Chapter 2
GVC-Oriented Development Strategy: Application to Cambodia

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Abstract

The framework of industrial policy has changed rapidly. The constraints on policy space and state capabilities have made traditional industrial policy increasingly difficult to implement. Thus an alternative development strategy needs to be presented. This paper introduces the background and content of the GVC-oriented development strategy. The paper first reviews the industrial policy in Southeast Asia, followed by the constraints on industrial policy faced by these countries, shrinking policy space and weak state capabilities. The paper then introduces the content of the GVC-oriented development strategy in sequence from a participation in GVCs to the upgrading phase. Finally, the paper applies the GVC-oriented development strategy to Cambodia. It will be shown that this strategy provides a useful policy framework that is applicable for developing countries like Cambodia.

1. Introduction

In the past, the sequence of industrial development was considered to proceed from import, to domestic production (i.e. import substitution), and then to export of manufactured goods, in line with the fundamental flying geese pattern of development (Akamatsu 1962). Simultaneously, a sequence of structural changes in industrial development can be seen with industries diversifying and upgrading from consumer goods to capital goods, and/or from simple to more sophisticated products. However, such a sequence of industrial development has become less clearly defined due to the spread of global value chains (GVCs).

For instance, as the famous example of the iPod (Linden et al 2009), the iPhone, and the iPad (Kraemer et al 2011) produced in China indicate, a current developing country

can leap into GVCs of high-tech products by specializing in a niche (labor-intensive) segment of the value chain and become a major exporter of high-tech products. Note that such a phenomenon occurs because the production processes that were previously performed in a single country can be fragmented across countries and shifted to less developed countries due to the rapid decline in trade and communication costs. The spread of GVCs has also affected the industrial development strategy of developing countries. Firstly, it is no longer necessary to build entire value chains from scratch as assumed in Akamatsu's model. Rather, a country can specialize in a niche segment of a value chain and then proceed to higher value chain activities through upgrading efforts. Secondly, globalization spurred by unilateral trade liberalization, the spread of regional trade agreements, and the WTO, has narrowed policy space for many developing countries, making infant industry protection, which was feasible in the past, increasingly difficult to implement.

As a result, an alternative development strategy that is consistent with the above constraints needs to be presented. The purpose of this paper is to introduce the background and content of the GVC-oriented development strategy, and is organized as follows. The paper first reviews the industrial policy in Southeast Asia, followed by the constraints on that industrial policy faced by these countries due to the shrinking policy space and weak state capabilities. Secondly, the paper refers to the unbundling theory presented by Richard Baldwin, which provides the historical background of the GVC-oriented development strategy. The paper then introduces the content of the GVC-oriented development strategy in sequence from participation in GVCs to the upgrading phase. Thirdly, the paper explores the applicability of the GVC-oriented development strategy with a particular focus on Cambodia. Finally, the paper offers a conclusion.

2. Review of the industrial policy in Southeast Asia

There are similarities in industrial policies that have been adopted by Southeast Asian countries since World War II (see Table 1). On the one hand, Singapore was the only country that switched to an export-oriented industrial (EOI) policy in the early stages after its independence from Malaysia in 1965. Some larger countries, on the other hand, adopted

an import substitution industrial (ISI) policy in the 1950s and 1960s and then proceeded to the second-stage ISI policy. Although Malaysia shifted to an EOI policy in the early 1970s, its ISI policy still remained in force simultaneously. In the middle of the 1980s, after Southeast Asian countries were faced with adverse economic conditions, such as declining and fluctuating prices of primary commodities and the limited success of ISI policies, all of these countries started to liberalize trade and investment. As shown below, liberalization in trade and investment was a critical factor that facilitated the expansion of production networks in Southeast Asia. Moreover, Japan and the newly industrialized economies (NIEs), such as Korea and Taiwan, relocated a labor intensive segment of their value chains to Southeast Asia in the face of the rapid appreciation of their currencies.

—Table 1—

Since the mid-1980s, CLMV (Cambodia, Laos, Myanmar, and Vietnam) have been undergoing economic transition in various ways: from central planning to a market economy, from an inward-looking to an outward-looking strategy, and from close economic relations with the Soviet bloc to closer economic relations with market economies (Chia 2006). Furthermore, CLMV adopted trade and investment liberalization policies that had been adopted by the older ASEN member countries; namely, the removal of foreign ownership restrictions and performance requirements and offering various investment incentives such as tax exemptions and duty drawbacks, and the establishment of special economic zones (SEZs) that provide a one-stop service and special Customs procedures. Vietnam, for example, undertook substantial trade reform during the Doi Moi reform in the late 1980s by addressing the anti-export bias in its earlier protective period and introducing privatization. (Chia 2004; Narjoko and Amri 2007).

2.1 Shrinking Policy Space

CLMV countries have joined the ASEAN Free Trade Area (AFTA) as well as the WTO since the 1990s and have made efforts to liberalize and open up their economies. Unlike economic reform undertaken by countries at their own initiative, the forces establishing

liberalization under FTAs and the WTO are formal and rules-based. Therefore, the rules are more stringently enforced and the policy space that defines the range of policy choices available to member countries is more strictly defined. The influence of the WTO (Uruguay Round) agreement on industrial policy includes tariff cuts, SCM, TRIMs, TRIPS, and GATS (see Table 2). Note that in addition to the ban on export promotion and import restrictions, the WTO, for instance, does not allow the member countries to support local suppliers through local content requirements under the TRIMs; reverse engineering and imitation have become less feasible under the TRIPs. These trade rules are considered to affect the upgrading efforts of less developed countries significantly.

—Table 2—

FTAs, on the other hand, liberalize not only the trade in goods and services but also investment and movement of natural persons among the member countries. Furthermore, a part of the latest FTA negotiations, in particular those that involve developed countries, impose stringent constraints on policy space. In the case of the Trans-Pacific Partnership (TPP), for example, Vietnam and Malaysia are facing strong pressure from the developed countries to open government procurement markets and address unfair competition associated with state-owned-enterprises (SOEs). In addition, the developed countries have requested stricter protection of intellectual property rights in the developing countries.

Since the Doha Round of trade negotiations stalled, many countries around the world have rushed to conclude FTAs negotiations. The ASEAN countries are no exception. In particular, the CLMV countries are involved in FTAs that have been concluded by ASEAN and other East Asian countries. As a result, market liberalization has derived policy options from these countries, and it has become increasingly difficult for CLMV countries to protect industry against competition in East Asia.

In view of the rising constraints on policy space imposed by the WTO and FTAs, industrial economists like Lall (2003) argued that if the accompanying costs are unduly high for developing countries aiming at industrial development, their rules must be

reviewed or relaxed. However, it is not realistic to expect that the current trend of trade negotiations will reverse in the foreseeable future. Furthermore, as economic integration proceeds from AFTA to the ASEAN Economic Community (AEC), and to the RCEP (Regional Comprehensive Economic Partnership), the ASEAN member countries will face fierce competition in broader areas.

In such a context the traditional debate about efficacy of infant industry protection has become less relevant, as many of these policies are illegal under the rules of the WTO and FTAs (Bora, Lloyd, and Pangestu 2000; Sturgeon and Lester 2004). It is thus more relevant to explore the policy measures that are effective in the era of trade liberalization and economic integration.

2.2 Constraints on State Capabilities

One of the important lessons learned from the public policy dispute in the 1990s was the importance of a state's capabilities in considering appropriate industrial policies for the developing countries. For example, the World Bank (1993) admitted that a part of the industry-specific policies, such as directed credit, might have worked for the first-tier Asian NIEs (Korea and Taiwan) but the second-tier Asian NIEs (Thailand, Malaysia, and Indonesia) do not have the necessary state capabilities, such as competent, meritocratic, and insulated technocracies. Thus selective government intervention would do more harm than good. The World Bank concluded that the second-tier Asian NIEs have achieved rapid growth and industrialization without resorting to industrial policies (in the case of Thailand), or by abandoning them (in the case of Malaysia and Indonesia), as summarized by Jomo et al (1997).

Although the assertions by the World Bank are rather rigid and have been criticized by many industrial economists, Jomo et al (1997), it is still critical to take into account the state's capabilities when considering the efficacy of industrial policy. For example, if the state's capabilities are too weak, selective government intervention, which gives government officials strong discretion over which industries shall be protected by the state, will not work or simply induces opportunistic behavior such as rent-seeking and corruption that leads to significant economic inefficiency. Then the costs of government intervention

(i.e. loss in economic efficiency due to government failures) may exceed any benefits (i.e. gain in economic efficiency due to correction of market failures). Thus, to prevent government intervention from becoming too costly, it is important to match the state's role with its actual capabilities (World Bank 1997).[1]

State capability relevant to industrial policy is not easy to assess, and the normal governance indicators, such as the rule of law and corruption indices, may not be appropriate; note that the first-tier Asian NIEs, including Korea and Taiwan, were not free from corruption in their early phase of development but still enjoyed rapid economic growth. On the other hand, McKendrick et al (2000) argue that two sets of related institutions are important for successful implementation of industrial policy; cohesive and autonomous bureaucracies and suitable mechanisms for public and private sector consultation. It is also important to establish a well-organized monitoring system for the promoted industries to avoid political intervention.

Although more efforts need be made to assess the state's capabilities of the CLMV countries, it is understood that such institutional capabilities cannot be built instantaneously, and they will constitute serious constraints on the efficacy of industrial policy implemented by these countries particularly in the early stages.

When considering the efficacy of industrial policy, the above two constraints of shrinking policy space and the constraints on states' capabilities are becoming increasingly important. In the following sections, I discuss an industrial development strategy whereby participation and upgrading of GVCs play a key role. In this strategy, liberalization of trade and investment that has been accelerated by the WTO and FTAs is fully incorporated and even encourages opportunities provided by the momentum of market liberalization. In this regard, such an industrial development strategy is likely to conform to one of the above constraints, the shrinking policy space. However, the government still needs to play a vital role, so that the other constraint, the state's capability, may be given careful consideration.

[1] This approach was officially demonstrated by the World Bank's two-part strategy (World Bank 1997). The two-part strategy has two elements. Matching the state's role to its capability is the first element. In particular, where state capability is weak, how the state intervenes and where, should be carefully assessed; many states try to do too much with little capability and often do more harm than good. The second element of the strategy is to raise the state's capability by reinvigorating public institutions.

3. GVC-Oriented Development Strategy

3.1 The 2nd unbundling and GVCs

Baldwin (2013) introduces his "unbundling theory" by referring to the history of international trade since the 1830s. Until the 1830s, production and consumption was forced together by poor transportation technology, and trade across borders was limited due to the extremely high trading cost. However, the steam revolution that produced railroads and steamships made it feasible to spatially separate production and consumption. Furthermore, as coordinating production requires a complex exchange of goods, services, investment, people, technology, and information among the different stages of production, bundling all the stages in a single site reduces the costs and risks involved in production. Consequently, lower trade and transport costs led production to cluster locally in the North (developed countries), leaving the South (developing countries) vastly de-industrialized.

In the second unbundling, which started in the mid-1980s, the ICT (Information and Communication Technology) revolution made it possible to coordinate complexity at a distance, and the vast wage difference between the North and the South made separation profitable. Consequently, a part of the production stages that were previously performed in the North were dispersed geographically, and the South obtained opportunities to participate in global value chains (GVCs)[2].

One of the most salient features of the 2nd unbundling is that the entry barriers to industrial development for developing countries were lowered substantially. In the period of the 1st unbundling, countries sought to build entire value chains by adopting an import substitution policy, using a sequence of the 1st stage- and 2nd stage-import substitution that respectively sought to protect and promote the development of downstream and upstream industries. However, such policies did not work well in many developing countries with notable exceptions of the East Asian countries, such as Korea and Taiwan. In the period of

[2] Spatial economics also explains how income disparities between the North and the South expanded during the period of the 1st unbundling, but have shrunk in the 2nd unbundling as a result of the relocation of industries (Krugman and Venables 1995, Puga 1999). Baldwin's novelty lies in the introduction of coordination costs into the model to explain the phenomenon of production fragmentation.

the 2nd unbundling, on the other hand, developing countries can initially specialize in a niche segment of the value chain. Then, as they acquire technological and managerial capabilities, they can reach the higher value chain segments.

3.2 The 1st Phase—Participation in GVCs

The GVC-oriented development strategy consists of two phases, participation and then the upgrading phase in the GVC. In the first phase, developing countries seek to participate in GVCs. In this phase, priority should be given about how to attract value chain activities that were previously located in the developed countries.

Less developed countries have both advantages and disadvantages vis-à-vis the developed countries. Obviously, the advantages of less developed countries are an abundant labor force and lower labor costs. These factors constitute the dispersion force that induces the fragmentation of production processes and the relocation of labor intensive production activities from the developed countries (home countries of investment) to less developed countries (host countries of investment).

On the other hand, the relocation of production activities incurs additional costs due to the loss of the agglomeration benefits in the home countries. Firstly, intermediate inputs need to be imported from the home countries, and final products are often exported back to the home countries. Thus, additional trade and transport costs are incurred. Moreover, coordination costs are incurred to manage the complexity of transactions at a distance. Secondly, new production facilities need to be established in the host countries, so that additional production facility setup costs are incurred: note that such costs increase substantially if the investors face cumbersome paperwork and red tape in setting up the new production facilities. Thirdly, (a part of) the operating costs are typically higher in less developed countries due to the less favorable business environment and less efficient infrastructure. For example, utilities' (electricity, gas, and water) supply in less developed countries is often more costly and less stable than in developed countries. Productivity by the labor forces in less developed countries is lower than in developed countries. Furthermore, many less developed countries have less efficient and less transparent

bureaucratic institutions, so that investors have to pay a higher price to deal with the bureaucracy, in terms of time, cost, and uncertainty.

It is thus a rather simple exercise to derive policy implications for participating in GVCs. Given the cost advantage of less developed countries, in particular labor costs[3], additional costs that are incurred with the fragmentation of production processes should be minimized to the extent that the net benefits of the relocation are positive. That is to say, the government should implement effective policy measures that substantially reduce ① Trade costs in a broad sense (which includes trade costs, transport costs, and coordination costs), ② Production facilities' setup costs, and ③ Operating costs associated with relocation of the production facilities.

Policy measures to cut transport costs shall include improving the transport infrastructure, such as ports, roads, railways, and airports. Trade liberalization and facilitation plays a vital role in reducing trade costs across borders. Liberalization of the trade in services, such as transportation, communications, finance, and business services, affect trade and transport costs as well as the coordination costs.

Liberalization of investment, as well as protection of investors' property rights, removes the entry barriers for foreign direct investment. Moreover, the government of the host country must pay sufficient attention to the business environment. For example, by providing a one-stop government service, which simplifies the paperwork and cuts out ministry middlemen looking for under-the-table money, will significantly reduce the costs, time, and uncertainty for investors. In particular, special economic zones (SEZs) should provide not only the one-stop service but also an efficient infrastructure and utility service that is lacking in many developing countries. Establishing SEZs is therefore one of the most effective ways to cut both setup costs and operating costs, particularly in countries with limited resources.

Regarding the location of SEZs, it is shown that economic integration increases location advantages of frontier regions, such as border regions and port cities (Kuroiwa

[3] Other cost advantages of less developed countries include lower land price, less congestion, and other negative externalities associated with urban industrial agglomerations. Moreover, less developed countries like Cambodia are trying to attract foreign direct investment by offering generous tax incentives.

2012). In particular, when a developing country is bordered by a (more) developed country, the border regions in the developing country can attract labor-intensive production activities from the developed country. This is because (when sourcing and distribution is conducted between the two countries) the border region provides the most efficient (i.e. the lowest trade cost) access to the production site or major market in the developed country[4]. Thus, it is strategically important to set up SEZs in frontier regions to exploit the location advantages to the fullest extent. Meanwhile, existing metropolitan areas may still have advantages, because they can provide agglomeration economies, such as a lucrative local market, pooling of skilled workers, specialized suppliers, dense transport networks, knowledge, and information externalities.

Less developed countries in Southeast Asia, such as Cambodia, Laos, and Myanmar, have been involved in GVCs for a limited number of industries, such as garments and shoes. However, they do need to participate in GVCs in a greater variety of industries by improving access to the international market. By doing so, they can diversify their industrial structure and stabilize their economies.

3.3 The 2nd phase—upgrading in the GVCs

The 2nd phase of the GVC-oriented development strategy is to upgrade in the GVCs. Compared with the 1st phase, the 2nd phase is more challenging for many developing countries. But such a challenge is unavoidable if they wish to sustain economic growth even after passing through the 1st phase[5]. Upgrading can be defined in several ways, but what is most basic and often quoted in value chain literature is upgrading in value chains at firm level.

(1) Upgrading at firm level

[4] One of the most well-known examples is the northern border region of Mexico where US manufacturers flocked to set up factories after integration of the Mexican and US economies (Hanson 1996).

[5] The reason why upgrading is necessary is straightforward. After entry into GVCs, developing countries can continue economic growth for some time by taking advantage of cheap labor. However, after the surplus labor disappears, the labor cost starts to rise. Then, it is necessary for firms or industries to shift to higher value added activities.

A definition of upgrading in value chains is given by Humphrey and Schmitz (2002). They identified four different upgrading paths:

① Process upgrading – Firms can upgrade processes by transforming inputs into outputs more efficiently through superior technology or reorganized production systems.

② Product upgrading – Firms can upgrade by moving into more sophisticated product lines that can be defined in terms of increased unit values.

③ Functional upgrading – Firms can acquire new functions in the chain, such as moving from production to design or marketing, to increase the overall skill content of their activities.

④ Inter-chain upgrading – Firms apply the competence acquired in a particular function of a chain to a new industry. For example, firms in the apparel industry may shift to other value chains, such as technical textiles for non-apparel use.

Among the four types of upgrading, the functional upgrading is most frequently mentioned in the value chain literature. In the case of the apparel value chains, for example, the stages of the functional upgrading are described as follows (Frederick, 2010):

① Firms in developing countries enter the value chain at the assembly or Cut, Make, and Trim (CMT) production segment.

② By developing the necessary competencies in sourcing and direct distribution to retail outlets, the firms are able to upgrade to become Original Equipment Manufacturer (OEM) suppliers.

③ By performing the design functions, firms upgrade to the Original Design Manufacturing (ODM) stage, where they carry out all steps involved in the production of a finished garment, including design, fabric purchasing, cutting, sewing, trimming, packaging, and distribution.

④ By incorporating branding of products, firms enter the Original Brand Manufacture (OBM) stage of the value chain. In developing countries, firms typically enter this stage with brand development for products sold in their domestic or the neighboring country markets.

As discussed above, the value chain literature focuses on the firm level capabilities. The key to upgrading is how production technology, management know-how, and market information (including information on international standards, specifications, codes, etc.) is transferred from the lead (foreign) firm to the local firm. For instance, if the lead firm is a buyer of the product made by the local firm through OEM, then the lead firm has an incentive to transfer technology to improve the quality of the product. But it will lose the incentive to do so if the local firm becomes a competitor by upgrading to OBM.[6] It is therefore more difficult, both risky and costly, for the local firm to carry out the functional upgrading, especially for a higher stage of the upgrading ladder.

Regarding policy instruments to support upgrading at the firm level, Sturgeon and Lester (2004) emphasized the importance of macroeconomic stability; credit at affordable rates of interest; basic education for the workers, and education for the engineers and technical staff that are needed in particular for the transition to original design manufacture (ODM); and addressing the problems of market imperfection, uncertainty, the cumulative nature of investment decisions and path dependency that cause under-investment for upgrading efforts[7].

In sum, upgrading efforts require a set of policy measures that are different from those for joining GVCs. In particular, learning and the acquisition of technological capabilities can be stimulated through involvement in GVCs, but they should be complemented by explicit effort and investment by the firms. Moreover, since investment in upgrading is likely to suffer from a series of market failures, the state's intervention is indispensable.

(2) Upgrading at the industry level

[6] The value chain literature is concerned with how value chain governance affects the prospect for upgrading of firms. For instance, it is shown that a quasi-hierarchal chain, where a lead firm exercises a high degree of control over the other firms in the chain, offers very favorable conditions for fast process and product upgrading but hinders functional upgrading (Humphrey and Schmitz, 2000). Value chain governance is explored intensively by Gereffi et al (2005).

[7] Meanwhile, Humphrey (2004) pointed out the importance of transport infrastructure development; access to imported inputs, in terms of not only low tariff or duty-free imports but also the physical and bureaucratic infrastructure to enable goods to be imported quickly; access to specialist foreign labor that is supported by suitable work permit and visa regimes; and trade policies that do not obstruct upgrading—for instance, preferential access schemes that restrict local content, such as the Maquila system in Mexico, are damaging to upgrading prospects.

a. Formation of operational clusters

Although more value added can be captured by upgrading at the firm level, a sole focus on the firm level value chain activities is obviously too narrow. This becomes more obvious when considering the positive externalities generated by spatial agglomeration of firms, i.e. agglomeration economies. One of the most important sources of agglomeration economies is the input-output relationship between the suppliers (i.e. upstream firms) and assemblers (i.e. downstream firms) or industrial linkages. This circular causality creates operational clusters, which can then be utilized to induce industrial upgrading of the local economy.

In operational clusters, the assemblers and suppliers are co-located due to the economies of proximity in the input-output relationship (i.e. lower transport, logistic, and inventory costs, faster ramp-up in production, etc.)[8]. For instance, if the assemblers and suppliers are co-located in the same region, the assemblers obtain benefits due to the lower costs of procuring inputs from the suppliers (i.e. forward linkage effects). On the other hand, the suppliers also enjoy benefits because they can capture local demand for inputs generated by the relevant assembler (i.e. backward linkage effect). Such linkage features cumulatively affect the location choices by firms, so that industry activities are geographically concentrated in specific regions or countries (Krugman and Venables 1995, Puga 1999). Furthermore, it will provide an opportunity for upgrading the industrial structure, as described below:

First let us suppose that the developing countries have joined GVCs by attracting foreign assemblers. Then, these assemblers generate demand for local suppliers through the backward linkage effect. However, since the demand is initially too small and the required technology and skill is not available from the local suppliers, a large portion of the intermediate inputs need to be imported from the developed countries. This however is significantly costly given the transport costs of the intermediate inputs entailed in the production activities. Thus, after the scale of production reaches a certain threshold—where additional setup costs and operational costs associated with the relocation of production facility can be offset by the saving in transport costs—agglomeration economies, in

[8] Other causes of operational clusters are agglomeration externalities, such as pools of specialized labor, home-market effects, and hub formation (Nishikimi and Kuroiwa, 2011).

particular the backward linkage effects, may induce foreign suppliers to set up factories in the developing countries.

Or alternatively, local suppliers may join GVCs and start to provide intermediate inputs for foreign assemblers. In both such cases, upgrading can be achieved by extending the domestic segment of the value chain toward the upstream and thereby capture the higher value added[9]. It should however be noted that the latter case is more desirable for developing countries in the sense that it will induce technology transfer from the foreign assemblers to the local suppliers.

Regarding policy measures, the government can play an important role in match-making the foreign assemblers with local suppliers. Firstly, the government can bridge the information gap by providing information about local suppliers to the foreign assemblers and vice versa. Secondly, the government can reward foreign assemblers that make an extra effort to help local suppliers by means of tax deductions and other payments[10]. Furthermore, the government can provides assistance to local firms by extending credit, tax incentives, technology assistance, skill training, and certification schemes on the quality of products[11].

On the other hand, the government can induce foreign suppliers to set up factories in the country by offering a variety of incentives, including tax concessions, and establishment of industrial estates specialized for SMEs, which can accommodate small-sized foreign suppliers with lower costs.

Compared with Northeast Asian countries, Southeast Asian countries have relatively weak supporting industries. For instance, while a large number of China-based firms are relocating production facilities to Southeast Asia due to rising labor costs in China, they often face shortages of parts and components available in the local market. It is

[9] As an alternative industrial strategy, the domestic segment of the value chain can be extended toward the downstream, by exploiting the forward linkage effects. For instance many developing countries are exporting minerals and agricultural products without significant processing. Developing countries can capture a larger share of the value added by establishing processing industries for these commodities.

[10] A notable example of such a scheme was the Industrial Linkage Program (ILP) that was initiated in Malaysia in 1997. In the ILP, anchor firms, in particular multinational firms, were expected to provide not only market access but also technical support and managerial assistance to the local vendors. In exchange, the anchor firms were given special favors including tax concessions.

[11] Needless to say, the private sector needs to respond actively to the incentives offered by the government. The government policy would not work without private sector dynamism.

crucial for lower-middle income countries in Southeast Asia, such as Vietnam, Indonesia, and the Philippines, to nurture supporting industries and develop operational clusters. In particular, local SMEs should be encouraged to overcome technological handicaps and establish links with the foreign assemblers.

b. Formation of technological clusters

While agglomeration and clustering increases the competitiveness of industries, a part of the industrial activities, especially in the low-skilled and labor-intensive segments, is increasingly offshored to less developed countries. The remaining segment of industrial activity, on the other hand, needs to be upgraded and involve higher value-added activities. In order to achieve this, (in addition to capital formation) innovation and knowledge creation play critical roles. Simultaneously, economic growth needs to shift from an input-driven to a productivity-driven growth pattern.

As in operational clusters, agglomeration and clustering play an important role in the formation of technological clusters. In technological clusters, tacit knowledge can only be transferred through face-to-face contact between brain workers and accumulated over time inside the cluster, whereby knowledge externalities are expected to occur as a result of such interaction and improve the efficiency of R&D activities (Martin and Ottaviano 1999, 2001; Fujita 2003). It should also be noted that technological clusters attract higher value added activities and are more entrenched in their local environment than other types of clusters, so that they can remain longer in the same location.

Regarding policy instruments, more emphasis should be placed on education, in particular tertiary or higher education. Simultaneously, more resources, both public and private, should be allocated to R&D activities. The government can encourage private firms, including multinational firms, to invest in R&D by offering generous tax and other incentives. It should also be noted that research collaboration between private firms and universities or public research institutions is expected to generate synergy effects.

The notion of cluster-based industrial development has already spread around Southeast Asia. Singapore, which has already reached the high income level, places its priority on the development of technological clusters especially in the bio- and information-technology

industries. Furthermore, technological clusters appear increasingly important for upper-middle income countries, such as Malaysia and Thailand, in overcoming the "middle-income trap" and rising to the higher-income status.

4. GVC-oriented development strategy for Cambodia

Until recently, Cambodia has only been involved in GVCs of labor intensive industries, such as garments and footwear, utilizing its GSP (General System of Tariff Preferences) privilege for less developed countries. In recent years, however, more technologically sophisticated industries, such as electronics, precision components, and automotive parts have started to shift to Cambodia. In particular, Japanese firms based in Thailand, Vietnam, and China, which are facing rising labor costs and labor shortages in these countries, have started to shift labor intensive manufacturing operations to Cambodia.

Considering the current stage of industrial development in Cambodia, priority should be given to joining GVCs in a greater variety of industries. Such a trend should be encouraged, so that the value chain activities can be upgraded and diversified at the later stages. In the following, the GVC-oriented development strategy is explored with a particular focus on Cambodia.

4.1 Policy space and state capabilities

Cambodia underwent a drastic economic change after its transition toward a market economy in 1989. Cambodia has adopted liberal and open policies toward foreign competition, because ① It wished to return to the international community as early as possible after a long period of internal conflict since the 1970s; and ② (Partly due the devastation caused by the conflicts) there remained few industries to protect against foreign competition. In particular, it should be noted that Cambodia renounced infant industry protection and opened up its market to foreign competition to a greater extent than the neighboring countries. For instance, the Law on Investment 1994 provides similar treatment to foreign and domestic investors alike, with the exception of the issue of land (Hatsukano, Kuroiwa, and Tsubota, 2011). As a result, 100 percent foreign-owned enterprises are allowed not only in the manufacturing sector but also in the service sector,

such as wholesale, retail, transportation, construction, finance, and insurance. (JETRO, 2013).

Regarding regional trade agreements, Cambodia joined the ASEAN Free Trade Area (AFTA) in 1999, so that, in line with the Common Effective Preferential Tariff (CEPT) scheme, Cambodia could reduce tariff rates to 0-5% for Inclusion List (IL) items by 2010; 0% except for some IL items by 2015; and 0% for all IL items by 2018 (0-5% for Sensitive List (SL) and Highly Sensitive List (HSL) items by 2017). In addition to the AFTA, regional trade agreements covering ASEAN and six other East Asian Summit (EAS) member countries, i.e. the ASEAN-China FTA, ASEAN-Japan FTA, ASEAN-Korea FTA, ASEAN-India FTA, and ASEAN-Australia-New Zealand FTA—have been concluded since the mid-2000s. Moreover, Cambodia became the first less developed country (LDC) to join the World Trade Organization (WTO) in 2004.

Consequently, the policy space of Cambodia has been constrained by these legal, policy, and institutional frameworks, which have exposed its economy to more competition in East Asia. Moreover, one of the most distinguishing characteristics of Cambodia is that it has liberalized and opened up its economy unilaterally (although this is partly due to the pressure from the IMF and the World Bank). While foreign competition may disturb the development of local firms on some occasions, such a policy stance may seem reasonable or justifiable, given the fact that ① Cambodia has a small domestic market and weak industrial capabilities (lacking internationally competitive human resources, capital, and technology); ② Dense production networks have already been developed in neighboring countries, so that it is more likely to participate in GVCs by opening up its economy to trade and investment; and ③ The government may lack the institutional capabilities necessary to implement selective government intervention without causing rent-seeking and economic inefficiency.

From the viewpoint of GVCs, the liberal and open policy stance of Cambodia encourages participation in GVCs, as discussed below.

4.2 Participation in GVCs

As discussed in Section 3.2, participation in GVCs can be encouraged by reducing additional ① Trade costs, ② Setup costs, and ③ Operating costs, associated with the relocation of production facilities to less developed countries. In the case of Cambodia, various measures have been taken to promote participation in GVCs.

① While educational attainment is relatively low, Cambodia offers significantly lower labor costs than neighboring countries: average yearly labor costs (factory workers in Japanese firms) in Cambodia, Vietnam, Thailand, and China were respectively 1,424, 2,196, 5,662, and 5,765 USD (JETRO 2012, JETRO 2013). Thus, Cambodia is likely to attract labor intensive manufacturing operations from neighboring countries, provided that the additional costs associated with production fragmentation are cut sufficiently.

② Trade liberalization in Cambodia has been promoted by unilateral reforms, as well as its affiliation with regional trade agreements and the WTO[12]. Furthermore, trade and transport costs have been reduced in Cambodia by establishment of the Southern Economic Corridor―which improves the connectivity between Bangkok, Phnom Penh, and Ho Chi Minh City, and implementation of the cross-border transport agreement (CBTA), which includes provisions for one-stop/one-window inspection at border checkpoints, has simplified visa formalities and the exchange of traffic rights.

③ As discussed in Section 2.2, setup costs and operating costs could be reduced substantially by the establishment of special economic zones (SEZs). Moreover, where SEZs are located in frontier regions, such as border regions and port cities, significant trade costs can be saved. In Cambodia, 25 SEZs have been approved so far, but the active SEZs that accommodate foreign firms are located in either the border regions with Thailand (Koh Kong and Poi Pet), the border regions with Vietnam (Bavet), a port city (Sihanoukville), or the Phom Penh metropolitan area. While the Phom Penh metropolitan area is not a frontier region, it has the advantage over other regions in terms of market size, the pool of skilled labor, specialized suppliers, transport nodes, and living conditions suitable for expatriates.

[12] The other important factor was the duty-free tariff preference scheme for LDCs. Actually, many foreign firms (in particular Chinese firms) producing garments and shoes invested in Cambodia to enjoy the benefits of this scheme.

As a result of these efforts, Cambodia has started to attract a greater variety of manufacturing activities in recent years. In particular, regional integration efforts, such as the establishment of free trade agreements, economic corridors, CBTAs, and SEZs, have played a key role in attracting manufacturing operations from the neighboring countries.

However, more effort is need to address the other bottlenecks for investment in Cambodia, such as the high cost of electricity[13], weak governance[14], shortage of skilled workers, and low educational attainment[15]. By doing so, Cambodia may accomplish the 1st stage of the GVC-oriented development strategy in a relatively short period of time.

4.3 Upgrading in GVCs

In addition to the geographical advantages of Cambodia (being located in the middle of the rapidly growing East Asian economies), it offers generous tax incentives, such as maximum 9 years of corporate tax holidays and exemption from import duties for construction materials, production equipment, and input materials. However, such advantages could be offset by the serious disadvantages firms face in procuring intermediate inputs. Due to the lack of supporting industries, almost all inputs need to be imported from the neighboring East Asian countries, and this reduces the competitiveness of firms operating in Cambodia. As seen in Vietnam, it may become more urgent and necessary for Cambodia to nurture supporting industries and develop operational clusters, when labor costs rise to a higher level. It should therefore be prepared for upgrading, while priority should still be placed on joining GVCs in a greater variety of industries. In particular, local SMEs, as well as foreign SMEs, should be encouraged to participate in GVCs as suppliers of inputs, services, and

[13] More than 60 percent of the electricity consumed in Cambodia is imported from neighboring countries. Thus the electricity price in Cambodia is 1.5-2.0 times as high as in the neighboring countries (JETRO 2013).

[14] It is often pointed out that in Cambodia transparency and accountability in the public sector is very poor. Cambodia is ranked 160th (out of 177 countries) in the Corruption Perception Index, 2013 by Transparency International.

[15] The literacy rate of Cambodia was 78.4 percent in 2008. In particular, the literacy rate of adults aged 45 and over was very low at 21 percent. These problems occurred because Cambodia lost a great amount of human resources―in particular intellectuals and educated people―during the period of the Khmer Rouge and Pol Pot regimes in the 1970s

equipment with the policy assistance of the government[16]. As discussed in Section 3.3, the government is expected to play an important role in addressing the market failures faced by local SMEs.

5. Conclusion

The framework of industrial policy has changed rapidly. The constraints on policy space and state capabilities have made traditional industrial policy increasingly difficult to implement. Thus an alternative development strategy, which is consistent with these constraints, needs to be presented.

The GVC-oriented development strategy is composed of two phases, a participation phase in GVCs, and then an upgrading phase. The 1st phase appears relatively easy for Cambodia, because Cambodia is neighbored with East Asian countries where labor costs are rising rapidly. Moreover, Cambodia has made various efforts, such as unilateral trade liberalization, affiliation with regional trade agreements and the WTO, establishment of economic corridors and SEZs in frontier regions, to liberalize its economy and integrate with its neighboring East Asian countries. Cambodia is in a good position to exploit these advantages, and it has actually started to attract a greater variety of manufacturing activities, including manufacturing more technologically sophisticated products than before. However, the lack of supporting industries is likely to be a burden for industrial development, as labor costs start to rise rapidly. It is therefore necessary for Cambodia to prepare for the 2nd phase. In particular, local SMEs, as well as foreign SMEs, should be encouraged to participate in GVCs as suppliers of inputs, services, and equipment, combined with the policy assistance of the government.

[16] As discussed in footnote 9, an alternative strategy for upgrading in GVCs is to extend the domestic segment of the value chains to the downstream. Cambodia is doing so, for instance, by prioritizing milled rice (rather than un-milled rice) exports (Hatsukano and Tanaka 2014).

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Table 1: Evolution of Industrial Policies in East Asia, 1950s-1990s

Economy	1950s	1960s	1970s	1980s	1990s
Japan	1950-58 IS	1959- EO	1967- Liberalization	Mid 1980s Deregulation	Internationalization
China		1965-76 Defense/industry (heavy industrialization)	1977-1978 Plant importation	1980s Coastline liberalization (light industries)	1990s Infrastructure High technology
Hong Kong (China)	1950- EO (laissez-faire, education, infrastructure, institutional support)			1979- Improved institutional support for industry	1990s Upgraded support for technology
Korea, Republic of		1961-72 EO	1973-79 EO IS (heavy industry)	1980- Liberalization (trade, investment, finance)	1990s Deregulation since mid-1980s (innovation-oriented)
Taiwan	1953-57 IS	1958-80 EO			1986- Liberalization
Singapore	1950s IS (while still part of Malaya)	1960s-1980s EO			1990s Strategic independence (high technology and services) Regionalization
Malaysia	1950-70 Moderate IS Added EO		1971-85 Continued IS EO		1986- Liberalization
Thailand		1961-71 IS	1971-86 IS (capital goods, beginning in 1981)		1986- EO Technology-incentive Industries Some EO
Indonesia		1967-73 Stabilization Beginning IS	1974-85 Strong IS		1986- Liberalization EO
Philippines	1950- IS	Continued IS		1980s Liberalization (political instability)	1990s Continued liberalization (strengthened political stability)

Note: IS-import substitution, and EO-export orientation
Source: Masuyama, Vandenbrink and Chia (1997); table 1.1

Table 2: Impacts of the WTO rules on Industrial Policy Instruments

WTO rules	Impacts on industrial policy instruments
1. Tariff protection	Average tariff protection has declined except for certain sensitive industries
2. The Agreement on Subsidies and Countervailing Measures (SCM)	The Agreement on Subsidies and Countervailing Measures (SCM) prohibits export subsides by countries with income per capita above US$1,000. Subsidies that are conditional on exports are prohibited, as are subsidies that encourage the use of domestic rather than imported inputs.
3. The Agreement on Trade-Related Investment Measures(TRIMs)	Under the TRIMs Agreement, a number of investment performance-related measures that have an effect on trade are prohibited. Such measures include local content requirements, trade balancing requirements, technology transfer, local employment and R&D, and so on.
4. The Agreements on Trade-Related Aspects of Intellectual Property Rights (TRIPS)	The required strengthening of protection of intellectual property rights under the TRIPS agreement increases a need for local firms to innovate and compete dynamically; reverse engineering and imitation have become less feasible. Trade sanctions can now be applied to countries deemed to be deficient protecting intellectual property rights.
5. General Agreement on Trade in Service (GATS)	The GATS allows sectoral commitments to be made for the four modes of supplying services: cross-border, consumption abroad, commercial presence, and movement of natural persons. Through the inclusion of commercial presence as a mode of supply, rules on foreign investment in services have now become part of the multilateral trading system.
6. Infant Industry Protection	GATT Article XVIII, Section A and C, allows members that are in early stages of development to use trade barriers to protect domestic industry. As tariff bindings expand, developing countries may have to rely increasingly on Article XVIII, along with safeguards and domestic subsidy programs, to protect domestic industry.
7. Special and Differential (S&D)Treatment by WTO	The WTO has numerous special and differential treatment provisions in favor of developing countries. The approach to S&D treatment in the WTO, however, has typically been limited to transitional arrangements, complemented by the de minimis provisions.

Source: Adapted from Bora, Lloyd, and Pangestu (2000), Pangestu (2002) and Lall (2003)