Vertical & Horizontal Integration in South Asia

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Outline

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Introduction

- Intra-regional trade in South Asia remains very weak – and potential is bleak given the prognosis of standard trade theory
- Inter-industry trade based on comparative advantages suggests that trade within South Asia is likely to be perpetually low given similarities in comparative advantages
- New trade theory - Krugman 1980 and Krugman 1991 – relaxed traditional assumptions of constant returns to scale and homogenous product
- Trade in similar but differentiated products eg. Automobile trade in Europe
- Intra-industry trade provides scope for trade despite similarity in comparative advantages
- Objectives – to explore the extent of IIT in South Asia and to assess the scope for enhancing trade by invigorating the trade-investment nexus drawing on the lessons from existing sectors (garments and automobiles) and lessons from other regions (ASEAN).

Literature

- Three types of intra-industry trade identified in the literature
- Horizontal Intra-Industry Trade (HIIT) refers to the trade of different varieties of a particular good within the same production stage and in the same quality and price range.
- Vertical Intra-industry trade is used to describe two forms of trade. 1) Trade in vertically differentiated products in terms of quality and price (where one country exports a lower quality product and the other exports the higher quality product) 2) Vertical fragmentation and specialisation resulting in trade of the same product at different stages of production.
- In this study we focus on the second form of VIIT – production fragmentation.

Production Fragmentation

- Product fragmentation refers to cross border dispersion of component production/assembly
- Each country specialises in a particular stage of the production sequence and trade the value added components to result in a final product
- Product fragmentation first started in the electronics and the garment industries and has subsequently spread to many other industries (Sharpton, 1975; Feenstra 1998)
- The process can now be seen in industries such as automobiles, electrical machinery, telecommunications and television production
- Athukorala (2006) identifies rapid advancements in production technology, technological innovations in communication and transportation, and liberalization policy reforms in investment and trade in both home and host countries as the three mutually reinforcing developments over the last few decades which have expanded international product fragmentation.

Data and Methodology

- Whilst ASEAN has been quick to take advantage of product fragmentation, South Asia has not been able to do so. The first step is to assess the extent of IIT and product fragmentation in the region.
- Construction of a Grubel-Lloyd Index for South Asian industrial trade
- The GL index is an indicator of the intensity of intra-industry trade and gives the ratio of intra-industry trade to total trade

$$IIT_{i,r} = 1 - \left(\frac{\left| Export_{i,r} - import_{i,r} \right|}{Export_{i,r} + import_{i,r}} \right)$$

- Where *i* is the product group and *r* is the trading partner. The index value will be, $0 \leq IIT_{i,r} \leq 1$. While the index value of 1 shows pure intra-trade, the value of 0 depicts only inter-industry trade and no intra-industry trade.

Data and Methodology Continued

- Data is extracted from the Standard International Trade Classification, Revision 3 (SITC, Rev 3) data from the United Nations Commodity Trade Statistics Database (UNcomtrade).
- Data for the year 2005, the most recent year for which data are available for all reporting countries is used in the study. The analyses cover Bangladesh, India, Nepal, Pakistan and Sri Lanka.
- Afghanistan, Bhutan and the Maldives were excluded due to non-availability of data. Given the limited industrial trade integration of these three countries, their omission will not have a significant impact on the results.
- SITC 2 digit level for chapters 5 to 8 was used which covers all industrial trade for the five countries in question.
- The Grubel-Lloyd index was then calculated between each bilateral pair of countries – making a total of ten bilateral pairs, covering the entirety of intra-regional trade between these five South Asian countries.

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ex was calculated along with a trade weighted G-L index
was determined by the significance of trade in that
. Example trade between India and Sri Lanka in chapter x

India + SL imports (x) from India

x 100%

ween Sri Lanka and India

s multiplied by the weight to map the extent of intra-
South Asia