

Security of Air Cargo & Air Supply Chain in the Asia Pacific

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A collaboration between



Overview

- ❑ The Asia Pacific air supply chain
- ❑ Post Sept-11 concerns
- ❑ New & proposed initiatives
- ❑ Technologies in air supply chain
- ❑ Balancing security, efficiency & cost
- ❑ Standards and policy issues

Total Airfreight Rankings (2000)

Rank	Airport	City	Total Freight (Millions of U.S. Tons)	% Change
1	Memphis Int'l/FedEx (MEM)	Memphis	2.70	+3%
2	Hong Kong Int'l (HKG)	Hong Kong	2.47	+14%
3	Tokyo Narita (NRT)	Tokyo	2.08	+5%
4	Kimpo Int'l (SEL)	Seoul	2.04	+14%
5	Los Angeles Int'l (LAX)	Los Angeles	2.02	+7%
6	New York Kennedy (JFK)	New York	1.86	+6%
7	Changi (SIN)	Singapore	1.85	+12%
8	Frankfurt (FRA)	Frankfurt	1.73	+12%
9	MIAMI INT'L (MIA)	MIAMI	1.72	-0.6%
10	Louisville Int'l/UPS (SDF)	Louisville	1.66	+6%

Source: Airports Council International (ACI) and respective airport traffic reports.

Total Air Cargo

(International & Domestic, inclusive of Mail, 2002)

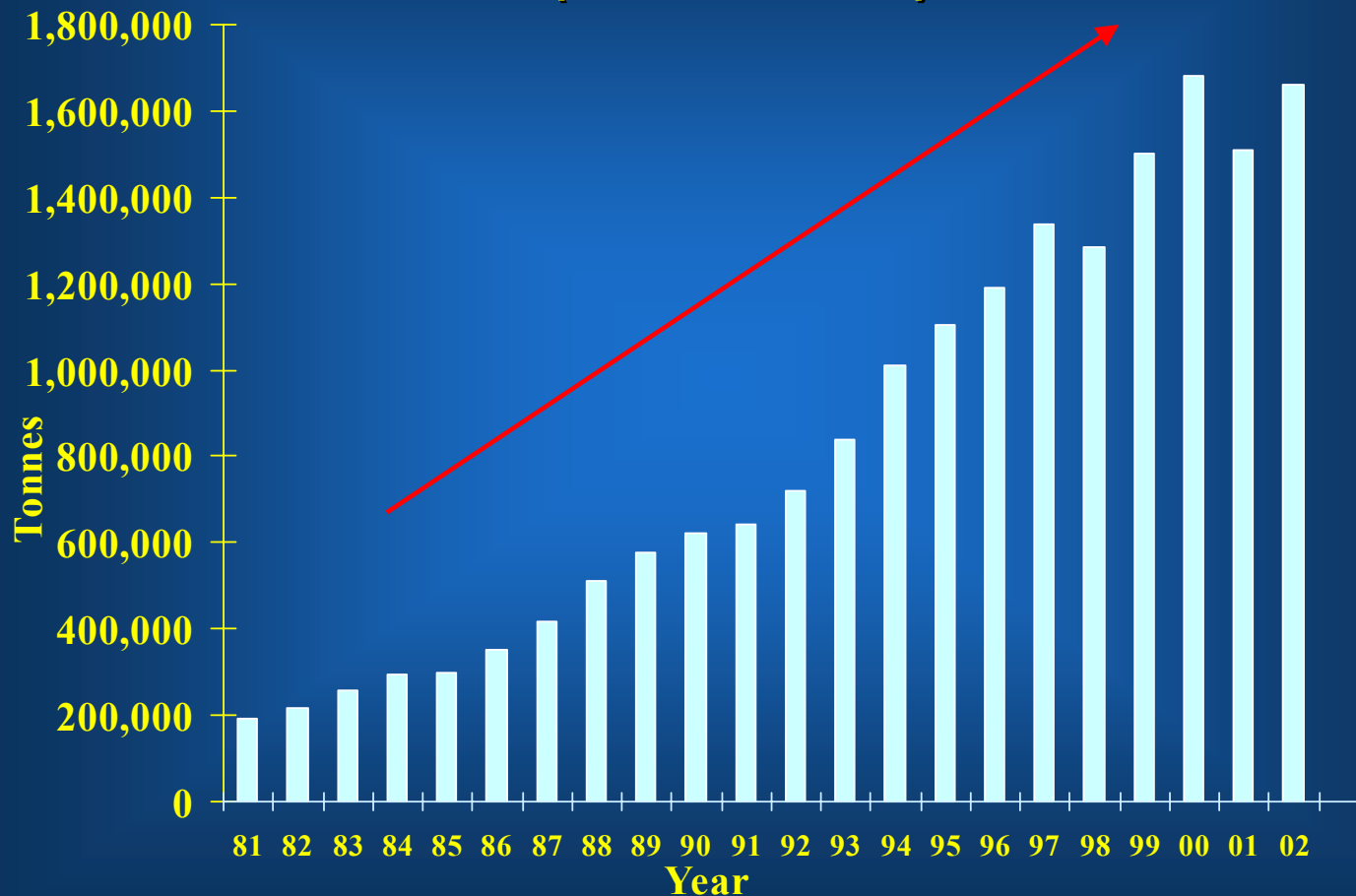
1.	Memphis (Fedex)	3.39 m tonnes
2.	Hong Kong	2.52 m
3.	Anchorage	2.03 m
4.	Narita	2.00 m
5.	Los Angeles	1.76 m
6.	Seoul	1.71 m
7.	Singapore	1.66 m
8.	Frankfurt	1.63 m
9.	Miami	1.62 m
10.	New York JFK	1.57 m

International Airfreight Rankings (World) (2000)

Rank	Airport	City	International Freight (Millions of U.S. Tons)	% Change
1	Hong Kong Int'l (HKG)	Hong Kong	2.47	+14%
2	Tokyo Narita (NRT)	Tokyo	2.07	+5%
3	Changi (SIN)	Singapore	1.85	+12%
4	Kimpo Int'l (SEL)	Seoul	1.76	+14%
5	Frankfurt (FRA)	Frankfurt	1.68	+12%
6	Heathrow (LHR)	London	1.43	+4%
7	MIAMI INT'L (MIA)	MIAMI	1.43	-1%
8	New York Kennedy (JFK)	New York	1.41	+8%
9	Schiphol (AMS)	Amsterdam	1.35	+4%
10	Chiang Kai Shek Int'l (TPE)	Taipei	1.32	+14%

Source: Airports Council International (ACI) and respective airport traffic reports.

Air Cargo Traffic at Changi Airport (1981 - 2002)



Source: CAAS

Air Freight Traffic by Region (Tonne-Km Performed)

REGION	Annual Growth Rate (%) (1999 – 2010)	Predicted Regional Share (%) (2010)
Europe	4.5	28.2
Africa	5.0	1.9
Middle East	4.0	3.3
Asia and Pacific	7.5	42.6
North America	5.0	20.7
Latin America & Carib	4.5	3.3
WORLD	6.0	

(Source: ICAO, 2002)

Distribution Channels in the Multimodal Chain

Outbound

Shipper – truck – airport (ground handling agent – outbound aircraft)

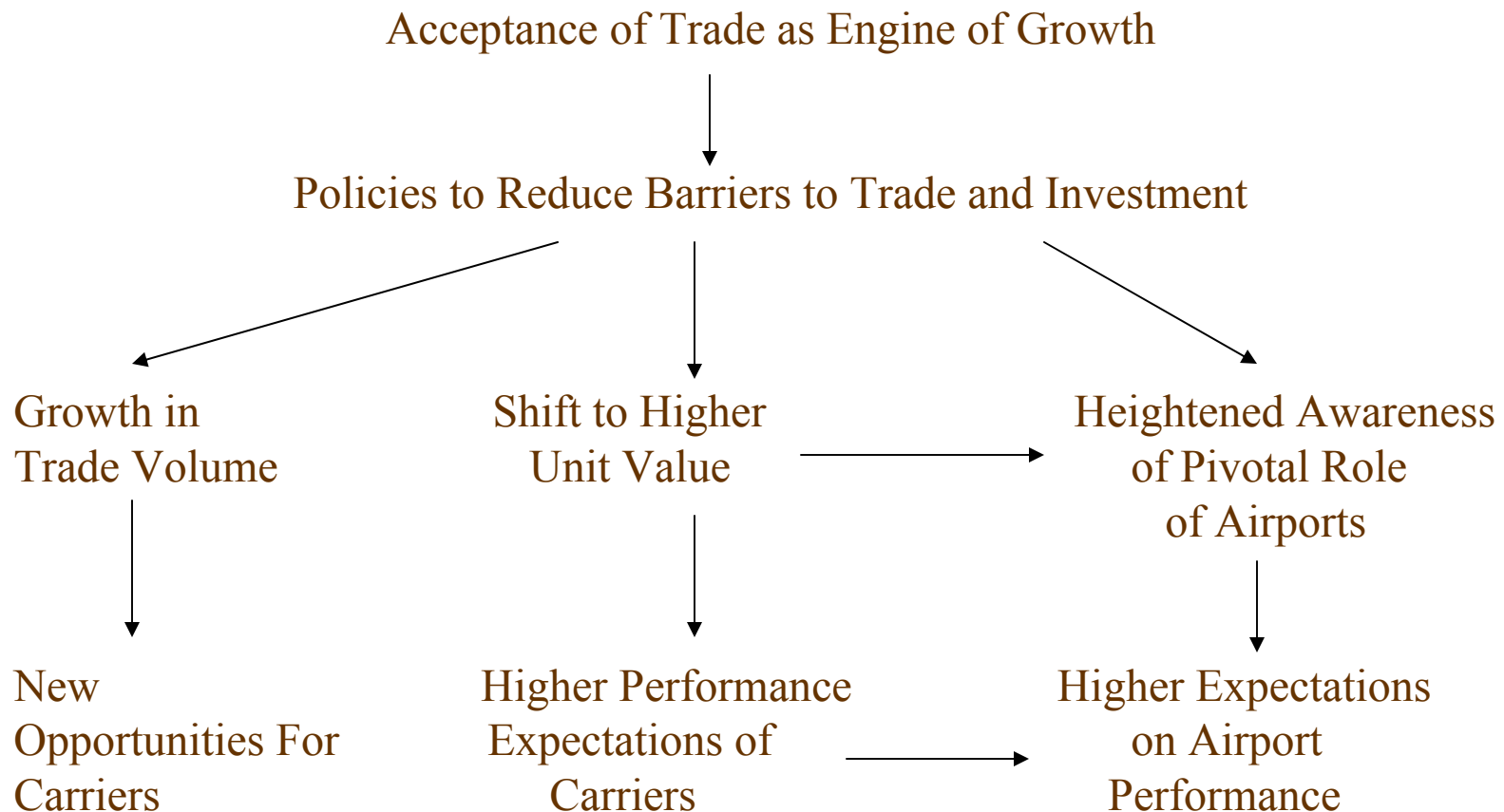
Transshipment 1 (Freight Forwarder as Transshipment Agent)

Inbound aircraft at Changi – ground handling agent – freight forwarder's warehouse – deconsolidation/reconsolidation – ground handling agent – outbound aircraft at Changi

Transshipment 2 (Airline as Transshipment Agent)

1. Inbound aircraft at Changi – ground handling agent – outbound aircraft
2. Inbound aircraft – aircraft-side transfer – outbound aircraft

Changes in International Trade and Responses of Carriers and Airports/Ports



(Source: ESCAP, 2001)

Post-911 Concerns

- Airport/aviation security has gained dramatic profile among the public
- Focus on security has shifted from theft, contraband to terrorist attack
- Aircraft being used as weapon of mass destruction
- Aircraft/airport as terrorist target
- Aircraft as vehicle for arms and explosives
- Increase in cost of global business (e.g. insurance cost, delay)

Cost of an Air Disaster

- Aircraft (B747-400) @ US\$175 million
- Passenger liability @ up to US\$3 million/pax (US citizen)
- Passenger baggage & personal effects – negligible due to US\$1250 deductible
- Cargo liability @ US\$25/kg (deductible US\$10K)
- Mail legal liability – depends on contract with post office
- Third party liability – could be substantial

Source: Willis (Singapore) Pte Ltd

Container security initiative (CSI) for sea cargo

- Launched by U. S. Customs in January 2002
- Targeting at seaports with highest volume of containers shipped to U.S.
- Four core elements:
 - (1) using IT to identify high-risk containers
 - (2) pre-screen high-risk containers before they arrive at U.S. ports
 - (3) using detection technology to quickly pre-screen high-risk containers
 - (4) using smarter, tamper proof containers.

Customs-Trade Partnership Against Terrorism (C-TPAT)

- Launched by U. S. Customs on June 14, 2002
- A joint initiative between government and business community
- Requires importers to take self-comply with new practices that ensure security of cargo throughout **the entire supply chain**. In return, their cargo will given clearance through “fast lanes” at U.S. boarder
- C-TPAT membership is available to importers, carriers, brokers, warehouse operators, manufacturers, and part suppliers — i.e., **the entire supply chain**.

C-TPAT

- Implications of C-TPAT
 - Entire supply chain needs to be C-TPAT certified to gain priority custom clearance
 - Affects all foreign companies which have trade relationship with U.S. partners
 - Other industrialized countries likely to adopt similar practice

24 Hour Rule

- Complement and support C-TPAT and CSI
- Requires ocean carriers to submit vessel's cargo manifest to the US Customs 24 hours before the US-bound cargo is laden aboard the vessel at a foreign port
- Took effect on 2 Dec 2002
- Enforcement began on 1 Feb 2003

Secured Trade in the APEC Region (STAR)

- Signed on Sept 26, 2002 by U.S. President and APEC leaders
- Aims
 - Accelerate action on screening cargo before transit
 - Increasing security on ships and airplanes
 - Enhancing security in airports and seaports

STAR

- Action plans for cargo security
 - Identifying and examining high-risk containers
 - Assuring in-transit integrity
 - Advance electronic information on containers to customers, ports and shipping officials as early as possible in the supply chain
 - Implementing by 2005 a common standard for customs reporting
 - Promoting private-sector adoption of high standards of supply chain security

Security Options

- Physical security
 - Fences, doors, locks, strong rooms, CCTV
- Assess security
 - Limit entry/exit points
 - Identity check (pre-screen of background & at entry/exit points)
 - Inspection of vehicles
 - Restrict access by zoning
- Cargo security
 - Sniffer, X-ray machines
- Process security

Balancing Security, Efficiency & Cost

- What is the purpose of improving air cargo security?
 - To ensure that cargo accepted by the airline is protected from theft or malicious damage and does not contain any article likely to endanger the aircraft or the passengers and crew when loaded on board
- Price to pay for added airport, aircraft, passenger & cargo security
 - Longer waiting time (delay on ground)
 - More uncertainty in travel time due to extra screening
 - More staff, equipment, space needed
 - Cost to shippers, users, consumers

Balancing Security, Efficiency & Cost

- It seems that
 - Homeland security, protection of borders, assets and citizen is still the goal
 - Efficiency of trade and commerce is taking a back seat

Issues in Air Cargo Security

- Is this a U.S. issue?
 - Primarily a scheme for boarder protection of U.S.
 - But, benefits trade partner as well
 - Can be seen as U.S. helping trading partners to identify illegal trade activities
 - Other country may adopt the same scheme (e.g., Korea's CSI)
- Security should be everyone's concern in globalization of trade
 - Cross national boarder
 - All stake holders in the supply chain
 - Multi-agencies in a country

Cargo security is a global issue and should be everyone's concern

Issues in Air Cargo Security

- What is the role of government, trade associations, and all members of the supply chain ecosystem in security?
- Who is responsible/accountable?
 - Airlines responsible for safe operation of aircraft
 - Shippers responsible for the content
 - Ground handlers work with terminal operators and airlines
- Will SME lose out?
- Equity problem = who to bear the cost? Government, shippers or consumers?

Govn't should take the lead but all parties' responsibilities should be clearly identified

Issues in Air Cargo Security

- Need to established a set of standards for security measures
- Enhancing security = making better use of manifest information
- What security procedure and standards to follow?
 - TSA in US is setting standards for all airports and air cargo
 - Should the rest of the country follow?
- How can airports in the Asia-Pacific region exchange intelligence?
- How to protect (who is accountable) sensitive trade information?

Urgent need to set global standards, incl. information security

Issues in Air Cargo Security

- Timeframe for implementation
 - ASAP: the next attack may be any time
 - Time needed for government-industry consultation
 - Long enough for firms to react and implement new requirement
- Process must be sustainable, with regular updates/ renewals (e.g., accreditation)
- How to quantify benefits to national economy?
- Other benefits: reduce theft, etc.

Need to convince everyone that benefit of security outweighs cost and inconvenience

Some Suggestions

- Government should take the lead
 - In setting security standards
 - Coordinating between different agencies in security issues
 - Involve trade associations and industry players for the interest in national economy
 - Ensure level playing field for all firms
- Government still responsible for national security
- But Government alone cannot tackle all the issues.
Everyone in the supply chain should work with government (agencies) to share part of responsibility.

What is Happening Now?

TRADE ACT 2002: Rules on Inbound Air Cargo to USA

- Time frame in strawman proposal – 12 hrs in advance of foreign lading generally and 8 hrs in case of express courier shipments.
- Public Comments:
 - It was argued that these time frames would destroy JIT delivery systems.
 - It was recommended that the time frame be one hour prior to arrival in the USA.

What is Happening Now?

CBP response on July 23, 2003, effective October 21, 2002:

“ The time frames in the strawman proposal were put forth only for purposes of stimulating a dialogue.... information for inbound air cargo be electronically presented no later than the time of departure of the aircraft for the United States ... in the case of aircraft departing for the United States from any foreign port or place in North America, which includes locations in Mexico, Central America, South America (from north of the Equator only), the Caribbean, and Bermuda. For aircraft departing for the United States from any other foreign area, information for the inbound air cargo would be required to be electronically presented to CBP no later than 4 hours prior to the arrival of the aircraft at the first port of arrival in the United States.”

What is Happening Now?

- Carriers and other components of supply chain relieved that pre-departure information not required as in sea cargo
- Trade between other parts of the world – business as usual – largely unaffected by US’ efforts, but concern with security gradually increasing
- Increased security requirements on international trade may be blessing - currently, most of the bottlenecks in supply chain relate to information flows. The more stringent information requirements of the US, if applied globally, may lead to “tightening” of supply chains and lead to increased efficiency in the long run

What is Happening Now?

- Management of trade and shipping in a state of transition (flux)
 - once the US requirements are internalized and gradually adopted across the board (extended to other regions), supply chains will improve, and further trade and globalization will be facilitated
- Countries that are forward looking and forge ahead with administrative and technological changes that bring about security enhancements without compromising on efficiency will stand to gain as they will serve as global gateways to trade
- The future of global supply chain management – “quest towards secure and seamless interconnectedness”

End of Presentation
Thank you!