ADBI/RSIS CONFERENCE

INTEGRATING DOMESTIC INDUSTRIES WITH GLOBAL PRODUCTION NETWORKS AND SUPPLY CHAINS

S. RAJARATNAM SCHOOL
OF INTERNATIONAL STUDIES
A Graduate School of Nanyang Technological University

INTEGRATING DOMESTIC INDUSTRIES WITH GLOBAL PRODUCTION NETWORKS AND SUPPLY CHAINS

Report of a conference jointly organised by the Asian Development Bank Institute and the Centre for Multilateralism Studies, S. Rajaratnam School of International Studies

CONTENTS

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Theresa Robles, Pradumna B. Rana and Joann Saw

This report summarises the proceedings of the conference as interpreted by the assigned rapporteurs and editors of the Centre for Multilateralism Studies, RSIS. Participants neither reviewed nor approved this report.

OPENING REMARKS

Joseph Liow observed that the way goods were produced and traded had undergone a significant change since the early 1990s. Previously, goods were produced in their entirety in one country. Today, however, the emergence of more sophisticated and complex types of production networks have led to the transhipment of parts and components, and thus trade, across boundaries. Indeed, newer theories of trade explained the fragmentation of the production process.

These developments have had a significant impact on the trade policies of countries. Participation in the newer type of network and supply chains is associated with higher research and development (R&D) expenditure, technological improvement and overall economic efficiency. With the increasing presence of such networks, Liow stressed the need for Asian countries to design policies which would link their domestic industries to global and regional networks and supply chains.

Yuqing Xing noted that traditionally, developing countries would attempt to build their own domestic industries. Now, however, the rise of global production networks and supply chains had allowed emerging economies to be part of a global network based on their respective comparative advantage. In other words, developing countries need not channel scarce resources just to build an entire industry in particular sectors.

Xing added that industrial production networks have fundamentally altered the pattern of trade, leading to changes in bilateral trade balances and exchange rates. In this regard, there is a need to rethink economic development and industrial policy. Specifically, Xing expressed hope that the conference participants would discuss ideas and share experiences that would be useful for South Asia, as the region has yet to be closely integrated into existing global and regional supply chains.

SESSION I

GLOBAL PRODUCTION NETWORKS AND SUPPLY CHAINS: BASIC CONCEPTS AND ASIAN EXPERIENCES

Global Value Chain and Industrial Upgrading

Guoyong Liang highlighted the link between the global value chain and industrial upgrading. In general, the global value chain helps build in-house productive capacity for developing countries. It can help to enhance exports, generate employment, upgrade technology and contribute socially to the host country. However, challenges of being part of the global value chain include social and environmental costs to the host country. The host country may also find itself unable to move beyond its initial position at the lower part of the chain. Regardless, there is a need to pursue a development policy at the industrial level.

Liang identified the driving forces of global value chain expansion as technological factors, institutional drivers and industrial context and added that companies can approach offshoring in two ways—through foreign direct investment (FDI) or through outsourcing. He presented the cases of three industries, namely apparel, automotive and electronics. The role of FDI in expanding the capacity of domestic firms is notable in the apparel and automotive industries, while technological upgrading is a fundamental force of product innovation in the electronics sector. Liang said that such upgrading at the country level translates to restructuring at the regional level. In this sense, a process of industrial progress occurs due to the impact of both FDI and trade.

Concluding his presentation, Liang raised several issues for future consideration. These included questions on assessing the process of industrial progress, balancing the need for FDI with domestic development, as well as the appropriate policies for implementation.

Engaging Small and Medium Enterprises in Production Networks: Firm-level Analysis of Five ASEAN Countries

Noting that there was an information gap on small and medium enterprises (SMEs) in the relevant literature, **Ganeshan Wignaraja** presented his findings from his study on the role of SMEs in production networks in five Association of Southeast Asian Nations (ASEAN) member countries, namely Indonesia, Malaysia, the Philippines, Thailand and Vietnam. He aimed to address three questions. First, how much do SMEs engage in production networks? Second, what enterprise-level and policy factors influence SME participation in production networks? Third, what implications can be drawn for SME support?

From his study, Wignaraja found that although large firms dominate production networks engagement, SMEs have modestly increased their participation over time. SME participation in production networks is linked to firm-specific factors. Firm size is one factor as larger firms (50–100 staff) are more likely to participate. Other factors include foreign ownership,

SESSION I

investment in technological capabilities, skills of employees, access to credit, as well as a supportive business environment. At the policy level, Wignaraja identified several obstacles that pose a challenge to the participation of SMEs in the production networks, such as a trust deficit, poor transport infrastructure and high electricity costs. Another finding from Wignaraja's survey was that large firms tend to utilise free trade agreements (FTAs) more than SMEs. In this regard, integrated business support for SMEs to improve awareness and use FTAs is essential.

Open Discussion

Participants noted that while Liang was very positive in his assessment of integrating into the global value chain, there could also be some negative effects from such a development. For example, it was perceived that brand owners in the more developed countries have the power to ensure that they get most of the benefits, and the value captured by the emerging economies remains low. However, it was agreed that while a cross-country comparison may reflect badly for emerging economies, a huge improvement may emerge when one compares against the income from factory and rural work. In this regard, entry into the global value chain is a crucial starting point to enhance local productive capacity.

Participants also debated on the situation of SMEs in landlocked countries. As these countries have no direct access to a sea port, transport costs would be very high. It was conceded that firms in these countries would need to have a supply development scheme, where the large companies can outsource their production. However, incentives would have to be provided to encourage the large companies to adopt this system. Furthermore, the business environment must be stable for such incentives to work.

SESSION II

GLOBAL PRODUCTION NETWORKS, SUPPLY CHAINS AND REGIONAL INTEGRATION

Global Production Networks, Supply Chains and Regional Integration

Pradumna B. Rana stressed the need for South Asian countries to implement a second round of "Look East" policies (LEP2). The first round of such policies was launched in the early 1990s as part of their economic reform programmes, leading to significant trade liberalisation and industrial deregulation, as well as several FTAs between South Asian and East Asian countries. Rana noted that the current context, in which production is fragmented, calls for South Asian countries to further improve their links with East Asia. The LEP2 would not only benefit the greater Asian region, but also reinvigorate South Asian growth and integration.

According to Rana, the LEP2 should comprise five policies. First, South Asian countries should complete the economic reform programme started in the 1990s. Second, South Asian countries should improve information and communications technology (ICT) systems to coordinate supply chains. Third, logistics costs should be reduced, as it is a key determinant of the location of production blocks. Fourth, physical connectivity between South and East Asia should be enhanced. He mentioned that road connectivity between China, Southeast Asia and South Asia should be established together with strengthening of air transportation. Fifth, India, being the largest country in South Asia, should step up its role in fostering regional cooperation efforts with East Asia.

Production Networks, Logistics and Connectivity: India's Experiences

Prabir De started off his presentation by identifying three essentials of connectivity. First, connectivity is essential for the physical movement of goods and services. Second, it generates large-scale employment. Third, it is unique in terms of the generation of labour and capital. Improving connectivity reduces trade costs and thus increase trade flows. When improved connectivity combines with trade facilitation, net economic welfare will increase.

According to De, three major challenges hinder trade exchange between South Asian and Southeast Asian countries. First, a lack of connectivity is holding back South Asian and Southeast Asian integration. Rising trade volume has not been supported by physical connectivity, and as a result, the high trade potential remains unrealised. Second, there is a growing ICT gap between South Asian and Southeast Asian countries in dealing trade. Third, while Southeast Asia is moving towards a seamless cross-border movement of goods, this has yet to happen in South Asia. South Asian countries have yet to possess regional transit capabilities, which would help in generating cross-border production networks.

De noted that ASEAN is India's major trade partner, but poor links in land and ocean connectivity remain. Other key impediments to bilateral trade between ASEAN and India

SESSION II

include a lack of trade facilitation, unfavourable currency in border trade, high non-physical barriers, inadequate infrastructure and restrictive visa requirements. In the area of connectivity, De highlighted several projects that India has undertaken to improve its national and regional connectivity. These projects come with their own set of challenges, however, such as funding and coordination issues. Regardless, De predicted that trade between Southeast Asia and South Asia, particularly India, is likely to grow rapidly, and called for an integrated action plan—involving South Asia, Southeast Asia and East Asia—to achieve a larger common market by 2020.

Open Discussion

Participants questioned whether India should shift focus from Southeast Asia and instead look towards deepening economic integration with its neighbours, such as Pakistan and Sri Lanka. On the other hand, it was also noted that if India prospers, its neighbours would prosper along with it. In this sense, India's Look East policies would impact positively on its relations with its neighbours. Another point that emerged in the discussion was that while looking east, South Asia should also look west towards the Gulf countries.

In terms of reform, it was agreed that governments should first work on national infrastructure before focusing on the regional infrastructure. However, special attention should be paid to the parts of the national infrastructure which could also serve regional purposes. Participants also discussed the weakening pace of economic reform in South Asia. It was noted that the easier phase of reforms has been completed, and the next stage of reforming government services and policies, where vested interests are very much entrenched, would be challenging.

SESSION III

CASE ANALYSES

The Production Networks of Hard Disk Drives

The electronics industry has been the driving force behind a vast global production network due to low transportation costs and relatively compact inventory. **Daisuke Hiratsuka** focused on the hard disk drive sector to illustrate how the industry has evolved using the operations of Seagate, Toshiba, Fujitsu and IBM as examples. He attributed the expansion of the hard disk drive production network in East Asia to: (i) minimal transportation costs; (ii) easy movement of products through air transportation; (iii) an efficient logistics system using the "Just in Time" (JIT) warehouse method; (iv) low production costs; (v) highly differentiated parts and components; (vi) corporate tax exemptions and (vii) zero tariffs on parts and components through the Information Technology Agreement (a treaty enforced by the World Trade Organization [WTO] in 1997 aiming to lower all tariffs on IT products to zero) and complementary investment promotion schemes across Southeast Asia.

Asian countries should capitalise on the industry's dispersion in the region by moving up the technology value chain and supporting participation of low wage economies in the production network. Hiratsuka noted that deeper trade facilitation measures (such as easier customs clearance and expansion of FTAs and economic partnership agreements) and liberalisation of services would help create a business environment more conducive to the development of the hard disk drive global production network.

The Role of Air Transport in the International Trade and Supply Chains

The last few decades saw rapid growth in air transport as a result of deregulation in the aviation sector and increasing horizontal specialisation. Passenger and freight air transport are set to rise in the next 15 years, growing 5.0 and 5.8 per cent per annum respectively. **Yuichiro Yoshida** highlighted the increasing importance of air transport in international trade by citing figures from Japan which show that 85 per cent of goods exported by the country are at least partially transported by air. Such goods are usually those which are lighter and smaller relative to its value (e.g. fresh food and precious metals) or have a higher opportunity cost of time in transport (e.g. fashion products and intermediate goods).

Despite the positive outlook, challenges remain as the aviation industry continues to be heavily regulated. This has kept the cost of air transportation for international trade very high. Bilateral air service agreements are extremely restrictive and have effectively created duopolies in each market; multilateral agreements have yet to catch on as it is currently only implemented in the European Union.

The Supply Chain of the iPhone and Trade in Value-Added

Drawing on a study that he co-authored in 2010, **Yuqing Xing** demonstrated how data on trade in value-added could give a more accurate picture of the global trade imbalance by looking at the case of the iPhone. Production

SESSION III

of the iPhone involves a wide range of activities varying in terms of value-added, with product design and customer services bringing the highest value and assembly the lowest. The entire process takes place in nine companies in five countries, with assembly taking place in Shenzhen and product design carried out in California. Breaking down the marginal cost per unit (US$178.96 excluding software and fixed costs) shows that only 3.6 per cent of the total costs can be traced to China. Using the same data offers an alternative view of the Sino-U.S. trade balance: From US$1.9 billion in 2009, the U.S. trade deficit with China in iPhones drops to US$73 million. Current trade statistics mask the actual value chain distribution and significantly inflate the value of China's exports and the Sino-U.S. trade imbalance.

This has further implications with regard to the impact of foreign exchange fluctuations. Xing used the same value-added approach to show that a 50 per cent appreciation of the yuan will only have a marginal effect on the total cost of the iPhone as the assembly cost per unit will only go up by US$3.25, assuming all other exchange rates remain constant. The fragmentation of the iPhone production process also illustrates how integrating a domestic industry into a global chain hinges on the country's identification of the right process in the supply chain it wishes to contribute to and designing and implementing the necessary reforms to support the development of that industry.

Open Discussion

Participants commented on the emerging changes in global production networks and trade in value-added, noting that Foxcomm is shifting production to inland China and Indonesia might emerge as a new player in the growing production network of high value-added products. More case studies (possibly using Samsung's experience) would also be helpful as policymakers deliberate on the best way for their respective countries to join global production networks.

Comments from the floor focused on the need to update and improve current approaches to measuring trade in value-added. New statistics from the WTO and the Organisation for Economic Co-operation and Development on trade in value-added can be useful as it allows services to be incorporated when measuring trade in value-added. It was also suggested that introducing transportation costs to the computation of production costs will help us gain a better understanding of global production networks.

SESSION IV

INNOVATION, INDUSTRIALISATION AND DYNAMIC COMPARATIVE ADVANTAGES

Innovation and Production Networks/Supply Chains

Ted Feichin Tschang provided an overview of the concepts of global production networks and global value chains, focusing on network orientation and the relationship between lead firms and the firms providing offshoring/outsourcing services. Factors such as location, resources, access to markets and exposure to risks are all taken into consideration in a firm's decision to look for external suppliers and service providers. However, power in these networks is not regulated solely by lead firms; strategic alliances and the rise of powerful intermediaries are also important drivers of the network dynamics. The configuration—whether it is market-based, captive, modular, hierarchical or relational—determines the governance of and source of control in global production networks and supply chains. Apple and Li and Fung were used as examples of contrasting models of firm control.

Tschang also spoke on the types of innovation and compared product with process innovation, with the former focusing more on modular development and the latter more on incremental improvement. While he acknowledged that the government can play an important facilitating role in providing an environment conducive to innovation, Tschang expressed his reservations in giving concrete policy recommendations as he believed that policy options can be quite complex. He cited the strategy of picking industry winners as one policy with mixed outcomes and noted that Singapore followed this strategy and has yet to successfully develop its domestic industries.

The Role of Production Networks for Innovations in Automotive Industries: The Case of Japan

Innovation is key to the success of several industries and it is especially important in the automotive industry as it plays a role in mitigating negative externalities—innovations have resulted in decreasing fatality rates and increasing fuel efficiency. **Shuhei Nishitateno**'s presentation highlighted how effective production networks between automakers and parts suppliers are indispensable to innovation. This is because production of a vehicle is a complicated process involving a multitude of parts and components and automakers cannot efficiently produce all inputs in-house. Most parts and components are sourced from external suppliers, as evidenced by figures from Toyota which show that the share of in-house production was only 21 per cent in 2010.

Japanese automakers and parts and components suppliers are expanding their overseas operations, particularly within the region. These firms make efforts to localise production, procurement and R&D in the host countries as much as possible but local suppliers still face tough competition against Japanese suppliers. Nishitateno stressed the importance of government support for local suppliers if they want to successfully participate in the automotive production network.

SESSION IV

Open Discussion

The exchanges between the participants and speakers probed into the role of public policy in facilitating innovation and supporting production networks. The right balance between government intervention and market forces was discussed as representatives from Indonesia and Myanmar shared cases from their respective countries. The pharmaceutical industry in Myanmar benefited from policy reform in 2010, which allowed players from the private sector to enter the pharmaceutical industry. In Indonesia, opportunities to become suppliers for Li and Fung and Marks and Spencer were not tapped as the government had inadequate understanding of global production networks. There were also instances wherein the government succumbed to pressure from local businesses and exhibited protectionist leanings, as seen in the agricultural industry.

In the automotive industry, concerns mostly revolved around the ease of supplier entry. Local suppliers in China and Thailand have experienced difficulty breaking into the regional supply chain; membership in local supplier organisations can help as such groups can lend assistance to local firms as they build business relationships with Japanese automakers. Participants also raised the viability of expanding the regional automotive productive network to include South Asia. The potential of developing Chennai as a sub-regional hub was identified as an area for future research. There are also growing opportunities to expand the network to less developed economies in Southeast Asia such as Cambodia and Laos in light of rising wages in Thailand.

SESSION V

GLOBAL VALUE CHAINS AND PRODUCTION NETWORKS: A VEHICLE FOR DEVELOPING EXPORT CAPACITY AND PARTICIPATING IN THE INTERNATIONAL DIVISION OF LABOUR

Joining Global Production Networks: China's Processing Trade and High-Tech Exports

Yuqing Xing discussed ways for developing countries to participate in the global production networks of high-tech goods. The key strategies for developing countries are: (i) identifying their national comparative advantage and (ii) finding the right position in the global production fragmentation. Xing used China as an example. Because China's comparative advantage lies in its relatively cheap labour, it is able to join the global production networks by "processing trade" or importing parts and components from overseas and exporting the assembled products. This can be seen in China's role in the assembly of iPhones and laptops.

In addition, government policies promoting an open economy, trade liberalisation and export promotion played a key role in helping China become the world leader in processing trade. Xing also noted that China's processing trade has created a triangular trade pattern involving East Asia (as suppliers of parts and components), China (as product assembler) and the United States and the European Union (as markets). This triangular trade pattern outlines China-centred East Asian production networks and contributes to the region's growth.

Software Outsourcing

Ted Feichin Tschang introduced a framework for understanding services offshoring development. According to this framework, three main factors lead to the emergence of a service industry: (i) opportunity; (ii) country readiness and (iii) firm capability. Opportunity depends on the nature of markets, timing and competition. Readiness is determined by locational factors and the local workforce's skills such as language competencies. Capability hinges on firm strategies (e.g. moving towards niche-market orientation versus taking advantage of economies of scale) and its importance varies across sectors.

Tschang applied this framework to explain the development of services offshoring in India, China and the Philippines. India seems to fit relatively well in this proposed framework. The Y2K problem provided an opportunity for India as foreign firms relocated its software industry to the country. This opportunity coupled with the country readiness and capability (e.g. English-speaking personnel with IT skills) helped India develop a successful offshore software industry. For China, an opportunity lies in the country's large domestic markets as foreign firms needed local intermediaries to deal with Chinese-speaking clients. The emergence of the offshore call centre industry in the Philippines was similar to the India story. Foreign companies' relocation to the Philippines provided the country with an opportunity, which was complemented by country readiness in the form of local workforce with a good command of English. Tschang noted that some sectors of the call centre industry do not require a very specialised skill set and can be transferred to other countries.

Development of the Philippine Contact Centres and Its Role in the Global Supply Chain of Service Industries

Nedelyn C. Magtibay-Ramos explained how the Philippines' services industry integrated into the global value chain. She outlined five main factors which have contributed to the country becoming a world-class provider of IT-Business Process Outsourcing (IT-BPO services): (i) education; (ii) cost competitiveness; (iii) infrastructure; (iv) government support

SESSION V

and public-private partnerships and (v) a proven track record. In the Philippines' case, the locals can speak English well and labour cost is relatively cheap. Infrastructure such as power and transportation are reliable and low-cost. Its economy's inflation is manageable and predictable. The government also provided tax and investment incentives as well as skills training support for the workforce. These elements combined led to the development and participation of the Philippines' service industries in the global value chain. Magtibay-Ramos suggested ways that other countries can replicate the Philippines' success story such as improving workers' language skills, working towards maintaining a low-risk profile and providing quality and low-cost infrastructure.

Role of Production Networks and Global Chains in the Development of Automobiles in Thailand

Kriengkrai Techakanont examined why Thailand's automotive industry became an integral part of the global automotive production network. He highlighted the roles of government policies, FDI and clusters in industrial development. The Thai government has actively helped the automotive industry by promoting supporting industries, liberalising trade and providing incentives for investment. After the 1997/1998 Asian financial crisis, the government relaxed foreign investment regulation for the automotive industry. The Eastern Seaboard Development gave rise to the "automotive belt" as the firms relocated and clustered in the eastern part of Thailand. Techakanont argued that Thailand's automotive industry has benefited from participating in the global production network as it enabled local automakers to undertake technological upgrading such as state-of-the-art engineering and testing. Local companies also helped the Japanese firms design and develop new products for the market.

Open Discussion

Participants discussed government policies to enlarge their domestic markets for specific products and take advantage of economies of scale. One of the proposed ideas was to give local consumers incentives to purchase domestic products. For example, gasoline subsidies can boost the demand for locally-produced cars. The participants also explored future opportunities for developing local industries and integrating them into the global production networks. For example, the Southern Economic Corridor project created an opportunity for the emergence of new industries as the project prompted firms to move their production facilities to the area and created an industrial cluster.

While there was general agreement about China's many achievements as an integral part of the global production network, participants raised the need to change the mindset in the country as its notion of value-added put too much emphasis on low-cost processes, choosing imitation over true innovation. China's continued success will depend on how it is able to shift from an "I can do that and cheaper" mindset to an "I can do that and better" strategy.

SESSION VI

JOINING GLOBAL VALUE CHAINS AND PRODUCTION NETWORKS: CHALLENGES AND OPPORTUNITIES

China's Manufacturing: Reality, Dilemma and Internationalisation

Zuo Shiquan discussed China's manufacturing industry in terms of challenges and future strategies for further advancement. Although China is the world's manufacturing leader, its industry is facing substantive challenges as it is relatively weak in some areas such as innovation capacity and international brand development. He warned that if China's manufacturing does not improve, the country faces the risk of falling into the "middle-income trap".

Zuo outlined some industrial strategies to advance manufacturing. The government employed policies to support potential emerging sectors (e.g. energy technology and IT) and provided funding for R&D to promote industrial innovation. The government also extended guidance for enterprises to deepen their integration in the global production network. China's move to prioritise FTA negotiations with its East Asian neighbours is another indication of the government's support for the manufacturing industry. Zuo concluded that joining the global production network, though important, is only the first step. Next steps to deepen the integration require help from policymakers in fine tuning policies to adapt to increasing competition in global trade.

Thailand's Manufacturing Logistics and Supply Chain Management Development Plan

Anong Paijitprapapon shared Thailand's experience in manufacturing logistics development. She stressed the importance of the manufacturing sector to Thailand's economy, accounting for 38 per cent of the country's GDP and 73 per cent of total export values. However, the industry is facing major challenges, namely high cost and poor quality logistics. To raise the competitiveness of the country's manufacturing logistics, the Thai government developed a master plan concentrating on three areas: (i) firm competitiveness; (ii) supply-chain collaboration and (iii) supporting enabling factors to enhance national supply chain competitiveness.

Policies boosting competitiveness include encouraging firms to develop personnel, technology and management strategies. The government promotes supply chain collaboration by improving information and physical linkages. It supports enabling factors via infrastructure regulations and the incorporation of SMEs in the supply chain. Paijitprapapon emphasised the significance of information sharing between public and private sectors in improving the country's logistics performance. Specifically, information sharing facilitates the development of a policy agenda enhancing deep collaboration among sectors and improving the country's competitiveness in the global supply chain.

Open Discussion

Participants agreed on the need for governments to develop and integrate local industries into the global production network. They also shared insights on specific policies for developing and integrating local industries into the network. Some policy suggestions included official support through R&D, sales and marketing, and several kinds of tax incentives for producers. Another important policy is to assist SMEs by providing training programmes on business planning and market operations. The discussions also acknowledged that

SESSION VI

national strategies must complement regional strategies in order to facilitate the development of regional and global supply chains. For example, ASEAN governments' manufacturing logistics strategies must align with the ASEAN Single Window framework.

PANEL DISCUSSION AND FINAL REMARKS

Participation in global production networks and supply chains are not without risks but East Asia's experience demonstrates that the benefits outweigh the costs. Maximising the benefits from participation requires that the first step of joining is followed by a nuanced approach to industrial development and the conference was able to shed light on the how global production networks and supply chains can play a critical role in supporting economic growth in the region. **Yuqing Xing** expressed his gratitude to the conference speakers and participants for sharing their knowledge and insights on the basic concepts, case analyses and countries' strategies supporting global value chains and production networks. The discussions helped deepen the participants' understanding of these aforementioned topics and will be useful as the region's economies develop next steps for improving participation in the global economy at the firm and country levels.

However, some challenges remain and they need to be addressed by both public and private sectors. **Pradumna B. Rana** continued the discussions by highlighting specific challenges and provided some suggestions. For example, while supply chain trade is quite intense among the more advanced ASEAN countries, China, Japan and South Korea, South Asian countries are still very much behind as are Cambodia, Laos, Myanmar and Vietnam. Hence efforts had to be found to overcome this and bring in SMEs. Rana recommended finding ways to develop sub-regional and inter-regional linkages. For example, encouraging the development of supply chains in South Asia and building inter-regional supply chains with East Asia could help prepare both regions for the increasingly competitive world economy. Opportunities in Cambodia, Laos, Myanmar and Vietnam must also be explored. Additionally, he noted that despite the growing importance of supply chain and production network trade, old ways of trading under the Ricardian and Hecksher-Ohlin models would continue to be important.

PROGRAMME

8 May 2013, Wednesday

09:00–09:30	Registration
09:30–09:45	Opening Remarks • Professor Joseph Liow, Associate Dean, S. Rajaratnam School of International Studies (RSIS), Nanyang Technological University (NTU), Singapore • Dr. Yuqing Xing, Director of Capacity Building and Training, ADB Institute, Tokyo

SESSION I: GLOBAL PRODUCTION NETWORKS AND SUPPLY CHAINS: BASIC CONCEPTS AND ASIAN EXPERIENCES

Session chair: Dr. Tan See Seng, Head of Centre for Multilateralism Studies (CMS) and Associate Professor, RSIS, NTU, Singapore

09:45–10:15	Dr. Guoyong Liang, Economic Affairs Officer, Investment and Enterprise Division, UNCTAD, Switzerland (Focus: Production Networks and Economic Development)
10:15–10:45	Discussion
10:45–11:15	Group Photo and Coffee Break
11:15–11:45	Dr. Ganeshan Wignaraja, Director of Research, ADB Institute, Tokyo (Focus: SMEs and Production Networks in Asia)
11:45–12:15	Discussion
12:15–14:00	Lunch

SESSION II: GLOBAL PRODUCTION NETWORKS, SUPPLY CHAINS AND REGIONAL INTEGRATION

Session chair: Dr. Ganeshan Wignaraja, Director of Research, ADB Institute, Tokyo

14:00–14:30	Dr. Pradumna B. Rana, Associate Professor and Coordinator of MSc in International Political Economy Programme, RSIS, NTU, Singapore (Focus: Linking South Asia and East Asia)
14:30–15:00	Dr. Prabir De, Fellow at the Research and Information System for Developing Countries (RIS), India (Focus: Production Networks, Logistics, and Connectivity: India's Experience)
15:00–15:30	Discussion
15:30–15:45	Coffee Break

SESSION III: CASE ANALYSES

Session chair: Dr. J. Soedradjad Djiwandono, Professor, RSIS, NTU, Singapore (former BI governor)

15:45–16:15	Dr. Daisuke Hiratsuka, Executive Vice President, IDE-JETRO, Japan (Focus: The Production Networks of Hard Disk)
16:15–16:45	Dr. Yuichiro Yoshida, Professor, Graduate School for International Development and Cooperation, Hiroshima University, Japan (Focus: The Supply Chains of Airplanes/ Airline Services)
16:45–17:15	Dr. Yuqing Xing, Director of Capacity Building and Training, ADB Institute, Tokyo (Focus: The Supply Chains of iPhone)
17:15–18:00	Discussion
18:15–19:45	Cocktail Dinner (host by ADBI)

PROGRAMME

9 May 2013, Thursday

SESSION IV: INNOVATION, INDUSTRIALISATION AND DYNAMIC COMPARATIVE ADVANTAGES

Session chair: Dr. Muhammad Cholifihani, Development Planner, National Development Planning Agency (BAPPENAS) Indonesia

09:30–10:00	Dr. Ted Feichin Tschang, Associate Professor of Strategic Management, Singapore Management University (Focus: Innovation and Production Networks/Supply Chains)
10:00–10:30	Discussion
10:30–10:45	Coffee Break
10:45–11:15	Dr. Shuhei Nishitateno, Deputy Manager, Economic and Industrial Policy Bureau, Ministry of Economy, Trade and Industry, Japan (Focus: Innovation along the Production Networks of Automobile Industries)
11:15–11:45	Discussion
12:00–14:00	Lunch

SESSION V: GLOBAL VALUE CHAINS AND PRODUCTION NETWORKS: A VEHICLE FOR DEVELOPING EXPORT CAPACITY AND PARTICIPATING IN THE INTERNATIONAL DIVISION OF LABOUR

Session chair: Dr. Pradumna B. Rana, Associate Professor and Coordinator of MSc in International Political Economy Programme, RSIS, NTU, Singapore

14:00–14:30	Dr. Yuqing Xing, Director of Capacity Building and Training, ADB Institute, Tokyo (Focus: Processing Trade and High-Tech Exports)
14:30–15:00	Dr. Ted Feichin Tschang, Associate Professor of Strategic Management, Singapore Management University (Focus: Software Outsourcing)
15:00–15:30	Discussion
15:30–15:45	Coffee Break
15:45–16:15	Ms. Nedelyn C. Magtibay-Ramos, Economics Officer, Asian Development Bank (Focus: Development of Phillippines Call Centers and Its Role in Global Supply Chains of Service Industries)
16:15–16:45	Dr. Kriengkrai Techakanont, Associate Professor, Faculty of Economics, Thammasat University, Thailand (Focus: Role of Production Network and Global Chains in the Development of Automobiles in Thailand)
16:45–17:15	Discussion
18:00–19:30	Reception Dinner (host by NTU)

10 May 2013, Friday

SESSION VI: JOINING GLOBAL VALUE CHAINS AND PRODUCTION NETWORKS: CHALLENGES AND OPPORTUNITIES

Session chair: Dr. Tan See Seng, Head of Centre for Multilateralism Studies (CMS) and Associate Professor at RSIS, NTU, Singapore

09:30–10:00	Mr. Shiquan Zuo, Assistant Professor/Director, China Center for Information Industry Development, Ministry of Industry and Information, Beijing, PRC
10:00–10:30	Mrs. Anong Paijitprapapon, Director, Bureau of Logistics, Department of Primary Industries and Mines, Ministry of Industry, Thailand
10:30–11:00	Discussion
11:00–11:15	Coffee Break
11:15–12:00	Panel Discussion and Final Remarks • Dr. Yuqing Xing, Director of Capacity Building and Training, ADB Institute, Tokyo • Dr. Ted Feichin Tschang, Associate Professor of Strategic Management, Singapore Management University
12:00–13:30	Lunch
13:30–	End of Programme

CONFERENCE PARTICIPANTS

LIST OF CHAIRPERSONS AND SPEAKERS
(in alphabetical sequence)

1. **Anong Paijitprapapon**
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ABOUT THE CENTRE FOR MULTILATERALISM STUDIES

The Centre for Multilateralism Studies (CMS) is a research entity within the S. Rajaratnam School of International Studies (RSIS) at Nanyang Technological University, Singapore. The CMS team conducts cutting-edge research, teaching/training, and networking on cooperative multilateralism in the Asia Pacific region. The Centre aims to contribute to international academic and public discourses on regional architecture and order in Asia Pacific. It aspires to be an international knowledge hub for multilateral and regional cooperation.

Our Objectives

- To conduct scholarly and policy research on multilateral and regional issues.
- To facilitate policy dialogue and academic debate on regional cooperation and integration.
- To enhance the capacity of current and future leaders, officials, professionals, and students through executive and graduate education.
- To network and collaborate with other academic and research institutions.

Our Activities

In meeting its objectives, the Centre works through the following scope of activities:

- Annual conferences and workshops
- Research Fellow programme
- Curriculum development
- Policy-relevant research outputs

CMS is committed to generate a regular stream of high-impact scholarly and policy-oriented research as well as to disseminate them through myriad formats, media and outlets—targeted at policymakers, think-tanks and academic audiences.

Our Research

The Centre's research agenda includes international and global forms as well as expressions of cooperative multilateralism:

- **Economic multilateralism**

Research areas include trade, monetary, and financial integration in ASEAN, ASEAN+3, South Asia, and Central Asia; evolving linkages between various Asian sub-regions and with countries/sub-regions outside the region (such as the Asia Pacific Economic Cooperation, APEC and Trans-Pacific Partnership, TPP); and developments in the global economic architecture (including the Group of Twenty, G20) to ensure complementarity between global and regional initiatives.

- **Diplomatic and security multilateralism**

Research areas include intergovernmental and non official arrangements such as the ASEAN Regional Forum (ARF), ASEAN+3, East Asia Summit (EAS), Shanghai Cooperation Organisation (SCO), Six-Party Talks, the Council for Security Cooperation in the Asia Pacific (CSCAP), and the like. Initiatives in defence diplomacy include the ASEAN Defence Ministers' Meeting (ADMM) and ADMM Plus, the Shangri-la Dialogue, and alliances.

For more information about CMS, please visit www.rsis.edu.sg/cms.

ABOUT THE S. RAJARATNAM SCHOOL OF INTERNATIONAL STUDIES

The S. Rajaratnam School of International Studies (RSIS) is a professional graduate school of international affairs at the Nanyang Technological University, Singapore. RSIS' mission is to develop a community of scholars and policy analysts at the forefront of security studies and international affairs. Its core functions are research, graduate teaching and networking. It produces cutting-edge research on Asia Pacific Security, Multilateralism and Regionalism, Conflict Studies, Non-Traditional Security, International Political Economy, and Country and Area Studies. RSIS' activities are aimed at assisting policymakers to develop comprehensive approaches to strategic thinking on issues related to security and stability in the Asia Pacific.

For more information about RSIS, please visit www.rsis.edu.sg.

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