

# Emerging Trends in Asian trade

## -- Implications for transport infrastructure development

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28 June 2009

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- Factors of international freight transport mode choice



- Emerging trends in East Asia's trade



- Implications for maritime transport development (incl. ports)

# Factors of mode choice

- Weight-value ratio → shipping cost
- Shipping Time
- Distance
- Timeliness (or reliability)
- Others (i.e., port/airport quality, inland logistics, etc.)

# Weight-value ratio



## Case 1: A bottle of \$16 (ordinary taste)

Shipping cost:  $\left\{ \begin{array}{l} \text{Air: 50\% of the value of the goods} \\ \text{Sea: 25\%} \end{array} \right.$

“sea” → “air” mode: delivered cost increased by **25%** (~50%-25%)

## Case 2: A bottle of \$160 (premium taste)

Shipping cost:  $\left\{ \begin{array}{l} \text{Air: 5\% of the value of the goods} \\ \text{Sea: 2.5\%} \end{array} \right.$

“sea” → “air” mode: delivered cost increased by **only 2.5%**

- Shipping cost as % of the value of trade very important in choosing shipping mode
- Reductions in weight-value ratio → shift from sea to air shipping
- Changes in commodity composition of trade influence weight-value ratio

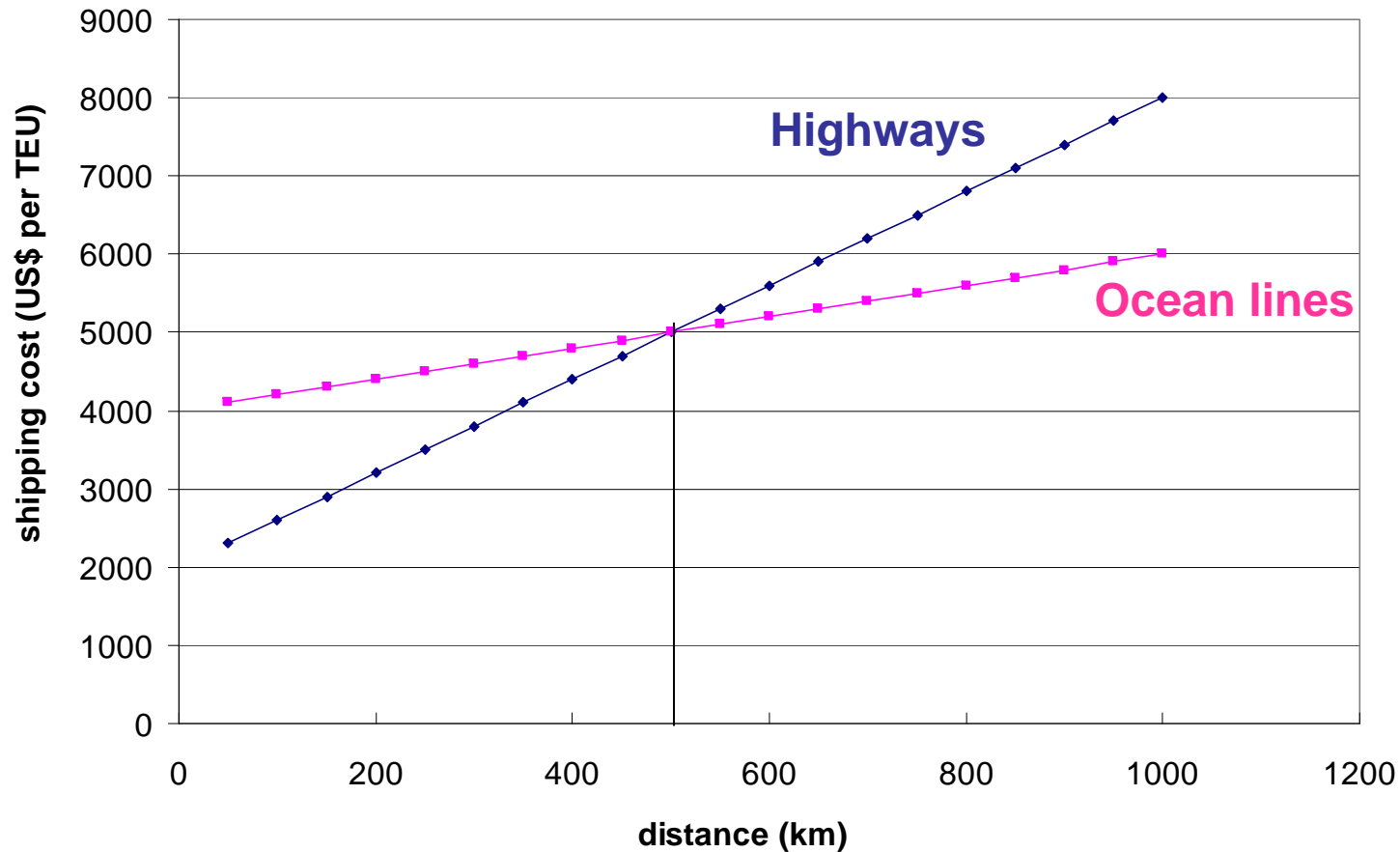
# Shipping Time (cost)

- Delivery speed as an important characteristic of transportation quality
- Time in transit doesn't matter much for bulk commodities and simple manufactures but it does to goods like fresh products and cut flowers
- Shipper is more willing to pay for more expensive air shipping if the number of days saved with airplanes will increase significantly

# Distance (geography of trade)

- Trading with neighboring or continental partners matters strongly as it enables the use of land-based transport modes (i.e., rail and road)
- Trading with distant partners also matters for the choice of ocean vs air shipping
- Shipping cost increases in distance. For example, doubling distance raises air shipping prices by 44% while only raising ocean shipping prices by 15% (Hummel 2009)
- The cost of distance is also the time cost

# E.g., shipping costs by mode in EU



**Within 500km, highway shipping is more competitive than ocean shipping**

# Timeliness

- *Timeliness means that the goods are delivered timely*
- It is more likely to be influenced by
  - distance or geography → shipping mode choice
  - infrastructure quality

## We need to examine emerging trends of Asia's trade in terms of

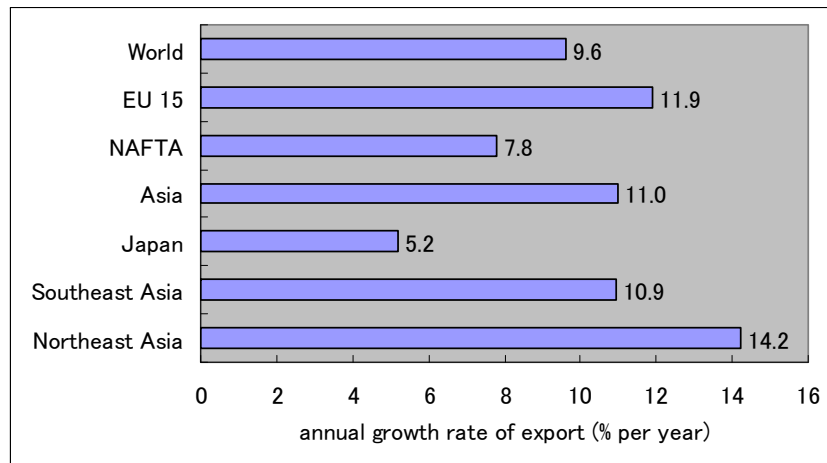
- Growth of trade
- Commodity composition
- Direction of trade (i.e., distance)



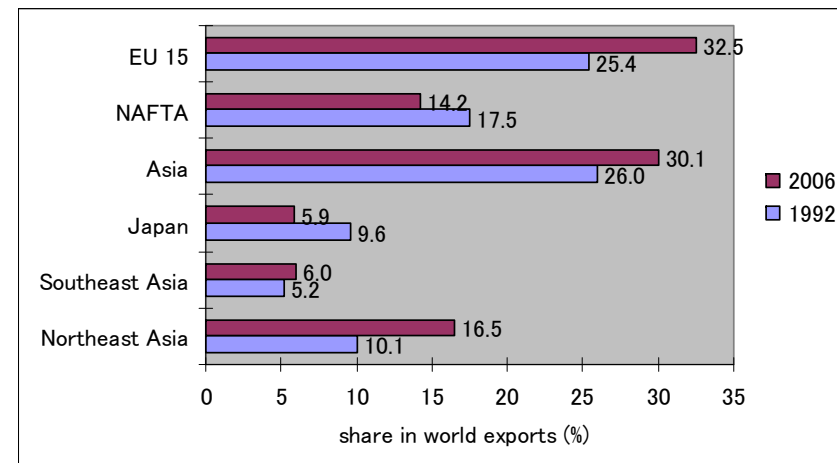
- To see how these changes will impact on national transport infra. development
- To draw policy implications for port development in Viet Nam

# Export performance of Asia 1992-2006

## Export growth by regions

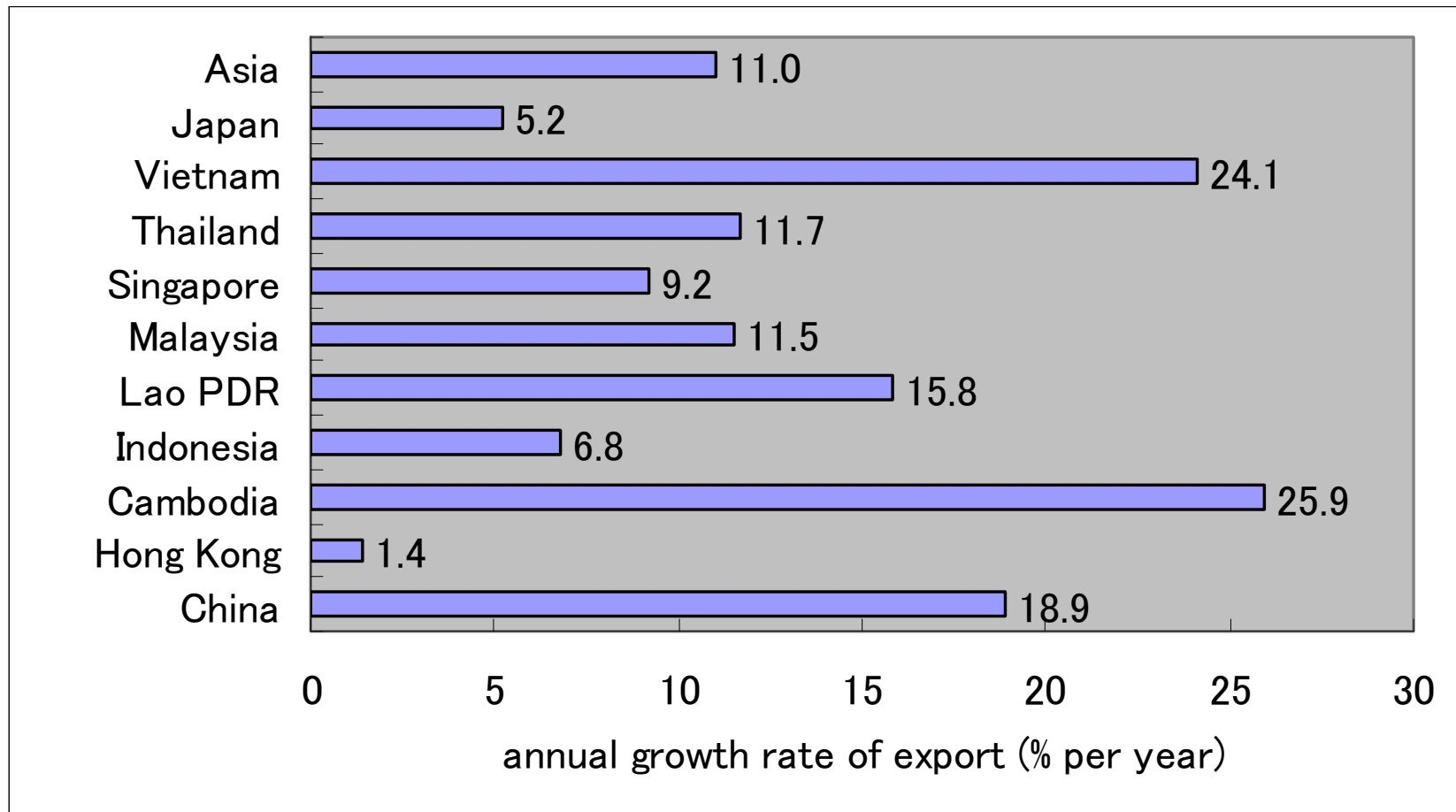


## Share in world exports



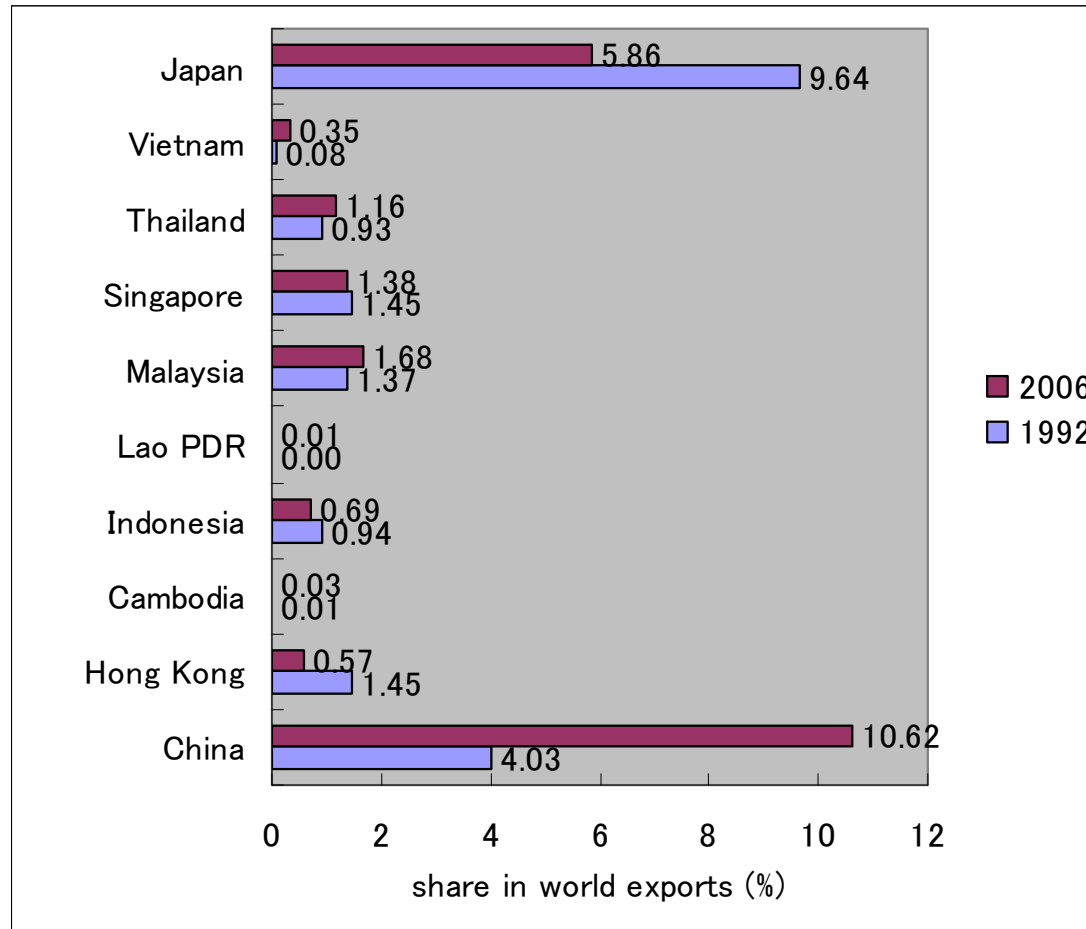
Source: author's calculation based on UNComtrade database

# Export growth during 1992-2006



Source: author's calculation based on UNComtrade database

# Share in world exports

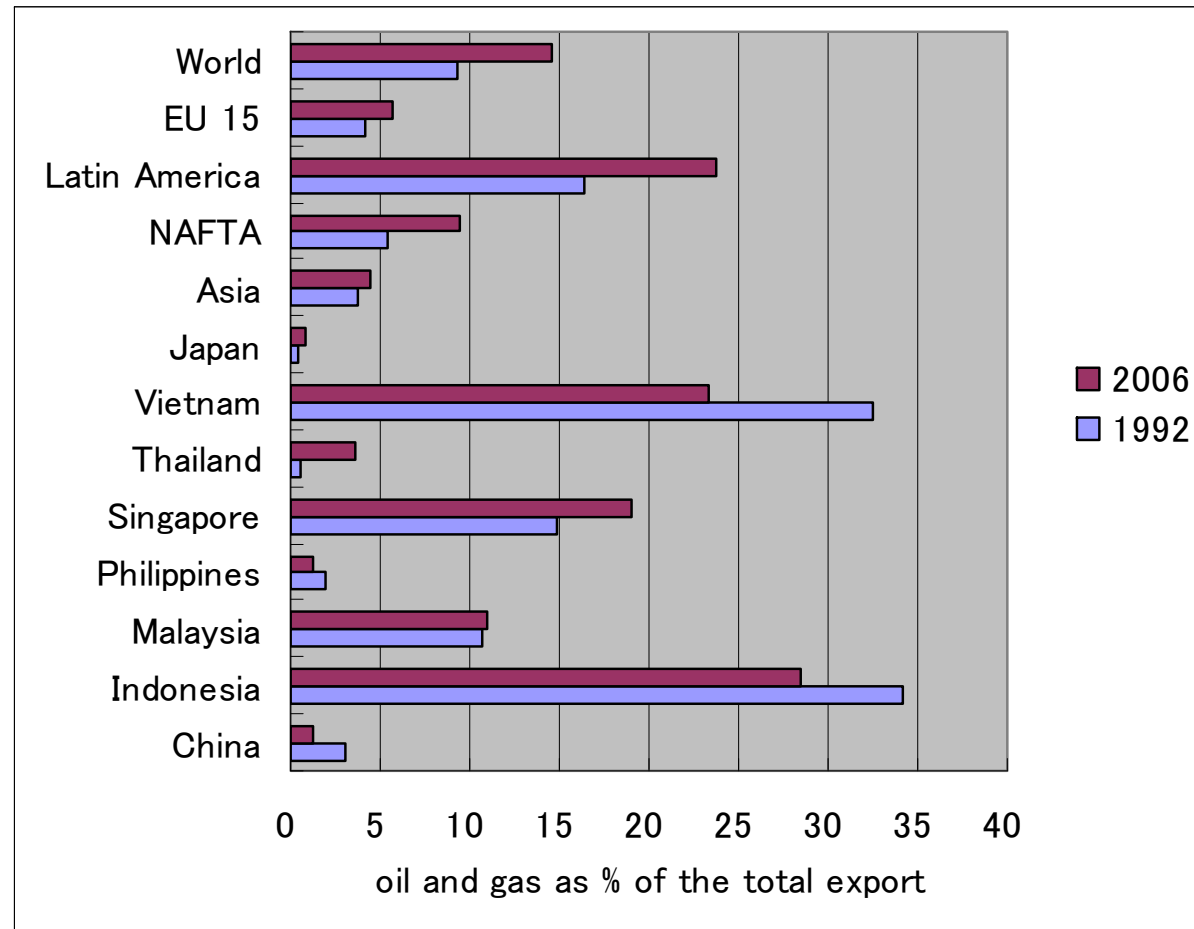


Source: author's calculation based on UNComtrade database

# Commodity composition

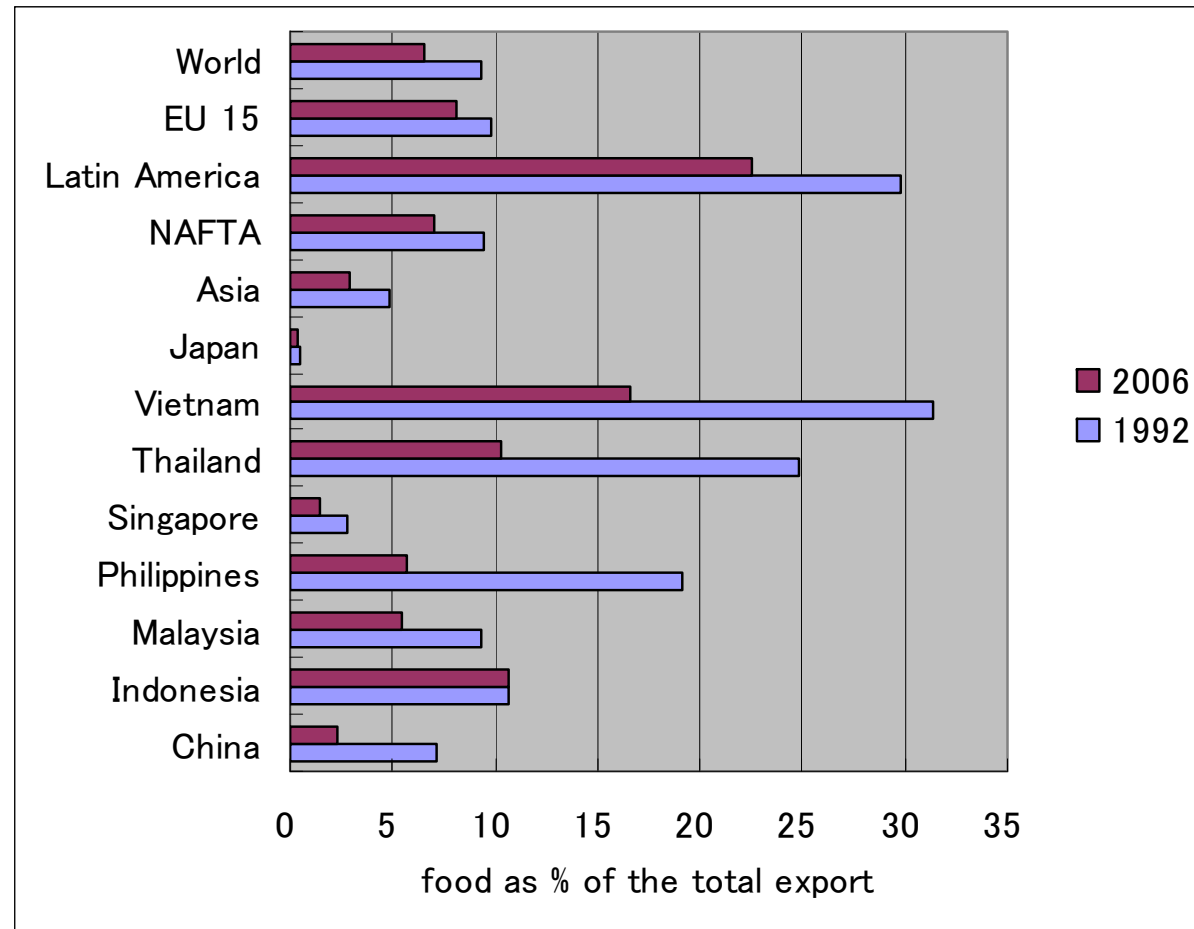
- Percentages of different product groups in the total exports, including:
  - Oil and gas
  - Food
  - Manufactures
  - Other primary products

# Changes in “Oil and gas” exports



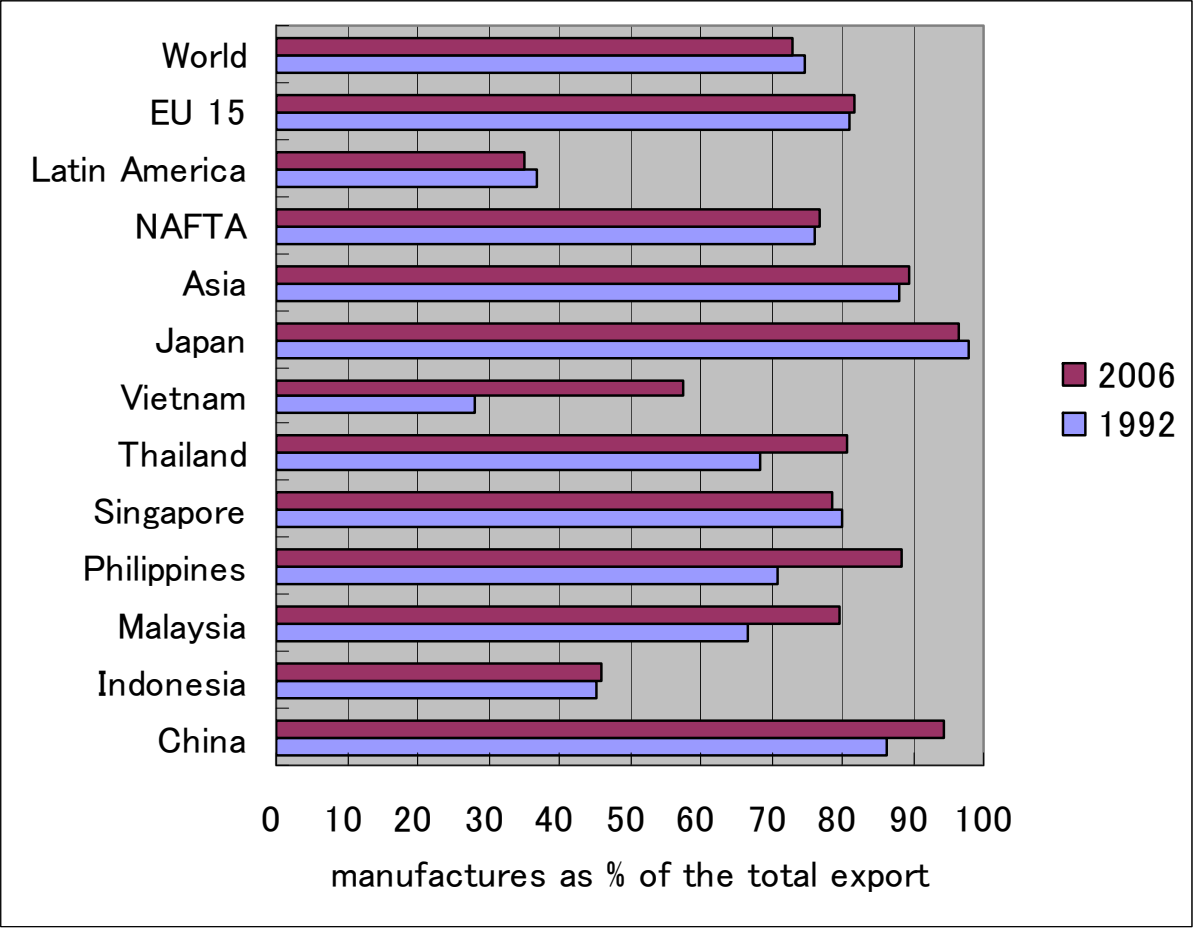
Source: author's calculation based on UNComtrade database

# Changes in “Food” exports



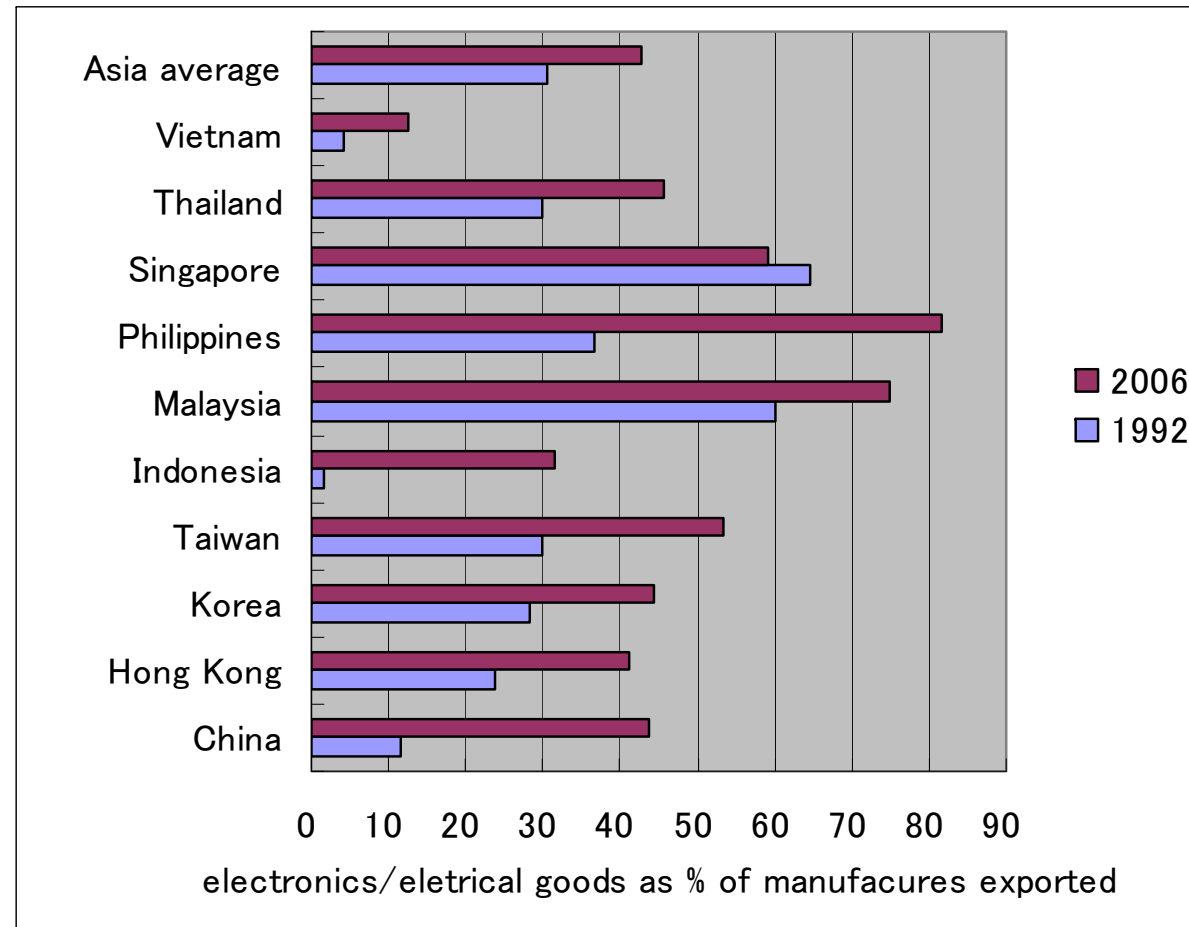
Source: author's calculation based on UNComtrade database

# Changes in “Manufactures” exports



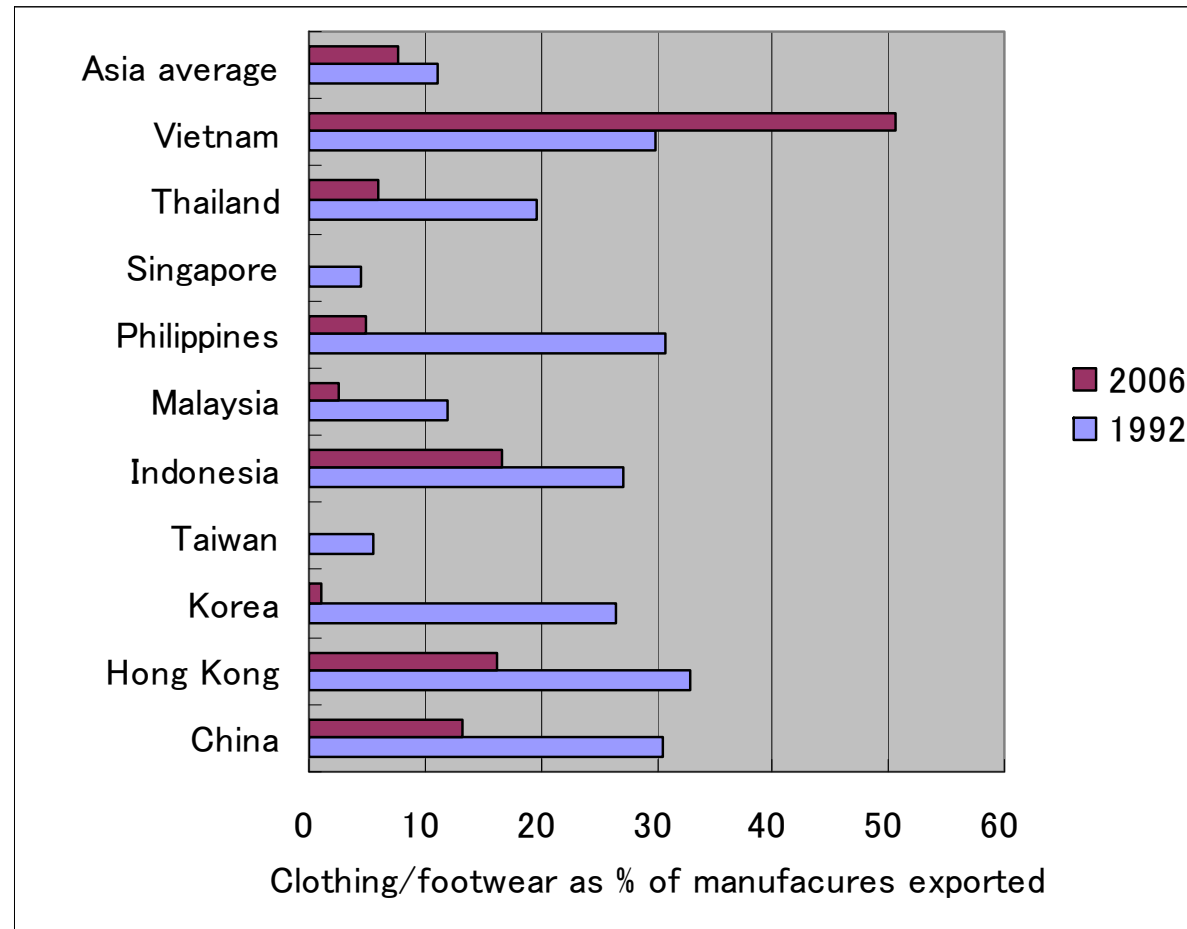
Source: author's calculation based on UNComtrade database

# Share of electronics/electrical goods in the total manufactures exports



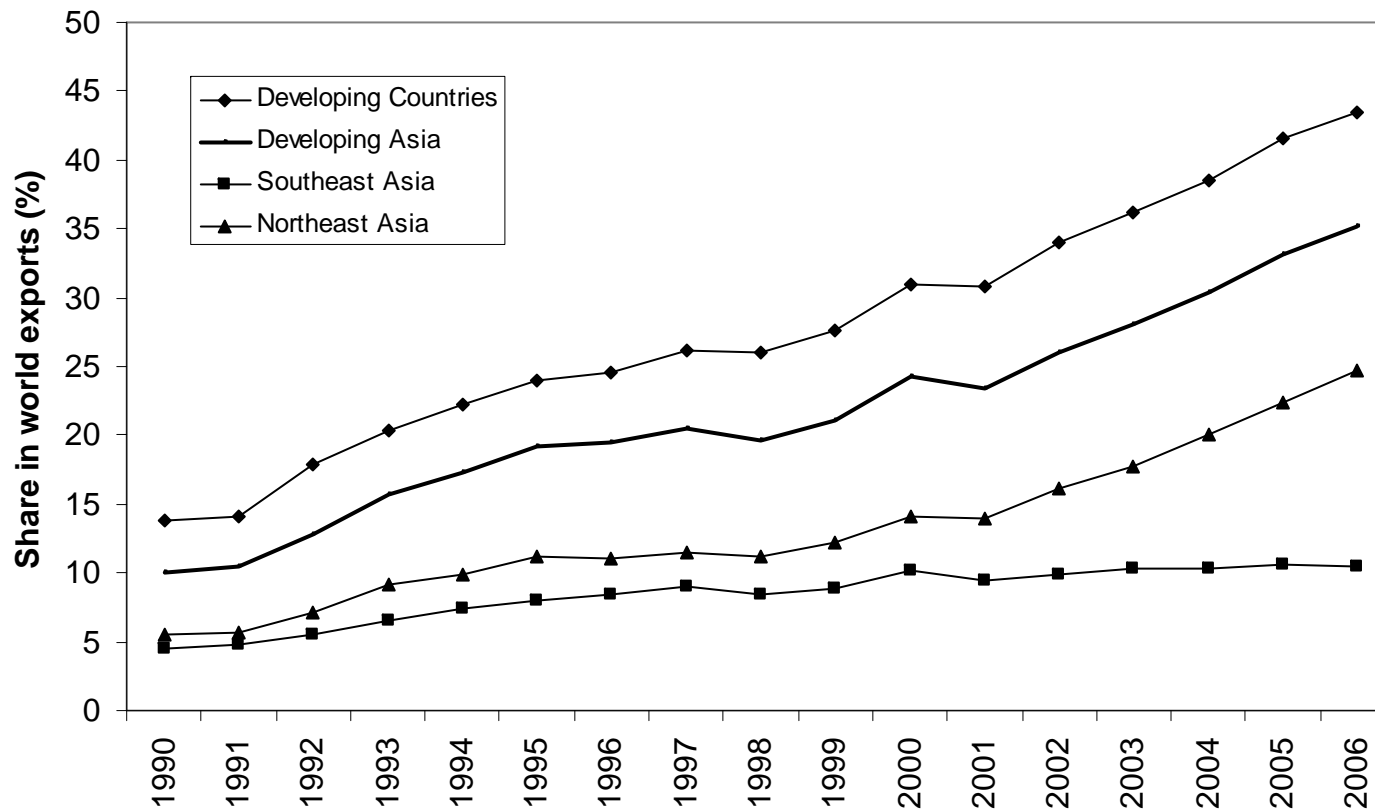
Source: author's calculation based on UNComtrade database

# Share of clothing/footwear in the total manufactures exports



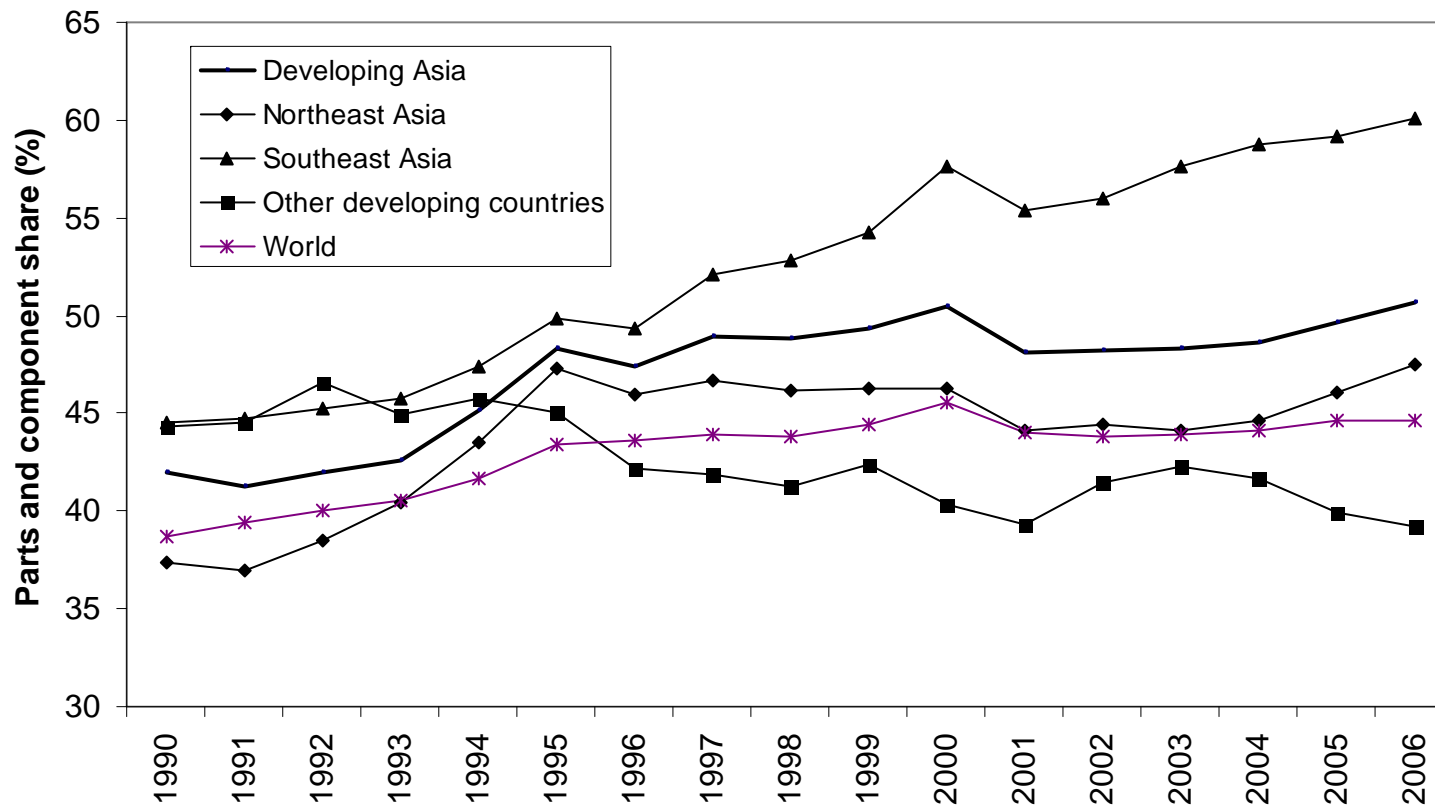
Source: author's calculation based on UNComtrade database

# Share in world exports of machinery parts and component exports



Source: author's calculation based on UNComtrade database

# Share of parts & components in total exports of machinery and transport equipment



Source: author's calculation based on UNComtrade database

# Direction of manufactures exports

	Year	EXPORTS TO ...				
		Northeast Asia	Southeast Asia	South Asia	NAFTA	EU 15
Northeast Asia	1992	31.2	7.7	1.1	28.2	17.7
	2006	29.9	7.5	1.5	26.7	18.4
Southeast Asia	1992	13.6	21.0	1.0	30.6	20.6
	2006	26.4	19.4	1.9	22.2	16.0
Indonesia	1992	15.4	17.0	1.4	22.7	23.8
	2006	14.7	22.7	1.6	22.3	19.9
Malaysia	1992	10.0	32.5	0.4	30.1	17.6
	2006	22.2	23.9	1.4	28.6	12.4
Philippines	1992	7.5	7.9	0.2	52.3	19.7
	2006	39.3	16.0	0.4	18.5	12.9
Singapore	1992	19.3	19.4	1.6	29.8	20.1
	2006	35.7	17.6	3.6	14.7	18.6
Thailand	1992	9.3	16.3	0.8	31.8	22.9
	2006	23.5	16.9	1.8	22.1	15.5
Viet Nam	1992	7.7	3.6	0.2	<b>0.7</b>	<b>59.0</b>
	2006	8.6	7.0	0.3	<b>32.0</b>	<b>32.0</b>
South Asia	1992	9.2	5.1	2.8	29.9	40.3
	2006	11.6	5.8	1.6	33.1	36.0

Source: author's calculation based on UNComtrade database

# Direction of manufactures imports

	Year	IMPORTS FROM ...				
		Northeast Asia	Southeast Asia	South Asia	NAFTA	EU 15
Northeast Asia	1992	37.1	6.0	0.8	13.7	13.5
	2006	48.8	10.0	0.9	9.2	11.2
Southeast Asia	1992	17.5	20.9	0.8	14.6	15.3
	2006	28.9	28.5	1.3	11.3	11.6
Indonesia	1992	17.1	26.6	0.5	9.7	19.6
	2006	23.6	45.1	1.8	3.3	9.4
Malaysia	1992	15.0	25.3	0.6	16.0	12.9
	2006	25.7	37.3	0.8	11.4	11.3
Philippines	1992	21.1	10.0	0.5	19.3	14.2
	2006	32.9	18.1	0.9	15.7	10.1
Singapore	1992	17.5	22.6	1.0	17.3	13.8
	2006	31.3	22.8	1.7	15.6	14.1
Thailand	1992	16.7	12.7	0.8	11.6	17.4
	2006	24.8	23.3	1.2	8.9	10.7
Viet Nam	1992	40.3	24.2	1.0	0.4	15.6
	2006	45.8	24.1	1.7	3.7	8.6
South Asia	1992	19.2	7.0	3.3	11.5	38.9
	2006	29.8	13.6	3.5	9.8	31.1

Source: author's calculation based on UNComtrade database

# Conclusions

- Asian trades growing rapidly, putting huge pressure on transport infrastructure, especially maritime and air transportation.
- Global trade as well as exports from Vietnam becoming lighter, higher value, and being transported to more distant markets. Air transport would be more desirable in the future due to these trends in trade. Thus, we must invest in improving sea transport infrastructure to meet the increasing export demand and to ensure that sea transport will become a faster and timely mode in the future (be competitive with air transport).
- Fragmented production networks as a norm in East Asia, and now happening in Southeast Asia. Thus, land transport connecting with neighboring countries and with international ports (air & sea) will become important.
- Trades in parts and components with ASEAN countries are important. Building highways and railways connecting to those countries will be necessary.
- China is likely to become a hub of productions networks in Asia (besides Japan), thus trading with China will be critical.

Thank you.

Any questions, please contact me  
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