FDI and Modes of Intra-Regional Trade in East Asia


K.C. Fung, UC, Santa Cruz
Hitomi Iizaka, Aoyama Gakuin University
Alan Siu, University of Hong Kong
FDI and Modes of Intra-Regional Trade

1. Introduction and Motivation
2. Empirical Results
3. Conclusions and Implications
FDI and Modes of Intra-Regional Trade

1. Introduction and Motivation

First, Many prominent researchers highlighted the importance of production networks in East Asia (Athukorala, Wakasugi, Kimura, and others)

The collapse of trade volume during the global financial crisis suggests that the pattern of trade in East Asia may need further inquiries
FDI and Modes of Intra-Regional Trade

Perhaps economies may seek to diversify their concentration on trade in parts and components.

Second, theoretically, there may be product cycles (e.g. work by Antras) associated with production sharing.

One of the stages involve significant involvement of FDI to facilitate trade in parts and components.
Empirically, does FDI play an independent role in facilitating trade in parts and components? Is East Asia at Stage II or III according to Antras’ taxonomy?

Empirically, does FDI play a more or less important role in different modes of trade?

Are there differences among different sources of FDI: Japanese, U.S. or Korean?
Third, there is some evidence that FDI inflows into an East Asian economy is positively correlated with FDI flowing into another East Asian economy (e.g. Eichengreen, Chantasasawat et al).

One potential explanation is that FDI is needed in different economies to facilitate trade in parts and components.

Empirically, can we find support for this interpretation?
2. Empirical Issues and Results

- Measurement issues
- Vertical specialization measures
- Trade Data; input-output tables; we only use trade data in this paper
- Identification of intermediate goods, parts and components
FDI and Modes of Intra-Regional Trade

- To identify intermediate goods, we use UN BEC.
- Trade in parts and components, trade in semi-finished goods, trade in capital goods, trade in consumption goods, trade in primary goods.
- Mapping this into the UN Comtrade data gives us the different modes of Trade.
- Advantages and drawbacks.
Imports of parts and components accounted for 27.7% of East Asian imports from the world in 2007.

Export share for East Asia in 2007 was 31.2%.

Intra-East Asian export share of parts and components was 58.6% in 2007.

Intra-East Asian import share of parts and components was 77.5% in 2007.
FDI and Modes of Intra-regional trade

Econometrically, we use the following equations:

$$\text{FDI}_I = a + b_1 \text{DIFPGDP}_{IJ} + b_2 \text{DIFWAGE}_{IJ} + b_3 \text{DUTY}_I + b_4 \text{CTAX}_I + b_5 \text{CORRUPT}_I + b_6 \text{GSTAB}_I + b_7 \text{LAW}_I + b_8 \text{TEL}_I$$

$$\text{T}_{IJ} = c + p_1 \text{GDP}_I + p_2 \text{GDP}_J + p_3 \text{DIST}_{IJ} + p_4 \text{DMB}_{IJ} + p_5 \text{FDIHAT}_I$$
FDI and Modes of Intra-regional trade

- Data for 1998-2006 for Japan, China, Hong Kong, Singapore, South Korea, Thailand, Malaysia, Philippines and Indonesia
- Run for imports and exports of parts and components, semi-finished goods, capital goods, consumption goods and primary goods
- Gravity model for the bilateral trade equation, augmented by instrumented FDI stock
FDI and Modes of Intra-regional trade

- Also run for different sources of FDI: Japanese, U.S. and Korean
- Empirical results:
- First, FDI in general exerts an exogenous influence on trade of all modes
- The FDI impact is particularly strong for trade in capital goods and trade in parts and components
For both imports and exports, Japanese FDI is much more important in facilitating trade in capital goods and trade in parts and components as compared with FDI from the U.S. or from Korea.

Distance has a particularly strong negative effects on bilateral trade in parts and components.
FDI and Modes of Intra-regional trade

For Japan, the impact of FDI on bilateral trade of capital goods is particularly strong.

This may suggest that Japan-centered production network in East Asia may be very much tied to trade in machinery and equipment.

For all the production networks, they are “anchored” by multinationals.
FDI and Modes of Intra-regional trade

The significant impact of Japanese FDI may also be related to its strong machinery and capital goods sector.

May also be related to *keiretsu*-related suppliers that follow the multinationals.

GDPs are uniformly significant and positive.

So far, it seems that the impact of Korean FDI on bilateral East Asian trade is closer to the case of the U.S.
3. Conclusions and Implications

We measure and classify East Asian trade by modes: trade in parts and components, semi-finished goods, capital goods, consumption goods, primary goods.

We attempt to determine if FDI and sources of FDI play an independent role in affecting bilateral Asian trade.
FDI and Modes of Intra-regional trade

- Three sources of FDI are examined and compared: Japanese, U.S. and Korean
- FDI facilitates trade in East Asia, particularly trade in capital goods and trade in parts and components
- Japanese FDI has a stronger influence on their production network compared to FDI from U.S. and Korea
**FDI and Modes of Intra-regional trade**

- East Asia may be at Stage II of the outsourcing product cycle according to Antras’ taxonomy.
- For economies which may want to be more integrated into the production network, FDI-friendly policies are also important.
- May include institutional-related policies.
- Decline in the final demand in the U.S. and in Europe may disrupt the production network.
FDI and Modes of Intra-regional trade

- Future increases in fuel and shipping costs may also disrupt the supply chains.
- To avoid distance-related and consumption-related disruptions, it may be better to diversify and focus a bit more on Asian-centered production networks.