

## The Political Economy of the Supply Chain: The Dynamics of Industrial Policy and the Supply Chain in East and Southeast Asia

Bonnie Setiawan

### I. Introduction

The globalization of production systems has undergone rapid and radical changes in the last two decades, thanks to the technological revolution of information and communication technology (ICT) especially during the 1990s, which culminated in a new paradigm called “techno-economic”. This new system is called the global supply chain (GSC) (Phillips, 2000; Gupta, 2008; Paus, 2007). All industries have changed the way they work within a gigantic production network operated by transnational corporations (TNCs) and international contractors (INCs) (Giones, 2003). The GSC represents a complex global network of sourcing units, manufacturing centers, parts distribution centers, logistics centers, marketing offices, dealers, and customer locations (Gupta, 2008). What we have now is an enormously complex (intricate) division of labor across the globe that facilitates the complex flow of goods, money, and information (Taylor, 2008). Asian countries are part of this new division of labor. Japan, China, India, Taiwan, and South Korea, together with the ASEAN-5 (Singapore, Thailand, Malaysia, the Philippines and Indonesia) have formed a regional supply chain network.

This research will try to comprehend GSC in three ASEAN countries in connection with Japan and China, in terms of structure, processes, and finding alternatives to industrialization. It will probe into whether the reorganization of production worldwide in the form of GSC will threaten national industrialization in each ASEAN country or not. Thus, this paper will ask the following questions: (1) How is the industrialization situation and how is the relationship between supply chain and industrialization proceeding? (2) How is the development of GSC going and how is it being applied? (3) How is the relationship between the supply chain model with economic liberalization

and the free trade regime? and (4) How can alternatives for industrial policy be formulated and a national industrialization program constructed to deal with the supply chain model?

Because of the complexity of the problems, we used the political economy approach to examine and analyze the problems. We used the theory of Ha-Joon Chang and Ilene Grabel on “Reclaiming Development” to show that there exists a range of achievable and desirable policy alternatives for implementing a selective industrial policy through state intervention and support (Chang and Grabel, 2004).

### II. Industrial Policy and the Supply Chain in East Asia

Discussions on the successful implementation of industrial policy mainly apply to the East Asian model which is basically the opposite of the Washington Consensus recipes that highlight macro-economic policy focused on inflation, deregulation, privatization, and the liberalization of international trade and investment. East Asian economies using industrial policy and an interventionist trade, which is mainly carried out through large public sector enterprises (SOEs), are supported by macroeconomic policies that are pro-investment.

The classic industrial policies in East Asia (Japan, Korea, Taiwan, Hong Kong) demonstrate the central role of the State, which is run by politicians and bureaucrats with nationalist ideologies (tendencies), and require rapid industrialization and structural change. Their industrial policies could be summarized as “industrial upgrading”, meaning a structural shift in the industries toward high-value-added and high-technology that have good prospects for the expansion of demand and technical progress (Chang, 2006).

The industrial policies in East Asia (including Southeast Asia) have gone through three different stages (see tables 1 and 2). Initially a policy of import substitution (IS) was adopted, but when government's financial and trade balance problems surfaced, the policy adopted an export orientation (EO) that encouraged growth and industrialization. The EO policy called for greater liberalization so that ultimately the countries of East Asia increasingly moved to the third stage, the market-oriented industrial policy and deregulation (liberalization phase). Striking differences between the policies of industrialization in the countries of Northeast and Southeast Asia remained evident, nonetheless. For while Southeast Asia adopted the policy regime model which was more liberal and market-oriented, Northeast Asia was more oriented to government intervention (Masuyama et.al, 1997). That this is so makes it interesting to observe more carefully why the Northeast Asian model has become so successful while that of Southeast Asia has not.

In the last decade, Asian economies became part of a large network of supply chains that progressively centered on China. Asian economies have been shaping the supply chain more and more, with China holding the role of assembly center for the export of final goods, especially consumer goods. Asia and especially China are now the world leaders in export sources (IMF, 2011). Since 2000, East Asian countries have begun to expand their intra-regional exports to include not only parts and components (P&C) but also finished goods. This development signifies the importance of intraregional markets in East Asia as the source of demand for their exports. From the large proportion of machinery among total exports, mainly consisting of P&C, we can see that these countries are involved in international production networks. P&C's shares in the exports and imports of Singapore and the Philippines have the highest percentage at 57% and 54%, respectively, for Singapore, and 56% and 64% for the Philippines. As for Malaysia, Japan, Korea, and Thailand the percentages of their exports and imports in the engine industry exceed 50%, while their industrial

P&C percentages exceed 30%, which indicate their participation in the international production network (Kimura and Obashi, 2011). Now the East Asian production network is the most advanced and sophisticated in the world.

### III. Development of the Supply Chain and Production Network in Japan and China

The success of the post-war Japanese economy has been particularly evident in the assembly industry, i.e., automotive and electronics, which has dominated the world. There is no country in the world that does not consume Japanese goods. Japan is responsible for a lot of significant innovations such as flexible manufacturing techniques, subcontracting, and Just-in-Time (JIT) also known as "Toyotisme" (derived from "Toyota"). Toyotisme enables car companies to compete on the basis of cost and product differentiation, as well as a high level of product innovation. In contrast to the approach of full scale vertical integration or arm's length, production in Japan is organized (on the basis of) design collaboration in the form of network groups or keiretsu composed of manufacturing leaders and affiliates. The next aspect of the organization of production is the subcontracting system, whereby Japanese assemblers tend to buy parts and components from suppliers (subcontractors) instead of making these themselves. Such a set-up is possible only in a stable, close, and long-term relationship. As overlaps exist between keiretsu members and subcontractors this kind of production set-up eventually earned a name of its own: the subcontracting keiretsu system (Paprzycki, 2005).

Keiretsu relationships disappeared when foreigners took over the car companies, among them Renault, which acquired Nissan (because of the latter's indebtedness of about \$ 21 billion in 1999), and Daimler Chrysler, which obtained Mitsubishi Motors (whose indebtedness was approximately \$15 billion in the year 2000). But competitive Japanese auto companies such as Toyota and Honda still maintain and have strengthened their relations with their keiretsu suppliers. Similarly, FDI in

Japan looks like it is opening up, although FDI in Japan remains the smallest among developed countries (Hatch, 2001).

In 1992, Ministry of International Trade and Industry (MITI) and Keidanren (Japan's large business federation) stated that Asia (especially East Asia/Southeast Asia) is Japan's prime target for investment and trade. Since then, Japanese industry began investing aggressively in Asia. In 1995, Japan registered an increase in manufacturing investments of \$ 7.8 billion or nearly 42% of all Japanese FDI. Two-thirds of all the factories Japan built were in foreign countries located in Asia. Japanese manufacturers also went heavily into "intermediate" investments, such as franchise contracts and technology licensing agreements with its Asian partners. Between 1991 and 1996 Japanese technology exports to Asia rose twofold to reach \$ 2.75 billion, with Asia receiving half of all exports of Japanese technology. Japan's export of capital and technology were thus responsible for high growth in Asia until the economic crisis of 1997-1998. Japan's move led to an increase in intra-regional trade and regional integration, which were primarily driven by the business strategy of Japanese companies or the Japanese corporate network. They built a hierarchical division of labor based on the industrial structure factor and natural resources of each country which were different but complementary (Hatch, 2001).

Regionalism in East Asia (including Southeast Asia in this case) was thus very much shaped by the Japanese. The Japanese electronics industry, in particular, is very much concerned about its expansion in the more advanced East Asia, with primary focus on China. The rise of China is an external factor that will determine regionalism. China has increased its role as a global export production base, and the market has grown increasingly sophisticated, especially for mobile communication and digital consumer devices. China has also become a new source of R&D and innovation. Its role as a low-cost production base for Japan's global exports has increased since the 1990s. In 2002, nearly two-thirds of Japan's manufacturing base abroad was concentrated in East

Asia, reflecting a 60% increase from 2000. Initially, the focus was on the consumer electronics industry, home appliances, and related components. But in recent years, production has increasingly become more diversified. At the same time, locations have begun switching from Japan to other Asian countries, both in terms of more complex production and the overall supply chain management. This increase is in response to the sharper competition faced by Japanese electronics firms, either from above (i.e., the U.S. and Europe) or from below (i.e., six Asian countries: China, Taiwan, Korea, Singapore, Malaysia, and India). Presently, the shift is also due to the relocation of production by Japanese component suppliers to Asia, which reflects the increasingly sophisticated division of labor in Japan's East Asia Production Networks (EAPN) (Ernst, 2006).

Actually, since the 1980s, along with the expanding role of Special Economic Zones (SEZs) in China's coastal areas, China's foreign trade started to grow rapidly at almost 15% each year, and its share of world trade also increased rapidly, from less than 1% initially, to 5% in 2002. Especially fast were the expansion and diversification of its export manufacturing industry which reached 20% per year, driven particularly by textile products in the 1980s, and by electronic and electrical products in the 1990s. China's export growth accelerated in 2003 by approximately 35% which, in turn, increased its trade surplus in relation to the U.S. and Europe. The integration of China into the global production network is largely based on its comparative advantage in assembling final goods, which have in turn opened up possibilities for the export of components and parts of other Southeast Asian countries in the region, which were originally the production sites of components and parts in the global production network (Gaulier et.al, 2004).

This phenomenon suggests that although China came in later in the international division of labor in Asia, she can still catch up with industrialization. China's case also illustrates that the value-added chain between several locations (countries) and the development of companies in cross-border

production networks will be able to drive the process of growth and industrial integration in Asia. China can enter globalization and obtain a place in the international division of labor. Actually, since the mid-1980s, China has been engaging in international production sharing with companies from other Asian economies, namely, Hong Kong, Taiwan, Japan, South Korea, and other Asian countries that have relocated their labor-intensive industries to mainland China. Thus, the rapid expansion of China's foreign trade closely relates to the reorganization of production in Asia, which is driven by export-oriented investments in mainland China (Gaulier et.al. 2004).

Until the economic crisis of 2008/2009, China's trade in parts and components (P&C) continued to climb 27-fold from \$16 billion in 1992, to \$ 430 billion in 2008. In 1992, P&C constituted only 10% of China's total trade, but in 2006, it peaked at 21%. Finished goods also dominated Chinese exports, from 73.8% in 1992, to 80.8% in 2009. The share of exports of P&C also increased, from 4.9% in 1992 to 12.8% in 2009. On the other hand, the share proportion of imports of finished goods to total imports decreased from 70.9% in 1994 to 44.5% in 2009. Furthermore, the share of finished goods exports averaged 77.4%, which was consistently higher than the share of imported goods that averaged 55.7%. Overall, these figures showed how China had become the center of global production, namely, of imported components and exported finished goods. The rapid growth of exports of P&C also indicated China's growing role as a global supplier base for components and parts. China's trade with neighboring countries has increasingly become a central factor in consolidating regional production networks in East Asia. The region now holds the status (holds the distinction of being the world's manufacturing hub) as the world's manufacturing hub (Lee et.al, 2011).

#### **IV. Industrialization and the Supply Chain in Southeast Asia**

The rise of production networks in East Asia has prompted the development of supply chains in

the countries of Southeast Asia. Industries dedicated to components and capital-intensive parts in Japan and Korea have interlinked with labor-intensive assembly industries in countries such as Thailand, Malaysia, Vietnam, and China. The East Asian production network has been a source of growth in outputs and employment in Thailand for almost two decades now. Globalization and the technological progress of IT have enabled fragmentation of production and allows share of production. In recent years, however, the competitiveness of Thailand that developed in the 1990s began to be squeezed hard by the emergence of low-cost production bases in countries such as China, India, and Vietnam; still, Thailand's manufacturing sector can survive and grow stronger. At present, supply chain management has become common practice in cross-industries in Thailand, given the country's role in the production network. The supply chain is part of a long-term strategic alliance, which may take on the form of supplier-buyer partnerships, cross-organizational logistics management, joint planning, inventory control, and information-sharing (Chongvilaivan, 2012; Banomyong and Supatn, 2011).

The manufacturing sector in Thailand, where companies and operators have worked together in the production system (aspect) of the supply chain and the purchase of just in time (JIT), has contributed a lot to Enhancing the Thai economy, both in terms of output and labor since the 1980s. The share of manufacturing value added in the country's GDP increased from about 20% in the 1980s, to around 35% in 2010. Similarly, the total work force in the manufacturing sector doubled from 10% in 1980 to 20% in 2009, though problems were experienced due to the global economic slowdown in the early 1980s and during the Asian financial crisis in 1997. On the average, about 19% of manufacturing companies in Thailand are part of global production networks because using imported P&C. Most of such companies are involved in high-tech manufacturing sectors, such as communication equipment and apparatus (53.19 %), electrical machinery and apparatus (43.26 %), office, accounting and computing machinery (42.86 %), medical, precision and optical

instruments (38.54 %), motor vehicles, trailers and semi-trailers (36.93 %), and machinery and equipment (33.55 %). Sectors involved in global production networks typically tend to export and are Multinational Enterprises (MNE) (Chongvilaivan, 2012).

Involvement in production networks is also indicated by vertical specialization and integration in production sharing, which is shown by the industry's becoming increasingly reliant on the trade of P&C from foreign suppliers. Similarly, production output is exported downstream. This means that the spread of production networks is also characterized by the increased share in the commodity trading of P&C. Up to now 50% of Thailand's semiconductor production is exported. Similarly in the electronics sector, from only 12.5% in 2001, exports rose to over 16% in 2010, despite a slight decline during the 2008 crisis. The same thing happened in the automotive industry. The share of exports of automotive products more than doubled from 17% in 1998 to around 35% in 2011. When examined further, it was clear that the proportion of P&C vis-a-vis OEM (Original Equipment Manufacturer) increased from one-third to more than two-thirds in 2011. This shows that P&C producers in Thailand have become part of the global supply chain of automobile production. Such a situation is, in fact, also supported by changes in the regional division of labor, with Japan, Korea, and Taiwan moving the end functions to countries in Southeast Asia with low-cost production even more. Also, the Thai government has changed policies to support the internationalization of P&C production, through the establishment of industrial parks, tax exemption schemes, infrastructure investment, the development of support industries, liberalization, and acceptance of foreign capital (Chongvilaivan, 2012).

In Malaysia, the growth rate of manufacturing exports averaged around 35% during the period 1980-1995. In 1994, the share of manufacturing reached 78%, which positioned Malaysia as the sixth-biggest exporter among developing countries, after four dragons of East Asia and China. This momentum of transformation in the structure of exports was in line with the emergence of the

international division of labor in the 1980s. Malaysia found market niches in simple assembly operations in electronics and electrical goods, and diffused-technology consumer goods production. The main engine of the expansion of exports came from foreign direct investment (FDI).

Capital inflows to Malaysia grew very fast in the last two decades. Ever since the mid-1980s, between 1987 and 1991, in particular, FDI inflows increased nearly ten-fold, faster than all the other ASEAN countries. In the late 1980s, the flow of FDI shifted from production for the domestic market to a manufacturing base for the global market. Data also showed that foreign companies accounted for three-quarters of total manufacturing exports in the mid-1990s. There was a close relationship between the degree of foreign presence in the sector and their relative contribution to total manufacturing exports. The electronics industry alone (whose entities were almost entirely foreign owned) accounted for over 63% of total exports in 1994. Malaysia's efforts to attract foreign investment in the electronics sector were quite successful so that in 1980, among developing countries, Malaysia became the biggest exporter of electronic components, especially integrated circuits/IC (Athukorala and Menon, 1996).

After the 1997 crisis, the Malaysian economy was no longer growing rapidly, but averaged a "healthy" 5% to 7% per year. Before the 2008 crisis, Malaysia's economy was supported mainly by higher prices of palm oil, rubber, and tin in the world market, as well as by high oil prices that benefited Petronas, the state oil company. However, FDI decreased from its investment peak of US\$ 7.3 billion in 1996 to US\$ 3.97 billion in 2005, and then recovered in 2006 to reach U.S. \$ 6 billion. In 1990, FDI inflows to Malaysia began to stagnate. The increase only occurred during the period 2007 to 2008. In 2006, ranking was down to number 62 and in 2009 to number 123. The favored position of Malaysia as a foreign investment destination in the 1990s has shifted to neighboring countries, especially to China. Since Malaysia's industrialization primarily relied on foreign investment, the decline in FDI was very influential in the development of its industry (Pua, 2011).

A recent study evaluating the implementation of the supply chain in Malaysia concluded that the advancement of industry, particularly the manufacturing sector, is not growing as expected. There are many weaknesses in the supply chain system of Malaysian industries. Although policies and instruments have generated support for the value-added industry, progress has been very slow. Malaysia has actually been working for 30 years (from the 1970s to the 1990s) to achieve competency in product innovation—finished products, but lost it all in just a few years due to the out-migration of manufacturing industries, particularly those involving main products. The position of Malaysia as a supplier of components and parts only to other Asian countries of assemblers of finished products has been taken place (Kam and Heng, 2012).

In The Philippines, it appears that since the reform era of 1980s, the overall industrial policy has been entirely left to the free market. Actually, it has no industrial policy to pursue. The so-called industrial policy and industrialization program of the Philippines fully make up its liberalization program under which the following have been implemented: (a) liberalization of trade, (b) privatization, (c) liberalization of FDI, (d) institution of investment incentives, and (e) the promotion of exports. It is a structural adjustment program that began in the 1980s and increasingly strengthened after the 1997-1998 economic crisis (PIDS, 2008).

The next industrialization strategy developed in the Philippines was a cluster strategy, which was considered an alternative model. Its context is in keeping with the rise of the industrial cluster strategy in developed countries which have implemented the supply chain approach. Industrial clusters have become a key element of the Philippine Economic Development Plan (PEDP) since 2002. The PEDP period of 2005-2007 set the cluster approach to industrial development and the development of a brand-name for Philippine products, along with emphasis on export-oriented cities through the initiative of the One Town One Product (OTOP) program. Industries included in the national cluster were expected to have the ability to generate export revenues (PIDS, 2008).

Implementation of the supply chain in the Philippines is mostly done by TNCs operating in the country, similar to those found in the rest of the ASEAN countries, as part of a global production network. This is evident in the electronics sector, which is the biggest export sector of the country. In 2003, there were 865 companies in the sector, where TNCs made up the majority (72%). Almost all of the world's big players were here. Electronics exports were concentrated on one product, namely semiconductors.

Although semiconductors are high-tech products, the participation of the Philippines in the global production network of electronics assembly has been limited to the low-skilled, labor-intensive, and testing segments of the production chain. This is due to the fact that these exports are very much dependent on imported inputs—a phenomenon that also explains why domestic value added is low. This same characteristic of this kind of export might also explain why rapid export expansion in the 1990s was not accompanied by the rapid growth of the manufacturing sector. Similarly, now, with the rising of labor costs and the emergence of new competitors (China, Vietnam, Mexico), the Philippine electronics industry has begun to lose its competitiveness in the labor-intensive segments of today's production chain (Austria, 2006).

## V. Conclusion

With the newer global division of labor, a country that has no strategy for an explicit industrial policy at the initial development stage is doomed to fail. Industrial policy has become an effective tool for developing the industrial sector of a country, especially manufacturing, and for answering the development needs of such country.

The industrial policy of Northeast Asian countries and the non-industrial policy practiced in Southeast Asian countries are good and clear illustrations of the success and failure of industrialization programs. Industrial policies have proved that they can lead to the achievement of objectives. Meanwhile, countries with no clear industrial

policies but follow, instead, the path of a market-oriented policy to build their industrial sector, will mostly likely fail.

The industrialization experiences of Japan and China prove how these two countries really built their foundations for industry with explicit industrial policies. The industrialization of Japan, especially, is based on strong cultural roots that have become a form of keiretsu, which is a pioneer feature of the production network as we know it today. Therefore, industry in Japan has always been able to survive in the face of change and amid threats of a crisis. Japan has also become the leader of the industrialization process in East Asia, toward China, New Industrial Economies (NIEs) and ASEAN countries. While China initially ran an industrial policy after first strengthening a heavy industry, eventually it built a light industry and a consumer goods industry by strengthening SMEs in the villages and regions. These eventually became strong foundations for the modernization of industry and later on in the establishment of SEZ programs along the coastal areas. By exploiting the momentum of East Asian regional production networks, China's rapidly accelerating industrial development developed evolved for the advantage and betterment of their own industry. In both Japan and China, the role and intervention of the state are dominant, and the market is under regulation by the state. Thus the market mechanism exists only to the extent it is allowed and regulated by the state, and is not to be a dominant force.

This Strategy is in sharp contrast to what happened in Southeast Asian countries, namely Thailand, Malaysia, and the Philippines whose economic policies and industrialization programs fully rely on the market mechanism, although, to a certain degree, Malaysia tried to regulate the market, but was not able to deal with market dominance. Thus, these three countries have been experiencing severe problems.

Thailand is an example of a country that cannot achieve national industrial success. It was clear from the initial period that it relied heavily on the

market mechanism, and on the role of TNCs and foreign capital. These schemes could not strengthen domestic industries but tended to create more dependence on foreign capital and industries. The newer scheme involving the supply chain will not help the situation either. Thailand will only be more dependent on foreign capital and will encounter more difficulty in building its own industry, since the bigger portion is owned by TNCs. The country will only continue to fill small portions of the supply chain system, and will not own the industry itself.

On the other hand, Malaysia's policy combines government intervention affirmative-action led industry with a market-based orientation. Such policy has made Malaysia import dependent, and has provided TNCs in it a broader chance to occupy the domestic market. This combination of unique policies is, in a way, a paradox to the industrialization policy as a whole. Unfortunately, Malaysia has the wrong strategy for building its supply chain system—one that is outdated vis-a-vis the global tendency. It is clear that in the last decade, decreasing industrial achievement has become apparent in Malaysia. The industrial policy implemented in Malaysia has gone into different directions which do not strengthen its domestic capabilities nor create technological mastery. The decision to expand market liberalization combined with the ethnical preference for government intervention will not help Malaysia, since it will have to face a more powerful global supply chain and production network.

The Philippines is a country without an industrial policy. It is also the most liberal country in Southeast Asia. Its direction toward full liberalization is not surprising. Also the Philippine is not ready to join the supply chain scheme as its domestic companies and businesses are mostly weak, even in the matter of taking on the role of manufacturing components and parts. As TNCs dominate the first-tier and even the second-tier suppliers pool, there is no place for the Philippines to build its own supplier companies, except as part of the TNCs' chain of production and factories.

To conclude, industrial policy cannot be implemented in these three countries because they have many structural limitations. And where it concerns the supply chain system, and the global and regional production networks today, these countries are not able to deal with them. These three countries then will only be positioned as subordinate parties within the existing production network, in this case with Japan's EAPN. They are very different compared to China, particularly when they are up against global and regional production networks, which mostly used to strengthen the capacity of their industry. Thailand, Malaysia, and the Philippines do not possess the attitudes and abilities that China does. The entry of the supply chain system and production network will further strengthen China's market dominance and Japan's EAPN domination in industrial development.

What is the lesson learned from the policies of Japan and China on the one hand, and the three ASEAN countries on the other? We can say that Japan and China have their self-reliance, from the very beginning until now, while ASEAN countries have no self-reliance in building their industries. The three ASEAN countries can be compared to an individual who has always depended on someone from outside since his/her birth. Such an individual will always be weak in character and performance.

An industrial policy is a self-reliance policy which will guarantee the success of the industrialization program in any country. It is also a strong factor in the management of a new supply chain production network nowadays. As having an industrial policy has become a new trend in BRICS countries so that even the UN and World Bank acknowledge its role, ASEAN and developing countries must work on having a solid strategy in formulating its industrial policy nationally, especially in the face of the global and regional supply chain systems and production networks.

Our recommendation in this paper is for the government of ASEAN countries to learn closely from the success of the industrial policies of China and Japan, which combine state intervention in selected industrial policies with their role in the supply chain system in the world. Industrial policy is a must in the development policy of each country, to create sustainability and independence, and to master and handle the supply chain system in the new regional division of labor. The success of China's recent industrial policy and that of Northeast Asia in the past can become main sources of information in revising and building a new and better industrial policy in Thailand, Malaysia, and the Philippines.

## Appendix

	1950s	1960s	1970s	1980s	1990s
Japan	1950-58	1959-	1967-		Mid- 1980s
	Import Substitution	Export orientation trade & foreign exchange	Liberalization FDI		Deregulation
	Strategic Industries (comparative advantage) 1953-57	(Vision industries) 1958-80		1981-	1986-
Taiwan	Import Substitution	Export orientation		Strategic industries 1980-	Information industry 1990s
Korea		1961-72	1973-79	Liberalization (trade, investment, finance)	Internationalization
		Export orientation	Import substitution (heavy industry)		Deregulation Mid-1980s Innovation oriented
Thailand		1961-71	1971-86	81-capital goods	1986-
		Import substitution	Export industries		Export orientation Technology-intensive industries
Malaysia	1950-70		1971-85		1986-
	Import substitution (moderat)		Added export Orientation		Liberalization Export orientation
Indonesia		1967-73	1974-85		1986-
		New Order (Liberalization)	Import Substitution		Export orientation Liberalization
Philippines	1950-		1970s	1980s	1990s
	Import substitution	(strengthened)		Librealization (political instability)	(strengthened) (political stability)
China		1965-76	1977-78	1980s	1990s
		Defence industries (Inland heavy Industrialization)	Plant importation	Coastline liberalization (Light industries)	Infrastructure High technology
Singapore		1960s			1990s
	Import substitution (Malaysia)	Export orientation			Strategic industries (high tech & service) Regionalization
Hongkong	1950-				1990s
	Export orientation (laissez-faire, education, infrastructure, Institutional support)			Improved institutional Support for industry	Upgrage support for technology

Table1: Evolution of Industrial Policies in East  
 (Source: Masuyama, Vanderbrink, Yue, page 6-7)

	Import substitution	Export orientation	Liberalization	Northeast Asia	Southeast Asia
Purpose	- Nurturing domestic industries - Consumer goods	- developing export industries - Comparative advantage (labour intensive)	- Improving industrial efficiency - Comparative advantage	- Upgrading domestic industries - Strategic industries (capital and technology intensive)	- Developing export industries using foreign firms - Comparative advantage
Technology transfer and Development	- Technology import - Joint ventures	- Technology import - Partly by FDI	- FDI - Strategic alliance - Technology import	- Improvement on imported technology	- FDI - Partly imported technology
Industrial Policy	- Protection - Infrastructure development	- Export subsidies - Liberalization & facilitation of intermediary import - Infrastructure development targeted at export industries	- Trade & investment liberalization - Deregulation - infrastructure development - International linkage	- Common policies with export-orientation model - Nurturing strategic industries - Ekspansion of higher & technology education	- Common policies with export-orientation model - Emphasis on FDI - Gradual trade liberalization - Expansion of primary & secondary education - Importation of human resources - Regional linkage
Foreign Exchange Policy	- Overvaluation	- Moderate undervaluation - Stable	- Market determined	- Moderate undervaluation - Stable	- Moderate undervaluation
Financial System	- Financial repression	- Gradual lifting of financial repression - Policy-based finance	- Emphasis on capital market	- Gradual lifting of financial repression - Policy-based finance	- Liberalization - Stop policy-based finance - Use of capital markets

Table 2: Categorization of Industrial Policy (Source: Masuyama, Vanderbrink, Yue, page 10)

## REFERENCES

- Athukorala, Prema-chandra. 2008. China's integration into global production networks and its implication for export-led growth strategy in other countries in the region. Working Paper no. 2008/04, Australian National University, April.
- Athukorala, Prema-Chandra, and Jayant Menon. 1996. Export-led industrialization, employment and equity: The Malaysian case. ANU and Monash University.
- Austria, Myrna S. 2006. Global production networks and local support structures in the Philippine electronics industry. Manila: CBERD, De La Salle University.
- Banomyong, Ruth and Nucharee Supatn. 2011. Developing a supply chain performance tool for SMEs in Thailand. Supply Chain Management International journal 16/1. Emerald Group Publishing Ltd.
- Chongvilaivan, Aekapol. 2012. Managing global supply chain disruptions: Experience from Thailand's 2011 Flooding. ISEAS.
- Ernst, Dieter. 2006. Searching for a new role in East-Asia regionalization: Japanese production networks in the electronics industry. In Beyond Japan: The dynamics of East-Asian regionalism, ed. Peter J. Katzenstein and Takashi Shiraisi. Ithaca and London: Cornell University Press.
- Chang, Ha-Joon. 2006. The East Asia development experience: The miracle, the crisis and the future. Zed Books Ltd. and TWN.
- Chang, Ha-Joon and Ilene Grabel. 2004. Reclaiming development: An alternative economic policy manual. London and New York: Zed Books Ltd.
- Gaulier, Guillaume, Francoise Lemoine, and Adeniz Unal-Kesenci. 2004. China's integration in Asian production networks and its implication. RIETI Discussion Paper Series 04-E-033, RIETI.

- Giones, John. 2003. *International trade and investment: An Asia-Pacific perspective*. Australia: McGraw-Hill.
- Gupta, Anil K. Gupta, Vijay Govindarajan, and Haiyan Wang. 2008. *The quest for global dominance: Transforming global presence into global competitive advantage*, 2nd ed. San Francisco: Jossey-Bass, A Wiley Company.
- Hatch, Walter. 2001. *Regionalizing relationalism: Japanese production networks in Asia*. Working Paper Series 01.07, MIT Japan Program. Center for International Studies, MIT, Massachusetts, June 18.
- IMF. 2011. *Regional economic outlook: Asia and Pacific managing the next phase of growth*. Washington DC: International Monetary Fund, April.
- Kam, Lai Ving and Leong Choon Heng. 2011. *Accelerating innovations in Malaysian industry supply chains: Executive summary*. Malaysia: Institute of Supply Chain Management, Malaysia University of Science and Technology.
- Lee, Hyun-Hoon, Donghyun Park, and Jing Wang. 2011. *The role of the People's Republic of China in international fragmentation and production networks: An empirical investigation*. ADB Working Paper Series on Regional Economic Integration no. 87, September.
- Paprzycki, Ralph. 2005. *Interfirm networks in the Japanese electronics industry*. London and New York: RoutledgeCurzon.
- Pua, Tony. 2011. *The tiger that lost its roar: A tale of Malaysia's political economy*. Kuala Lumpur: Democratic Action Party.
- Kimura, Fukunari and Ayako Obashi. 2011. *Production networks in East Asia: What we know so far*. Working paper series No. 320, November. Tokyo: ADBI (Asia Development Bank Institute).
- Masuyama, Seiichi, Donna Vanderbrink and Chia Siow Yue (ed.). 1997. *Industrial policies in East Asia*. Nomura Research Institute (NRI) and Institute of Southeast Asian Studies (ISEAS).
- Paus, Eva (ed.). 2007. *Global capitalism unbound: Winners and losers from offshore outsourcing*. New York, USA, and Hampshire, England: Palgrave MacMillan.
- Philippine Institute for Development Studies (PIDS). 2008. *Industrial agglomeration and industrial policies: The Philippine experience*. Discussion Paper Series No. 2008-13, March.
- Phillips, Richard. 2000. *Approaching the organisation of economic activity in the age of cross-border alliance capitalism*. In *Global political economy: Contemporary theories*, ed. Ronen Palan. London and New York: Routledge.
- Taylor, Marcus (ed.). 2008. *Global economy contested: Power and conflict across the international division of labour*. London and New York: Routledge Taylor and Francis Group.