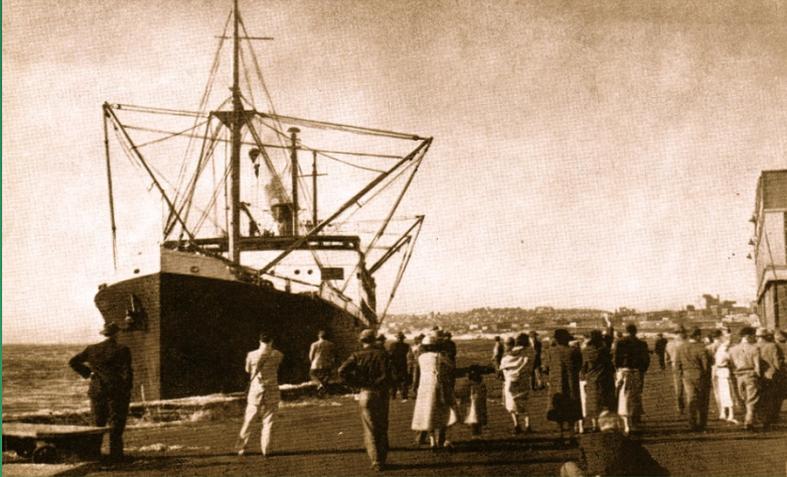


An Overview of the Breakbulk Shipping Sector

Presented to the AAPA Commissioners Seminar



Ft. Lauderdale, Florida

5th June 2013 as **REVISED 10-21-13**

Revised Presentation: 10-21-13

- This presentation, which was originally presented on June 5th at the AAPA Commissioners seminar has been revised
- Please delete the previous version which was posted to the AAPA website and use this one
- Thank you. Norbridge, Inc.

Breakbulk Shipping

*When ships were made of wood
and men were made of iron!*

An Overview of the Breakbulk Shipping Sector

Presented to the AAPA Commissioners Seminar



Ft. Lauderdale, Florida
5th June 2013

Today's Objectives

- ✓ Introduce Norbridge
- ✓ Profile the current breakbulk shipping industry structure
- ✓ Discuss some key demand drivers
- ✓ Assess the implications for US ports

Norbridge is a management consulting firm focused on three industry sectors:

- **Transportation and Logistics**

- Shipping Lines (container and bulk)
- Ports and Terminals
- Land Transport (truck, rail, intermodal, parcel)
- Other Transport Providers (logistics services, integrators, freight forwarding, leasing)
- Shipper Logistics & Supply Chain (automotive, high tech, consumer products)

- **Energy and Mining**

- Utilities
- Process Industry
- Coal Producers

- **Pharmaceuticals and Medical Products**

- Pharmaceuticals
- Biotechnology

Our Focus: We support our clients as trusted advisors in five major consulting areas

Strategy	Sales and Marketing	Operations	Organization	Litigation Support
<ul style="list-style-type: none"> ▪ Strategic planning ▪ Business and investment planning ▪ Market entry & competitive strategies ▪ Financial simulation modeling ▪ M&A screening and due diligence ▪ Technology developments ▪ Customer needs 	<ul style="list-style-type: none"> ▪ Demand and supply forecasts ▪ Market and competitive research ▪ New product development ▪ Pricing strategies and processes ▪ Sales Force effectiveness ▪ Communications 	<ul style="list-style-type: none"> ▪ Supply chain design and management ▪ Strategic sourcing ▪ Equipment planning and management ▪ Operations improvement ▪ Internationalization 	<ul style="list-style-type: none"> ▪ Organization re-design ▪ Post-merger integration ▪ Corporate governance ▪ New process training ▪ Management development and education ▪ Compensation and incentive systems 	<ul style="list-style-type: none"> ▪ Economic analysis ▪ Expert witness support and testimony
Industry Sector				

Norbridge's transport, supply chain and maritime clients are international leaders in their sectors



International waterborne trade is comprised of four major segments

Container

- Commodities
 - Consumer goods
 - Manufactured
- Industries
 - Retail
 - Manufacturing
- Economic drivers
 - GDP
 - Population
 - Consumption
 - Income

Breakbulk

- Commodities
 - Forest products
 - Iron & steel
 - Vehicles
- Industries
 - Construction
 - Manufacturing
- Economic drivers
 - GDP
 - Population
 - Consumption
 - Income
 - Trade policies

Liquid Bulk

- Commodities
 - Crude oil
 - Petroleum products
 - Residual fuel oil
 - LNG
- Industries
 - Transportation
 - Energy
- Economic drivers
 - GDP
 - Transport demand
 - Exchange rates
 - Politics

Dry Bulk

- Commodities
 - Iron Ore
 - Coal
 - Grains
 - Stone
 - Cement
- Industries
 - Steel
 - Energy
 - Construction
 - Food
- Economic drivers
 - GDP
 - Construction
 - Manufacturing
 - Exchange rates

Breakbulk Shipping Industry Overview

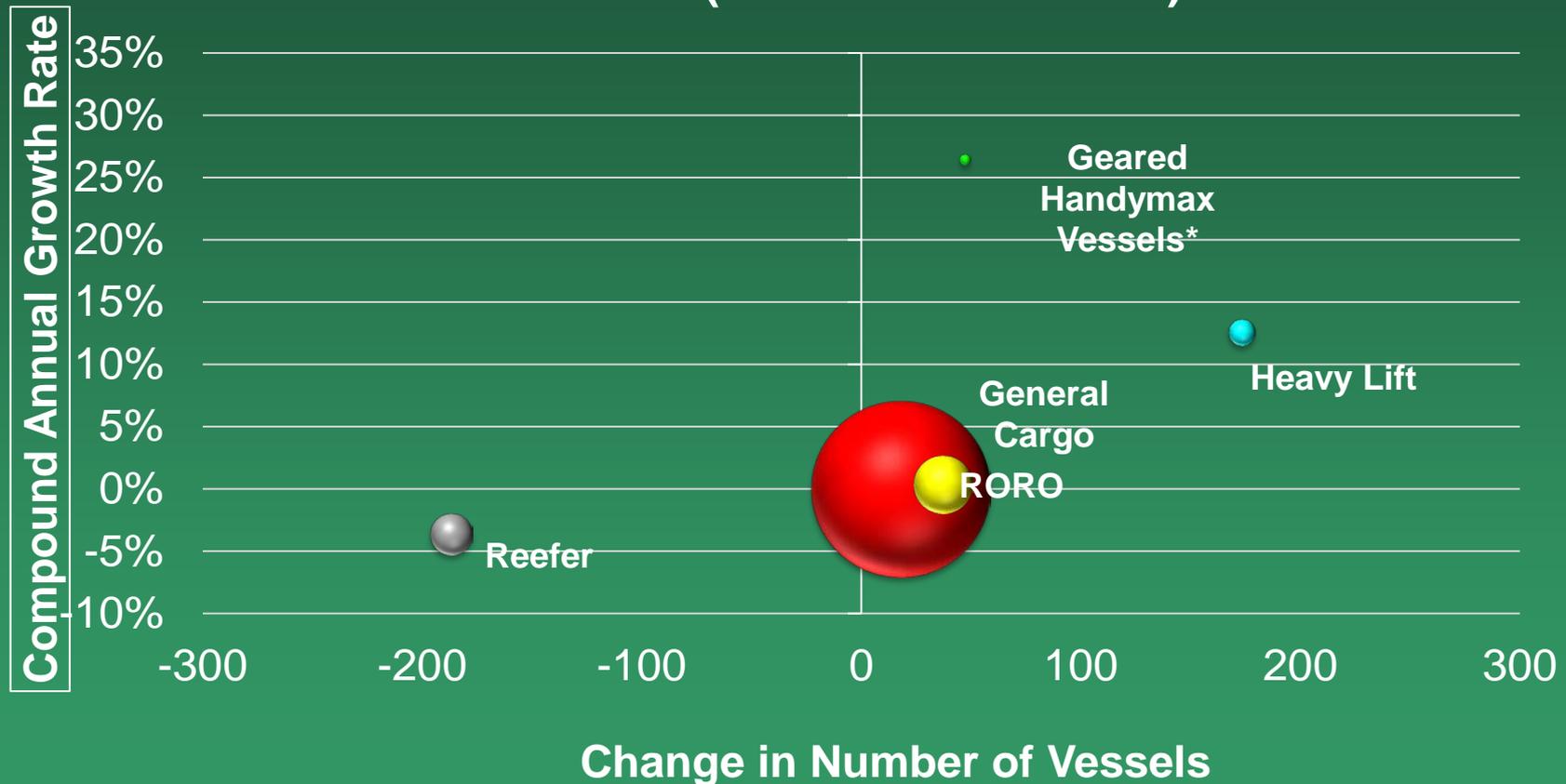


International Breakbulk Shipping Industry

- Approximately 20,000 vessels
 - Vary significantly in terms of size, type, capability and age
- Highly fragmented overall-100s of companies
 - Many one vessel corporations
- High concentration in selected niches
 - Vehicles
 - Reefer
 - Heavy Lift
 - Project
- Overall low growth: structurally & competitively

Global Breakbulk Fleet Developments

Global Breakbulk Vessels 2008-2013 (Number of Vessels)



Note: Size indicative of 2013 total vessels

Source: Lloyd's World Register of Ships; Norbridge Analysis

*Note: Includes all geared bulker vessels between 30,000 and 50,000 DWT

Breakbulk vs. Container Shipping: some contrasts

Breakbulk Shipping

- Mostly unscheduled: taxi cabs
- Typically port to port
- Significant degree of specialization
- Consequently, capability is typically more important than size
- Panama Canal expansion effect will be small

Container Shipping

- Scheduled (fixed day of the week) is the norm
- Significant multimodal component
- Little specialization
- Consequently, “*size matters*”
- Panama Canal expansion will have a material (not dramatic) effect

Breakbulk Shipping Markets



Breakbulk Markets: Major Segments

Core

- Forest products
- Iron & steel
- AG products
- Household goods

Vehicles

- Passenger-new
- Passenger-used
- Trucks
- Buses

Reefer

- Bananas
- Fruits
- Meat

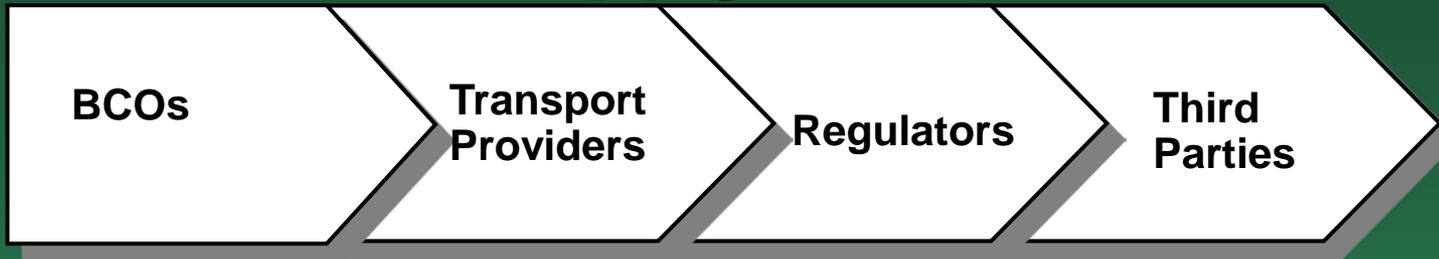
Project

- Oil & gas
- Factories
- Machinery
- Wind turbines

Heavy Lift

- Container handling equipment
- Machinery
- Yachts
- Factories
- Turbines & generators

There are multiple players fulfilling multiple roles in the international breakbulk supply chain

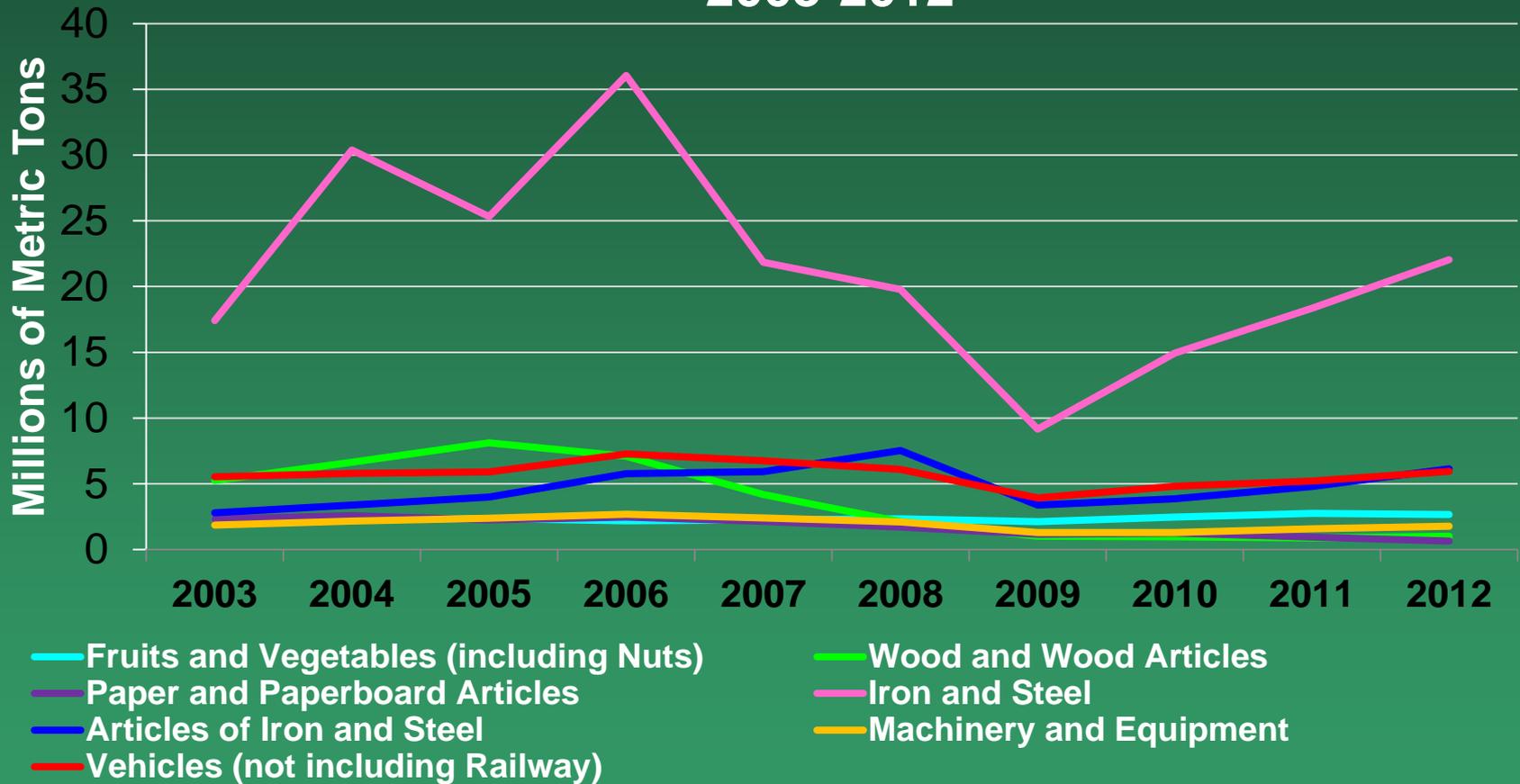


- Buyers
- Overseas suppliers
- Financiers
- Local Truck
- Consolidator
- Overseas terminal
- Ocean carrier
- US terminal
- US-trucker or
- US truck-rail-truck
- Customs
- Agriculture
- Homeland Security
- Coast Guard
- 3PLs
- Forwarders
- Brokers
- CFS
- Operators
- DCs

Many of these parties affect the efficiency and effectiveness of a port. However, a port has no control and little influence over most of these parties

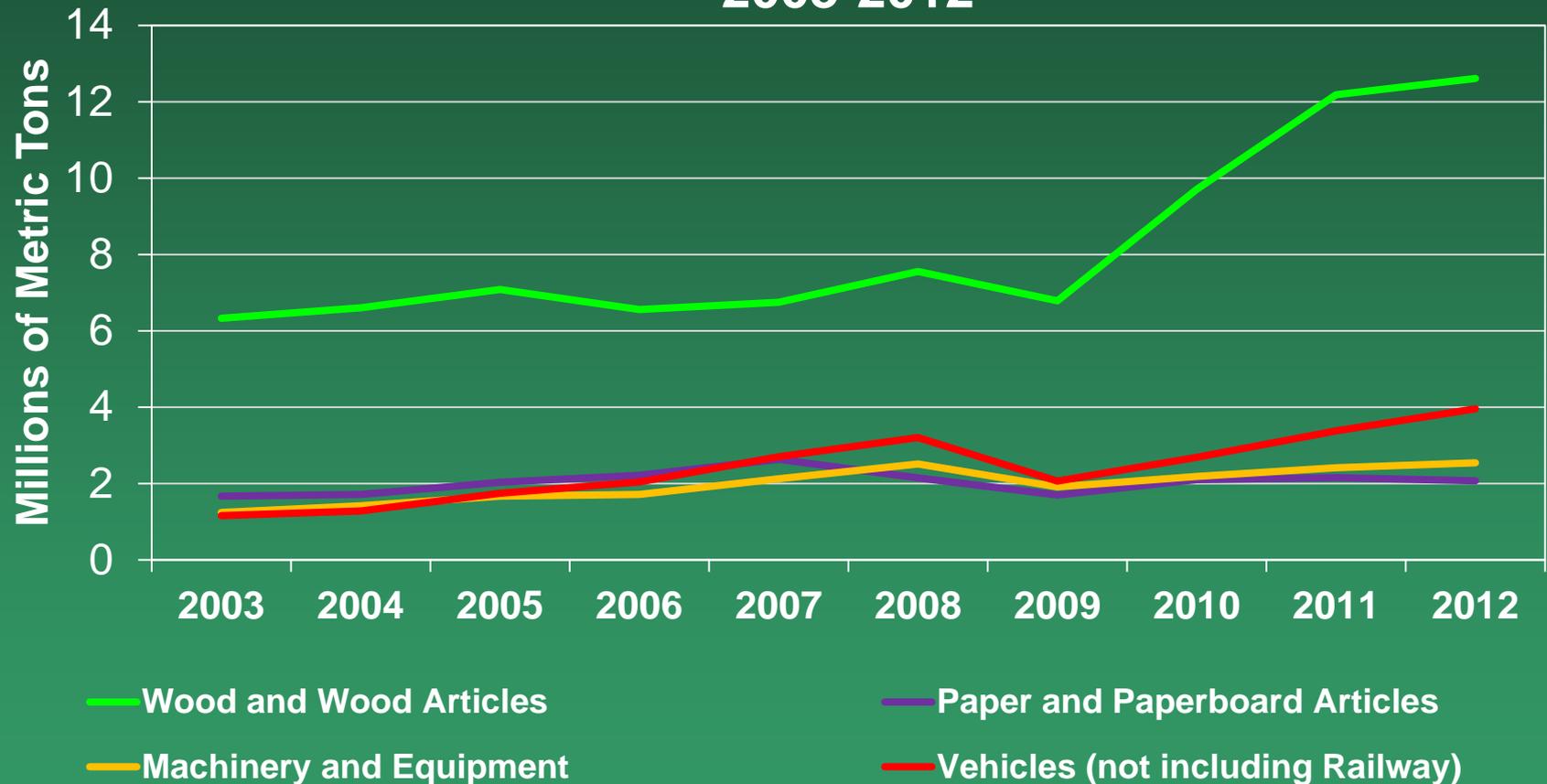
Iron & steel products have driven US import breakbulk demand

U.S. Imports of Selected Commodities 2003-2012



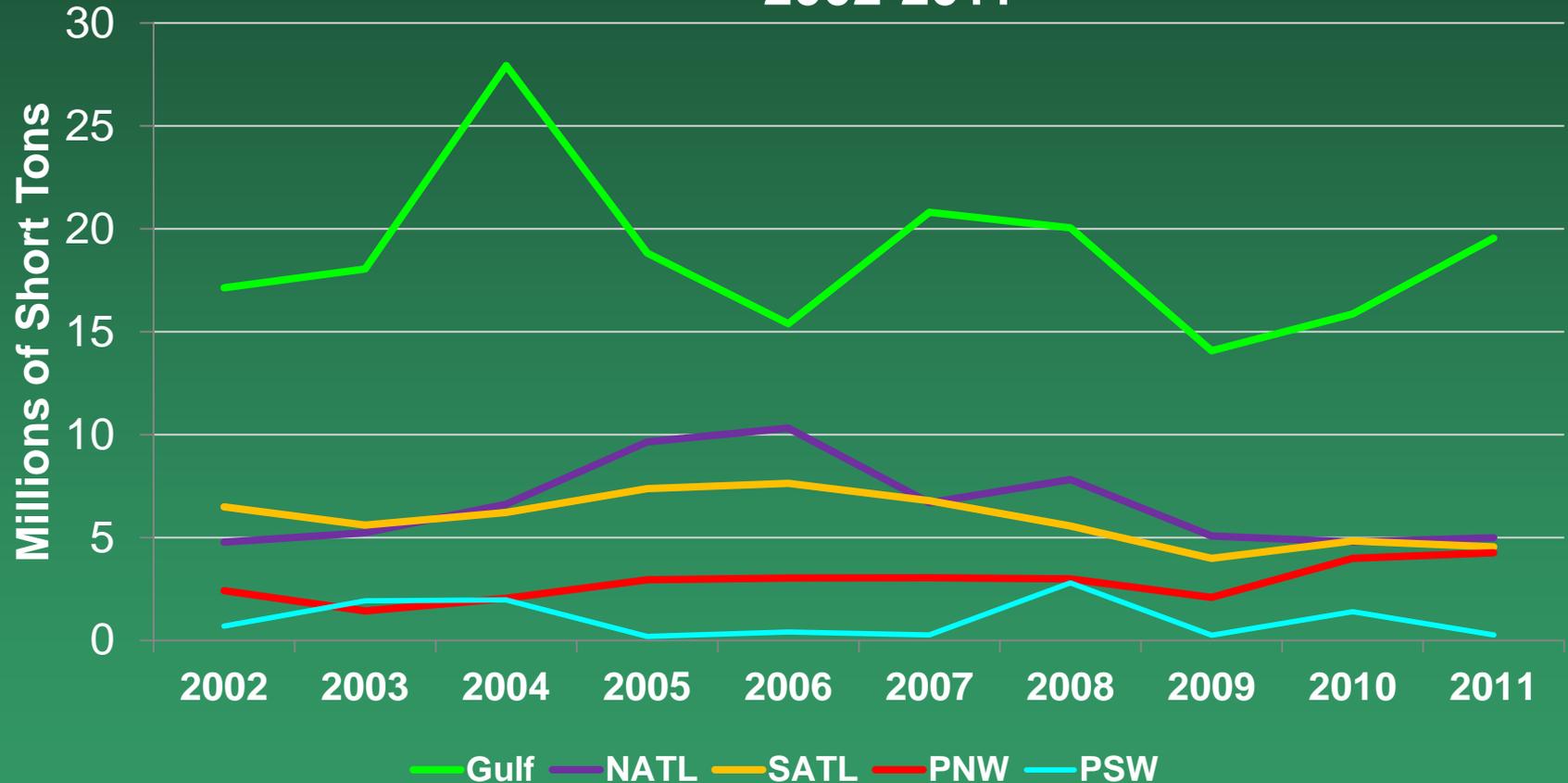
Conversely, forest products have driven US export demand

U.S. Exports of Selected Commodities 2003-2012



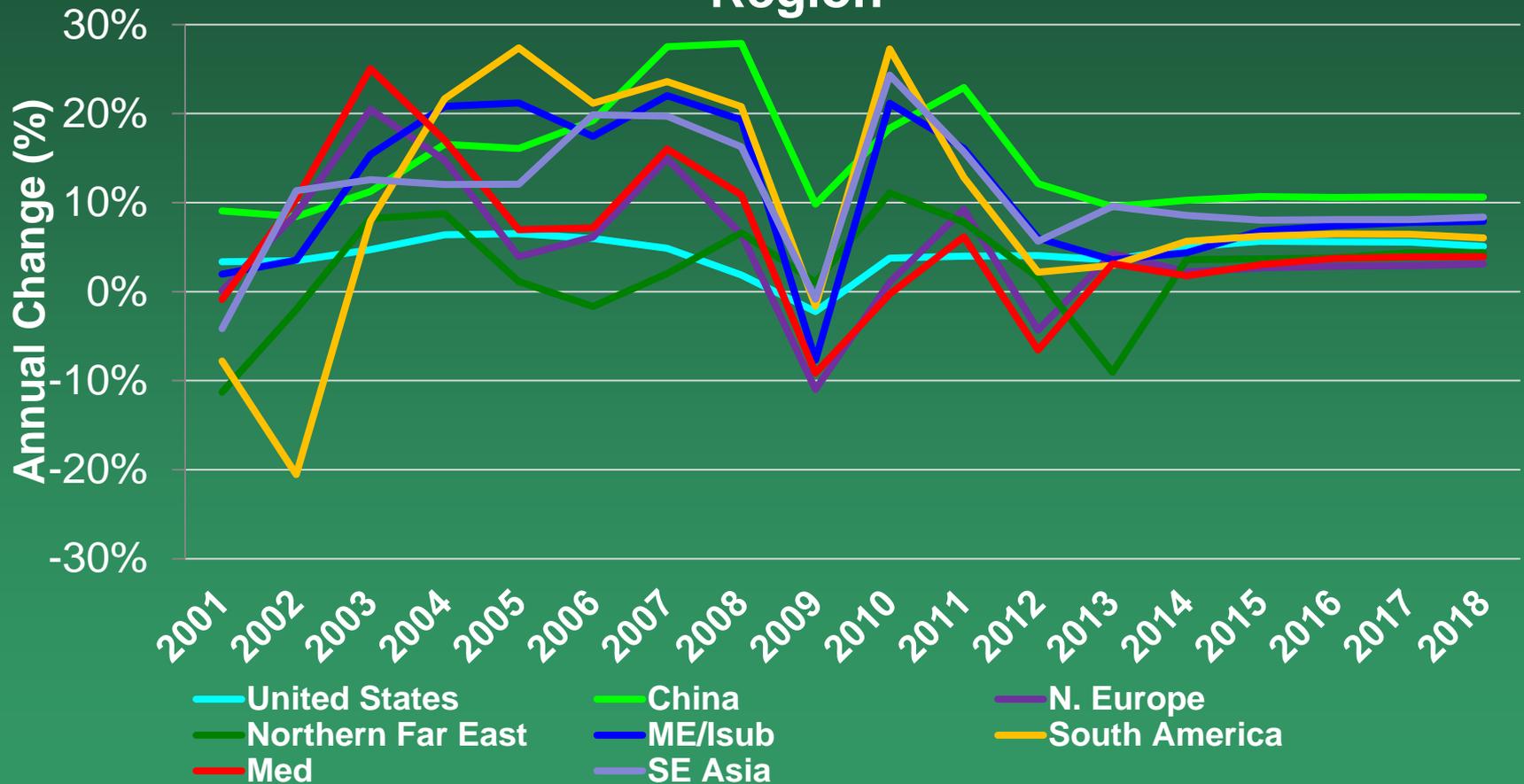
The US Gulf has been the US breakbulk market leader

U.S. Breakbulk Traffic by Coastal Region 2002-2011



Breakbulk Demand: Future growth will remain volatile and trade lane focused (Asia, South America, etc.)

IMF Historical & Projected GDP Growth by Trade Region



Breakbulk Markets: Demand Overview

Demand Drivers	Steel	Forest Products	Vehicles	Reefer	Specialty
Shippers	Global producers; traders	Europe, Canada, US producers	Global producers	Chiquita, Dole, exporters	Manufacturing
Carriers	Toko, Tokai, chartered	Gearbulk, Saga, Star, chartered	WWL, Japan 3, NOSAC	Chiquita, Dole, Star	Intermarine, Dockships,
Economic	Commercial construction	Residential construction , economy	Consumer demand	Consumer demand	General economy, projects
Container Competition	Low	Moderate to high	Moderate	High	Negligible
Demand Outlook	EU: low US: modest Asia: mod-strong	EU: low US: mod-strong Asia: strong	EU: low US: Mixed Asia: country specific	Strong, but container offsetting	Third world strong; developed world weak

2012 US Breakbulk Ports: Examples

Core	Vehicles	Reefer	Project	Heavy Lift
<ul style="list-style-type: none">• Baltimore• Houston• Mobile• New Orleans• Tampa	<ul style="list-style-type: none">• Baltimore• Brunswick• Jacksonville• New York• Portland	<ul style="list-style-type: none">• Gloucester• Gulfport• Hueneme• Philadelphia• Wilmington	<ul style="list-style-type: none">• Baltimore• Charleston• Houston	<ul style="list-style-type: none">• Any port that recently bought container cranes or RTGs

Source: Norbridge review of port reported statistics and Census data

Multipurpose Terminals: A key success factor

Baltimore Dundalk



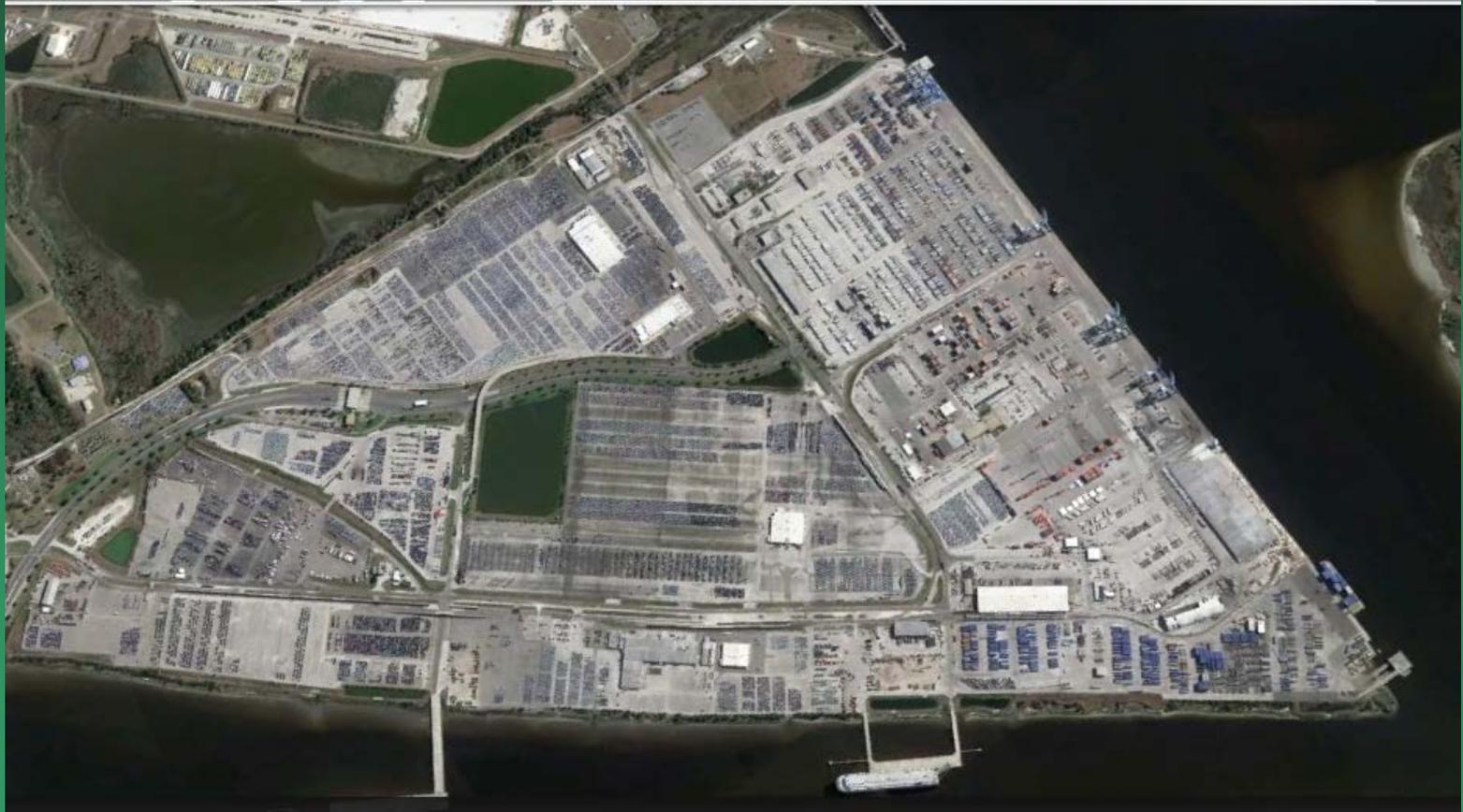
Multipurpose Terminals: A Key Success Factor

Houston Turning Basin Terminal



Multipurpose Terminals: A Key Success Factor

Jacksonville Blount Island



Breakbulk Market Summary

- Each segment is unique
 - Technologies
 - Structure
 - Market drivers
 - Port requirements
- Market characteristics vary significantly by region, country, coastal range, port and terminal
- There are multiple customers
 - Carriers
 - BCOs (importers, exporters)
 - Third parties: 3PLs, forwarders, brokers

QUESTIONS AND RESPONSES



Thank You!