourism

An der Karlstadt 8 · Raum S 5.33
D-27568 Bremerhaven
Telefon +49 (0) 471 48 23-532
Telefax +49 (0) 471 48 23-285
E-mail: apapathanassis@hs-bremerhaven.de
www.cim.hs-bremerhaven.de
www.cruiseresearchsociety.com

Privat:
Lohmannstraße 16
D-27568 Bremerhaven
Telefon +49 (0) 17 36 13 25 65
Telefax +49 (0) 72 11 51 52 81 70
E-mail: alexis@papathanassis.com
www.papathanassis.com

► *Research Functions:*

- Founder & Chairman of the **Cruise Research Society** (http://www.cruiseresearchsociety.com)

- Co-Director of the **Institute for Maritime Tourism (IMT)** (http://www.imt.hs-bremerhaven.de/)

- Editorial Board Member of the Journal of the European Journal of Tourism, Hospitality and Recreation (EJTHR) – (http://www.ejthr.com/)

- Reviewer of the Tourism Management Journal (http://journals.elsevier.com/02615177/tourism-management/)

► *Administrative Functions:*

- Dean of Studies – Faculty of Business & Economics

- Chairman of the CIM Examinations Committee

- Member of the CIM Study Affairs Committee