

U.S. Container Trade:

Why the Fundamentals are Important

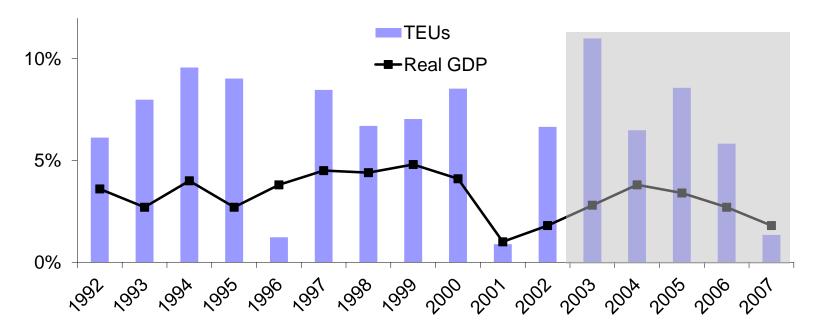
Panama Canal Expansion Impacts:

Myths vs. Reality

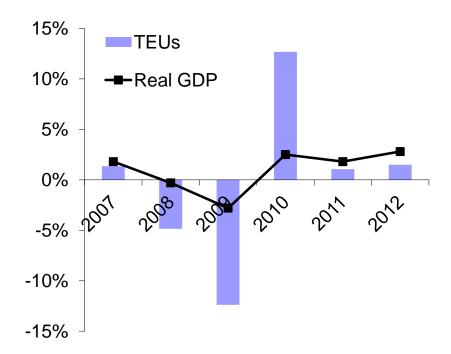
Implications for Southern California

U.S. Container Trade Fundamentals - History

- **2003-2007**
- Five Years of High Growth
- Container Trade = Multiple of GDP ?

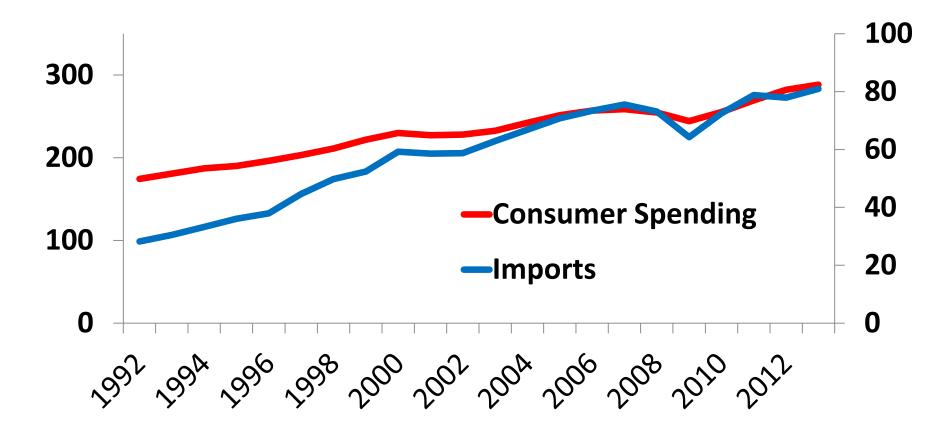


- **2008-2012**
- Historic Downturn in the Economy
- Unprecedented Drops in Container Trade

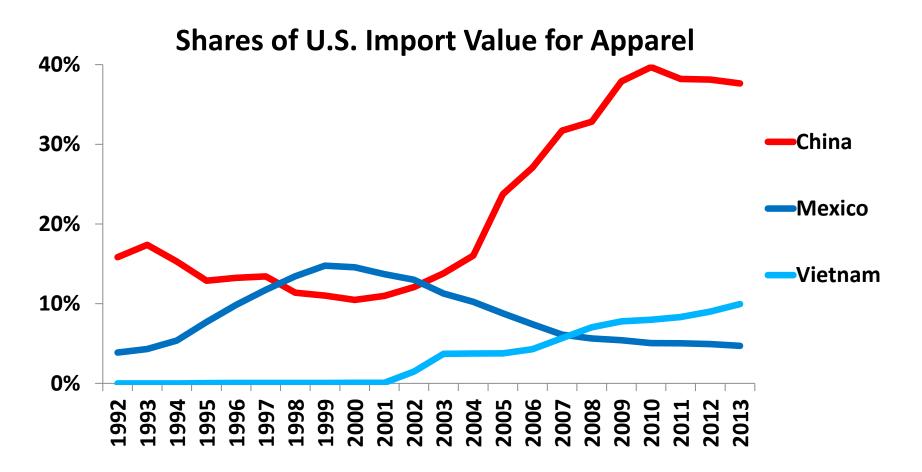


- Fundamental Drivers of U.S. Container Demand
 - Real U.S. economic sectors
 - Import/export imbalance
 - Containerization
 - U.S. import propensity (outsourcing)
 - Sourcing/Routing
 - Product-specific factors

U.S. import propensity (outsourcing) - Apparel



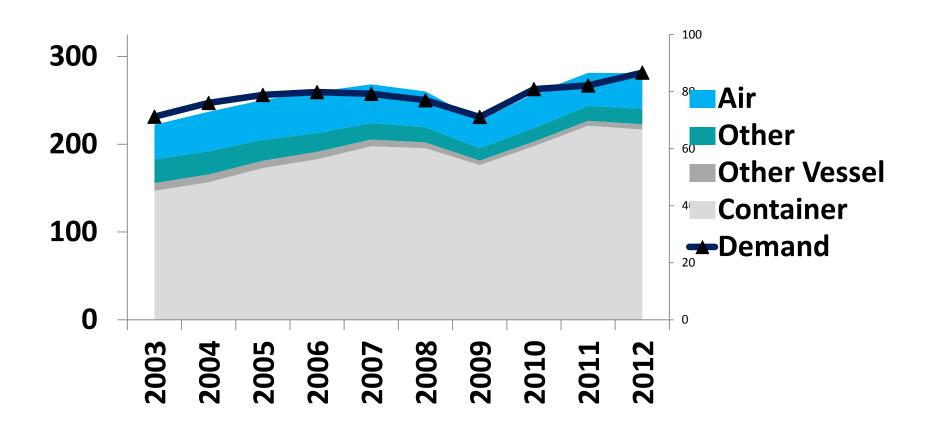
Sourcing/Routing



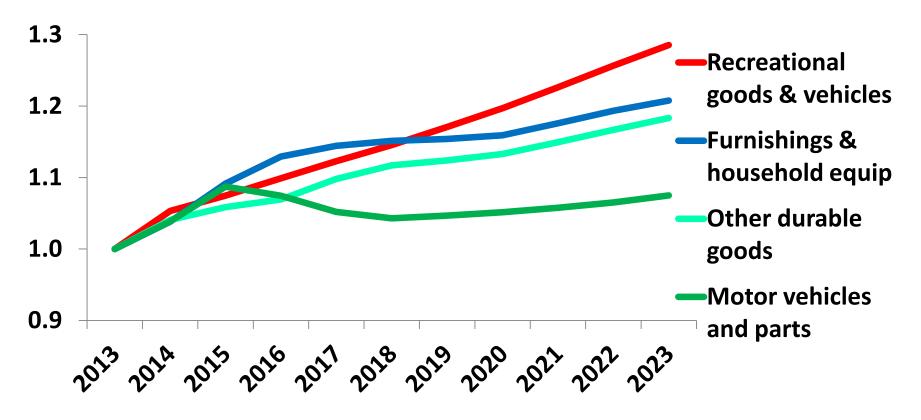
- U.S. Economic Sectors
- Consumer Spending
 - Durables
 - Nondurables
- Fixed Investment
 - Residential
 - Commercial Structures
- Inventories

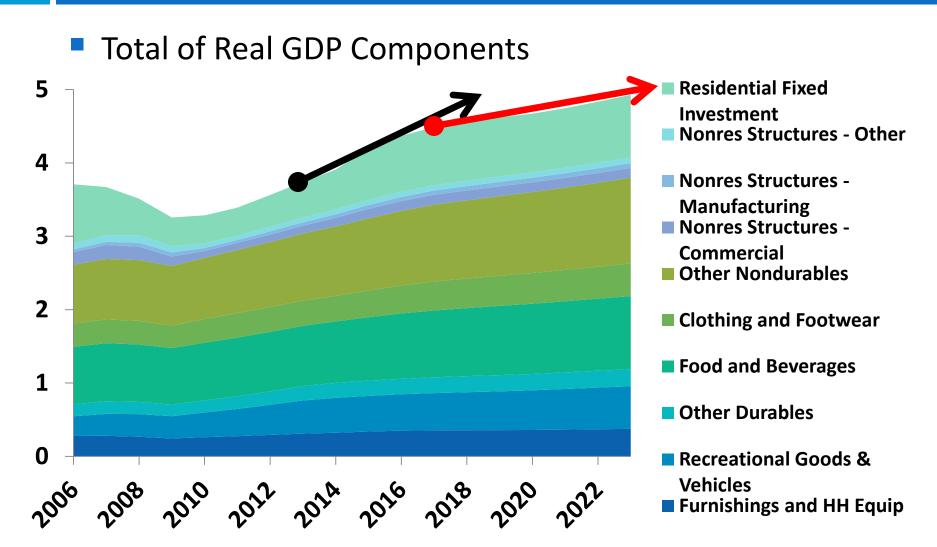
- Import Product Detail
- Food and Beverages
- Apparel
- Furniture
- Appliances
- Consumer Electronics
- Vehicle Parts
- Building Materials
- . . .

Apparel Modal Detail



U.S. Consumer Spending – Durable Goods





Real GDP Components Summary

- Residential fixed investment growth 3X GDP, highest growth in first four years.
- High growth in furnishings and household equipment through 2016.
- Slightly outpacing GDP:
 - Nonresidential structures
 - Consumer spending on recreational goods
 - Non-durable goods, excluding gasoline
- Growth slower than GDP: Other durable goods

Early growth in U.S. container import volumes in 2014 to 2017, led by housing related goods, should not be taken as an indicator of a return to high long term growth rates.

Fundamental Drivers of Volume are Changing

- Other fundamental drivers of historic growth have reached limits and/or may reverse course:
 - Containerization (of imports)
 - Increased import propensity due to re-shoring
 - International sourcing from China moving to Mexico
 - International routing through Mexico or Canada

Panama Canal Expansion: Program Elements



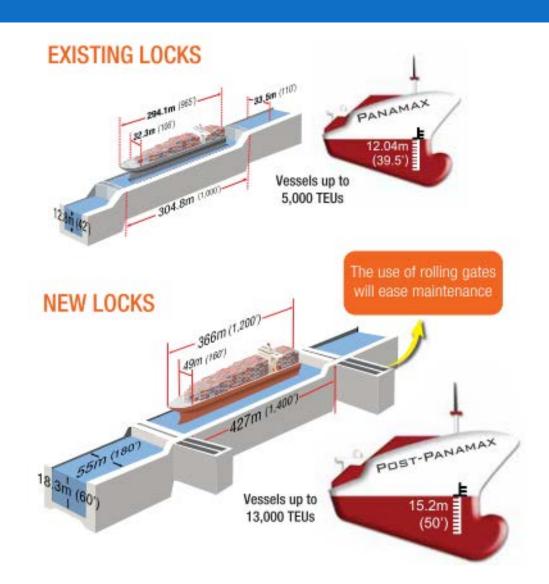
Panama Canal Expansion: Locks



Panama Canal Expansion: New Locks



Panama Canal Expansion: Larger Ships



Panama Canal Expansion: U.S. Trade Lanes

- Panama Canal trade is concentrated in U.S. routes
- Largest trade lane is Northeast Asia U.S. East Coast



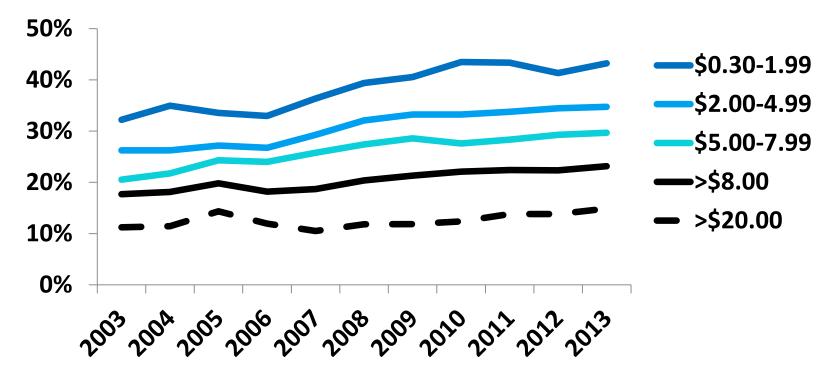
Expansion Effects: Coastal Shifts

- Three interrelated factors will affect potential shifts:
 - History of shifts and remaining potential
 - Supply chain network development
 - Market segments and drivers
 - Competitive dynamics
 - Transportation cost reductions
 - Port readiness and inland infrastructure

Expansion Effects: Coastal Shifts – Recent History

- Significant shifts have already occurred over the past decade
- This trend may continue apart from expansion impacts

East and Gulf Coast Share of NE Asia Container Volume Tonnage by 2013 \$/kg



Sources: US Census Bureau and Parsons Brinckerhoff analysis

Expansion Effects: Coastal Shifts – Supply Chains

Flexibility and redundancy / closeness to end markets



Container Port (CP)

- Gateway for goods
- Intermodal transfer
- Often land constrained



Import Distribution Center (IDC)

- Unloads containers, redirects goods
- Preferably near port



Inland Port (IP)

 More land for intermodal transfer and import DCs



Mixing Center (MC)

- Mixes domestic & import goods for distribution
- Stores, consolidates, redirects goods
- Uses, not keyed to intermodal service

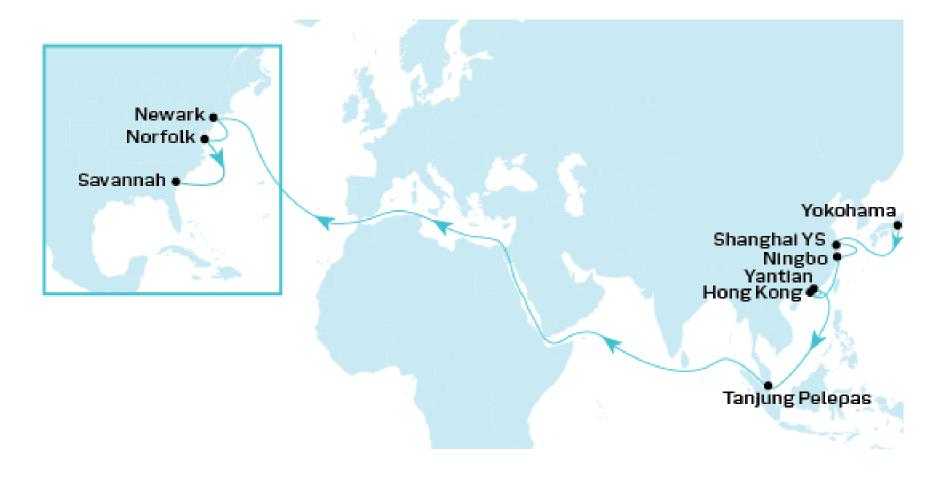


Intermodal Logistics Center (ILC)

- Container transfer hub (rail ⇔ truck)
- Distribution keyed to intermodal service

Global Shipping Alliances: G6 and P3

Maersk Transpacific 3 Eastbound Service



Expansion Effects: Coastal Shifts – Market Segments

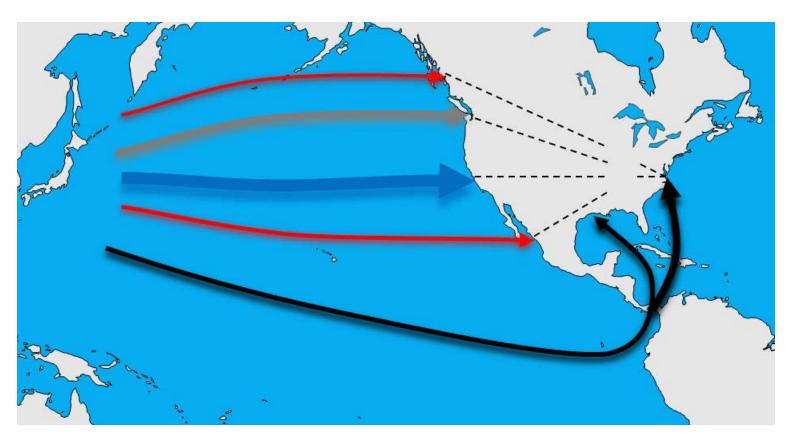
All containers are not created equal

- Container volumes are too often thought of as homogeneous and destined for a general U.S. inland destination
- Distinct market segments have significantly different drivers:
 - Sources/destinations
 - Product type and end uses
 - Product value
 - Mode of transport (air, truck, rail, barge)



Expansion Effects: Coastal Shifts - Competition

Who are competitors for serving U.S. markets?
West Coast vs. Canal? West Coast vs. East Coast railroads?



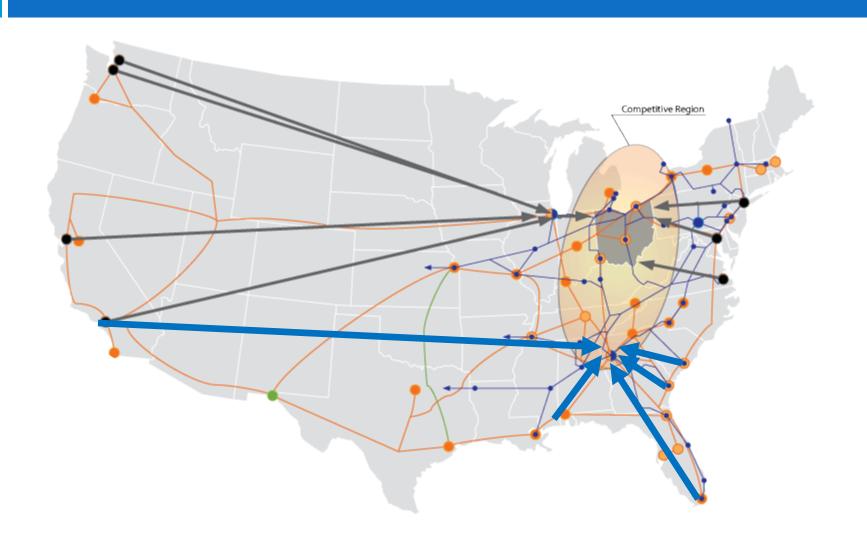
Expansion Effects: Coastal Shifts - Competition

- "Competitors" have:
 - Different capabilities to segment the market and price services:
 - Premium versus slower and less frequent services
 - Origin/destination pricing vs. Canal tolls

Expansion Effects: Coastal Shifts - Competition



Expansion Impacts: Coastal Shifts – Southeast



Expansion Effects: Coastal Shifts – Cost Reductions

- A variety of cost factors are likely to affect potential shifts
 - Per TEU cost reduction to the US East Coast 13,000 TEU vessel rather than a 5,000 TEU Panamax vessel
 - Cost reductions must be realized by shippers to affect shifts
 - Carriers, US and transshipment ports and the Panama Canal will likely retain a portion of East Coast cost reduction savings
 - Net savings passed on to shippers could be:
 - Cost reductions are *relative* to those on the West Coast leaving a comparative per TEU cost reduction of:



Expansion Effects: Port Readiness

- US ports capable of handling much larger ships:
 - US East Coast ports
 - New York/New Jersey, Baltimore, Virginia, Miami
 - Other major ports are less certain
 - Charleston, Savannah
 - Multiple ports of call are desired by liner companies to fully utilize larger ships, i.e. 2-3 calls on US East Coast

Panama Canal Expansion Impacts - Summary

- The historic frenzy about coastal shifts is overblown
- There will be shifts, but not explosive
 - Major factor is the development of supply chain networks
 - Net cost reductions are likely less than expected
 - Competition between the West Coast and Panama Canal will be less than imagined
 - Shifts are likely focused on the Ohio Valley and Atlanta regions
 - Shifts could evolve slowly depending on Southeast port development and use of transshipment
 - Local impacts could be significant

Implications for Southern California

- Five-year U.S. container volume growth appears positive
- Long term volume growth is likely modest
- Beware a "return to normal" view of U.S. volume growth
- Direct Panama Canal expansion impacts on coastal trade are likely to be minimal and gradual
- Pay attention to fundamentals (product detail, economic sectors, sourcing, ...) for U.S. as well as coastal trade
- Examine upside potential/downside risk

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- Thank You
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