Port Competition Regulation: Leveling the Playing Field

Paul E. Kent, Ph.D., Vice President and
Port Specialist, Nathan Associates Inc.
PKent@nathaninc.com

Entre, entre, por favor, toma un asiento

Between, between, please, drink a chair

Come in, come in, please have a seat

Understanding of competition regulation needs clarity

Competition Policy

- Focuses on market structure / firm behavior / market performance relationship
  - “Structure-conduct-performance” paradigm
- Structure measured by concentration tests
  - Concentration ratio
  - Hirfindahl-Hirschman Index (HHI)

“Measuring” the Market

- Concentration Ratios

	Market dominance/monopoly threshold
Germany	one firm = 33%
Australia	three firms = 75%
U.K.	one firm = 25%

- Herfindahl-Hirschman Index
  - < 1,000 = unconcentrated
  - 1,000 - 1,800 = moderately concentrated
  - > 1,800 = highly concentrated

Market Share Test Cases

- Malaysia
- United Kingdom
- Colombia
- Argentina

Traditional Market Test Application

Country	Market Share Test (%)	HHI
Malaysia		
KCT	68.2	
KPM	30.4	
Westport	1.4	5,577
Argentina (Buenos Aires)		
Rio Plata Terminals	38.0	
CTS	20.9	
Exolgan	41.1	3,571
Colombia (Atlantic Coast)		
Barranquilla	15.2	
Santa Marta	14.4	
Cartagena Society	51.2	
CONTECAR	8.4	
El Bosque	10.8	3,175
United Kingdom		
ABP	33.6	
Felixstowe	40.1	
Tilbury	7.8	
Thamesport	6.9	
Teesport	5.5	2,813
Rest of UK	6.2	

Modern Regulatory Frameworks Promote Competition

- Promoting competition – is rule rather than exception
- In European Union, “Making markets work better” is European Commission’s motto
- European Union Competition Policy:

  “Opening up . . . markets to competition allows consumers to benefit from lower prices and new services which are usually more efficient and consumer-friendly than before. This helps to make our economy more competitive.”

If Competition Doesn't Exist

- Concerns about monopoly or oligopoly
  - Higher than market-induced prices
  - Lower level of service
  - Collusion in markets and prices
  - Other forms of anticompetitive behavior
- Regulatory remedies for controlling for monopoly behavior
  - Set pricing
  - Set service standards
  - Prices set either by regulator or by bidding process

Regulatory Strategies

- Tariff filing to monitor for and discourage anti-competitive behavior
- Setting of tariffs to prevent monopolistic behavior
  - What is “fair” tariff?
  - Operators set prices according to cost structure
  - Regulators are challenged to do the same – monopoly or oligopoly operators have monopoly control on cost structure data
- Encourage communication between port planners and regulators to determine if structural remedies are available
  - Existing capacity is an issue
  - Let market determine if there is excessive capacity

Decision Framework for Selecting Remedies

Setting: Operational Environment			Diagnosis: Competitiveness Indicators				Solutions: Competitive Remedies	
Port Setting	Facility Setting	Volume	Transport options	Berth utilization	Relative tariff competitiveness	Port profitability	Structural	Regulatory
small port	1 berth	low	1	low	N/A	low	S4	R1
	1 berth	medium	1	medium	N/A	medium	S3	R1
	2 berths	high	3,4	high	N/A	high	S1	R1
	3 berths	high	1,2	high	N/A	high	S3	R1
							S2	R2
	3 berths	medium	1	medium	N/A	medium	S2	R1
medium port	12 berths	low	1,2	low	N/A	low	S3	R1
	12 berths	medium	1,2	medium	N/A	medium	S2	R1
	12 berths	high	1,2	high	N/A	high	S2	R1
	12 berths	high	3,4	high	N/A	high	S1, S2	R1
	12 berths	high	5	low	similar rates	medium	S2	N/A
large port	22 berths	high	1	low	N/A	low	S2	N/A
	22 berths	high	3,4	high	N/A	high	S1, S2	R1
	22 berths	low	3,4	low	N/A	low	S2, S3	R1
	22 berths	medium	5	medium	similar rates	medium	S2	R1
	22 berths	low	5	low	lower	low	S2, S3	N/A

Transport Option Codes:
1 - no other ports or intermodal options
2 - no possibility for facility expansion/construction of a new port
3 - possibility to expand existing facility
4 - possibility to construct a new port/terminal nearby
5 - other port or intermodal options

Structural Codes:
S1 - introduce new berths/terminals
S2 - divide existing port into terminals
S3 - divide operation within the terminal
S4 - short-term operating agreement/lease/ management contract

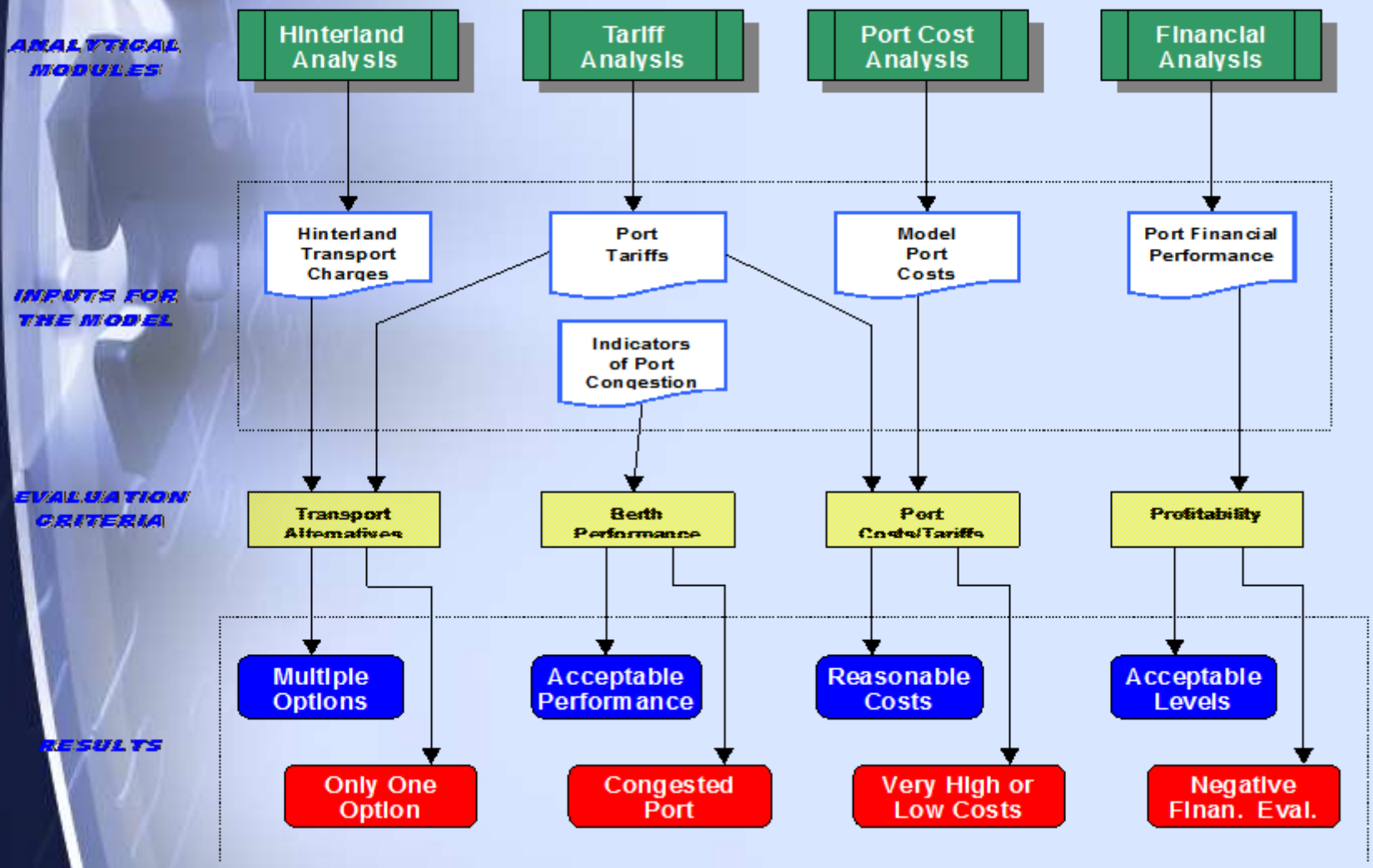
Regulatory Codes:
R1 - file/monitor tariffs
R2 - set tariffs/profitability limits

Source: Kent, Paul E., *Worldwide Port Privatization Experiences and the Development and Application of a Model to Monitor for Anticompetitive Behavior in Highly Concentrated Markets*, Doctoral Dissertation, Central Scientific Institute for Water Transport Economics and Operations, Moscow, Russia, 1999 and *Port Reform Toolkit*, World Bank/Nathan Associates Inc., 2001.

How can we regulate ports?

- “Light Touch” regulation in environments of competition
- Monitor
  - Tariffs
  - Operational performance
- Assess competitive environment
  - Transport options : availability of other port-of-call options serving the same hinterlands
  - Operational performance : ships waiting time, berth occupancy/utilization rates
  - Tariff comparisons with historical rates, with rates at other ports in the same country and with theoretical rates based on “model port” costs
  - Financial performance : financial profit should not be “abnormally” high. Return on equity and return on assets should be related to investment

Setting the Analytical Framework



Relative importance of monitoring criteria

	Score Weight
Transportation Options	60%
• Weekly sailings	
• Transport costs (land, port)	
Operational Performance	10%
• Berth utilization	
• Ship's waiting	
Tariff Comparison	20%
• Port's historic rates	
• Port cost differential	
• Theoretical rates	
Financial Performance	10%
• Return on equity	
• Return on assets	

Transport Options

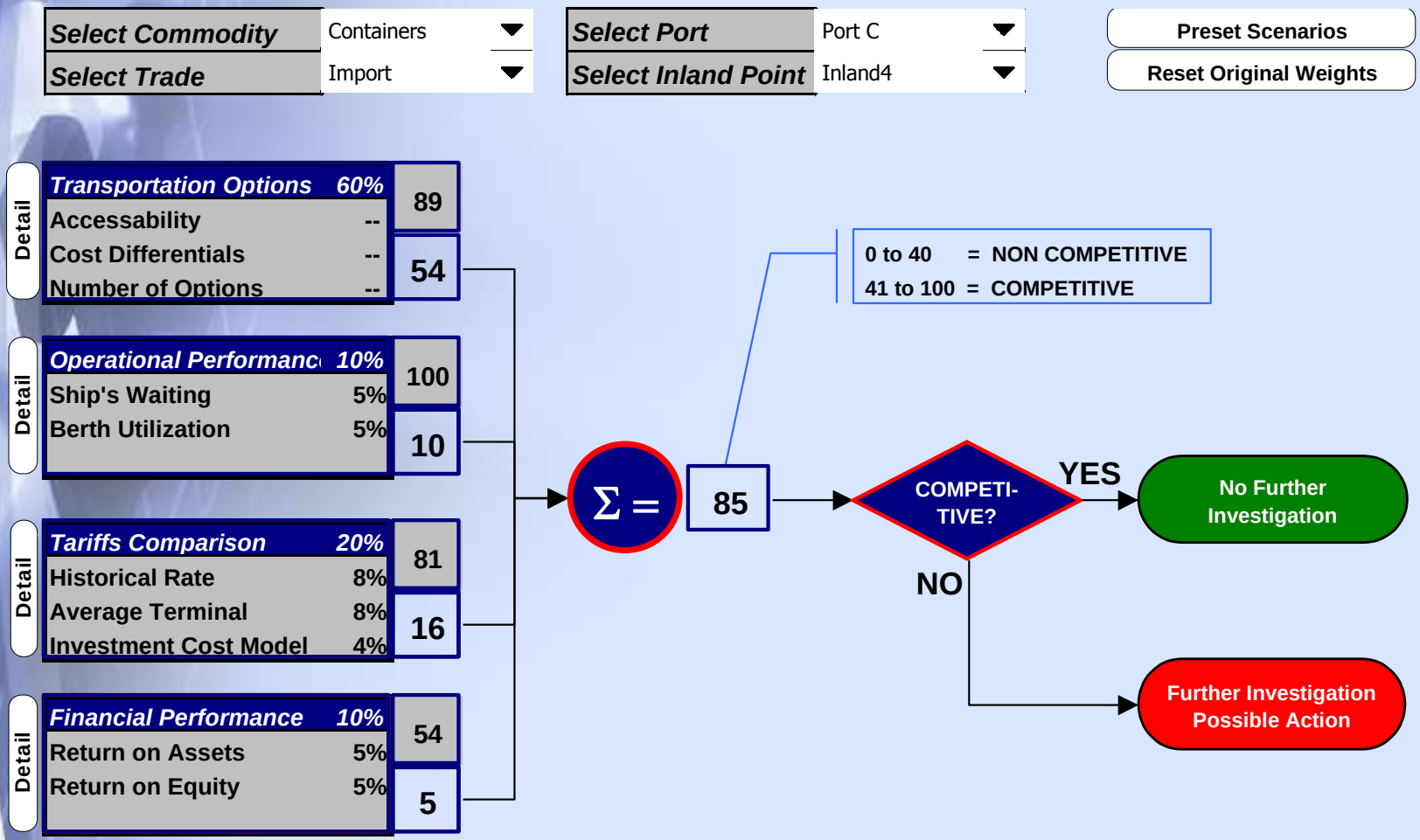
Selected Commodity	**Containers**
Selected Port	**Port C**
Select Inland Point	**Inland4**
Select Trade	**Import**

Inputs to Trasportation Options Comparison		
Containers	***Optimal Weekly Sailing***	7
	"Penalization" for Low Accesibility ($/day)	25

	Cargo Moved Through >>>	Port A	Port B	Port C	Port D	Port E	Port F	Port G
	Accesibility							
1	Sailings per Week	12	7	5	8	0.1	4	2
	Transport Cost							
2	Land Transp	$1,133.33	$1,088.89	$1,066.67	$1,222.22	$1,600.00	$1,133.33	$1,133.33
3	Port Costs	$110.00	$115.00	$104.00	$107.00	$0.00	$105.00	$106.00
4	Total Land + Port Cost	$1,243.33	$1,203.89	$1,170.67	$1,329.22		$1,238.33	$1,239.33
	Cost Adjustment & Differentials							
5	Penalization for Low Accesib	$14.58	$25.00	$35.00	$21.88		$43.75	$87.50
6	Adjusted Cost	$1,257.92	$1,228.89	$1,205.67	$1,351.10		$1,282.08	$1,326.83
7	Difference with Least Cost (L	$52.25	$23.22	$0.00	$145.43		$76.42	$121.17
8	Indicator of Proximity with LC	0.019139	0.043062	LC	0.006876		0.013086	0.008253

10	**Cost Proximity Indicator**	**0.090416**
11	**Normalized Score**	**89.4**

Results: Extent of Competitiveness



Competitiveness Score for Import Containers

Inland Point	Transportation Options Score	Ports and Port Specific Scores				
		PortF	PortB	PortD	PortA	PortC
		40	26	36	28	31
Inland1	1	41	27	37	29	32
Inland2	3	43	29	39	31	34
Inland3	54	94	80	90	82	85
Inland4	0	40	26	36	28	31
Inland5	0	40	26	36	28	31
Inland6	34	74	60	70	62	65
Inland7	52	92	78	88	80	83
Inland8	0	40	26	36	28	31
Inland9	0	40	26	36	28	31
Inland10	13	53	39	49	41	44
Inland11	1	41	27	37	29	32
Inland12	0	40	26	36	28	31
Inland13	0	40	26	36	28	31
Inland14	0	40	26	36	28	31
Inland15	0	40	26	36	28	31
Inland16	5	45	31	41	33	36
Inland17	4	44	30	40	32	35

FAQs about Port Competition Regulation

- Can public terminal compete against a private terminal?
- Should port authorities have equity in a private terminal operation?
- Can’t you reduce prices with monopoly because of scale economies savings?
- Can’t you keep prices down by price setting?

Concluding Remarks

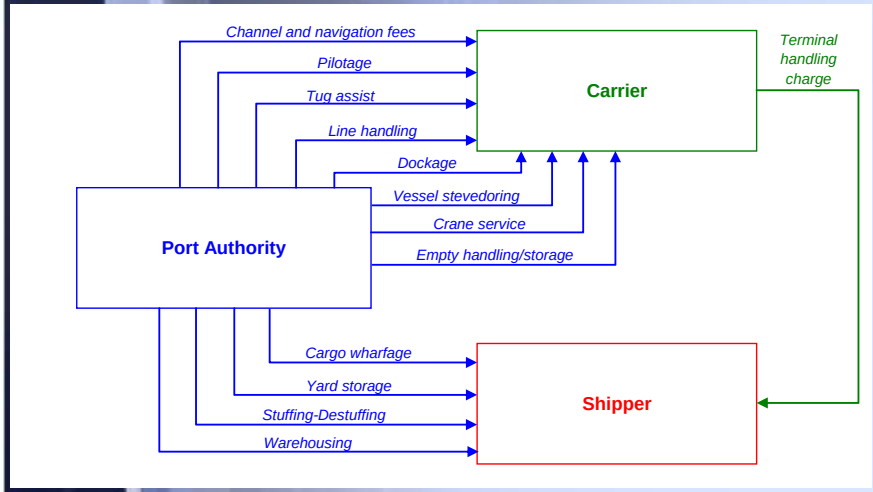
- Competition is in the public interest
- Vast majority of operators are comfortable with a competitive environment
  - expect equitable treatment under the law
- No need for tariff setting in a competitive environment

Port Competition Regulation: Leveling the Playing Field

Paul E. Kent, Ph.D., Vice President and Port Specialist, Nathan Associates In., PKent@nathaninc.com

Who is regulated?

Transaction flow with “operating port” model



Transaction flow with “landlord port” model