What’s Down the Road?

Presented to:
AAPA
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Radisson Resort at the Port
Canaveral, FL

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Agenda

• Global issues and trends affecting the world and U.S. economic outlooks

• Implications for ports in the Western Hemisphere

• Conclusions & things to remember
Key Global Issues and Trends

- Will higher oil prices derail the recovery?  NO - Not at $70-75
- Will the dollar crash?  NO, but . . .
- China: Hard or soft landing?  SOFT
- New and important players?  YES, A COUPLE . . .
Has world economic growth peaked? - - - yes, but…

The world economy is in recession when real GDP growth is below 2%.
World container trade normally grows faster than the world economy. And 2006 was very healthy.

<table>
<thead>
<tr>
<th>Year</th>
<th>GDP</th>
<th>TEUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>4.0%</td>
<td>9.6%</td>
</tr>
<tr>
<td>2007</td>
<td>3.5%</td>
<td>8.9%</td>
</tr>
</tbody>
</table>
Trade is linked to real GDP growth - uneven across the world – and emerging markets grow fastest.
Europe in the long term – a great museum?

... and the visitors will come from China!
Growth is not uniform: Market shifts are coming and will affect U.S. trade and transportation

(Country GDP Rank in Billions of Real (2003) U.S. Dollars)

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2010</th>
<th>2020</th>
<th>2030</th>
<th>2040</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>Japan</td>
<td>China</td>
<td>China</td>
<td>China</td>
<td>U.S.</td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>Germany</td>
<td>Japan</td>
<td>Japan</td>
<td>India</td>
<td>India</td>
<td>U.S.</td>
</tr>
<tr>
<td>U.K.</td>
<td>U.K.</td>
<td>Germany</td>
<td>India</td>
<td>Japan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>China</td>
<td>U.K.</td>
<td>Russia</td>
<td>Russia</td>
<td>Brazil</td>
<td></td>
</tr>
<tr>
<td>Italy</td>
<td>France</td>
<td>India</td>
<td>U.K.</td>
<td>Brazil</td>
<td>Russia</td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>Italy</td>
<td>France</td>
<td>Germany</td>
<td>U.K.</td>
<td>U.K.</td>
<td></td>
</tr>
<tr>
<td>Brazil</td>
<td>India</td>
<td>Russia</td>
<td>France</td>
<td>Germany</td>
<td>Germany</td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>Russia</td>
<td>Italy</td>
<td>Brazil</td>
<td>France</td>
<td>France</td>
<td></td>
</tr>
<tr>
<td>Russia</td>
<td>Brazil</td>
<td>Brazil</td>
<td>Italy</td>
<td>Italy</td>
<td>Italy</td>
<td></td>
</tr>
</tbody>
</table>

Source: Global Insight World Service and Goldman Sachs
The U.S. expansion is entering a new phase – a major U.S. slowdown is already here.

- The U.S. economy started to slow in 2006.
  - 2.2% in the first quarter 2007
  - Just 2.4% in the last quarter!
- Real GDP growth in 2007 will slip to 2.1%, below trend (3%).
- Home sales and construction are declining as affordability deteriorates.
- Business investment is now leading the expansion, supported by record profits and global market growth, especially Asia.
- Non-residential construction is poised to grow, at last.
- Further dollar depreciation is expected, so exports will improve.

A weak start and a faster finish in 2007
The U.S. economic expansion has slowed quickly. Modest improvements in 2007 — slower than the world.

Real GDP
2006: 3.3%
2007: 2.1%
A Record U.S. Current Account Deficit – over $800 billion as far as the eye can see. But peaking at last!
The U.S. dollar will depreciate further – steady declines through 2008, due to huge current account deficits.

This could be another 10% drop in the dollar.
The U.S. was the engine of growth, but in 2006 this shifted to Asia, which is now supporting world economic growth.

- Inflation remains under 4% in most Asian economies — exceptions include Indonesia, India, and the Philippines.

- High saving rates mean these economies will continue to be capital exporters - investors in ports and transportation infrastructure (even Canals?).

- China will have a soft landing.

- 1/3 of the world’s container trade is Intra-Asia!
**U.S. TEU imports will slow to 5.6% in 2007, then 7.6% in 2008. Chinese imports will grow fastest (10% on average).**

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**US TEU Imports**

China was 1/3 of US imports in 2000 and will be 1/2 by 2013.

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**Legend:**
- European Union
- Latin Amer (Not Mexico)
- Middle East + ISC
- Other Far East
- China - HK
China’s momentum is hard to slow down, but the China government is trying - - - soft landing most likely.

<table>
<thead>
<tr>
<th>Category</th>
<th>1980</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real Per Capita GDP (2004$)</td>
<td>$171</td>
<td>$964</td>
</tr>
<tr>
<td>Real GDP as % of US Level, 2004$</td>
<td>3%</td>
<td>14%</td>
</tr>
<tr>
<td>Real GDP growth in previous 20 years</td>
<td>5.3%</td>
<td>8.6%</td>
</tr>
<tr>
<td>Population (millions)</td>
<td>981</td>
<td>1,300</td>
</tr>
<tr>
<td>Trade's share of GDP</td>
<td>15%</td>
<td>85%</td>
</tr>
<tr>
<td>Number of Supermarkets</td>
<td>0</td>
<td>70,000</td>
</tr>
<tr>
<td>Current Account Surplus ($ billions)</td>
<td>1</td>
<td>266</td>
</tr>
<tr>
<td>Agriculture's share of GDP</td>
<td>30%</td>
<td>15%</td>
</tr>
<tr>
<td>Urbanization</td>
<td>20%</td>
<td>33%</td>
</tr>
</tbody>
</table>
Market penetration in some sectors is reaching saturation ...
But look at China’s penetration of new market segments.
China Economic Summary

• There appears to be little risk at the macro-economic level. Even with a “soft landing” we will see growth in excess of 8% GDP through 2010.
• The exchange rate will revalue smoothly.
• The financial markets, although not exactly strong (week of Feb. 26), are also not seriously in danger of toppling.
• So long as Foreign Direct Investment continues, we will see the continuation of an export driven economy.
• RISK: the new urbanized masses are not keeping up with inflation
There are some **New Players** on the world scene

- Chindia
- Colombia
India could align with China (creating CHINDIA) and create a powerhouse from toys to high tech.

- $800 billion GDP
- 8%/year TEU growth to 2010
- 6.8% GDP growth this year (2006)
- 1.1 billion population is growing 1.5% annually
In Latin America, **Colombia** is a new, fast-growing player.

- Free trade deal with the USA (hopefully)
- Potential growth is 5+% per year (GDP) – and steady
- Privatized ports
- Strong import growth for containers – 18% in 2006
  - Domestic economic strength – 6% in 2006
  - Growing consumer sector
- Port infrastructure is being expanded to meet demand growth.
- Main rail link to be revitalized in 2008.
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• Implications for ports in the Western Hemisphere

• Conclusions & things to remember
For USWC ports, imports from China will double by 2015.

- In 2000, 1 in 2 containers came from China.
- This year, 63% of USWC imports will come from China.
- By 2015, 3/4 of the imports will come from China.

### USWC Imports

<table>
<thead>
<tr>
<th>Year</th>
<th>CHINA</th>
<th>Rest of World</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000-01</td>
<td>10.5%</td>
<td>4.0%</td>
</tr>
<tr>
<td>2001-02</td>
<td>10.5%</td>
<td>4.0%</td>
</tr>
<tr>
<td>2002-03</td>
<td>10.5%</td>
<td>4.0%</td>
</tr>
<tr>
<td>2003-04</td>
<td>10.5%</td>
<td>4.0%</td>
</tr>
<tr>
<td>2004-05</td>
<td>10.5%</td>
<td>4.0%</td>
</tr>
<tr>
<td>2005-06</td>
<td>10.5%</td>
<td>4.0%</td>
</tr>
<tr>
<td>2006-07</td>
<td>8.6%</td>
<td>4.5%</td>
</tr>
<tr>
<td>2007-08</td>
<td>8.6%</td>
<td>4.5%</td>
</tr>
<tr>
<td>2008-09</td>
<td>8.6%</td>
<td>4.5%</td>
</tr>
<tr>
<td>2009-10</td>
<td>8.6%</td>
<td>4.5%</td>
</tr>
<tr>
<td>2010-11</td>
<td>8.6%</td>
<td>4.5%</td>
</tr>
<tr>
<td>2011-12</td>
<td>8.6%</td>
<td>4.5%</td>
</tr>
<tr>
<td>2012-13</td>
<td>8.6%</td>
<td>4.5%</td>
</tr>
<tr>
<td>2013-14</td>
<td>8.6%</td>
<td>4.5%</td>
</tr>
<tr>
<td>2014-15</td>
<td>8.6%</td>
<td>4.5%</td>
</tr>
</tbody>
</table>

Source: Global Insight World Trade Model
As China expands its markets, the U.S. becomes less important, but Latin America --
could absorb 10% of China’s container exports by 2015, with strong growth in consumer products.
Is there a capacity crunch on the USWC?

- There is a lot more throughput capacity that is achievable
  - More flexible work rules? 2008 ILWU labor agreement?
  - Introduction of more technology for container handling?
  - Expand PIERPASS OffPeak program (LA, LB)
    - Currently Monday – Thursday evenings and Saturday mornings
  - Other USWC ports could adopt an off-peak option.
- Environmental considerations may force the crunch to hit sooner
  - Increases in port charges to pay for environmental compliance
- As USWC port costs increase, shipping lines will look to other options, like Mexico and Canada.
Some Mexican alternatives are being discussed – to feed the US market, in case there is a capacity squeeze.

- Container volumes will continue to grow.
- USWC port and rail congestion could return – 5-10 years?
- All-water service costs will go up.
- But there are wrinkles to iron out in Mexico.

Some companies mentioned:
- MHFM Transport (Mexico)
- SPV (Japan)
- Arias Asia (China)

$9 billion
UP + Hutchison
BNSF + Grupo Mexico
MTC + Carlos Slim
Others?
Keys to competitiveness

- The ports and inland infrastructure must be made more productive and expanded in some cases.
- Asian ports have increased productivity much faster than European or U.S. ports.

<table>
<thead>
<tr>
<th>TEUs/acre/year</th>
<th>1999</th>
<th>2004</th>
<th>CAGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian Ports</td>
<td>9,272</td>
<td>16,595</td>
<td>12.3%</td>
</tr>
<tr>
<td>European Ports</td>
<td>4,284</td>
<td>6,396</td>
<td>8.3%</td>
</tr>
<tr>
<td>U.S. Ports</td>
<td>2,894</td>
<td>4,018</td>
<td>6.8%</td>
</tr>
</tbody>
</table>

Source: John Vickerman, TransSystems, CI Database, Seaports of the Americas
Container vessel wait time at LA/LB – a short interruption of service, affecting productivity, can cause . . .

Source: John Vickerman, TranSystems, derived from data from Marine Exchange of Southern California
... a fast shift by carriers to alternate routes. Here, carriers shifted to the US East Coast through the Panama Canal.

And a $13 billion impact on the U.S. economy, in 10 days

62% of the growth in US imports from North Asia shifted to the USEC in 2002 – fairly elastic.

Source: Global Insight World Trade Model
Within the containership fleet, **Post-Panamax is the fastest growing vessel type.**

<table>
<thead>
<tr>
<th>Vessel Type</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007*</th>
<th>% Δ 2002-07</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-Panamax</td>
<td>201</td>
<td>246</td>
<td>283</td>
<td>332</td>
<td>391</td>
<td>488</td>
<td>143%</td>
</tr>
<tr>
<td>Panamax</td>
<td>392</td>
<td>435</td>
<td>473</td>
<td>513</td>
<td>578</td>
<td>642</td>
<td>64%</td>
</tr>
<tr>
<td>Sub-Panamax</td>
<td>432</td>
<td>464</td>
<td>498</td>
<td>529</td>
<td>574</td>
<td>629</td>
<td>46%</td>
</tr>
<tr>
<td>Handy</td>
<td>874</td>
<td>890</td>
<td>915</td>
<td>935</td>
<td>979</td>
<td>1,051</td>
<td>20%</td>
</tr>
<tr>
<td>Feedermax</td>
<td>548</td>
<td>565</td>
<td>593</td>
<td>626</td>
<td>675</td>
<td>728</td>
<td>33%</td>
</tr>
<tr>
<td>Feeder</td>
<td>461</td>
<td>452</td>
<td>445</td>
<td>444</td>
<td>443</td>
<td>444</td>
<td>-4%</td>
</tr>
<tr>
<td><strong>All Containerships</strong></td>
<td><strong>2,908</strong></td>
<td><strong>3,052</strong></td>
<td><strong>3,207</strong></td>
<td><strong>3,379</strong></td>
<td><strong>3,640</strong></td>
<td><strong>3,982</strong></td>
<td><strong>37%</strong></td>
</tr>
</tbody>
</table>

*2007 data is as of January*
With a third set of locks, container traffic will account for nearly 60% of all Canal tonnage in 2025.

Panama Canal Tonnage: 2005 vs. 2025

Source: ACP; Norbridge, Global Insight forecasts
Caribbean Transshipment Triangle
Panamá – Suez Route Cost Comparison: Northeast China to USEC

Source: Panama Canal Authority

- Ship provision costs
- Fuel costs - sea
- Canal fees
- Fuel Costs - Port
- Port fees
## Will the PPX ships use the expanded Canal?

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
</table>
| • Round-the world  
  • One USEC or Caribbean port call  
  • No concern about the backhaul | • These ships seek hub-hub routes  
  • High utilization needed in each direction  
  • Not efficient for *multiple* port calls (USEC)  
  • Could transship in one major Caribbean hub port  
  • Will there be enough backhaul to make money?  
  • Laden Canal tolls will apply in both directions – even if there is only “one banana on board”  
| • Perhaps the ships will remain on the transpacific  
  • Fewer ships needed for weekly service to USEC  
  • Better chance of strong backhaul cargo  
  • More options available for overland intermodal connection |
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Bottom Line

• To have any hope of forecasting the future correctly, do it often.

• Every international container can reach its destination by 2 routes, or more.
  • The Panama and Suez Canals do compete.

• The search for alternative gateways is on.

• China will not take over the world, but Chindia might!

• Enormous growth in container traffic and the shift to PPX vessels will push many ports to their full capacity limits, before the Canal expansion is ready (2014).

• USWC ports are currently not in a capacity crunch but they will be forced to expand operational throughput.
  • Will “just in time” become logistical archeology?
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Latin America’s sea trade is expected to grow in line with general world sea trade growth. Imports will outpace exports.
L.A. imported 1.5 million TEUs from the U.S. in 2006.

<table>
<thead>
<tr>
<th>Year</th>
<th>TEUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>1.5 million</td>
</tr>
<tr>
<td>2015</td>
<td>2.0 million</td>
</tr>
</tbody>
</table>

3% average annual growth

Imports from the Far East (China) will grow by 7.1%/year and hit 2 million TEUs in 2015.
South America’s east & west coasts are export oriented, but imports will grow faster.

### WC South America

<table>
<thead>
<tr>
<th>Year</th>
<th>Exports</th>
<th>Imports</th>
<th>CAGR%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>1,566,754</td>
<td>804,329</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>1,896,612</td>
<td>1,018,626</td>
<td>4.9%</td>
</tr>
</tbody>
</table>

### EC South America

<table>
<thead>
<tr>
<th>Year</th>
<th>Exports</th>
<th>Imports</th>
<th>CAGR%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>4,242,497</td>
<td>2,078,162</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>5,050,706</td>
<td>2,620,572</td>
<td>4.5%</td>
</tr>
</tbody>
</table>
Caribbean and Central America are fairly well-balanced.

### Caribbean
- **Exports**: 2006 = 765,407, 2010 = 912,922, CAGR% = 4.5%
- **Imports**: 2006 = 941,749, 2010 = 1,093,995, CAGR% = 3.8%

### Central America
- **Exports**: 2006 = 876,189, 2010 = 1,014,329, CAGR% = 3.7%
- **Imports**: 2006 = 859,621, 2010 = 1,080,414, CAGR% = 5.9%
Each part of Latin America depends much more on the Far East for imports than for exports.

<table>
<thead>
<tr>
<th>Far East Share (%) of Container Trade</th>
<th>Imports</th>
<th>Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>WCSA</td>
<td>28</td>
<td>17</td>
</tr>
<tr>
<td>ECSA</td>
<td>24</td>
<td>12</td>
</tr>
<tr>
<td>Cen Amer</td>
<td>33</td>
<td>2</td>
</tr>
<tr>
<td>Caribbean</td>
<td>17</td>
<td>1</td>
</tr>
</tbody>
</table>

WCSA Imports - 2006

WCSA Exports - 2006
L.A. containers to the U.S. in 2006 = 3 million

- 2007: 3.2 million TEUs
- 2015: 4.2 million TEUs

Almost 4% average annual growth

Exports from Latin America to the Far East (China) will grow by 6.0%/year and hit 1.4 million TEUs in 2015.