Infrastructure's Role in Reducing Trade Costs (Value of PPPs)

Douglas Brooks

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Outline

- Trade
- Trade Costs
- Benefits of Trade Facilitation
- Infrastructure's Role

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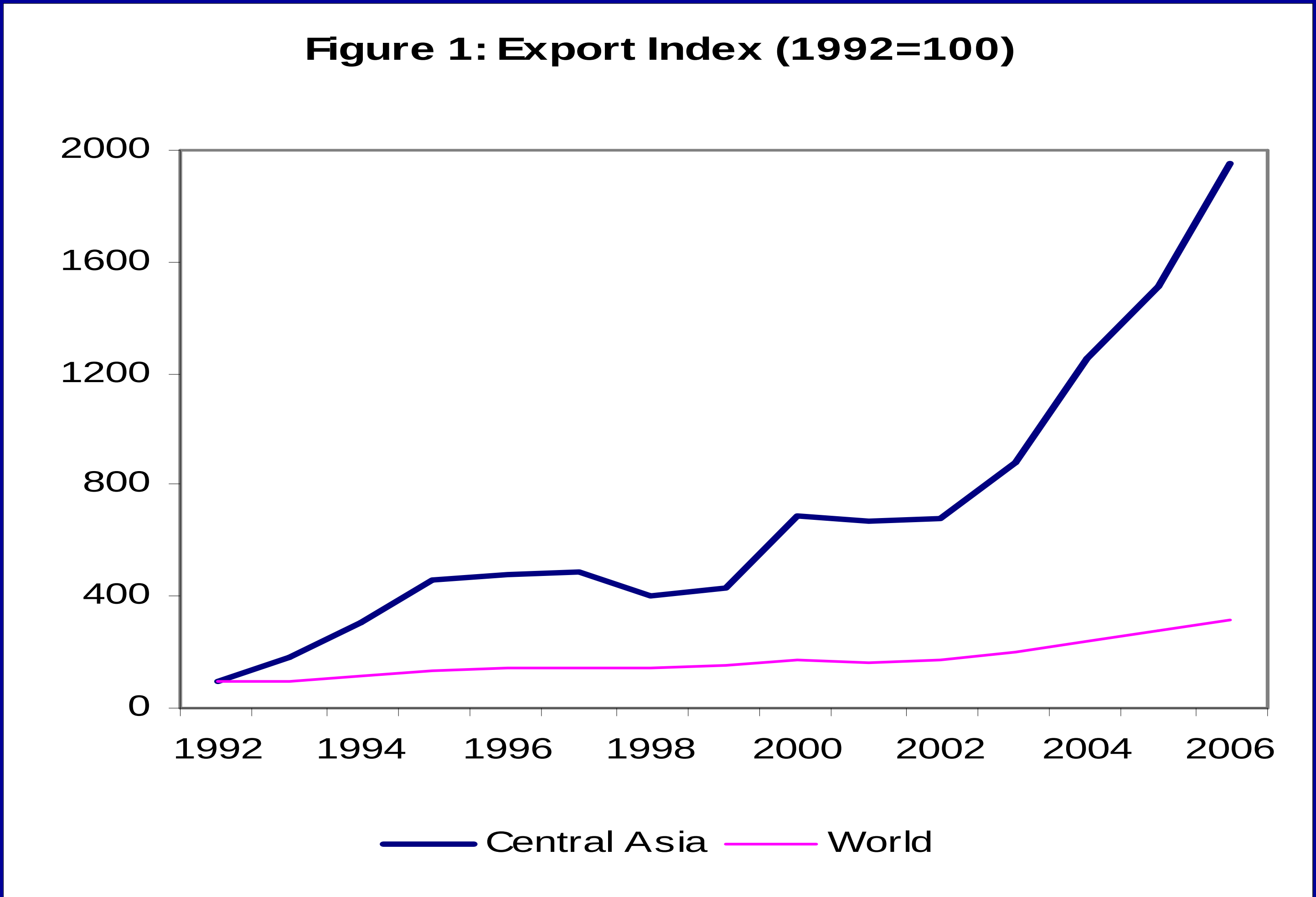

Source: IMF, Direction of Trade Statistics, February 2008

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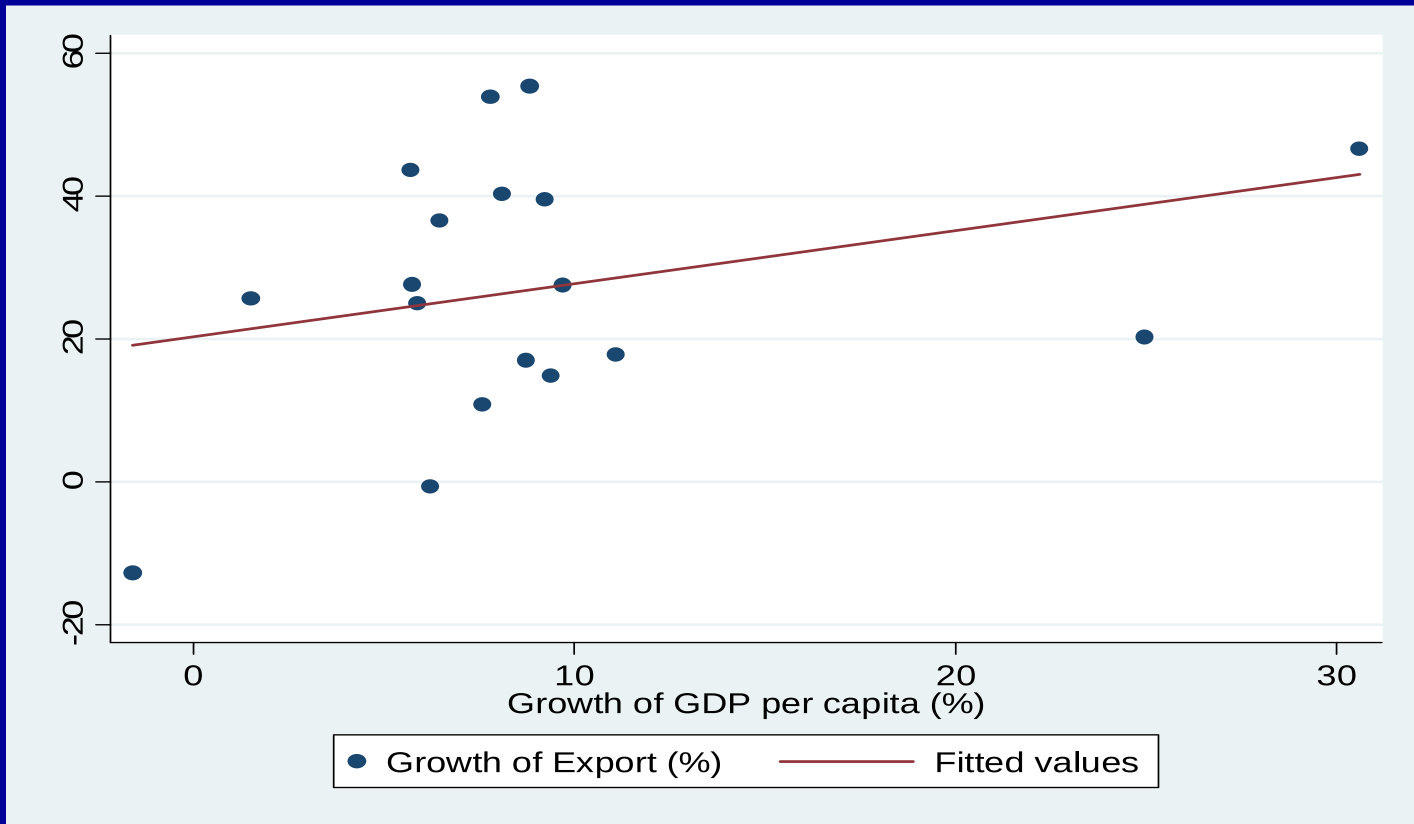
Figure 2: Real per Capita GDP vs. Export Growth



Sources: IMF, World Economic Outlook, 2007 Database

Infrastructure

- Large and existing (pre 1995) trade flows are responsible for most growth
  - But large number of new flows (primarily new destinations for existing products)
  - Size of median shipment is shrinking
- Infrastructure needs of large v small firms
  - Internal capacity for trade remediation
  - Ability to negotiate bulk discounts
  - Small flows today, large flows tomorrow?

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Trade Costs in Developing Asia (Hummels)

- 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)

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Trade Costs in Developing Asia (2)

- Each additional day spent in transport reduces the probability that the US will source from that country by 1-1.5%
- Containerization in ocean transport changed the composition of freight rates, lowering the cost of distant relative to proximate travel

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Trade Costs in Developing Asia (3)

- 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
- 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

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Trade Costs in Developing Asia (4)

- Policy barriers get most attention
- But direct policy instruments (eg, tariffs) are less important than other policies, such as infrastructure
- Infrastructure-related trade costs matter to economic geography, market structure, political economy, and development strategy

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Variations 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

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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
  - Identifying foreign market opportunities
  - Distribution, marketing
  - Institutions

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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, ½ of exports outside N. America
    - Similar number for big Latin American countries
- Reason: ocean shipping is slow, and firms/consumers value timeliness

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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

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Economic Impacts of Trade Facilitation

- Direct benefits to
  - Consumer
  - Producer
  - Government
- Indirect effects to the economy
  - Trade
  - Welfare
  - Poverty

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Direct Benefits

Consumers

- Lower consumer prices

Producers

- More predictable trading environment
- Simpler commercial framework for trade
- Enhanced competitiveness

Governments

- More efficient deployment of resources
- Higher revenue

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Direct effects of Trade Facilitation

- Lower transaction costs
- Reduce delays in the clearance of goods
- Shrink the wedge between domestic and international prices
- Reduce the opportunities for administrative corruption and rent-seeking

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Empirical Evidence

- Japan
  – TF measures cut average lead time from 53 hours in 1991 to 26 hours in 2001 for air cargo, and 168 hours to 74 hours for sea cargo over the same period.
- Singapore
  – TradeNet system has helped reduce the documentation cost borne by government and businesses by more than half.

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Infrastructure and Trade Costs

- By reducing commercial distribution margins, infrastructure can narrow the gap between producer and purchaser prices
- Expanded scope for domestic absorption and for supply to export markets

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Infrastructure and Trade Costs

- Lower marginal costs → larger minimum efficient scale of production → economies of scale
- A country more deeply involved in global production networks will benefit more than one that is not

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Conclusions

- Aggregate growth matters, but
- Changes in composition point us toward changes in the kinds of infrastructure needed
  - -Light goods
  - Air transport
  - Demand for certainty, timeliness
  - Needs of small firms, new trade flows
- Private sector knows best what it needs, has stake in ensuring infrastructure services

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Thank you.

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