

Economic Impact of Trade Costs¹

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February 13, 2007

(with thanks to David Hummels)

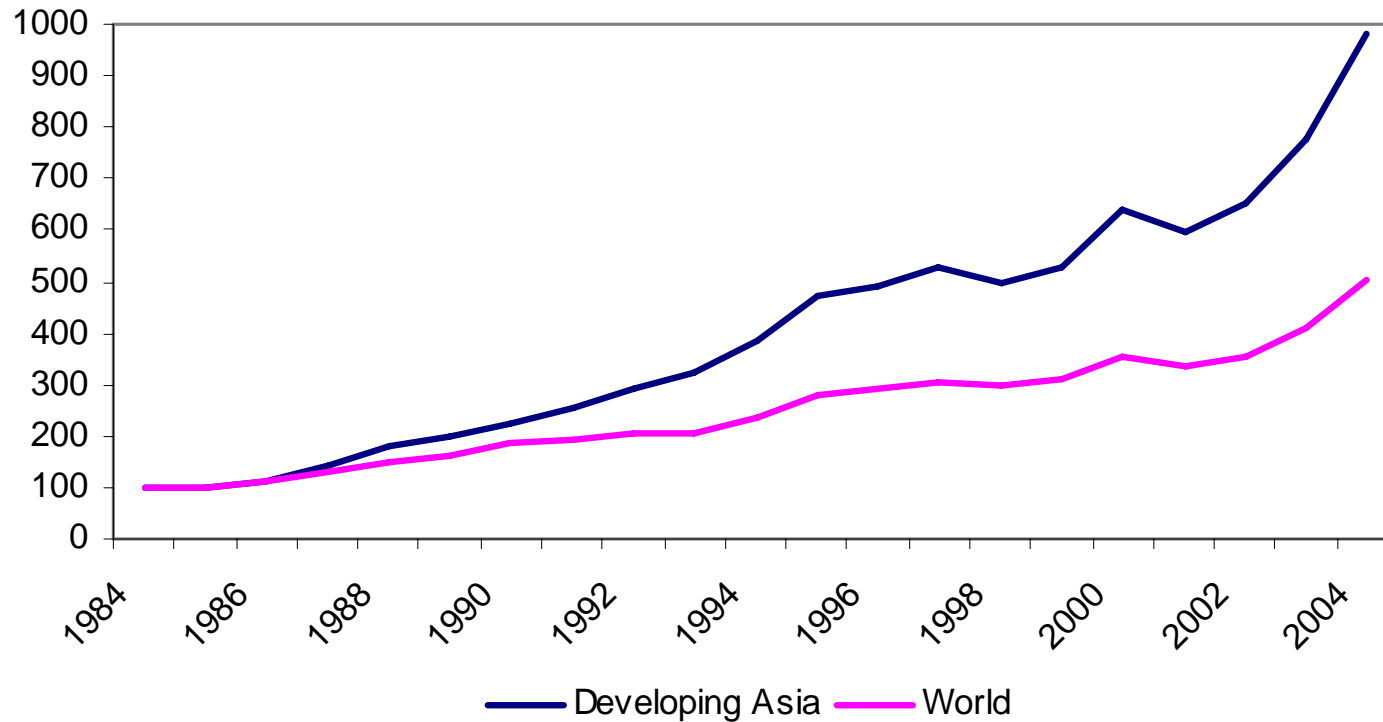
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Trade Costs Outline

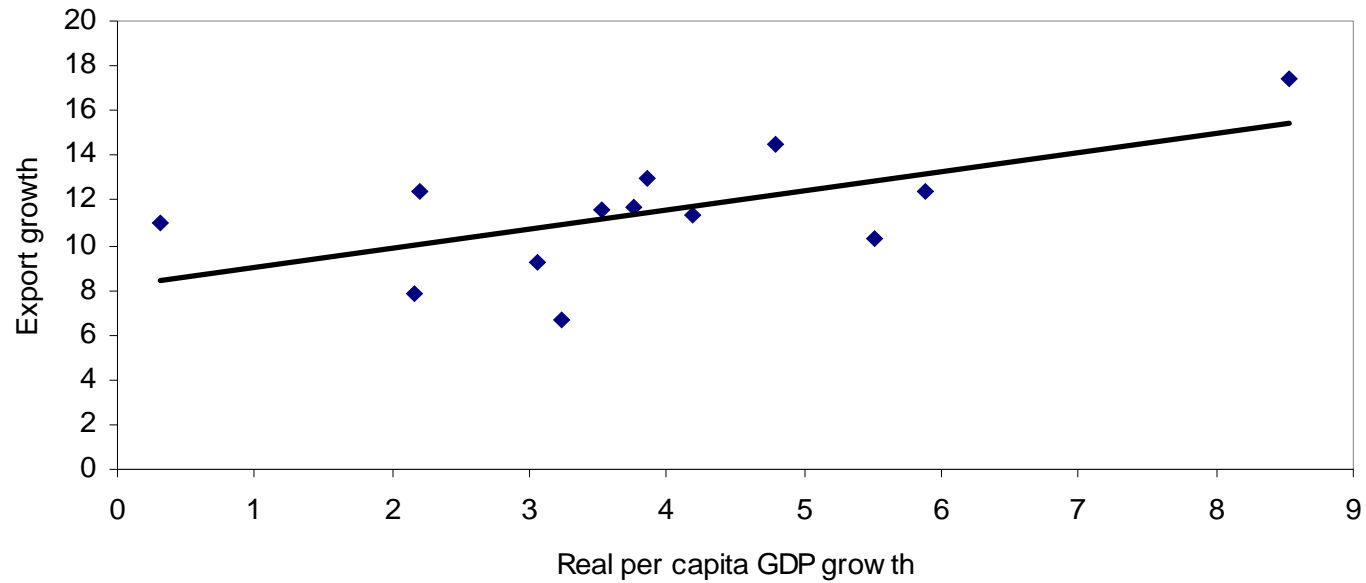
- Context (Asian trade)
- What are trade costs?
- How important are trade costs?
- Influencing trade costs
 - The role of infrastructure
 - Policy coherence and harmonization

Figure 2: Export Index (1984=100)



Source: IMF, Direction of Trade Statistics, August 2005.

Figure 3: Real per capita GDP vs. Export growth



Sources: IMF, World Economic Outlook, September 2005 database, available: www.imf.org; IMF, Direction of Trade Statistics, August 2005.

Table 3.1: Intra-regional trade share (%)

Region	1980	1985	1990	1995	2000	2001	2002	2003
East Asia-15, including Japan	34.7	40.2	45.6	55.5	54.0	55.4	57.3	54.0
Emerging Asia-14	21.6	29.1	36.4	43.7	43.4	45.6	47.5	44.1
NIEs-4	7.7	10.7	14.3	18.1	16.4	17.5	17.1	16.1
ASEAN-10	18.0	20.3	18.9	24.1	25.7	24.1	24.4	24.0
NAFTA	33.8	38.7	37.9	43.2	48.7	49.0	48.3	46.0
European Union-15	52.4	52.5	58.6	56.8	62.2	62.1	62.4	64.4

Source: Kawai, M. 2005. "East Asian economic regionalism: progress and challenges." *Journal of Asian Economics* 16:29-55.

Trade in Developing Asia

- More than 40% of developing Asia's exports are intraregional
- Most intraregional trade appears to be intra-industry as well (esp. electronics)
- Dual expansion of PRC and India expected to boost intraregional trade further

Trade Costs

- Trade costs are shaped by the nature of trade (requirements of firms) and by policy actions
- Obstfeld and Rogoff (2000): all the major puzzles of international macroeconomics hang on trade costs

What are trade costs?

- Traditional focus: tariffs, quotas
 - Obvious and explicit taxes on trade
 - Operate “at the border”
 - Amenable to policy action
- Tariffs are declining in importance
 - Percentage of total explicit trade costs for US
 - 1958 = 75%; 1970 = 50%; 2004 = 25%

A broader view of trade costs

- What inputs does a firm need to engage in international trade; what hurdles must it overcome?
- Physical transportation
 - Explicit cost
 - Timeliness
 - Variability (in arrival time, in condition of goods, possibility of disruptions)
- Information about foreign markets, opportunities
 - What do consumers want?
 - Identifying foreign market opportunities
 - Distribution, marketing

Trade Costs

- Broadly defined, trade costs include policy barriers (tariffs and nontariff barriers), transportation costs, local distribution costs, information costs, contract enforcement costs, and other border-related barriers such as language and currency conversion

Trade Costs

- Policy barriers get most attention
- Direct policy instruments are less important than other policies
- Details of trade costs matter to economic geography, market structure, and political economy

Trade Costs

- Trade costs are reflected not only in direct monetary outlays, but also in indirect expenses such as time and uncertainties
- US imports – one day in transit equivalent to 0.8% ad valorem tariff (20 days → 16% tariff equivalent)

Time costs?

- Air prices are many times higher than ocean prices for the same good, but
- air cargo is a rapidly growing share of trade
 - Ton-miles, growing at 8.4 % per year since 1975
 - Values:
 - US 1/3 of imports, 1/2 of exports outside N. America
 - Similar number for big Latin American countries
- Reason: ocean shipping is slow, and firms/consumers value timeliness

Importance of Time

- Each additional day spent in transport reduces the probability that the US will source from that country by 1-1.5%
- Relative declines over time in air shipping prices make time-savings less expensive → aggregate trade growth, growth in time-intensive forms of integration such as vertical specialization

Table 1. Representative trade costs of industrialized countries

Total Trade Costs	170
1. International Trade Costs	74
1.1 Border-related Trade Barriers	44
1.1.1 Policy	8
1.1.2 Language	7
1.1.3 Currency	14
1.1.4 Information cost	6
1.1.5 Security	3
1.2 Transportation Cost	21
1.2.1 Freight	11
1.2.2 Time	9
2. Retail and wholesale distribution costs	55

Source: Anderson and van Wincoop (2004)

Technology and Changes in Trade Costs

- The advent of fast transport (air shipping and faster ocean vessels) is equivalent to reducing tariffs on manufactured goods from 32% to 9% between 1950-1998 (Hummels 2001)
- Containerization in ocean transport changed the composition of freight rates, lowering the cost of distant relative to proximate travel (Hummels 1999)

Reducing Trade Costs

- Cost-cutting developments may do more to lower trade costs than reducing tariffs or quotas
- So may reductions in red tape and administrative fees or delays
- Trade facilitation in WTO Doha Round

Variation in Trade Costs

- Trade costs vary widely across countries
- On average, developing countries have significantly larger trade costs, by a factor of 2 or more in some important categories
- Trade costs also vary widely across product lines, by factors of as much as 10 or more

How big are transport costs?

- Explicit shipping charges
 - US: 85% of costs (transport + tariffs)
 - Latin America: 35-55% of costs
 - Europe? Asia?
- Highly variable across good, partners
 - Implies a large role in allocating trade
 - US: $COV = \text{stdev}(f)/\text{mean}(f) = 150\%$
 - Good with shipping cost one standard deviation above mean has costs that are 150% greater.
 - Within product $COV = 70\%$

Why is air cargo growing?

- Rapid declines in air shipping costs
- Trade in high quality goods
 - Timeliness is a complement input
 - Ad-valorem impact of air price is lower
- Consumer incomes and impatience (waiting is an inferior “good”)
- Growth in international production sharing (aka fragmentation, vertical specialization)
- Use of airplanes to hedge demand uncertainty

Other costs

- Variability and disruptions
- Information costs
- Others ?

Stylized facts

- Trade value falls rapidly over distance
- Trade is higher between adjacent countries, those sharing a common language, those with more migration
- Large home bias is observed in trade flows
 - Intra-Canadian Trade is 20+ times larger than Canada-US trade (McCallum AER 1995)
- Countries with “better” trade infrastructure trade more

Policy Factors (4 I's)

- Infrastructure
- Incentives
- Institutions
- Information

Thank you

