Industrialization through Servicification in Lao PDR

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March 2017

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Introduction

In 2016, "Lao PDR at the Crossroads: Industrial Strategies 2016-2030", was compiled and published by Economic Research Institute of Asean and East Asia (ERIA), as a response to request by Lao PDR's ministry of industry and commerce². In that report, services, particularly transportation, finance and special economic zone (SEZ) development were identified as foundation needed for industrialization in Lao PDR (Laos henceforth). This report elaborates further on the roles that services might play in industrialization in Laos, and hence the title "Industrialization through Servicification in Lao PDR". It is a collection of five research papers prepared by the members of a research project with the same title, organized by the Institute of Developing Economies, Japan External Trade Organization (IDE-JETRO).

Industrialization in developing countries since latter half of 20th centuries, when globalization rapidly progressed, was essentially materialized through attracting foreign direct investment (FDI) from industrialized countries, during which large number of factories were relocated to labor-abundant developing countries (Markusen and Venables 1999, Narula and Dunning 2000, Zhao and Zhang 2010). A handful of developing countries successfully taped into this opportunity, effectively industrialized their economies, and became high income countries in a matter of a few decades. Most other labor-abundant developing countries, including those attracted substantial foreign industrial activities, are still struggling to overcome middle income traps. This report's primary concern is labor-scarce developing countries which stood almost no chances in this setting. The question this report seeks to answer is how can small developing countries industrialize in a globalized world, where FDI plays overwhelming role, but have so many places to chose from. Services, or servicification emerged naturally as an alternative way to prosperity. Nonetheless, servicification is a concept based on postindustrialization phenomena observed in industrialized countries (Lodefalk 2010). Furthermore, servicification without strong industrial base has also been proved to be ineffective as a development strategy in some mid to large developing countries (Bosworth and Collins 2008). In this report, servicification is looked at not as an alternative, but a compliment tool to industrialization strategy. Value-added created at pre- and post-manufacturing process is said to increased significantly since 1990s

² http://www.eria.org/RPR-FY2015-2.pdf

(Baldwin et al. 2014). If so, it should be logical to assume that providing cheaper and/or more efficient manufacturing related services may also attract manufacturing activities similarly to cheap and large pool of labor did in the past.

This report is comprised of five chapters. Chapter 1 considers implications of servicification of manufacturing on industrialization strategies of small developing countries, taking the land-locked Laos as an example. It concludes that fostering pre- and post-manufacturing services presents Laos a better chance to plug itself into transnational production networks and make progress with industrialization. These manufacturing related services require relatively less labor input, and hence fit better with Laos' small population size, whereas logistics may also enhance the benefit of Laos' position as a land in-between globally large manufacturing bases. Chapter 2 contends that liberalizing trade in services, especially those with strong linkages with the global value chain, would further promote inward FDI. It quantifies the levels of trade liberalization in Laos and neighboring countries with "Hoekman Indices" based on commitments mainly in international agreements Asean Framework on Services (AFAS). It predicts that further liberalization of trade in services, especially those related to manufacturing, would induce higher economic growth in Laos. Chapter 3 links effects of manufacturing related services on industrialization as predicted by several simulation results related to Laos, based on Institution of Developing Economies and ERIA's Geographical Simulation Model (IDE/ERIA GSM), to reality in Laos. It identifies trade facilitation of Thai-Lao Mekong Friendship Bridges, development Inland Container Depot (ICD), as potential candidates of Trade and Transportation Facilitation Measures (TTFMs) that would attract more manufacturing activities to Laos. In addition, it also documents emergence of significant non-TTFM but manufacturing related services in Laos.

Considering transportation infrastructures and urbanization as services strongly related to manufacturing, Chapter 4 quantitatively traces development of logistic infrastructures by mode of transport, urbanization and servicification in Laos. Although development of logistic infrastructure and urbanization progressed, it raises the lack of domestic resources, and incompetent local players as challenges to further advancement. It identifies the dominance of non-manufacturing related services in growth of services in Laos as a constrain of diversification and upgrading of manufacturing. It suggests that promotion of trade in services, especially those related to manufacturing is the key to advance industrialization. Lastly, Chapter 5 reviews history of Special Economic Zone (SEZ) development and its contribution to industrialization in Laos. It begins by presenting SEZ as a way to mobilize external investment to fulfil targeted growth in Laos' National Socio-Economic Development Plan (alternatively five-year plan). It observes

that a few SEZ in the Capital City and Savannakhet have contributed to industrialization by plugging Laos to regional and global production network. As such, it identifies SEZ as a manufacturing related servicification, and key to industrialization. It provides a list of policy implications from focusing on existing SEZ, business friendly regulatory framework, labor mobility, interaction among SEZ and local firms surrounding them as keys to success.

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Chapter 1

Servicification and Industrialization of Small Developing Countries in a Globalized World³

Masahito Ambashi and Souknilanh Keola

1.1Introduction

Industrialization in developing countries since latter half of 20th centuries, when globalization rapidly progressed, was essentially materialized through foreign direct investment (FDI) from industrialized countries, during which large number of factories were relocated to labor-abundant developing countries, where wages were lower (Markusen and Venables 1999, Narula and Dunning 2000, Zhao and Zhang 2010). A handful of developing countries successfully taped into this opportunity, effectively industrialized their economies, and became high income countries in a matter of a few decades. Most other labor-abundant developing countries, including those attracted substantial foreign industrial activities, are still struggling to overcome middle income traps. This report's primary concern is labor-scarce developing countries which stood almost no chances in this setting. The question is how can small countries make progress with industrialization in a globalized world, where FDI play overwhelming roles, but have so many places in developing countries to chose from. Identifying practical answer/answers to this question, in Laos's perspective in particular, is the ultimate goal of this chapter.

Servicification of manufacturing, or the increasing use of services in manufacturing, provides indicative insights to this question. First, opportunities to enter into fragmented international production networks emerge, and also expand, in pre- and post-manufacturing processes. Since services, especially those related to manufacturing, tend to employ less jobs (See for example Reder, 1941), less populated countries may stand a

³ In writing this chapter, I am heavily indebted to Morikawa (2016), who carefully surveyed various studies, mainly from the viewpoint of the Japanese service industry. I obtained much information from his book when organizing the chapter overall and referring to existing studies.

chance in attracting them. It is certainly difficult for developing countries to start in areas such as high valued-added Research and Development (R&D), there are many pre- and post-manufacturing processes that are less technology-intensive. Second, as share of value-added in pre- and post-manufacturing, of manufacturing processes, is said to be increasing significantly in recent decades (Baldwin, 2014), small countries which can supply them with relative cheaper prices, may also be attractive to manufacturing activities themselves.

This chapter considers implications of servicification of manufacturing on industrialization strategies of small developing countries, Laos in particular. The rest of this chapter is structured as follows. Section 1.2 put together related strands of literature to construct our argument. Section 1.3 looks at evidences of servicification of trade globally, regionally, and in Laos, paying special attention to the content of growing services. Section 1.4 discusses how service liberalization can contribute to servicification. Section 5 concludes.

1.2 Fragmentation, Servicification and Industrialization Strategies for Small Developing Countries

In this chapter we review several strands of literature to construct our argument on alternative industrialization strategies in small countries. First literature surrounding fragmentation proposed by Jones and Kierzkowski (1990) explains it as international specialization at the level of the manufacturing production processes and tasks within production networks. According to this theory, fragmentation of production occurs when the processes and tasks are broken up to make use of the advantage of spatial locations in each country and region. The decision on fragmentation made by firms is dependent on the "production costs" inside production blocks and "service-link costs" of connecting different production blocks.⁴ This concept is well illustrated in Figure 1.1 drawn by Kimura and Ando (2005). Production blocks are transferred to outsources beyond the firm's boundary in various forms, such as by sub-contracting, original equipment manufacture (OEM), and electronic manufacturing services (EMS). In a nutshell, this argument emphasizes that in addition to the savings of production costs in the individual fragmented production blocks, the cost of the service link connecting remotely located production blocks should be lowered to operationalize such fragmented manufacturing

⁴ Initial network-setup costs are also critical to interlink different production blocks.

production.



Figure 1.1 Fragmentation of Production Processes

Second is literature surrounding servicification of manufacturing process. Though the word 'servicification' was not explicitly used, Reder (1941) observed the increasing trend of high-paid service jobs in the U.S., but warned that total number of employment could decline as a result. Observing expansion of services in the U.S. Barngrover (1963) argued for the needs to study further on the role of service industries in economic development. Through examination of the Great Britain's data in since 1970s, Damesick (1986) showed that 'producer services', or those served 'non-production functions within manufacturing companies' were significant and could be effective to promote regional growth. The word 'servicification' dates back, to the best of our knowledge, to the paper titled 'Unemployment and the Crisis of the German Model: A Long-term Interpretation', by Paqué (1993) in which he defined it as a situation that 'physical routine work is replaced by machine activity, which is supervised and serviced by a smaller number of better-skilled workers. It took several decades for this phenomenon to surface in globally.

Lodefalk (2010) was among the first to consider this topic in the context of international trade and production network. Using firm level data of Sweden, Lodefalk showed how Swedish manufacturing used and sold more much more services. If production is divided into three stages, namely, pre-manufacturing (or fabrication) services, manufacturing, and post-manufacturing, Figure 1.2 illustrates how value-added for pre- and post-manufacturing increased, while value-added of manufacturing decreased before and after 1990s. The underlying mechanism lies in a change, such that manufacturing goods become more directly connected with the knowledge-based service

Source: ERIA (2015).

elements such as professional skills and know-how. On the one side, the intermediate input of services (e.g. accounting, professional business consulting) into the manufacturing production processes have been propagating, and on the other side, the service elements of intra-firm activities add more weight. It is pointed out that the value added by the manufacturing industry in the developed countries has shifted either to "upstream" business activities (e.g. R&D, product design) or to "downstream" business activities (e.g. R&D, product design) or to "downstream" business activities (e.g. marketing, after-sales service), which typically depicts a "smile curve" along the production stages. Modern servicification in the manufacturing industry is closely related to such smile curve (Baldwin et al. 2014). As evidence, Crozet and Milet (2015), who focus on large samples of French firms, found that manufacturing firms selling services increase profitability (by 3.7-5.3%), employment (by 30%), total sales (by 3.7%), and sales of goods (by 3.6%) compared to those not having them. In addition, Fang et al. (2008) found a U-shaped relationship between the share of services to total sales and a firm's market value using data for publicly listed manufacturing firms.



Baldwin (2011) proposed "2nd Unbundling" (cf. 1st Unbundling) as a mechanism to explain this phenomenon, in which factories and facilities (including goods, know-how, ideas, capital, investment, and people) are unbundled with the support of information and communication technology (ICT) in order to trade in raw materials, final goods, and services through disintegrated production processes, which constitutes a strong trade, investment, and services nexus. In this sense, the 21st century's industrialization is closely interlinked with so-called "servicification", which specifically assumes that value

added from the service sector is more important in manufacturing output than it was in the past. Furthermore, it is not surprising that aside from production and trade, existing services are more elaborate through the use of new technology such as ICT as the service economy advances.





For developing countries seeking to industrialize their economies, fragmentation theory suggests they should try to attract production blocks by offering cheaper manufacturing costs. Traditionally, especially during the latter half of 20th century, this was mostly done through supply large amount of labor. This was obviously not a choice that less populated Laos could take. However, if servicification of manufacturing continues, manufacturing costs can also be reduced by pre- and post-manufacturing processes. If so, countries or regions that can provide them cheaply and/or efficiently should be attractive to manufacturing. Given current advancement of global production network, and predominance of MNEs in it, we argue that plugging into the network through attracting FDI, is still the best industrialization strategy for developing country. In fact, even developing countries with the largest pool of labor such as China became the factory of the world through this strategy. It is also obvious that India is struggling with industrialization because of its reluctance to involve FDI.

Nonetheless, less populated Laos does not have large amount of labor to offer. This is the reason why we propose Laos, a labor-scarce developing countries, should try to begin with trying to attract FDI on pre- and post-manufacturing processes, which require less number of labor input. we argue that Laos' industrialization strategies should also seek servicification around both edges of the smile curve. In fact, any manufacturing related services should be considered. Concretely, as suggested in Nishimura et al. (2016),

Source: Baldwin (2011).

transportation (logistics), energy (electricity) finance are considered foundation necessary for manufacturing and potential sectors in Laos. Among other things, the transportation sector is regarded as a main facilitator of logistics of manufacturing companies. In addition, transportation is of critical importance to the Laos that has for a long time encountered the geographic disadvantages of a "landlocked" country. In short, we advocate that attracting FDI in manufacturing related services is an alternative way for less populated developing countries to move forward with industrialization in globalized world.

Current servicification in Laos happens mainly on segments that are not much or directly related to manufacturing. Next, section elaborate this from official data.

1.3 Servicification in Laos: Domination of Non-Manufacturing Services

This section examines the progress of servicification in Laos and beyond. For Laos we will pay attention to the content of servicification, or their relation with manufacturing. As illustrated in Figure 1.3, whereas absolute value of both goods and service exports have been increasing steadily, normalized value of exports reveals that the export of services has recorded relatively high growth recently compared to the export of goods. In particular, whereas the growth of goods' export has stagnated since 2011 (in fact, it has decreased from 2014 to 2015), services' exports have accelerated the growth rate during the same period. Taking into account this recent trend, it seems that the trade in services will continue to increase in accordance with the servicification of many economies. The well-known "Petty-Clark's Law" argues that as economies develop, gross domestic product (GDP) per capita, the employment share, or the consumption expenditure share of the agricultural industry is expected to decrease, and subsequently, that of manufacturing is expected to increase, followed by the service industry. We can regard this as a structural transformation, which can be defined as the reallocation of economic activity across three broad sectors (i.e. agriculture, manufacturing, and services) that is associated with the process of modern economic growth (Herrendorf et al., 2014).

For Laos, increase of service trade was approximately 14 times between 2015 and 1985. Service trade, defined as total of service import and export, increased from a little less than 100 million to 1,400 million USD in 2014. It is worth noting that none-service trade expanded much more during this period, as a result of sharp increase of mineral resources and energy since the beginning of 2000s. Servicification can be evaluated from industrial structure. Table 1.1 presents the industrial structure divided into agriculture,

manufacturing, and the service industry, of the ASEAN countries including the Laos.⁵ Remarkably, the service industry in most ASEAN countries already occupies the largest share, more or less 50%, excluding in Singapore. The Laos exhibits a similar pattern in its industrial structure as Cambodia and Myanmar, where agricultural share is still high, while the manufacturing share is relatively low. ⁶ In particular, the share by the manufacturing industry in the Laos is ranked at the bottom of the ASEAN countries, so that the need for further industrial promotion policy is suggested to reinforce the foundation of industrialization.





Source: WTO statistics database, "Time series on international trade".



Figure 1.4 Total Service Trade in Laos (million USD)

Note 1: The service data is available up to 2013. 2: The export values are normalized to 100 as the value in 1980. Source: W/TO statistics database "Time series on international trade"

⁵ As there are industries such as fishery, forestry, and mining other than the industries listed in Table 1.1, the total percentage in each country does not amount to 100%.

⁶ The mining industry is a primary industry excluded from Table 1.1, is considered to still occupy the largest share in the Lao PDR's industrial structure.

Country	Agriculture	Manufacturing	Service
Brunei Darussalalm	0.8%	15.9%	32.4%
Cambodia	30.5%	16.3%	42.4%
Indonesia	13.7%	21.6%	43.3%
Lao PDR	23.9%	8.1%	42.5%
Malaysia	9.2%	24.2%	49.8%
Myanmar	27.9%	19.9%	37.7%
Philippines	11.3%	20.5%	57.5%
Singapore	0.0%	18.4%	75.0%
Thailand	10.5%	27.7%	52.7%
Viet Nam	18.1%	17.5%	43.4%

Table 1.1 Industrial structure in ASEAN (2014)

Source: United Nations statistical database.

Figure 1.5 traces the change of the Laos industrial structure, and we find that it has now started a process of manufacturing development. On the other hand, while the service industry in the Laos has gained a high share at around 40-50% since 1980 to date, this could be mostly explained by relative large share services to foreign population and tourists. Not all services are equally related to manufacturing. For instance, as illustrated in Table 1.2, services in Laos is dominated by whole sale and retail, which has GDP's share larger than Thailand and Singapore. Whole sale and retail trade in Laos is mostly small scale and local market oriented, and is therefore less relevant with manufacturing. On the contrary, GDP's share of transport, finance, and real estate, which can be regarded as more relevant to manufacturing are very low in Laos. GDP's share of transport and storage in 2014 is about 3% approximately half that of Thailand and Singapore. In brief, while share of services to GDP in Laos is high, this is a result of none manufacturing services.





Source: United Nations statistical database.

	Lao PDR	Thailand	Singapore
Wholesale and retail trade	18%	15%	15%
Transport and storage	4%	7%	7%
Fiancial intermediation	3%	8%	12%
Real estate	3%	7%	15%

Table 1.2 Share of Major Service Sectors (% of GDP, 2014)

Source: ADB Key Indicators.

1.4 Service Liberalization and Servicification

In this we examine service liberalization which is a key to FDI-driven servicification. In spite of the facilitation of international trade enabled by new technology, such as advanced ICT, many cross-border obstacles still remain in the global economy, including those facing by service trade. Among other things, it is frequently reported by foreign firms that there exists a good number of non-tariff barriers (NTBs) for the trade in services in ASEAN, in particular, by the developing ASEAN countries, including the Laos. In fact, the services industry has a tendency of being a target of regulation in many countries, including the developed nations in the fields of utilities, transportation, and finance. This is because these industrial sectors are inevitably related to economic security suitable for the provision of public services.

In this predicament, ASEAN launched a negotiation regarding the trade in services' liberalization of commercial presence (Mode 3) based upon the ASEAN Framework Agreement on Services (AFAS) in 1996. According to the ASEAN Economic Community (AEC) Blueprint 2015, that illustrated the rough goals of services' trade liberalization in the region, it is made clear that a foreign capital investment ratio that exceeds 70% should be permissible and that the restrictions of market access to services' supply should be removed in stages.⁷ With regard to the recent development of the AFAS negotiations, the ASEAN countries signed the AFAS 9th package in November 2015. Indeed, the AFAS intends to eliminate unnecessary regulations and promote liberalization processes concerning the services trade in ASEAN as much as possible, but the degree of liberalization still does not appear satisfactory.

 $^{^7}$ The AEC Blueprint 2015, also prescribes that all regulations on the services trade should be removed with regard to Mode 1 and Mode 2, except the regulations on the basis of bona fides, and that the restrictions of national treatment for Mode 4 should be removed according to an agreed schedule.

	7th package	8th package	9th package	10th package
Original target year	AEM 2008	AEM 2012	AEM 2013	AEM 2015
Total sectors	65	80	104	128
Prioritised sectors	29 (51%)	29 (70%)	29 (70%)	29 (70%)
Logistics	9 (49%)	9 (51%)	9 (70%)	9 (70%)
The others	27 (49%)	42 (51%)	66 (51%)	90 (70%)

Table 1.3 Goals for the trade in services liberalization (Mode 3) in AFAS.

Note: 1. The percentages indicate the threshold of the permissible foreign capital investment ratio.

2. The number of sectors subject to negotiation in the 10th package is 128 sectors except for the financial and aviation services.

3. AEM is the abbreviation for the ASEAN Economic Ministers Meeting.

Source: The ASEAN Secretariat (2015).

Among the 104 sectors, 29 priority integration sectors and 9 logistical sectors allow for a foreign capital investment ratio that exceeds 70%, the other 66 sectors still set the limit at only 51%. In the AFAS 10th package, which is under negotiation by the affiliated countries, the sectors subject to negotiation increase from 104 to 128, and accordingly, 90 sectors are set as the next target of liberalization aiming at the level of 70% of the foreign capital investment ratio (Table 1.3). In addition, the AEC Blueprint 2025, which is the successor to the AEC Blueprint 2015, states that the next agenda for the services trade liberalization is to facilitate negotiation and implementation of the ASEAN Trade in Services Agreement (ATISA) for further integration of the services sector in the region, with a view to attract more FDI and support local firms' participation in the global value chains (GVCs).

Although the services trade liberalization in ASEAN has progressed very steadily, the speed is very slow and behind the agreed schedule.⁸ It is necessary that the ASEAN countries further liberalize the services trade and eliminate the domestic restrictions that hinder investment for the reasons explained in the following sub-sections. As an empirical finding, gravity models using cross-country data demonstrate that the physical distance between the exporters and importers has a greater negative impact on the trade in services than goods trade (Van der Marel and Shepherd, 2013). This result seems quite plausible, because it is not easy to transport services over long distances. (Imagine an extreme situation where a hairdresser needs to travel a long distance and cross borders to provide consumers with his or her service). In another study, the overhead cost of the trade in

⁸ Chapter 2 (Service Liberalization in the Lao PDR) demonstrates that the service liberalization level of "ASEAN plus 1 FTAs" (Australia-New Zealand, China, and the Republic of Korea) also remains quite low.

services was also estimated as twice as much as for the trade in goods (Miroudot et al., 2013). From these findings, liberalization of the trade in services by means of the reduction of NTBs and unnecessary regulations is expected to bring about a positive economic impact, which would be much greater than a further round of goods tariff elimination. More precisely, while goods liberalization has almost been achieved in the framework of the ASEAN Trade in Goods Agreement (ATIGA),⁹ liberalization of the international trade in services within ASEAN still has much leeway as we observed in sub-section 4.1, and hence, could benefit much to the economies of the affiliated countries. In particular, it can be said that further liberalization of the remaining 90 sectors is the benchmark for the AFAS and ATISA, as to whether the services market in ASEAN in the region is open or not.

Itakura (2015), conducted a series of policy simulations based on the computational general equilibrium (CGE) model regarding the Regional Comprehensive Economic Partnership (RCEP) focusing on ASEAN, which employs the sectorial average applied tariff rates for goods trade, and also the estimates of tariff equivalents of the services trade barriers, the latter of which are estimated by the sector-specific gravity model by the Rhodium Group and Peterson Institute for International Economics. In this estimation, the tariff equivalents of the services trade barriers include logistical costs, namely, days needed for transportation, which are incurred by the services trade. Table 1.4 presents an estimate of the applicable tariff rates by the manufacturing sector and the tariff equivalent for the services sector, respectively. We can easily find from the table that although we need to care about measurement errors, the tariff equivalent for the services sector (utilities, trade, transportation, communication, finance, and other services) are generally much higher than the average tariff rates applied to the manufacturing sector by most ASEAN countries, including the Laos. It is therefore anticipated that the CGE model simulation exhibits a larger positive economic impact for eliminating the services trade barriers for GDP, exports, investments, and employment. Under the assumption being made that tariff rates are reduced by 50% and that the logistics for the goods trade and services trade barriers are improved by 7%, the result of Itakura (2015) demonstrates that GDP, exports, and investments in the Laos will increase by 1.3%, 0.6%, and 2.3%,

⁹ Liberalization of the trade in international goods was positioned at the core of the AEC and progressed according to the schedule set by the ASEAN Free Trade Area (AFTA). As a successor of the AFTA, the ATIGA came into effect in 2010, which directed the current liberalization of the goods trade in ASEAN. With regard to the trade liberalization rate calculated as a share of zero-tariff items to total items, the ASEAN 6 countries (Brunei Darussalam, Indonesia, Malaysia, the Philippines, Singapore, and Thailand) and the CLMV countries (Cambodia, Lao PDR, Myanmar, and Viet Nam) record 40.1% and 9.6%, respectively, as of 2000. However, the two category countries drastically increased the trade liberalization rate to 99.2% and 90.8%, respectively, by 2015 (ASEAN Secretariat, 2015).

respectively, within 2030 compared with the baseline levels. While this seems a moderate result, the economic impact on the Laos is not negligible.

	Cambodia	Indonesia	Lao PDR	Malaysia	Philippines	Singapore	Thailand	Viet Nam	RoSEAsia
Primary	4.1	3.1	3.4	3.7	4.2	0.0	7.0	4.4	1.8
Energy	0.0	0.0	0.7	1.7	0.0	0.0	0.0	0.5	1.9
BvrgTbcc	6.4	7.6	5.7	38.5	5.2	1.4	14.1	24.4	12.0
Textile	4.2	1.6	0.8	5.7	1.5	0.0	4.7	6.3	6.9
Apparel	15.3	6.9	2.2	9.2	1.9	0.0	12.7	11.1	4.2
Leather	4.8	2.7	1.8	3.2	4.0	0.0	10.7	6.5	2.6
Wood	9.0	1.3	3.4	2.3	2.5	0.0	5.7	3.7	3.6
Paper	3.3	1.6	1.5	4.2	2.9	0.0	2.5	5.2	1.0
PetCoProduct	3.9	1.0	1.2	0.2	0.0	0.0	1.8	4.2	0.7
Chemical	2.6	2.4	1.6	2.9	1.7	0.0	4.3	2.1	1.3
Minerals	3.7	3.8	0.8	7.7	1.7	0.0	5.0	7.5	1.1
FerrousMetal	2.1	2.1	0.6	11.3	0.9	0.0	2.3	1.1	0.7
OtherMetal	3.0	1.0	2.9	2.3	0.5	0.0	0.5	0.7	1.1
Motorvehicle	11.8	5.1	8.6	8.2	4.6	0.0	12.3	12.2	6.8
TransprtEquip	5.8	1.1	8.5	1.2	3.3	0.0	3.5	7.7	1.7
ElecEquip	8.6	0.2	2.2	0.1	0.6	0.0	1.1	1.0	4.0
Machinery	6.8	2.0	1.8	1.9	0.8	0.0	3.8	2.2	2.7
OthMnfct	4.9	2.7	5.5	4.0	1.1	0.0	5.6	11.5	3.5
Utilities	80.7	178.8	52.9	63.6	138.0	0.0	97.3	152.2	n.a.
Trade	89.1	185.0	58.9	67.5	143.4	0.0	110.0	157.9	n.a.
$\operatorname{TransComm}$	78.4	167.4	46.6	54.0	126.6	0.0	96.0	138.4	n.a.
Finsbusi	77.4	159.9	46.1	53.1	123.2	0.0	93.0	136.7	n.a.
OthSrvc	87.0	181.0	58.8	63.6	140.2	0.0	107.4	154.6	n.a.

Table 1.4 Average applied tariff rates and tariff equivalents for ASEAN in 2015 (%)

Note: RoSEAsia represents the other East Asian countries including Brunei Darussalam, Myanmar, and East Timor. Source: Itakura (2015).

Meanwhile, we need to assess carefully the impact of competition by foreign firms

on the Laos's economy, whether it is positive or negative. Lao firms, especially SMEs, may still be vulnerable to strong foreign competitors. However, excessive "protectionism" by industrial policy is highly likely to result in stagnation of productivity improvement by the Lao economy, which is also particularly the case with the services industry that seems to suffer from low productivity at the present moment. In this regard, the regional mega FTAs, such as the RCEP, could be beneficial for the Laos too, because they focus more on the investment rules and liberalization of the trade in services with the aim to set a level playing field.¹⁰ To sum up, the Laos needs to make the best use of the existing and future FTAs (naturally, including the AEC) as well as the WTO system through appropriate liberalization of its services industry in order to strengthen competitiveness.

Furthermore, in relation to the trade in services, it is noticeable that the free movement of natural persons, known as Mode 4 in GATS, is an essential impetus to provide services internationally. Foreign workers (Sometimes called immigrant workers) can affect domestic employment, job creation, and wage levels, depending on the skill relationship between the domestic and foreign workers – whether the workers are reciprocal complements or substitutes. Evidently, if the industrial structure of a particular country is largely comprised of labor intensive industries, the introduction of a number of low-wage workers into the country will decrease domestic employment and lower the average wage level, which suggests that the complementarity between workers is critical for the immigrants is positively associated with wage and labor productivity by domestic workers, and in particular, highly-skilled immigrants are more likely to have a

positive effect.¹¹ Consequently, it may be useful for the Laos to accept "highly-skilled"

immigrants from the neighbouring developed countries such as Thailand, in order to learn about advanced technology and service management skills. Interestingly, as Nishimura et al. (2016) pointed out, Thai managers would face relatively fewer obstacles due to the commonality of their languages and culture with Lao workers, which operates in favor of

¹⁰ The Trade in Services Agreement (TiSA) under the WTO system is expected to be concluded in due course, in addition to the existing GATS.

¹¹ Immigration, realized by the free movement of natural persons, is also significant in terms of creating innovation. According to surveys, technology and knowledge spillover is brought about by people, especially scientists, related to R&D investment (Almeida and Kogut, 1999). The notable example, although is in a developed country, the agglomeration of Silicon Valley as an innovation engine in the U.S., where the movement of immigrants, labor market of scientists, and entrepreneurs are dynamic and flexible (Saxonian, 1994). The importance of amenities in city areas in the Lao PDR to promote the services industry and innovation is referred to in Chapter 4.

business collaboration. For this reason, Nishimura et al. (2016) proposed in their policy recommendations that the Laos should learn more from Thai firms and workers by exemplifying the case of the renewable energy industry, which has been developed successfully in Thailand. This viewpoint also indicates that the Laos should make maximum use of its advantage to catch up with the other ASEAN countries through learning by doing based on successful cases, not limited to Thailand as in this renewable energy example.

Lastly, from the perspective of services extended to manufacturing, we can reinterpret the role of industrial estates, whose importance was also stressed by Nishimura et al. (2016), as a public service provider for manufacturing firms.¹² In order to establish a competitive edge by the manufacturing industry, the Laos needs to improve the business environment in the industrial estates by providing a variety of useful services including hard and soft infrastructure, such as electricity, transportation, and management offices in the industrial estates. We can argue that this kind of operation demanded inside the industrial estates exactly corresponds to services provision. Chapter 5 (SEZ and Industrialization in Lao PDR) conducts a detailed analysis of the services to be developed in the Laos's industrial estates. According to the WTO data, the trade for services has been increasing rapidly since the 21st. century (Figures 1.1 and 1.2). In general, international trade has led to savings in transaction, transport, and time costs incurred by multinational firms that export and import within their business group across a number country (Spulber, 2007). These features of international trade are, of course, the case with the services trade. In this context, we have to note that the facilitation mechanism of the services trade could be a tool to accelerate industrialization via servicification in the Laos.

1.5 Conclusions

In this chapter, we have reviewed the relationship between servicification and industrialization, in the context of industrialization strategies in small countries, focusing on Laos in particular. By examining global trade data, we reaffirmed the increasing importance of the services industry relative to the manufacturing industry since the start of the 21st century. Servicification matters for industrialization even in developing countries such as the Laos for the following reasons. Firstly, servicification in the Laos is promising, since the middle and higher-income groups are rapidly emerging, which will

¹² Industrial estates may contribute to reducing production costs in a production block rather than the services linked costs.

contribute to economic growth of the macro economy. In addition, while it is typical that the services industry may suffer from lower productivity than the manufacturing industry, improvement in productivity of the former is more likely, for example, in the tourism industry of the Laos, which is an important sector to increase inbound consumption. Secondly, manufacturing production has been related to services' provision, enhancing the services industry will also benefit manufacturing. The recent fragmentation of production also requires the Laos, which is starting to participate in GVCs in the East Asian region, to reduce the services linked costs by facilitating its services industry. Thirdly, inward FDIs and the free movement of natural persons are likely to positively affect the Laos's economy from the perspective of the micro- and macro-economic level.

In fact, it is reasonable that nurturing the manufacturing industry be prioritized in the Laos. The manufacturing sector is still under-developed in the Laos, and in particular, labor intensive industry such as the garment industry will generate much employment using the abundant low-wage labor force. Presently, the largest share of GDP is occupied by the services industry, and it is wiser that the Laos reinforces servicification in conjunction with promotion of the manufacturing industry as its industrialization strategy. Essentially, the Laos has much potential for servicification owing to its critical location within the Mekong region, so one frequently argues that the Laos should transform itself from a "landlocked" to a "land-linked" nation. It is important that the Laos should consider how to enjoy the benefits of servicification with the aim of industrialization by developing the potential advantages.

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Chapter 2

Liberalization of Trade in Services by Lao PDR¹³

Hikari Ishido*

2.1Introduction

3

Lao PDR (Laos henceforth) has been liberalizing its policy on trade in services with strong linkages with the global value chain. The development can be further driven by foreign direct investment (FDI). An important point to be mentioned here is the indispensable role of trade in services for the promotion of inward FDI: trade in services has a supporting function for other value-adding activities. Internationally connected road transportation services, for example, would surely benefit Laos as a land-locked economy.

This paper is structured as follows. Section 2.2 looks into the performance of trade in services for Laos, Cambodia and Vietnam. Section 2.3 compares the degree of service trade liberalization by calculating "Hoekman Indices" of Laos, Cambodia and Vietnam on AFAS 9. The point to be stressed is that service trade liberalization in Laos brings higher economic growth to the country. Major differences can be seen in Mode 3, the commercial presence. In particular, we listed up the sectors in which Laos made lower commitment than Cambodia and Vietnam in Mode 3. Section 2.4 makes an overview of Laos's road transport services, based on a field survey and backed theoretically by spatial economics. Section 2.5 makes some policy conclusions in connection to the liberalization of trade in services by Laos.

3.1The importance of trade in services for Laos

The global production networks, which stretch beyond national borders, can play a critical role in facilitating economic development in Laos. Since the 2000s, those production networks grew further as a result of bilateral and regional trade agreements. Those bilateral and regional trade agreements have tackled with tariff elimination and reduction, non-tariff barrier reduction, service liberalization, investment facilitation, economic cooperation and other areas to attract more FDI and formulate more strong and resilient production networks in this region. However, it is said those agreements in this region provided limited liberalization except for the tariff elimination and reduction and non-tariff barriers (NTB) and services barriers are still high.

Now, the urging pressure for upgrading and economic growth, with rapid wage increase and newcomers catching up with forerunners, requires a new stage of liberalization in services sector. One wave is coming from the Trans-Pacific Partnership

¹³ The overall framework of this paper draws heavily on Ikumo Isono and Hikari Ishido (2015).

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(TPP), which is a mega free trade agreement requiring members a high level of liberalization, and another one is the China (Shanghai) Free Trade Zone, which promotes services and investment liberalization driven by China herself.

Table 2.1 shows the performance of trade in services Cambodia, Laos and Vietnam in recent years. As shown, Laos's trade in services remains limited, although trade surplus is observed.

		(Culliboulu, Euos u	
Country	Vear	Total export to the	Total import from the world
Country	1 cai	world (US\$ million)	(US\$ million)
Cambodi a	2008	1,606	958
	2009	1,525	909
	2010	1,669	972
	2011	2,213	1,323
	2012	2,545	1,546
	2013	2,786	1,768
	2014	3,811	1,882
	2015	-	-
	2008	402	108
Lana	2009	397	136
Laos	2010	511	263
	2011	550	331
	2012	577	341
	2013	781	534
	2014	764	497
	2015	799	585
	2008	7,006	7,956
	2009	5,766	8,187
Vietnam	2010	7,460	9,921
	2011	8,691	11,859
	2012	9,600	12,520
	2013	10,711	13,820
	2014	10,970	14,500
	2015	11,200	15,500

 Table 2.1 Performance of trade in services

 (Cambodia, Laos and Vietnam)

Note: The figures include trade in services under Mode 1 (cross-border supply of services) only. Source: Made from the United Nations Service Trade Database.

The argument that urges service liberalization to both developing and developed countries is supported by new insights coming from the latest studies on trade and investment. A United Nations Conference on Trade and Development (UNCTAD) report on *the Global Value Chains and Development: Investment and Value-added Trade in Global Economy* discusses the international trade, global value chains and value-added nexus. The report gives a new perspective for understanding the pattern of global trade of value-added. There are three eye-opening findings. First, 80% of the global trade is dominated by international production networks through intra- or inter-firm transaction.

Second, global value chain leads to "double counting" of global trade data when we only look at the customs statistics. Approximately 28% of gross exports are the value-added attached to the products or services which have been generated in a third country and imported to the exporting country as a part of parts and components. Finally, the trade in goods contains a large amount of service trade. Service trade accounts for only 20% of gross global exports in the current customs statistics, while the service trade industry creates nearly half of the value added inputs to exports because the manufacturing of products for export requires extensive services. Based on the discussion, service liberalization will enhance the competitiveness of the manufacturing industry through providing a high quality services to manufacturing firms in a reasonable price.

A study on the China (Shanghai) Free Trade Zone (Kumagai *et al.* 2015) reveals that service liberalization in China through expanding the geographical coverage of the Free Trade Zone would bring about higher economic growth of the country while the regions in China which did not join the liberalization and the surrounding economies would have negative impacts. It implies the existing of a kind of trade diversion effect and suggested surrounding countries including ASEAN countries to reduce services barriers with stronger political initiatives.

2.3 Comparison with Cambodia and Vietnam by Hoekman Index and investment data

We conducted a comparison analysis of service liberalization of Laos with Cambodia and Vietnam by the Hoekman Index. The Hoekman Index is a simple indexation by Hoekman (1995).

The following three-fold symbolic classification is used for constructing a database of ASEAN countries' commitments by each sub-sector, by mode and by aspect of liberalization:

N: No limitation (bound);

L: Limited (or restricted) but bound;

U: Unbound.

		01.A. Pro	ofessional S	Services		01.B. Computer and Related Services			01.C. Research and Development Services 01.D. Real Estate Services								
		Mode1	Mode2	Mode3	Mode4	Mode1	Mode2	Mode3	Mode4	Mode1	Mode2	Mode3	Mode4	Mode1	Mode2	Mode3	Mode4
Indonesia	MA	N	N	L	L	N	N	L	U	N	N	L	U	U	U	U	U
	NT	N	N	L	L	N	N	L	L	N	N	L	L	U	U	U	U
Malaysia	MA	N	N	L	U	N	N	N	U	N	N	L	U	U	U	U	U
	NT	N	N	L	L	N	N	N	U	N	N	N	U	U	U	U	U
Philippines	MA	U	U	U	L	N	N	L	L	N	N	U	U	U	N	U	U
	NT	L	U	U	L	N	N	N	L	N	N	U	U	U	N	U	U
Singapore	MA	N	N	L	U	N	N	N	U	N	N	N	U	N	N	N	U
	NT	N	N	N	U	N	N	N	U	N	N	N	U	N	N	N	U
Thailand	MA	U	N	N	U	N	N	N	L	N	N	N	L	N	N	N	L
	NT	N	N	N	U	N	N	N	L	N	N	N	U	N	N	N	U
Brunei	MA	L	L	L	U	N	N	L	U	N	N	L	U	U	U	U	U
	NT	L	L	L	U	N	N	N	U	N	N	U	U	U	U	U	U
Cambodia	MA	N	N	L	U	N	N	N	U	U	U	U	U	U	U	U	U
	NT	N	N	N	U	N	N	N	U	U	U	U	U	U	U	U	U
Laos	MA	N	N	L	U	N	N	L	U	N	N	L	U	U	U	U	U
	NT	N	N	L	U	N	N	L	U	N	N	U	U	U	U	U	U
Vietnam	MA	N	N	N	U	N	N	N	U	N	N	N	U	U	U	U	U
	NT	N	N	N	U	N	N	N	U	N	N	N	U	U	U	U	U
Myanmar	MA	N	N	L	U	N	N	N	L	N	N	N	L	U	U	U	U
	NT	N	N	L	U	N	N	N	L	N	N	N	L	U	U	U	U

Table 2.2 An illustration of the threefold classification

The constructed database has been utilized to undertake indexation of the degree of service trade liberalization by country. The first such undertaking is to show the degree of liberalization by "Hoekman Index".

Hoekman (1995) proposes an indexation method for measuring the WTO's GATS¹⁴style degree of commitment in the service sector. This method assigns values to each of 8 fields (4 modes times 2 categories--market access (MA) and National Treatment (NT)--), as follows: N=1, L=0.5, U=0; then calculates the average value by service sector and by country.

Using the database constructed, the "Hoekman Index" has been calculated for each sub-sector.

First, we compare the indices by simple average of 154 subsectors under AFAS 9 and the ASEAN Agreement on the Movement of Natural Persons (AMNP). Table 2.3 shows that Laos has higher overall index than Cambodia and Vietnam.

			10.040						
	MA				NT		Total		
	Mode1	Mode2	Mode3	Mode4	Mode1	Mode2	Mode3	Mode4	
Cambodia	0.41	0.50	0.48	0.00	0.41	0.50	0.48	0.00	0.35
Laos	0.64	0.64	0.48	0.07	0.64	0.64	0.50	0.07	0.46

Table 2.3 Simple Average of 154 sub-sectors under AFAS 9 and AMNP

0.44

Source: Calculation based on the specific commitment tables of the three countries under AFAS 9 (for modes 1-3) and the ASEAN Agreement on the Movement of Natural Persons (AMNP).

0.03

0.41

0.61

0.44

0.00

0.36

Laos shows higher commitments in many subsectors. Among 154 subsectors, Lao RDR has 44 subsectors whose indices are higher than Cambodia in mode 1, mode 2 or mode 3. On the other hand, however, Laos (in terms of market access) has 25 subsectors whose indices are lower than Cambodia in mode 1, mode 2 or mode 3.

Second, comparison of those indices for Mode 3 in the market access in AFAS 9, specifically, in the priority integration sectors of ASEAN Economic Community is made. In the absence of the official definition of the ASEAN Economic Community (AEC) "priority integration sectors" of e-ASEAN, air transport, healthcare, logistics, and tourism, we take the following sectors as the priority integration sectors:

01.B. Computer and Related Services

0.35

0.61

02.C. Telecommunication Services

- 04.B. Wholesale Trade Services
- 08.A. Hospital Service

Vietnam

- 09.B. Travel Agencies and Tour Operators services
- 09.C. Tourist Guides Services
- 11.A. Maritime Transport Services
- 11.B. Internal Waterways Transport
- 11.C. Air Transport Services
- 11.E. Rail Transport Services
- 11.F. Road Transport Services.

In most of these sectors, the following two sectors in Laos have no lower

¹⁴ General Agreement on Trade in Services.

commitments than those in Cambodia in AFAS 9¹⁵ Only in the three sectors, namely, 04.B.Wholesale Trade Services, 09.C.Tourist Guides Services, and 11.F. Road Transport Services, does Laos lag behind Cambodia under AFAS9.

At the most detailed 154 sub-sector level, Table 2.4 lists those subsectors in which Laos showed lower commitments than those for Cambodia (in terms of market access and in either of the modes 1-3). *These sectors should therefore be the main priority of liberalization for Laos.*

Table 2.4 Subsectors that should be prioritized in Laos

- 01.Af Integrated engineering services
- 01.Fa Advertising services
- 01.Fc Management consulting service
- 01.Fd Services related to man. consulting
- 01.Fe Technical testing and analysis serv.
- 01.Fk Placement and supply services of Personnel
- 01.Fm Related scientific and technical consulting services
- 01.Fq Packaging services
- 04.A Commission agents' services
- 04.B Wholesale Trade Services
- 04.C Retailing Services
- 04.D Franchising
- 05.C Higher Education Services
- 05.D Adult Education
- 05.E Other Education Services
- 09.C Tourist Guides Services
- 10.A Entertainment Services
- 11.Fa Passenger transportation
- 11.Fe Supporting services for road transport services
- 11.Ga Transportation of fuels
- 11.Gb Transportation of other goods
- 11.Ha Cargo-handling services
- 11.Hc Freight transport agency services
- 11.Hd Other transportation services

Note: The criteria are "Laos has lower commitment than Cambodia in either of Modes 1-3 in the market access in all the 154 subsectors".

Source: Author.

Next, let us observe the four subsectors i.e., wholesale trade services, retailing services, travel agencies and tour operators services and road passenger transportation, for the comparison analysis of the Hoekman indices for Laos, Cambodia and Vietnam.

¹⁵ Refer to Appendix A for details (the priority sectors defined in this paper have the indication "priority" in their table headings in parentheses).

We include 04.C. retailing services because the subsector has many small and medium enterprises and the potential impact of liberalization is considered large. Figure 2.1 summarizes the comparison analysis. In those subsectors, overall, Laos has lower commitment than those in Cambodia and Vietnam. Confronting a new stage of liberalization in services sector, such as the TPP or the China Free Trade Zone, Laos should seriously take those subsectors into account.



Figure 2.1 Detailed Comparison for selected Subsectors (under AFAS 9) 1-1

Notes: MA means Market Access; NT means National Treatment. Source: Calculation by the author.

MA

Cambodia Cambodia Lao PDR Lao PDR Vietnam

MA

NT

NT

■ Mode1 ■ Mode2 ■ Mode3

MA

NT

Vietnam



Notes: MA means Market Access; NT means National Treatment. Source: Calculation by the author.



Notes: MA means Market Access; NT means National Treatment. Source: Calculation by the author.

An important recent development is the liberalization of wholesale and retail services in Laos in May, 2015 in some degree¹⁶: Until then, foreign investors has not been admitted. In response to this deregulation, several investment projects (by Chinese, Thai,

¹⁶ The revised regulation (No.1005/MOIC.DDT) allows foreign wholesalers and retailers with the registered capital amount of 4 billion Kip (some 500 thousand US dollars) or more to invest in the wholesale/retail sectors.

Vietnamese and Lao investors) in the wholesale/retail sectors are under concrete proposal. This is for sure a welcome trend. Under AFAS 9, however, the commitment in those sectors remain the same i.e., nil for the wholesale/retail sectors. This is because of the existence of so-called "water" or policy free space, which could be defined as "the difference in liberalization between the actual policy and the commitment under a free trade agreement". Because of the existence of this water, the policy change in favor of inviting foreign investment in the wholesale and retail sectors is subject to future change (in the direction of restriction back again). In this sense, Laos could commit further liberalization in these important sectors in a future version of AFAS.

As for the status quo of foreign direct investment, Table 2.5 shows Japanese firms' direct investments in Cambodia, Laos and Vietnam compared. As compared with Cambodia and Vietnam the number of Japanese firms operating in Laos is rather limited, and concentrated in the capital (Vientiane). Considering the supporting role of service firms for other business activities (i.e., agriculture and manufacturing), the total number of 5 services firms is rather meager, and much more investment is awaited, together with agriculture and manufacturing investments from abroad. From a locational perspective, more investments should take place in the non-capital area of Laos.

Country	Location	No. of agricultural companies listed in the database	No. of manufacturing companies listed in the database	
Cambodia	Total	0	14	
	Located in Phnom Penh	0	4	
	Located outside of Phnom Penh	0	8	
Lao PDR	Total	2	4	
	Located in Vientiane	1	3	
	Located outside of Vientiane	1	1	
Vietnam	Total	5	421	
	Located in Ha Noi	0	94	
	Located in Ho Chi Minh	0	78	
	Located outside of Ha Noi or Ho Chi Minh	5	249	

Table 2.5 Japanese firms' direct investment in Cambodia, Laos and Vietnam (at the end of 2014)

Source: Made from Toyokeizai Shimposha, Kaigai Shinshutu Kigyo Soran (a directory of Japanese firms' foreign investment).

Table 2.6 shows Japanese firms listed in Toyokeizai Shimposha's company directory. The number of workers remain rather small for all the firms listed. This small-scale nature of firms makes it difficult to incur relatively higher cost of using free trade agreements (Melitz, 2003). The main objective of FDI by firms (including those Japanese firms listed in the Table and future investors also) is to capture benefits in cost terms, exemplified by the existence of cheap labor force in Laos. However, the government of Laos should seek different benefits from FDI, including technology transfer, skill building of the labor force or other benefits.

While business firms' aim of constructing the most efficient international production network is driven by their pursuit of profit, the host country should take advantage of inward investment for the better. Otherwise, those investing multinational firms would simply shift only their labor-intensive and therefore low-value-added production processes to Laos, in spite of the government's policies designed to attain economic development through the establishment of all-encompassing domestic industries. After all, it is the right of firms to decide whether to undertake FDI or not.

The firms listed in the Table are still rather "young" (i.e., the year of establishment is recent), meaning that Laos has a scope for further promoting inward investment. It is then imperative for Laos to consider upgrading¹⁷ the contents of inward investment from abroad, through opening the service sectors, since service firms would, as stated above, surely support and facilitate inward investments in the other sectors.

¹⁷According to Dunning (1992), the extent to which a firm possesses its firm-specific assets (also known as "ownershipadvantages") vis-à-vis firms of other nationalities in a particular market functions as a determinant of FDI. These firmspecific advantages are the source of upgrading economic activities, which largely take the form of the privileged possession of intangible assets as well as those which arise as a result of the common governance of cross-border valueadding activities (Dunning, 1992).

Industry (contents of business, if any, or GATS classification for the service industry)	Company name	Location	No. of workers	Year of establishment
Agriculture	Oji Lao Plantation Forest Co.,Ltd.	Vientiane	146	1999
Agriculture	Advance Agriculture Co.,Ltd.	Thataeng Secong	n.a.	2007
Manufacture (automobiles)	Santiphab Suzuki Lao Factory	Vientiane	34	1992
Manufacture (textiles)	Lao Yamaki Sole Co.,Ltd.	Vientiane	336	2006
Manufacture (textiles)	Union Yagi Lao Co.,Ltd.	Vientiane	203	2008
Manufacture (precision machinery)	MANI Vientiane Co.,Ltd.	Vientiane	60	2009
Service (04 Distribution)	KP3G & Nomura Trading Co.,Ltd.	Vientiane	28	2011
Service (07 Finance)	MSIG Insurance(Lao)Co.,Ltd.	Vientiane	8	2009
Service (11 Transport)	Lao Nissin SMT Co.,Ltd.	Vientiane	39	2012
Service (11 Transport)	Lao-Japan Airport Terminal Services Co.,Ltd.	Vientiane	170	1999
Service (11 Transport)	Logitem Laos GLKP Co.,Ltd.	Savannakhet	6	2007

Table 2.6 Japanese firms operating in Laos (at the end of 2014) Image: Comparison of the end of 2014

Source: Made from Toyokeizai Shimposha, Kaigai Shinshutu Kigyo Soran (a directory of Japanese firms' foreign investment).

2.4 Insights from a field study in Laos

The author had the chance to visit Laos for a field study.¹⁸ The field study is informed by spatial economics which was proposed by Fujita, Krugman and Venables (1999). Figure 2.2 shows a special economic concept on the agglomeration of economic activities. From this perspective, transport costs, or service link costs play a pivotal role for attracting value-creating economic activities. Suppose there are two locations (inside a country, and outside of the country for convenience). Then, because of the agglomeration economy arriving from spatial concentration, business firms have the incentive to either invest in the country at issue (Laos in the context of this paper), or invest elsewhere outside of the country. As the public road transportation gets more connected internationally, the transport costs or service link costs (measure by the horizontal axis in the Figure) will be lower, thus contributing to the shifting of economic activities. When the level of transport costs is high, the reduction would lead to industrial agglomeration (i.e., the shift from the line having point D at its left to one of the lines (the line having points A and B, and the line having points E and F) will happen. When the level of transport costs is already low, further reduction would then lead to industrial dispersion (or realization of two-location equilibrium), i.e., the shift from one of the above-mentioned lines to the line having point C would happen. The country of Laos should focus on attracting further inward investment with "two-location equilibrium", i.e., "Thailand plus one" and "China plus one" in view. Some evidence-based illustrations are made below.

Figure 2.2 Spatial economic concept of industrial agglomeration and dispersion



Source: Adapted from Fujita, Krugman and Venables (1999).

The shift toward a dispersed economic activity (mentioned above) is happening in Laos (Figure 2.3-1). Figure 2.3-2 shows the office of Pakse-Japan SME SEZ is expected to further promote this dispersion trend especially in the non-central part of Laos. Figure

 $^{^{18}}$ The research trip was organized by Mr.Keola Souknilanh of the Institute of Developing Economies, JETRO, during the period November 30 – December 5, 2016.

2.3-3 shows Honda's motorcycles being exported to Cambodia from Laos (after the parts being imported from Thailand for assembly in Laos).

Figure 2.3-4 shows trucks exporting refined oil from Thailand to Laos. These could be examples of industrial concentration: investment in Laos is not happening.

Figure 2.3-1 An electronics factory in Pakse, Laos



Source: Photo taken by the author.



Source: Photo taken by the author.

Figure 2.3-3 Honda's motorcycles being exported from Laos to Cambodia



Source: Photo taken by the author.
Figure 2.3-4 Oil being transported from Thailand to Laos



Source: Photo taken by the author.

Figure 2.3-5 shows a coffee plantation in Laos; and Figure 2.3-6 shows coffee beans. As agricultural activities are subject to dispersing force (i.e., land cannot be concentrated in one location), Laos's potential gains from service trade liberalization lie in how to establish a value chain of harvesting, processing and exporting agro-based products. Shiitake mushrooms grown as a site testing in Laos (by a Japanese firm), as shown in Figure 2.3-7, is a good case in point for future promotion of agro-based products.

Figure 2.3-5 Coffee plantation in Laos



Source: Photo taken by the author.

Figure 2.3-6 Coffee beans in Laos



Source: Photo taken by the author.

Figure 2.3-7 Shiitake mushrooms grown as a site testing in Laos

Source: Photo taken by the author.

Figure 2.3-8 shows Cabbages being transported (not necessarily exported) in Laos; similarly, Figure 3-9 shows local agro-based products being transported. If the road transport service is furt2.her liberalized for foreign suppliers, small-scale farmers in Laos would gain economic benefits. As Melitz (2003) discusses, small-scale producers cannot make profits from trade liberalization as much as large-scale producers.

Figure 2.3-8 Cabbages being transported in Laos



Source: Photo taken by the author.

Figure 2.3-9 Local agro-based products being transported in Laos



Source: Photo taken by the author.

The Mekong River, meanwhile, is not fit for water-transport because of the waterfall in Laos (Figure 2.3-10). Road transportation service therefore is all the more important for Laos to promote its road-connectivity with the rest of the ASEAN region.



Figure 2.3-10 Mekong River's 25-meter waterfall area

Source: Photo taken by the author.

As there already exist road-related infrastructures (Figure 2.3-11 and Figure 2.3-12), promotion of "institutional infrastructure", namely, liberalization of trade in services in transport and other related service sectors would be indispensable. International flow of transportation cars (Figure 2.3-13) should be further increased. Then international good inflow (as in Figure 2.3-14) and inflow of tourists (as in Figure 2.3-15) would follow. Border barriers (as symbolized in Figure 2.3-16) should be removed to the extent practicable.

Figure 2.3-11 Landscape view of Lao-Nippon Bridge in Pakse, Laos



Source: Photo taken by the author.

Figure 2.3-12 on the Lao-Nippon Bridge in Pakse, Laos



Source: Photo taken by the author.





Source: Photo taken by the author.



Figure 2.3-14 Inside the duty free shop at the border of Laos and Cambodia

Source: Photo taken by the author.

Figure 2.3-15 Tourist bus connecting Laos and Cambodia



Source: Photo taken by the author.



Figure 2.3-16 International checkpoint between Laos and Cambodia

Source: Photo taken by the author.

2.5 Conclusions and Policy Recommendations

The comparison analysis and the simulation analysis revealed that Laos has been opening its service sector; however, its needs service liberalization, which will bring about positive economic impact on the country. Some policy recommendations drawn from this study and Isono and Ishido (2015) are as follows.

First, Laos should be committed to further overall service liberalization, together with its surrounding countries. In fact, China is active in service liberalization through China (Shanghai) Pilot Free Trade Zone and its expansion to the whole country.

Second, service liberalization should be at higher level than those in the AFAS or in other ASEAN+1 FTAs. Procedures should be more focused to provide better investment environment to foreign services providers.

Third, service liberalization in various sectors such as wholesale and retail brings higher economic growth. In particular, services related to manufacturing sector, such as logistics, finance and professional services, should contribute to reducing barriers in agricultural manufacturing sectors and achieve higher economic growth.

As demonstrated above, service firms in general have an important "supporting function" for the other business sectors. A narrowly defined "benefit", most notably the surplus/deficit of the service trade account, might not be the top priority, since even a

service trade-deficit could usher in manufacturing investment, thereby more than offsetting the negative figure of the service trade account. Policymakers in Laos should bear this in mind clearly in the policy formulation of service trade liberalization under ASEAN-related FTAs.

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Appendix A. Hoekman Index tables for Cambodia, Laos and Vietnam (55-sectors)

Table 0101	i i oicessional o						
		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
01A	Mode1	0.45	0.45	0.64	0.64	0.55	0.55
01A	Mode2	0.45	0.45	0.64	0.64	0.55	0.55
01A	Mode3	0.41	0.45	0.50	0.50	0.50	0.36

Table 01.A Professional Services

Table 01.B Computer and Related Services (Priority)

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
01B	Mode1	1.00	1.00	1.00	1.00	1.00	1.00
01B	Mode2	1.00	1.00	1.00	1.00	1.00	1.00
01B	Mode3	1.00	1.00	1.00	1.00	0.50	1.00

Table 01.C Research and Development Services

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
01C	Mode1	0.00	0.00	1.00	1.00	1.00	1.00
01C	Mode2	0.00	0.00	1.00	1.00	1.00	1.00
01C	Mode3	0.00	0.00	1.00	1.00	0.67	1.00

Table 01.D Real Estate Services

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
01D	Mode1	0.00	0.00	0.00	0.00	0.00	0.00
01D	Mode2	0.00	0.00	0.00	0.00	0.00	0.00
01D	Mode3	0.00	0.00	0.00	0.00	0.00	0.00

Table 01.E Rental/Leasing Services without Operators

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
01E	Mode1	0.00	0.00	0.40	0.40	0.20	0.20
01E	Mode2	0.00	0.00	0.40	0.40	0.20	0.20
01E	Mode3	0.00	0.00	0.40	0.40	0.10	0.10

Table 01.F Other Business Services

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
01F	Mode1	0.35	0.35	0.50	0.20	0.43	0.45
01F	Mode2	0.35	0.35	0.55	0.20	0.45	0.45
01F	Mode3	0.35	0.35	0.33	0.15	0.28	0.38

Table 02.A Postal Services

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
02A	Mode1	0.00	0.00	1.00	1.00	0.00	0.00
02A	Mode2	0.00	0.00	1.00	1.00	0.00	0.00
02A	Mode3	0.00	0.00	1.00	1.00	0.00	0.00

Table 02.B Courier Services

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
02B	Mode1	1.00	1.00	1.00	1.00	1.00	1.00
02B	Mode2	1.00	1.00	1.00	1.00	1.00	1.00
02B	Mode3	1.00	1.00	1.00	1.00	1.00	1.00

Table 02.C Telecommunication Services (priority)

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
02C	Mode1	0.87	0.87	1.00	1.00	0.50	0.93
02C	Mode2	0.87	0.87	1.00	1.00	1.00	1.00
02C	Mode3	0.63	0.87	1.00	1.00	0.47	1.00

Table 02.D Audiovisual Services

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
02D	Mode1	0.00	0.00	0.50	0.50	0.00	0.00
02D	Mode2	0.00	0.00	0.50	0.50	0.17	0.17
02D	Mode3	0.00	0.00	0.33	0.00	0.17	0.33

Table 02.E Other

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
02E	Mode1	0.00	0.00	0.00	0.00	0.00	0.00
02E	Mode2	0.00	0.00	0.00	0.00	0.00	0.00
02E	Mode3	0.00	0.00	0.00	0.00	0.00	0.00

Table 03.A General Construction Work for Building

			8				
		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
03A	Mode1	0.00	0.00	1.00	1.00	0.00	0.00
03A	Mode2	1.00	1.00	1.00	1.00	1.00	1.00
03A	Mode3	1.00	1.00	1.00	1.00	0.50	0.50

Table 03.B General Construction work for Civil Engineering

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
03B	Mode1	0.00	0.00	1.00	1.00	0.00	0.00
03B	Mode2	1.00	1.00	1.00	1.00	1.00	1.00
03B	Mode3	1.00	1.00	1.00	1.00	0.50	0.50

Table 03.C Installation and Assembly Work

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
03C	Mode1	0.00	0.00	1.00	1.00	0.00	0.00
03C	Mode2	1.00	1.00	1.00	1.00	1.00	1.00
03C	Mode3	1.00	1.00	1.00	1.00	0.50	0.50

Table 03.D Building Completion and Finishing Work

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
03D	Mode1	0.00	0.00	1.00	1.00	0.00	0.00
03D	Mode2	1.00	1.00	1.00	1.00	1.00	1.00
03D	Mode3	1.00	1.00	1.00	1.00	0.50	0.50

Table 03.E Other

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
03E	Mode1	0.00	0.00	1.00	1.00	0.00	0.00
03E	Mode2	1.00	1.00	1.00	1.00	1.00	1.00
03E	Mode3	1.00	1.00	1.00	1.00	0.50	0.50

Table 04.A Commission Agents' Services

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
04A	Mode1	1.00	1.00	1.00	1.00	0.50	0.50
04A	Mode2	1.00	1.00	1.00	1.00	1.00	1.00
04A	Mode3	1.00	1.00	0.50	0.50	0.50	1.00

Table 04.B Wholesale Trade Services (priority)

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
04B	Mode1	1.00	1.00	1.00	1.00	0.50	0.50
04B	Mode2	1.00	1.00	1.00	1.00	1.00	1.00
04B	Mode3	1.00	1.00	0.50	0.00	0.50	1.00

Table 04.C Retailing Services

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
04C	Mode1	1.00	1.00	0.00	0.00	0.50	0.50
04C	Mode2	1.00	1.00	0.00	0.00	1.00	1.00
04C	Mode3	1.00	1.00	0.00	0.00	0.50	1.00

Table 04.D Franchising

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
04D	Mode1	1.00	1.00	1.00	1.00	1.00	1.00
04D	Mode2	1.00	1.00	1.00	1.00	1.00	1.00
04D	Mode3	1.00	1.00	0.50	0.50	0.50	0.50

Table 04.E Other

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
04E	Mode1	0.00	0.00	1.00	0.00	0.00	0.00
04E	Mode2	0.00	0.00	1.00	0.00	0.00	0.00
04E	Mode3	0.00	0.00	0.00	0.00	0.00	0.00

Table 05.A Primary Education Services

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
05A	Mode1	0.00	0.00	1.00	1.00	0.00	0.00
05A	Mode2	0.00	0.00	1.00	1.00	1.00	1.00
05A	Mode3	0.00	0.00	0.50	0.50	1.00	0.50

Table 05.B Secondary Education Services

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
05B	Mode1	0.00	0.00	1.00	1.00	0.00	0.00
05B	Mode2	0.00	0.00	1.00	1.00	1.00	1.00
05B	Mode3	0.00	0.00	0.50	0.50	0.00	0.00

Table 05.C Higher Education Services

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
05C	Mode1	1.00	1.00	1.00	1.00	1.00	1.00
05C	Mode2	1.00	1.00	1.00	1.00	1.00	1.00
05C	Mode3	1.00	1.00	0.50	0.50	1.00	0.50

Table 05.D Adult Education

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
05D	Mode1	1.00	1.00	1.00	1.00	1.00	1.00
05D	Mode2	1.00	1.00	1.00	1.00	1.00	1.00
05D	Mode3	1.00	1.00	0.50	0.50	1.00	0.50

Table 05.E Other Education Services

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
05E	Mode1	1.00	1.00	1.00	1.00	1.00	1.00
05E	Mode2	1.00	1.00	1.00	1.00	1.00	1.00
05E	Mode3	1.00	1.00	0.50	0.50	1.00	0.50

Table 06.A Sewage Services

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
06A	Mode1	1.00	1.00	1.00	1.00	0.00	1.00
06A	Mode2	1.00	1.00	1.00	1.00	1.00	1.00
06A	Mode3	1.00	1.00	1.00	1.00	0.50	1.00

Table 06.B Refuse Disposal Services

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
06B	Mode1	1.00	1.00	1.00	1.00	0.00	1.00
06B	Mode2	1.00	1.00	1.00	1.00	1.00	1.00
06B	Mode3	1.00	1.00	1.00	1.00	0.50	1.00

Table 06.C Sanitation and Similar Services

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
06C	Mode1	1.00	1.00	1.00	1.00	1.00	1.00
06C	Mode2	1.00	1.00	1.00	1.00	1.00	1.00
06C	Mode3	1.00	1.00	1.00	1.00	1.00	1.00

Table 06.D Other

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
06D	Mode1	1.00	1.00	1.00	1.00	0.00	1.00
06D	Mode2	1.00	1.00	1.00	1.00	1.00	1.00
06D	Mode3	1.00	1.00	1.00	1.00	0.50	1.00

Table 07.A All Insurance and Insurance-related Services

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
07A	Mode1	0.00	0.00	0.00	0.00	0.00	0.00
07A	Mode2	0.00	0.00	0.00	0.00	0.00	0.00
07A	Mode3	0.00	0.00	0.00	0.00	0.00	0.00

Table 07.B Banking and Other Financial Services

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
07B	Mode1	0.00	0.00	0.00	0.00	0.00	0.00
07B	Mode2	0.00	0.00	0.00	0.00	0.00	0.00
07B	Mode3	0.00	0.00	0.00	0.00	0.00	0.00

Table 07.C Other

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
07C	Mode1	0.00	0.00	0.00	0.00	0.00	0.00
07C	Mode2	0.00	0.00	0.00	0.00	0.00	0.00
07C	Mode3	0.00	0.00	0.00	0.00	0.00	0.00

Table 08.A Hospital Services (priority)

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
08A	Mode1	0.00	0.00	1.00	1.00	1.00	1.00
08A	Mode2	0.00	0.00	1.00	1.00	1.00	1.00
08A	Mode3	0.00	0.00	1.00	1.00	1.00	1.00

Table 08.B Other Human Health Services

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
08B	Mode1	0.00	0.00	1.00	1.00	1.00	1.00
08B	Mode2	0.00	0.00	1.00	1.00	1.00	1.00
08B	Mode3	0.00	0.00	0.50	1.00	0.50	0.50

Table 08.C Social Services

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
08C	Mode1	0.00	0.00	0.00	0.00	1.00	1.00
08C	Mode2	0.00	0.00	0.00	0.00	1.00	1.00
08C	Mode3	0.00	0.00	0.00	0.00	0.50	0.50

Table 08.D Other

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
08D	Mode1	0.00	0.00	0.00	0.00	0.00	0.00
08D	Mode2	0.00	0.00	0.00	0.00	0.00	0.00
08D	Mode3	0.00	0.00	0.00	0.00	0.00	0.00

Table 09.A Hotels and Restaurants

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
09A	Mode1	0.00	0.00	1.00	1.00	1.00	1.00
09A	Mode2	0.00	0.00	1.00	1.00	1.00	1.00
09A	Mode3	0.00	0.00	1.00	1.00	1.00	1.00

Table 09.B Travel Agencies and Tour Operators services (priority)

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
09B	Mode1	1.00	1.00	1.00	1.00	1.00	1.00
09B	Mode2	1.00	1.00	1.00	1.00	1.00	1.00
09B	Mode3	0.50	1.00	0.50	1.00	0.50	0.50

Table 09.C Tourist Guides Services (priority)

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
09C	Mode1	1.00	1.00	0.00	0.00	0.00	0.00
09C	Mode2	1.00	1.00	0.00	0.00	0.00	0.00
09C	Mode3	1.00	1.00	0.00	0.00	0.00	0.00

Table 09.D Other

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
09D	Mode1	0.00	0.00	1.00	1.00	1.00	1.00
09D	Mode2	0.00	0.00	1.00	1.00	1.00	1.00
09D	Mode3	0.00	0.00	0.50	1.00	0.50	0.00

Table 10.A Entertainment Services

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
10A	Mode1	1.00	1.00	0.00	0.00	0.00	0.00
10A	Mode2	1.00	1.00	0.00	0.00	1.00	1.00
10A	Mode3	1.00	1.00	0.00	0.00	0.50	1.00

Table 10.B News Agency Services

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
10B	Mode1	0.00	0.00	0.00	0.00	0.00	0.00
10B	Mode2	0.00	0.00	0.00	0.00	0.00	0.00
10B	Mode3	0.00	0.00	0.00	0.00	0.00	0.00

Table 10.C Libraries, archives, museums and other cultural services

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
10C	Mode1	0.00	0.00	0.00	0.00	0.00	0.00
10C	Mode2	0.00	0.00	0.00	0.00	0.00	0.00
10C	Mode3	0.00	0.00	0.00	0.00	0.00	0.00

Table 10.D Sporting and Other Recreational Services

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
10D	Mode1	0.00	0.00	0.00	0.00	0.00	0.00
10D	Mode2	0.00	0.00	0.00	0.00	0.00	0.00
10D	Mode3	0.00	0.00	0.00	0.00	0.00	0.00

Table 10.E Other

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
10E	Mode1	0.00	0.00	0.00	0.00	0.00	0.00
10E	Mode2	0.00	0.00	0.00	0.00	1.00	1.00
10E	Mode3	0.00	0.00	0.00	0.00	0.50	1.00

Table 11.A Maritime Transport Services (priority)

			- u				
		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
11A	Mode1	1.00	1.00	1.00	1.00	0.67	0.67
11A	Mode2	1.00	1.00	1.00	1.00	0.83	0.83
11A	Mode3	1.00	1.00	1.00	1.00	0.50	0.58

Table 11.B Internal Waterways Transport (priority)

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
11B	Mode1	0.67	0.67	0.67	0.67	0.33	0.33
11B	Mode2	0.67	0.67	0.67	0.67	0.33	0.33
11B	Mode3	0.67	0.67	0.67	0.67	0.17	0.33

Table 11.C Air Transport Services (priority)

		Cambodia Cambodia		Laos Laos		Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
11C	Mode1	0.00	0.00	0.00	0.00	0.00	0.00
11C	Mode2	0.00	0.00	0.00	0.00	0.00	0.00
11C	Mode3	0.00	0.00	0.00	0.00	0.00	0.00

Table 11.D Space Transport

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
11D	Mode1	0.00	0.00	0.00	0.00	0.00	0.00
11D	Mode2	0.00	0.00	0.00	0.00	0.00	0.00
11D	Mode3	0.00	0.00	0.00	0.00	0.00	0.00

Table 11.E Rail Transport Services (priority)

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
11E	Mode1	0.00	0.00	1.00	1.00	0.00	0.00
11E	Mode2	0.00	0.00	1.00	1.00	0.00	0.00
11E	Mode3	0.00	0.00	1.00	1.00	0.00	0.00

Table 11.F Road Transport Services (priority)

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
11F	Mode1	1.00	1.00	0.80	0.80	0.17	0.17
11F	Mode2	1.00	1.00	0.80	0.80	0.17	0.17
11F	Mode3	1.00	1.00	0.50	0.80	0.08	0.08

Table 11.G Pipeline Transport

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
11G	Mode1	1.00	1.00	0.00	0.00	0.00	0.00
11G	Mode2	1.00	1.00	0.00	0.00	0.00	0.00
11G	Mode3	1.00	1.00	0.00	0.00	0.00	0.00

		Cambodia	Cambodia	Laos	Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
11H	Mode1	1.00	1.00	0.75	0.75	1.00	1.00
11H	Mode2	1.00	1.00	0.75	0.75	1.00	1.00
11H	Mode3	1.00	1.00	0.25	0.25	0.88	0.75

Table 11.I Other Transport Services

		Cambodia	Cambodia Laos		Laos	Vietnam	Vietnam
		MA	NT	MA	NT	MA	NT
11I	Mode1	0.00	0.00	1.00	0.00	0.00	0.00
11I	Mode2	0.00	0.00	1.00	0.00	0.00	0.00
11I	Mode3	0.00	0.00	0.00	0.00	0.00	0.00

Chapter 3

Industrialization through Servicification: Linking Simulation Results to Reality in Lao PDR

Souknilanh Keola and Satoru Kumagai

3.1 Introduction

Value-added in pre- and post-manufacturing activities rises rapidly, in relative to manufacturing process, since around the last decade of 20th century (Baldwin 2014). As a result, some developing countries began to pay more attention to services as potential alternative paths to prosperity. For example, until early 2000s in India, there was optimism that the country might skip industrialization and become high-income countries, without strong industrial bases. That hope looks much slimmer now and many studies has pointed out that servicification would not succeed without strong manufacturing bases (for example Bosworth and Collins 2008). Nonetheless, industrialization in globalized world has become significantly difficult. Many developing countries have relied on foreign direct investment (FDI) to plug themselves into transnational production networks, and push forward industrialization. Labor-abundant developing countries have remarkable advantages in this setting as large amount of lower wage labor are very effective to MNEs' needs to cut costs.

On the contrary, less populated developing countries stand a slim chance of success in this setting. With population of about 6 million, it is in fact not possible for foreign manufacturing firms to relocate their factories to Lao PDR (Laos henceforth) en masse. If presence of a sizable manufacturing industry is prerequisite for economic development, what else can these country do. As discussed in introduction and chapter 1, pre- and postmanufacturing processes which require relatively smaller amount of labor input, and therefore present potential alternative ways for less populated developing countries to plug themselves into fragmented international production network. Chapter 1 and 2 went further to suggest that liberalization of trade in services, especially those related to manufacturing would be an effective industrialization strategy for Laos. The logic of this argument is as follows. Since value-added is a reflection of cost incurred, if valued-added during pre- and post-manufacturing activities become relatively higher, the same must be also true for their costs. Consequently, providing manufacturing related services with relatively low cost or more efficiently can be an effective strategy for a labor-scarce country to attract manufacturing MNEs. So far, this argument has been confirmed by a series of results based on IDE-GSM (Geographical Simulation Model) using detailed subnational regional data of Laos. However, scenarios of simulations and their policy implications are generally abstracted. The purpose of this chapter is to translate them to practical actions, i.e. what manufacturing related services in the models correspond to reality in Laos. This chapter is structured as follows. Sections 3.2 briefly summarizes scenarios and simulated results related to industrialization and servicification in Laos. Section 3.4 documents emergence of manufacturing service firms that are not directly TTFMs. Section 5 concludes.

3.2 IDE-GSM Simulation Results

Since 2007, IDE–Japan External Trade Organization (JETRO) has been developing IDE–GSM. The theoretical foundation of the IDE/ERIA–GSM, which is co-developed with ERIA, follows 'New Economic Geography' (NEG), in particular, Puga and Venables (1996) who capture the characteristics of multi-sector and country general equilibrium (Kumagai et al., 2013). The IDE/ERIA–GSM features agriculture, five manufacturing sectors (automotive, electric and electronics, textile and garment, food processing, and other manufacturing) and the services sector. The model allows workers to move within countries and between sectors. A notable difference of the IDE/ERIA–GSM from that of Puga and Venables (1996) lies in the specification of the agricultural sector. The IDE/ERIA–GSM explicitly incorporates land size in its production and keeps its technology as constant returns to scale.¹⁹ This model incorporates into the simulations

¹⁹ For further details of IDE-ERIA GSM, see Kumagai et al. (2015).

the type of physical or institutional integration that will favorably or adversely affect regions of interest at the sub-national level. It also incorporates the impact of policy measures to facilitate international transactions on the magnitude and location of trade traffic. These enable us to identify potential bottlenecks and the way to reap the full benefits of economic integration. Furthermore, the model expands the basic model of NEG by incorporating numerous realistic features, such as multiple industrial sectors with intermediate inputs, a multimodal transport selection model, and the existence of tariff barriers and NTBs in international trade.

The basic structure of IDE/ERIA–GSM is depicted in figure 3.1. Each region possesses seven economic sectors (agriculture, five manufacturing sectors, and the services sector). Labor can move between industries within countries, but not across national borders.



Figure 3.1 Basic Structure of the IDE/ERIA–GSM Geographical Simulation Model

Source: IDE/ERIA-GSM Team.

The IDE/ERIA-GSM has been generally used to simulate economic impacts of changes in Trade and Transport Facilitation Measures (TTFMs). The economic impacts are obtained as the difference in GDP or Gross Regional Domestic Products (GRDP) between baseline scenario and an alternative scenario. Figure 3.2 shows an image of this

process. In Figure 3.2, first baseline scenario is computed from 2010 to 2030. An alternative scenario is then computed from 2015, where supposed changes of TTFM began, to 2030. The difference between the two is the economic impact of alternative scenario. The alternative scenario, or TTFM, include the development of physical infrastructure, customs facilitation measures, reduction in non-tariff barriers, etc.

Figure 3.2 Difference between the Baseline and Alternative Scenarios

Per Capital GRP



GRP = gross regional product. Source: IDE/ERIA–GSM Team.

Several simulation TTFM related to Laos has been conducted since the 2008. Kumagai et al. 2008 simulated results showed that gains from customs facilitation are expected to be several folds higher than that of physical infrastructure development in East-West Economic Corridor (EWEC), which pass through Laos. Isono (2015) concluded, from simulation results, that economic impact of service liberalization can be amplified by adding overall development projects such as road improvement, better customs handling at border crossings, SEZ development, and better air connectivity. Nishimura et al. (2016) shows how reducing cross-border time alone can generate significant impacts on developments of both urban and rural regions along the border. In short, these studies suggested that, for land-locked Laos, building cross-border logistic infrastructures and facilitate them would bring great benefit to its economy. This chapter focuses especially on results by Isono (2015) as it explicitly links manufacture related services and manufacturing industry.

3.3 TTFMs Services in Laos

Services and manufacturing are closely related concepts in both theory and practice. Some are embedded in manufacturing in not so obvious manner and are very difficult to be identify. Some are, however, easier to observe. For instance, value of R&D embedded in products are not easy to identify. Transportation of parts before, and distribution of processed products are an example of the latter. Although R&D activities has high valueadded and affect manufacturing greatly, we argue that it is yet viable goals for most developing countries, including Laos. On the other hand, transportation, or logistics in a broader sense, form integral parts of transnational production networks. We believe the broadly-defined transport cost account for majority of service link costs discussed in Kimura's argument about relocation of fragmented production blocks across borders (Kimura and Ando, 2005).

This section considers developments and impacts three manufacture related services, namely, (i) Thai-Lao Mekong Friendship Bridges, and (ii) Inland Container Depot. SEZ is another major manufacture related services but this would be left for in depth coverage in Chapter 5.

(1) Thai-Lao Mekong Friendship Bridges

For a land-locked Laos, two relative short access to the sea is to the West via Thailand or to the East via Vietnam. On the one hand, major cities in Laos locate east of Mekong river, though not the there are Lao provinces on the Western side of Mekong river. On the other hand, a high mountain range stands as a natural barrier for most of Laos's border with Vietnam. Consequently, any manufacturing activities in major cities of Laos need to import parts and export processed products across Mekong river to West, or high mountain range to the East. To date, majority of manufacturing firms in Laos choose the westward option, because of lack of logistic infrastructure and traffic volume to the east. Four Thai-Lao Mekong Friendship Bridges have been completed between 1994 and 2013. The First Lao-Thai Mekong Friendship Bridge was built by grant aid from the Australian government, between Vientiane Capital of Laos and Nong Khai of Thailand, and opened to facilitate the cross-border movements of people, goods, and investment since April 8 1994 (Keola, 2013). The Second Thai-Lao Mekong Friendship Bridge between Savannakhet in Central Laos, and Mukdahan in Northeastern Thailand, part of the East-West Economic Corridor (EWEC) and financed by low-interest loans from the government of Japan to Laos and Thailand, was completed in December 20 2006 and opened for regular service in early 2007. The Third Thai-Lao Mekong Friendship Bridge, funded unilaterally by the government of Thailand to connect Nakhon Phanom in Northeastern Thailand with Khammouan in central Laos was opened in November 2011. The The Fourth Thai-Lao Mekong Friendship Bridge between Houayxay in Northern Laos and Chiang Khong in Northern Thailand, along the North-South Economic Corridor, co-financed by the government of Thailand and Chiba was completed in 2013.

For Lao side, each friendship bridges are operated by administrative authority comprising of officers from various ministries, such as ministry of finance, ministry of interior, ministry of public works and construction. Each of them can be regarded as a public firm, or a state-owned enterprise (SOE) facilitating flow of people and goods across border, the services that eventually reduce service link costs between Laos and Thailand. In other words, they can be regarded of manufacturing related services firms.

Table 3.1 Average Daily Traffic Volumes across Lao-Thai Mekong Friendship Bridges

Year	1st Bridge		2nd Bridge		3rd B	Bridge	4th Bridge	
	TH to LA	LA to TH	TH to LA	LA to TH	TH to LA	LA to TH	TH to LA	LA to TH
2008	458	462	237	233			<u>10</u>	<u>9</u>
2009	655	644	352	347			<u>20</u>	<u>18</u>
2010	1,023	1,011	394	391			<u>34</u>	<u>31</u>
2011	1,164	1,150	463	415			<u>53</u>	<u>51</u>
2012	1,306	1,292	502	423			<u>62</u>	<u>57</u>
2013	1,423	1,347	448	372	203	205	<u>72</u>	<u>72</u>
2014	1,484	1,475	510	506	277	284	108	103
2015	1,654	1,617	549	547	384	321	171	147
2016	1,812	1,802	548	540	423	405	171	165

Source: Computed by authors based on data of Thai Custom Department.

Notes: (1) Figures include only vehicles with 4 or more wheels. (2) Underlined is number of traffic across river with ferries. (3) TH, LA is Thailand and Laos.

Although the infrastructure of these bridges are more or less the same, the flow of traffic over them are quite different. As reported in table 3.1, average number of vehicles crossing forth and back between Laos and Thailand are almost the same, suggesting that most of them return with the same or a few day time. Nonetheless actual flows across each bridges vary greatly. Average daily number of traffic is highest across the First Bridge. In 2016 it facilitated 3,614 vehicles (both directions) daily, an increasing of more than four folds since 2008. On the other hand, the same figures were 1,088 for the second bridge in 2016. The difference between average daily flows across the first and the second bridge also widen from two to more than three folds between 2008 and 2016. Average daily traffic flow over the third bridge in 2016 was about 828, doubled from 408 in 2013. Average daily traffic flow in 2016 was 336 and the lowest across the fourth bridge. Whereas the the largest flow is observed across the first bridge, the most rapid growth is observed across the third bridge in recent years.

Figure 3.3 Average Daily Traffic Volumes across Thai-Lao Mekong Friendship Bridges by types of Vehicles (LA to TH)



Source: Computed by authors based on data of Thai Custom Department. Note: trk is abbreviation of 'truck'.

Obviously not all types of vehicles are equally related to manufacturing. total volume of traffics of all types cannot be used to evaluate efficiency of each bridges accurately. Figure 3.3 breaks traffic flows across friendship bridges into three different types of vehicles, namely, car, truck and bus. Figure 3.3 shows number of cars account for large difference between the flows across first bridge and the rest. About 3000 cars cross the first bridge daily in 2016. Although pick-up truck is categorized as passenger car and is also used to carry goods, cars travel across friendship bridge in general are more related to personal to small scale trade and consumption across border.

Figure 3.4 Average Daily Traffic Volumes of Trucks across Thai-Lao Mekong Friendship Bridges by types of Vehicles



Source: Computed by authors based on data of Thai Custom Department. Note: trk is abbreviation of 'truck'.

Figure 3.3 focus on truck which we think is more directly related to manufacturing. The first bridge remains the most used, facilitating about 600 trucks daily in 2016, while the number was about half, or 300, for the second bridge. In 2016 about 400 trucks cross the third bridge daily. Average number of truck crossing the fourth bridge is about 200. Since beginning operation in 2013, number of trucks crossing the third bridge grew rapidly and overtook the second between 2015 and 2016. Some observations can be made thus far. First, flow across the first bridge is by far the largest. Differences of factor endowments, for example, level of income, level of industrial agglomeration, geographical location between the capital city and others obviously play significant role in this. Nonetheless, variation of growth rates suggests efficiencies could be fundamentally different among these bridges. The fact that per capita GRP of the capital city, where the first bridge connects, is a little more than double that of Savannakhet, where the second bridge connects, seem to partly explain the difference. However, geographically, the second to fourth bridge function also as connection between Thailand to Vietnam or China through Laos. We believe that smaller number of flows across them reflect their inefficient compared to the first bridge.

Vientiane capital, where the first bridge connects, is by far the largest agglomeration of manufacturing activities in Laos. It is certainly difficult to say if the larger flow across the first bridge is the cause or result of larger agglomeration. In theoretical geographical simulation models, such as IDE/ERIA-GSM, both larger flow and existing agglomeration can induce more agglomeration of manufacturing activities. We argue that efficient operation of these friendship bridges is an example of Laos can do in reality as the a TTFM suggested by simulation results. In fact, the flow across the first bridge is still very low by international standard. Oresund bridge linking Southern Sweden and the capital city of Denmark facilitates about 18,700 vehicles on average each day in 2010, out of which 900 are lorries, or large size trucks²⁰. This is more than five times that of the first bridge. Population of Denmark and Sweden combined is approximately 15 million, whereas it is about 75 million for Laos and Thailand. Considering the fact that linking Thailand to Vietnam, and southern parts of China, with population several hundred million, we argue that it is safe to say that potential of the flow across Lao-Thai remains to be materialized.

(2) Inland Container Depot Developments

Large amount of empty containers flows between Thailand and Laos and that is often said to be a cause of high transportation costs between the two countries. This is said to be a result of unbalance demand and supply between the two countries. Containers arrive with goods need to be returned empty if no return goods can be found in reasonable period of time. The government of Laos plans to develop several (Inland Container Yard (ICD) in major transportation nodes to solve empty container problems and facilitate larger flow of goods to, from and through Laos. The first such ICD is Savan Logistics, a private company by a foreign investor began operation in mid 2016²¹. Savan Logistics is a 100% foreign owned logistic firm established first in 2011, before moving into Savan Park which is a part (site C) of Savan-Seno SEZ²². This ICD currently provides containerized land transport services among 7 countries/regions (Singapore, Malaysia, Thailand, Laos, Vietnam, China and Hong Kong). The land transport services is of particular important to manufacturing in Laos, including Savannakhet, because land transport account for

 $^{^{20}} https://www.trm.dk/~/media/files/publication/english/euprecidency-2012/facts-and-figures-netversion.pdf$

²¹ Based on authors' interview in October 2016.

²² http://www.savanlogistics.com

major part of transport costs to and from Laos.



Figure 3.6 Major Operation Nodes of Savan Logistics

Source: Adapted from Savan Logistic Website.

Existing services include moving electronic parts from Korat, in Northeastern Thailand to Hong Kong by road. The company has 10 sub-contractors and 140 trucks. Electronic custom clearance service is provided on site. The impact of this ICD to manufacturing in site C and the rest of Savan-Seno SEZ can already be observed. The amount of trade in money terms across the second bridge regained the first spot again in 2016, after had overtaken by the third bridge 2013. Furthermore, Savan-Seno generates the largest number of local manufacturing employments (approx. 4,000) in 2017, among SEZ in Laos, half of which are employed in site C, where Savan Logistics are located (Chapter 5). Cost of transport containerized goods from and to Laem Chabang port in Bangkok is said to reduced sharply from over 4,000 to about 1,400 USD (Chapter 5). We believe that development of LCD is another effective TTFM as suggested by simulation result by IDE/ERIA GSM.

4 Non-TTFMs Services

In the course of the study for this project, we observed also potential none-logistics firms, some of which can also be interpreted as manufacturing related. The linkage with TTFMs may be weak but since IDE/ERIA GSM include services industry, we believe it is possible to interpret these firms as manufacturing related. In fact, there is no need to exclude non-manufacturing related services. Although we maintain that manufacturing related servicification would benefit the economy of Laos the more as a whole, this does not mean it should overlook potential gains from any kind of services. This section summarizes a few services companies in Laos to illustrate potential benefit of them in industrial policy in Laos.

(1) An Animation Studio

This animation studio was established in 2014 in Vientiane Capital of Laos. Its main business is creating 3D object of characters and sceneries for Japanese video game makers, in addition to animation job for local TV programs. Apart from Japan, it has branches in Singapore, Vietnam and Cambodia. Video game characters and sceneries need to be created and digitized, before they can be moved and made into computer games by programmers. Part of the former is done by this studio in Laos. Data needs to be download from outside, after which processed data would be sent back via broadband internet connection. So internet connection is to this studio what roads and other logistic infrastructure are to factories. The studio in Vientiane Capital employs about 50 staffs in 2014. Out of this, 2 are Japanese and 4 Lao stuffs with Japanese language communication capability. The basic wage, even for trainees, is comparable to those in manufacturing factories. However, for capable local stuffs, wages can be several folds higher. The creation of digitized objects for video games can actually be considered as a part of fragmentation of production process across border. In order words, a pre- or postmanufacturing process of the video game devices. This is certain one of a few segment where less populated and land-locked Laos may plug itself into the production network.

(2) IT Outsourcing Company/School

This company has branches or related entities in many developing countries such as Cambodia (2001), Laos (2004) and Kenya (2011). Legal states of each them differ from country to country. In Laos, it operates as a company. It services include digitization, data entry, research, image processing, and business processing. Employees, or internally referred to as associates receiving monthly from working 6 hours, either in the morning or in the afternoon, for each week days. Associates are encouraged to study at local colleges, at half day that they do not work. The company would subsidies tuition according to associates performances. Associates would leave the company, after acquiring IT skills and/or when they graduate from colleges. The aim of the company is not to make profit from its business but to help people, especially from poor backgrounds, through education and work experience. In fiscal year 2016, it employs and graduated over 2,500 associates, whose average monthly salaries was 449 USD. This number is about 396 USD for associates graduated from the branch in Laos. IT becomes essential in almost any professions. Availability of human resource with IT literacy will certain be a plus to attract FDI including those in manufacturing industry.

(3) A Job Portal Site

This job portal site was established in 2012 and was among the first to provide such service in Laos. The founder reveals that the site quickly paid for itself from the start. Its customers include not only companies in Laos, but also those in neighboring countries. As of 2016, it employs about 15 staffs. Listed jobs include high paid ones targeting international expats, to manual works at factories and households. It has recently starts another job portal site targeting those who do not need to read long job descriptions. This target those seeking jobs at restaurants, as house keepers, etc. who often access site via their mobile devices. Job portal can be considered as a pre-manufacturing service that could be embedded to manufacturing products. Given current situation where small population scatter over relatedly large land area, an IT portal job can certain may play effective role in mobilization of them to where they are needed.

In short, jobs in these IT related services are higher paid than those in manufacturing. With the exemption of the third company (IT Outsourcing), which is not pure business operation, number of employments they generate is relatively small.

5 Conclusions

In this chapter we try to link simulation results by IDE/ERIA GSM to reality in Laos. We conclude that increase efficiency of operation of Thai-Lao Mekong Friendship Bridges, and development of Inland Container Depots (ICD) are two possible Trade and Transportation Facilitation Measures (TTFMs) that would help attracting manufacturing activities to Laos. In addition, we also observed some IT related services, i.e. animation studio, IT training company/school, portal job, to be expanding and expect to contribute to development of manufacturing industry in Laos.

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Chapter 4 Transport Infrastructures, Urbanization and Servicification in the Lao PDR

Viengnam Douangphachanh and Xaysomphet Norasingh

4.1 Introduction

This chapter documents development of transport infrastructure, urbanization in the the context of servicification, and in relation with industrialization in Lao PDR (Laos henceforth). Transport infrastructure such as roads, is services by definition, and indispensable to manufacturing and more broadly industrialization. Materials, parts and products are often transported to the factories and consumers through roads. On the other hand, urbanization, is often defined by a spatial concentration of labor and amenities, or availability of positive externalities, necessary for manufacturing. Both transportation and urbanization form major parts of the services related to manufacturing and industrialization.

The rest is structured as follows. After the introduction, Section 4.2, traces the development of each modes of transport infrastructure in the Laos by examining the policies and quantitative progresses. Section 4.3 considers the urbanization process in Laos by looking at quantitative changes and discusses official plans. Section 4.4 elaborates the support mechanism of servicification in Laos. Section 5, concludes with policy recommendations.

4.2 Development of Transportation Sector

Transport is a critical component of socio-economic development in individual nations. The availability of efficient transport is a big boost to economic growth and social

development, while inefficient transport is a barrier. In Laos, which is a mountainous and landlocked country, development of an efficient transport system is particularly important for national linkage and regional connectivity. Acknowledging the importance of the transport sector, huge public investment has been put into building and improving the hard and soft transport infrastructure. The investment has brought about progress of the country's main transport infrastructure, particularly the road network.

The Government of Laos defines transportation as spearhead of national socioeconomic development. Consecutive National Socio-economic Development Plans put great emphasis improving and developing the nation's transport infrastructure, aiming at creating favorable conditions for sustainable growth, poverty reduction, and regional integration. For the past three decades, the transportation industry has strived to provide improved access for the people, particularly in the rural areas, to public services such as education, health, and market opportunities; integrate the national economy with the regions; facilitate trade, investment, the movement of people and tourism; as well as provide national security and unity.

Transportation industry in Laos consists of four modes, namely, road, inland waterway, air, and railway transportation. In 2015, road transport was the dominant mode of transportation carrying 90% of passenger traffic (passenger-kilometer) and 80% of freight traffic (ton- kilometer). The remaining shares are from inland waterway and air transport, respectively. The share of railways is still minimal. The 3.5 km rail linking Vientiane Capital and Nong Khai of Thailand only serves a small number of passengers, mainly backpackers, from and to from Bangkok, Thailand.

4.2.1 Roads

Road transport is the dominant mode of transport in Laos. By law²³, the roads in Laos are classified into 6 classes, i.e. national road (NR), provincial road (PR), district road (DR), urban road (UR), rural road (RR), and special road (SR). As of 2014, rural roads have the largest share, followed by provincial, national, district, special and urban roads (46%, 16%, 15%, 12%, 6% and 5%) respectively (Figure 4.1). According to the law, the definition of each road class can be summarized as follows.

- (a) National roads are roads that connect the national and provincial capitals and/or international borders. Roads that are of particular importance for the national socio-economic development, national security, and national defense are also classified NR.
- (b) Provincial roads are roads that are important for economic, political, sociocultural development, and national security and defense at the provincial level. Provincial roads include inter-provincial roads, roads connecting provincial capitals to district centers, river ports, and tourist and important historical sites in the provinces.
- (c) District roads are important roads for economic, political, socio-cultural development, and national security and defense at the district level. District roads include inter-district roads, roads connecting district centers to villages, river ports, tourist and important historical sites as well as special economic zones in the districts.
- (d) Urban roads are road networks within urban areas.
- (e) Rural roads are roads that connect villages, production and service centers in the villages.

²³ Law on Public Roads (1999).
(f) Special roads are roads specially constructed for use within a production and/or service zone of a specific sector; zones that facilitate activities for national security, national defense, and/or forest preservation.

In 2015, all districts in Laos were connected and accessible all year around by at least an all-season earth road.





Source: Road Management System (RMS).





Source: RMS.

Total road length in the country increased more than two-fold from 25,090 km in 2000 to 51,597 km in 2014 (Figure 4.2). Expansion by types of roads, between 2012 and

2014, is provided in Figure 4.3. In absolute term, rural road increased the most from about 16,500 km in to about 24,000 km, or about 45% increase in three years. Special roads expanded with the highest growth rate of more than three folds (905 to 2,810 km). Urban roads grew about about 40% (1,915 to 2,720 km). District roads grew only about 24% (5,130 to 6,403 km). Provincial and national roads were limited only between 3 to 5 percent. Expansion of road length in between 2012 and 2014 mainly come from new development of rural roads which account for more about half of total road length in Laos.

Figure 4.3 Total Road Length by Road Classes (Km).



Source: RMS.





Source: RMS.

Overall, length of paved road also increased more than 140% from 3,897 km to

9,397 km between 200 0and 2014. Figure 4.4 illustrates share of paved and condition of roads by classes in 2014. Share of paved road was 17.8% of the total road length in 2014. About 78% of the National roads in Laos were paved, whereas about 70% were in excellent and good condition. About half of urban roads were paved, though only about 40% were in excellent or good condition. Majority of other road classes, i.e. PR, DR, RR, UR and SR, were not paved, and also were in poor, bad, and failed condition. About 45% of rural roads, which was approximately 46% of total road length, were in failed condition. This generally means the road is only accessible during some months in a year.

Road density is an important parameter that measures progress of road development. Road density doubled between 2000 and 2014 (Figure 4.5, left). In 2014, Laos had a road density of 22km per 100 sq. km. Although this is a great improvement compared in 15 years, the figures are still low when compare to many ASEAN countries (Figure 4.5, right). Road density of Laos is higher than Myanmar and Philippines, comparable to Cambodia and Indonesia.



Figure 4.5 Road density in Laos and ASEAN

Source: RMS and ASEAN Statistical Year Book.

In terms of regional connectivity, many national roads in Laos have been upgraded

and linked with the road networks in the neighboring countries. Currently, Laos has 20 cross-border linkages to its neighbors (9 between Laos-Vietnam, 8 between Laos-Thailand, 2 between Laos-China, and 1 between Laos-Cambodia). Some of the National roads are classified as Asia/ASEAN highways AH3, AH11, AH12, AH13, AH15, AH16, AH131, and AH132, for instance.

4.2.2 Inland Waterways

There are more than 2,000 km of rivers, mainly comprising the Mekong and its tributaries, in Laos that are potentially beneficial for transportation. However, due to rapids, falls, seasonal low water level, and underdeveloped infrastructure, only small sections of the inland waterways are navigable.

Water transport	2010	2011	2012	2013	2014	Total
Goods transport (000 ton)	1,088	993	1,418	1,586	1,668	6,753
Passenger transport (000 passenger)	2,053	1,811	2,178	2,707	2,868	11,617
Goods traffic (000 ton.km)	70	70	79	87	95	401
Passenger Traffic (000 passenger.km)	65,485	48,890	71,822	73,142	80,096	339,435
Goods transport at Vung Ang port (000 ton)			126	1,468	2,447	4,041

 Table 4.1 Traffic Volume for Water Transport for Vung Ang Port

Source: MPWT.

Recent development in this sub-sector included improvement of a 331km section of the Mekong river between Laos and the Chinese border, which was developed to accommodate 100-150-ton ships all year round, and 350-ton ships during the rainy season. In the 2014 registration, there were 479 goods vessels (a 66% increase from 2010), 1,809 passenger liners (a 49% increase from 2010) and 60 ferries (a 10% decrease from 2010). Besides the inland waterways, the governments of Laos and Vietnam have also established a joint-venture company to utilize Vung Ang port in Vietnam. In 2012, the company started operations. Riverbank protection is another area into which the government has put considerable investment. In the past 5 years, there have been more than 46 riverbank protection projects nationwide for a total length of 117.71km.

4.2.3 Air Transport

Currently, there are 9 domestic and 4 international airports in Laos. 9 airlines operate international flights between Laos and the neighboring countries. Recent key improvements in this sub-sector are summarized follows. All 4 international airports and the main domestic airports have been upgraded in terms of runways, terminal capacity, and safety. Major improvements have been made at Vientiane and Louang Phabang international airports. Vientiane International airport can now accommodate bigger aircraft (350 seat aircraft) and the terminal can handle 400 passengers per hour. Luang Prabang International airport can accommodate 150 seat aircraft and the terminal can handle 320 passengers per hour. Starting in 2016, the Vientiane international and domestic terminals are undergoing a further expansion to accommodate the growing number of passengers. A new airport has been built in the southern province of Attapue, a new airport in Houaphan province is under construction, and the survey and design have been completed for 3 other planned airports in Savannakhet, Bokeo, and Xiengkhouang. The air traffic management and control centres have been modernised and upgraded with advanced technology (updated CNS/ATM system) to ensure efficiency and safety. As of 2015, there were 12 international flight paths that pass through Laos' controlled airspace with approximately 500 overflights daily, operated by 60 airlines.

4.2.4 Rail Transport

With only 3.5 km of rail line linking Vientiane with Nong Khai in Thailand across the Mekong river, rail transport in Laos is still at an early stage. Currently, this rail line is limited to passenger transport. However, the development of Laos' rail network is expected to experience a huge step forward after the governments of Laos and China agreed to build the Laos-China high speed railway. This will run from Vientiane and connect with the Chinese rail network at a station near the Boten international border checkpoint. The construction cost is 5.8 billion USD and expected completion by 2021. This 421km (417km in Laos' territory) railway project will comprise a total 183.9km of tunnels and a total 69.2km of bridges. There will initially be 21 operational stations along the railway in Laos' territory with an additional 12 stations planned to be built later. The railway is designed to accommodate passenger traffic (at speeds up to 160km/h) and freight (at speeds up to 120km/h). Construction of the project has been divided into 6 sections and the contractors and consulting companies have been selected. Section 6 (65.7km from Vientiane province to Vientiane capital) is reported to have started construction work, while the remaining 5 sections are reported not to have started construction work pending UXO clearance and compensation work.

The Lao government hopes that the Laos-China railway project will play a major part in facilitating the government's policy to transform the country from a landlocked to land-linked nation, thus enhancing regional integration, attracting foreign investment, promoting tourism, as well as provide an overall contribution to socio-economic development. There are also other railway projects under consideration and feasibility studies, including the Savannakhet-Lao Bao railway project and Vientiane-Bolikhamxay-Vietnam railway project.



Figure 4.6 Railway Development Plans

Source: MPWT.

To date, Laos has concluded, except with Myanmar, bilateral transport agreements with all its neighbors:

- Agreement on road transport with China, signed in 1994;
- Agreement on cargo and passenger transport on the Lanxang-Mekong river with China, signed in 1994;
- Agreement on road transport with Vietnam, signed in 1996;
- Agreement on road transport with Cambodia, signed in 1999;
- Agreement on road transport with Thailand, signed in 1999;
- Agreement on facilitation of cross border transport of goods and passenger with Thailand and Vietnam, signed in 1999.

In 1999, Laos signed the Cross-Border Transport Agreement (CBTA) with the governments of the GMS countries. Laos has ratified the 3 Protocols and 17 Annexes included in the CBTA, which covers all aspects of cross-border movement. Laos is also a party to the Quadrilateral Agreement (Laos, China, Myanmar, and Thailand) concerning

commercial navigation on the Lanxang-Mekong rivers, signed in 2000. This agreement facilitates inland water transportation on the Upper Mekong River and the Lanxang River in the southern part of Yunnan Province in China.

Laos is party to the following ASEAN transport agreements:

- ASEAN framework agreement on transit transport and its protocols;
- ASEAN framework agreement on inter-state transport;
- ASEAN framework agreement on multi-modal transport;
- ASEAN agreement on recognition of the inspection certificate of commercial vehicles issued by ASEAN member countries;
- ASEAN agreement on recognition of domestic driving licenses;
- ASEAN framework agreement on the facilitation of goods in transit;
- Ministerial understanding on the development of the ASEAN highway network project;
- ASEAN multilateral agreement on air services and its protocols;
- ASEAN multilateral agreement on the full liberalization of air freight services and its protocols.

Under the CLMV scheme, Laos has opened its airspace for air transport for all the scheme's members. Laos has also concluded air service agreements with its neighbouring countries. In addition, Laos is considering liberalizing air transport for all ASEAN Member countries.

4.2.5 Challenges for Transport Sector Development in Laos

Although transport sector development in Laos has seen enormous improvement over the course of national development, particularly in the past 4 decades, there are many challenges that this sector is still facing. Particularly, since Laos is moving toward international and regional integration step by step, it is unavoidable that Laos will face intense competition and pressure to internationalize its infrastructure, both the legal framework as well as the standards. Some of important challenges are listed below:

- Transport infrastructure is still regionally substandard. The majority of the roads in Laos are designed and constructed to accommodate lower axle loads compare to the roads in neighbouring countries. The development of freight distribution centres and logistic parks is still very limited. This challenge is hindering the process of transforming Laos into a land-linked country;
- The open-sky policy under ASEAN and bilateral agreements have put Laos in a situation where it urgently needs to upgrade and modernize the hard and soft air transport infrastructure to be compatible with regional and international standards, and the pressure on domestic airlines is high in order to stay competitive;
- Regional connectivity is threatened by the lack of human resources;
- Insufficient funding for development and maintenance of the transport infrastructure. The majority of funding is mainly from grants and loans from international development partners and donors.

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- Ministerial understanding on the development of the ASEAN highway network project;
- ASEAN multilateral agreement on air services and its protocols;
- ASEAN multilateral agreement on the full liberalization of air freight services and its protocols.

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- Regional connectivity is threatened by the lack of human resources
- Insufficient funding for development and maintenance of the transport infrastructure. The majority of funding is mainly from grants and loans from international development partners and donors.

The Ministry of Public Works and Transport (MPWT), which is responsible for the planning and development of the transport sector, has translated the government policy into the strategy. The Public Works and Transport Sector Strategy (2016-2025) laid out 16 goals and 11 strategies in its 2016 general annual conference. The strategies in the transport sector are summarized briefly as follows:

- Continue to improve and develop all modes of the transport infrastructure to ensure efficiency, use of modern technology, and to promote safety of linkages within the country, and connectivity with neighbouring countries and the region.
- Road transport: improve and develop domestic linkages (Chinese border-Vientiane and Vientiane-Cambodian border highways, as well as other suitable roads through the BOT and PPP schemes), and preserve and sustainably maintain the existing infrastructure; improve and develop connectivity with neighbouring countries via new bridge and road construction; upgrade the national roads to the regional (especially ASEAN) standard with the focus on the "3-9-11" road network (3 North-South National roads, 9 East-West National roads, and 11 important connecting roads for integration); and promote cross-border transport and logistical services.
- Inland waterways: integrate inland water transport with other forms of transportation, continue to upgrade the navigation system, port construction, and facilities on the Mekong river and its tributaries to support commercial and cultural purposes.
- Air transport: increase and improve air transport connections within the country and the region, improve and modernize aviation navigation and the air traffic control system, complete the under-construction airports, upgrade the airports nationwide, and upgrade and carry out feasibility studies for new airports.
- Railways: completion and operation of the Laos-China railway project; focus on development of new rail lines, such as completion of the detailed design and construction of Vientiane-Thakaek-Muya (Vietnam) railway,

Savannakhet-Lao Bao (Vietnam) line, feasibility studies of railways linking Pakse to Vangtao (Thai border) and Thakek-Savannakhet-Champasak to the Cambodian border; additionally, capacity building and soft infrastructure will also be a focus.

 Regional/international integration and transport facilitation: continue to improve and develop the infrastructure and facilities, streamline the legal framework, enhance the quality of services as well as support capacity building of the domestic transport industry.

4.3 Urbanization

4.3.1 Population Dynamics

Having one of the lowest population densities in the region, Laos has not experienced a significant change in urbanization, which could be partly explained by the small population and mountainous nature of the country combined with the limited migration "push factor". In 1980, the most populated city in Laos, Vientiane, only had a population of less than 200,000 people. However, after the Government of Laos initiated the market economy policy and opened its doors to foreign investment in 1986, urbanization has started to see drastic changes. Together with economic growth, urban development has progressed strongly thanks to improvement of the infrastructure and foreign capital. Migration from rural areas to the major cities, mainly by the younger generation motivated by the increasing demand for cash income, the growing demand for factory workers, and expansion of the urban economy (Okamoto, Sharifi, and Chiba, 2014).



Figure 4.7 Population density by Province

In 2015, Laos had a total population of 6.492 million people (4.5 million in 1995), with a population density of 27 people per square km, which is still one of the lowest in the region. Vientiane has a population density of about 210 people/sq.km (increased from 178 people/sq.km in 2005), which is the highest population density in the country.



Figure 4.8 Urban Population in Laos

Source: NSB (2015).

In 1995, only about 17% of Laos population lived in urban areas. The number increased to 27% in 2005 and reached 33% in 2015. The urban population in each province in Laos is increasing rapidly, especially in the last 10 years, see Figure 12. Compared to other ASEAN nations, based on ASEAN Statistical Yearbook 2014, the percentage of urban population in Laos is greater than Cambodia (23%), very similar to Vietnam (33%) and Myanmar (30%), and still below Singapore (100%), Brunei (77%), Malaysia (74%), Indonesia (53%), Thailand (49%), and the Philippines (44%).



Figure 4.9 Urban Population by Province (persons)

Source: NSB.



Figure 4.10 Internal Migration (NSB)

Source: NSB.

Internal migration is an important factor contributing to the rapid increase in urban population. More people from the northern provinces, which are mostly mountainous, seem to move to other parts of the country, especially to the central and southern provinces, where the land is flat and economic activities are concentrated, Figure 13. Vientiane has been the most popular province for internal migration for the last 2 decades. From 2005 to 2015, Vientiane recorded a net gain of more than 50,600 people, which accounted for more than 70% of total internal migration in the country. Movement of people also seems to associate with accessibility of the road infrastructure. As shown is Figure 14, for the past 2 decades, the overall rural population in Laos has been decreasing, as opposed to the urban population (Figure 11), whereby, on the one hand, some people have moved away from rural areas without road access to other rural areas with road access, and on the other hand, many have moved to the urban areas.

Another indication of urbanization is the rapid increase in the number motor vehicles on urban roads, leading to congestion and traffic accident issues, which have become a common problem in Vientiane and the other major cities around the country. Vehicle numbers in Laos are growing at a very high rate. The number of total vehicle registrations increased more than 4-fold from 360,000 vehicles in 2004 to 1,587,000 vehicles in 2014, making Laos one of the highest nations in ASEAN. When comparing vehicle ownership in Laos to the other ASEAN countries, Laos ranks 5th behind Malaysia, Brunei, Thailand and Indonesia, respectively.





4.3.2 Motorization

Number of registered vehicle in Laos increased about 4 folds between 2004 and 2014 (Figure 4.12). Although number of goods vehicle increased by the same proportion during the same period, its number remained small. Total number of vehicle per 1000 persons in Laos ranked as number 5th in ASEAN (Figure 4.14). However, the rank become number 7th if only goods vehicles are considered (Figure 4.15). This reflect the fact that transport is used by more by passengers than goods in Laos.

Source: NSB.



Figure 4.12 Number of vehicle registrations in Laos

Figure 4.13 Total Vehicles per 1000 Population in ASEAN



Figure 4.14 Total goods vehicles per 1000 population in ASEAN



4.3.3 Challenges

Urban planning is another important sub-sector that has contributed to socioeconomic development in conjunction with curbing uncontrolled urbanization, promotion of rural development, and poverty reduction. As of 2016, almost all districts in Laos (140 out of 148 districts) have master plans to guide urbanization and development. Many district master plans were designed with assistance by the Ministry of Public Works and Transport, while others were prepared by local government agencies.



Figure 4.15 Districts with master plans

Source: PTI.

Rapid urbanization adds pressure on the government and the local authorities to find more resources for development, provide the basic infrastructure and services, as well as increased pressure on the urban and natural environment (land use, air and water pollution, solid waste, etc.). Challenges for urban development in Laos are summarized as follows:

- Urban expansion is outpacing the ability of the authorities to update and control their master plans as well as carry out planning for new areas;
- Legal framework is still weak, regulation is not up to date, thus lagging behind actual development;
- Implementation of master plans is weak and inefficient;
- Lack of research and information, leading to unsuitable decision and policies;
- Inadequate skilled human resources and funding.

Public Works and Transport Sector Strategy (2016-2025) has also set out the following goals and strategies for urban development:

Goals:

- Development of cities with sufficient infrastructure and amenities, with a good environment and appropriate sanitation. The cities shall support the dwellers' way of life, suitable working and living conditions, and encourage participation by the people;
- Build cities that are unique, clean and livable, green, resilient and sustainable, in conjunction with strengthening the urban centers' role in economic development, the potential to create jobs, access funding for development, with the aim to create cities that are self-sufficient.

Some of the most important strategies include:

- Promote development of low-cost housing in urban and rural areas that is suitable, hygienic, safe, and resilient;
- Manage and control the design and construction of buildings to ensure high standards for safety, attractiveness, usability, resilience, energy efficiency, and environmental friendliness;

- Focus on planning and developing cities along economic corridors and other cities in the provinces that have the potential for regional connectivity;
- Improve the urban environment at all level of to ensure attractiveness, greenery, cleanliness, peacefulness, safety, and livability in conjunction with development of the infrastructure, suitable housing, efficient transport systems, sufficient sanitation for improved living conditions and sustainable urbanization;
- Continue to update the urban master plans and the detailed planning of areas ensuring up to date facilitation of urban expansion that is unique, green, livable, resilient, and sustainable;
- Monitor implementation of the district master plans to ensure that they are in line with current development trends;
- Streamline institutional mechanisms, the legal framework, and the capacity of the authorities responsible for preparing the master plans, monitoring and controlling implementation of the master plans, as well as managing and permitting the construction of buildings to ensure modernization and efficiency.

4.4 Support Mechanism for Servicification in Laos since 2000s

As is often the in small countries with limited domestic market, industrial promotion including servicification in Laos has to take into account external demand. In other words, servicification would not progress much without expansion of trade in services. Laos' services is at a premature stage of development. The trade in this sector faces important challenges in three main areas, human capital skills, integration and connectivity, and good governance. In order to improve and strengthen the capacity of the services in Laos, the government of Laos set up a mechanism to support this sector. The Trade in Services is a crucial area of the Aid for Trade program designed to support reform on domestic regulations and policies in the key services. A government report pointed out that Laos should leverage WTO and ASEAN accession and the commitments made in this process to support domestic reform programs, which emphasize competition, sound regulation, and policies to widen access to services in key sectors, such as finance, telecommunications, and transport (DTIS, 2012).



Figure 4.16 Import of Services into Laos from the Rest of the World

Source: Emerging Markets Consulting, 2016; calculated from Trade Map, ITC.

The support project started in 2009 by focusing on improvement of the laws and regulations concerning the services sector, and we have seen a great improvement in this sector in Laos. Since 2010 (Figure 4.16), Laos's services' import of tourism has experienced an average growth rate of 120% per year, followed by insurance and telecommunications with 44% and 38% respectively. However, construction and transportation also showed impressive increases.

At the same time (Figure 4.17), the main services export by Laos to the rest of the world indicated that Laos increased the gain from tourism (personal travel), which accounted for 596 million US\$, equivalent to a 22% increase compared to 2007. In

addition to that, the insurance sector has experienced an average growth rate of 22% per year since 2007. Laos gained more from the export of services than other sectors, especially the insurance sector that increased around 42%, followed by travel 22% as the second big increase, and 16% for telecoms as the third growth sector. One observation is that services' exports have grown considerably from 2007 to 2013, especially the insurance sector; however, growth remains concentrated in traditional services, particularly transport and travel. The expansion of the services sector at the domestic level has translated into growing services' exports. Nevertheless, traditional services dominate services' exports in Laos.



Figure 4.17 Export of Services from Laos to the Rest of the World

Source: Emerging Markets Consulting, 2016; calculated from Trade Map, ITC.

Since 2007 the concentration of Laos' services sector was in traditional services as the main economic driver. Nonetheless, traditional services may act as a constraint on the diversification and upgrading of manufacturing. At the same time, the export of commodities also relied on the export of raw materials rather than processing to finished products at the manufacturing level; therefore, the gain from the value added of modern services did not happen during this period. However, Laos' manufacturing sector still relies on services' input than in comparable countries, for both domestic and exportoriented activities. We have seen that the services sector has played an important role in the growth process as well as building export competitiveness by Laos during the last decade. Services are not only a source of competitiveness as inputs into manufacturing and agriculture exports, but the direct export of services can provide an opportunity for export diversification and can be used as an engine for economic growth. Therefore, services as inputs into other economic activities remain an important determinant of economic performance not only in developing countries, but also in Laos, subsequently Laos can also join the club of services exporters and benefit from opening of the services market.

Laos has commenced commitments on all modes of services supply in 10 sectors, including business services, courier and telecommunication services, construction, distribution, private education, environmental services, insurance, banking and other finances, private hospital services, tourism, and air transport. Most of these sectors have received at least a partial commitment. In only two sub-sectors, Laos has committed to full liberalization across the modes of supply: value-added telecom services, including Internet and data transmission services, computer services, including business outsourcing activities like IT consultancy, software implementation, and data processing. Real estate and other business services, audiovisual and recreational services, and transport services remain largely uncommitted (Services and manufacturing linkages: An empirical analysis for Laos, World Bank 2016). Up to now (FTPD, 2016), Laos' commitment on Package 9 (AFAS 9) has already committed to service liberalization of up to 92 sub-sectors. These liberalization sectors are shown in Table 4.2.

No.	Sector liberalization	Committed (sub-sectors)
1	Business services	29
2	Telecommunications	20
3	Construction and Engineering	5
4	Distribution	4
5	Education	5
6	Environmental	4
7	Healthcare	1
8	Tourism	3
9	Transportation	21

Table 4.2 Laos Services Liberalization in AFAS 9 (Total 92 sub-sectors)

Source: Ministry of Industry and Commerce, 2016.

At the same time, Laos has committed to liberalize 21 sub-sectors for transportation services, and this will increase the tension of competition in the transport sector. For instance, Thai freight forwarders provide most of the forwarding services for the movement to/from the ports, since they can offer economies of scale, a broader range of services, and more sophisticated ICT systems. They also arrange a portion of the overseas movements through relationships with, or are part of, global companies (World Bank 2014). Whereas there were about 25 domestic firms registered with the Lao International Freight Forwarder Association, only a few international firms are present in the country and the demand for the services of freight forwarders is low, because a significant portion of the shippers and consignees do not outsource activities such as storage, consolidation, and inventory management.

Services' liberalization continues to be undertaken progressively under the ASEAN Framework Agreement on Services. ASEAN has now completed seven packages of commitments from five rounds of negotiations since the AFAS was signed in December 1995 (FTPD Lao Report 2016). In the area of services' liberalization, work is progressing for completion of the 8th Package of Commitments under the ASEAN Framework Agreement on Services (AFAS) that will have no restrictions on cross-border supply and consumption abroad (Modes 1 and 2, respectively) with foreign equity participation of 51% or more on commercial presence (Mode 3) and removing other restrictions in 80 sub-sectors.

The ASEAN Agreement on Movement of Natural Persons is also being negotiated. In financial services, the 6th Round of Negotiations has been launched. In air transport services, the 7th Package of AFAS Commitments in Air Transport was signed by the ASEAN Transport Ministers. However, a considerable amount needs to be done to achieve full completion of this package if by 2015 ASEAN the unimpeded flow of services is to be achieved. However, Laos's positive efforts towards multilateral, bilateral, and regional integration needs to be managed carefully and be part of a broader sector development agenda that emphasizes competition, sound regulation, and widening access to services (Table 4.2). It was noticed that in the telecom and transport sectors, the existing restrictions may prevent Laos from maximizing the benefits, in the financial sector a gradual approach may provide the opportunity to build the necessary regulatory capacity. Laos could benefit more from building stronger linkages between the domestic sector development agenda with efforts in liberalizing the sector through regional integration, which is supplemented by the requisite technical assistance. Liberalization of the telecoms sector will promote more linkage between Laos and other parts of the world in order to boost trade and investment activities and overcome the landlocked country obstacles.

Table 4.3 Laos' Services Liberalization under Multilateral, Bilateral, andRegional Integration (AEC)

No.	Sector liberalization	Committed (sub-sectors)
1	Multilateral level (WTO)	79
2	Regional level (AEC)	104
3	ASEAN-China	43
4	ASEAN-India	34
5	ASEAN-Japan	0
6	ASEAN-Korea	18
7	ASEAN-NZ	37

Source: Ministry of Industry and Commerce, 2016.

Laos has made steady progress towards gaining admission to the World Trade Organization (WTO). At the same time, Laos has made similar progress in joining the ASEAN Economic Community (AEC) at both multilateral and bilateral levels. Services liberalization has been an integral part of this progress as required under the ASEAN Framework Agreement on Services (AFAS), and the WTO's General Agreement on Trade in Services (GATS). The liberalization under multilateral, bilateral, and regional integration will assist Laos to improve its professional services sector in order to integrate at the international level as well as create a sound environment to domestic and foreign investment. As Table 4.3 shows, Laos has liberalized more at the regional level than multilateral level, due to limitation of competency, such as human capital, logistics, and the law that do not yet meet the international standard. However, Laos has improved services' liberalization with China and India as bilateral commitments, especially in the area of merchandise trade, R&D, construction, telecoms, banking, transportation (air and land), and information technology. Whereas, Laos also made progress with Korea and NZ along with other ASEAN members, but specifically liberalized the banking, education, construction, telecoms, and environmental sectors.

Parallel with the negotiation of services' liberalization, according to the report of Foreign Trade Policy Department February 2017, Laos has also negotiated the movement by 7 professions under the Mutual Recognition Arrangement (MRAs) in order to facilitate the movement of these professions. The 7 professions include:

- Engineering (ASEAN Chartered Professional Engineers Coordinating Committee (ACPECC) which endorsed on 9 December 2005;
- 2.Healthcare/Nursing (ASEAN Joint Coordinating Committee on Nursing (AJCCN) which endorsed on 8 December 2016;
- Architect (ASEAN Architect Council (AAC) which endorsed on 19 November 2007;
- Land surveying and Geometrics (ASEAN Federation of Land Surveying and Geometrics (ASEAN FLAG) which endorsed on 19 November 2017;
- Accountants (ASEAN Federation of Accountants (AFA) which endorsed on 26 February 2009;
- Medical Practitioners (ASEAN Joint Coordinating Committee on Medical Practitioners (AJCCM) which endorsed on 26 February 2009;
- Dental Practitioners (ASEAN Joint Coordinating Committee on Dental Practioners (AJCCD) which endorsed on 26 February 2009.

Recently, Laos and other ASEAN members are preparing the institutions and regulations in order to implement and enforce these MRAs in a tangible manner. It is observed that Laos still encounters internal supply constraints that hamper attempts to expand services' exports. We understand in general that the ability to trade services more competitively relies heavily on human skill factors, an efficient regulatory framework, and institutions that many LDCs have yet to fully develop, such as an adequately trained workforce, strong rule of law, intellectual property rights' protection, and sufficient digital infrastructure (Arbis & Heal, 2015).

When looking at AEC integration, for a small, landlocked country like Laos, the AEC offers great potential for economic development through improved access to the regional markets. As a single production base, it also increases the opportunities for Laos to participate in regional value chains. ASEAN's member states already account for more than half of Laos' total foreign trade. Yet, the new opportunities of the AEC go hand-inhand with numerous challenges in both the public and private sectors in Laos. The Laos Government faces the task of implementing the regulatory and procedural changes necessary in order to conform to the ASEAN agreements (as stated in the above paragraph). This requires extensive technical knowledge and the ongoing coordination by many government actors from different sectors and agencies. Meanwhile, the business sector must cope with increasing liberalization and greater competition from the more advanced ASEAN economies. At present, Laos' main exports are energy and mineral resources, both of which have limited effects on local employment. The export of services is not yet the preferred way because the vast majority of businesses in the country are small and medium-sized enterprises (SMEs), which they have mainly basic service skills and capability as indicated in Figure 4.18. Promoting the development of these enterprises would enable Laos to integrate more inclusively and sustainably into the AEC; however, the promotion of high professional services skills by Laos' people is a must (German Federal Ministry for Economic Cooperation and Development, 2017).

Despite these barriers, Laos can take as a lesson learnt and could still potentially develop a higher market share in services by investing in information and communication technology, which are becoming more and more affordable, and tapping into the development plan of the country in order to attract the services' industry modernization in the future.

Figure 4.18 Level of Servicification in Laos

Level of Servicification in Laos



Source: Author complied based on information gathering, (2016)

Even though Laos has liberalized many services sectors and sub-sectors, it still faces many major challenging factors in the scheduling of AFAS commitments; these major challenges are not only for Laos, but also include many countries, for instance the member states have faced a difficulty in making further commitments due to legal constraints; engaging with private sector stakeholders domestically is difficult; movement of Natural Persons (Mode 4), human capital, especially in Laos where services liberalization requires professional skill (Figure 4.26). The service skill of Laos' people is still at the basic level, and mid- to higher- level professional skills majority are outsourced outside the country. Therefore, this is the most sensitive services mode of supply in the AFAS process, but Laos has already completed the 7th package and is now in the process of completing the 8th and 9th packages of commitments, under which some remaining sub-sectors will be discussed further (FTPD Lao Report, 2016), yet they need either more analysis or consultation with the stakeholders in order to gain the maximum benefit from liberalization.

The trade in services plays an important role in economic development in Laos. According to the special characteristics of Laos, for instance, limits on human capital, abandonment as a natural resource based country, unique traditions and culture; therefore, the development of the services sector can be a potential for Laos's economic development. At the same time, Laos cannot compete with its neighbouring countries in terms of industry and modern services; therefore, by attracting more investment and improving the services' infrastructure, Laos can become a best destination opportunity for developed countries to explore.

Under multilateral commitments it is important that Laos honors the commitment under the WTO agreement in terms of services liberalization as well as under the ASEAN and bilateral commitments. It is recommended that Laos needs to prepare a well coordinate strategy among the ministries in order to strengthen its negotiation capacity, as well as with the private sector. The private sector needs to have a support mechanism from government in terms of a sound business environment, reduce the cost of doing business, support for market and financial access for future business expansion and competition.

By promoting and supporting potential business sectors that exist in Laos, for instance, telecoms, insurance, petroleum, banking, travel, and tourism where Laos can attract more investors and tourists to invest and visit. It is a good opportunity that the government should work closely with the private sector and/or the stakeholders before opening negotiations in the future, so that the private sector will have time to prepare and improve their foreign market knowledge and competency for new challenges. Apart from general knowledge on how to handle trade in services with customers in foreign markets, the private sector needs to acquire market-specific information concerning foreign supply, demand, rules, and regulations, as well as the institutions. Differences in language and culture complicate long-distance trade relations (Johanson and Vahlne, 2009). Therefore, the private sector may need to invest substantially more in building and sustaining foreign business relations, which frequently necessitate face-to-face contact.

Services also complement the goods trade. Many studies point out that inefficiencies in the services sector in developing economies impact negatively on the export competitiveness of that country's productivity. In the case of Laos, the majority of exports rely on agriculture and manufacturing, therefore, without a strong services sectors, Laos can have a negative impact on the agriculture and manufacturing sectors. Much of the international trade in goods by developing countries relies on the performance of a number of essential services, such as telecommunications, financial services, and most importantly the modern transport services required to transport goods to international markets. Therefore, it is strongly urged that Laos' government accelerate developing the transportation services sector to support and increase the export volume and the export of services.

4.4 Conclusions

This chapters first examines development of transport infrastructure and urbanization in Laos. We find that while Laos has made significant progresses in both areas, especially since 2000, absolute level of supply of both still lack behind many neighboring countries. We argue that development of both infrastructure and urbanization needs to make more use of external demand, as well as supply, in order to progress faster. We conclude that Lao promotion of services trade, including liberalization of services, would contribute to servicification, and therefore industrialization in Laos.

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Chapter 5

Special Economic Zones, Industrialization and Servicification in Lao PDR

Phanchinda Lengsavad and Vanthana Nolintha

5.1 Introduction

Industrialization in Lao PDR (Laos hereafter) dates back since the introduction of the New Economic Mechanism (NEM) in 1986. NEM marked the beginning of the transition of Laos' economy from a centrally planned economic system to a more market oriented one. Laos' economy has since then been gradually opening to the regional and international economy by welcoming the inflow of foreign capital, technology, and recently, skills. The first industrialization and modernization strategy was drafted and approved in 2002 by the government. The strategy was for the period 2001 to 2020. The industrialization and modernization strategy proposed five priority sectors: agricultureforestry processing, electricity generation, mining, tourism, and construction materials production. Industrialization in Laos has also been supported by other policies such as the private investment promotion and economic integration. However, although industrialization has contributed to rapid growth of the economy, there are several limitations and shortfalls in this early stage of industrialization. Some of major challenges include low productivity, lack of support industries, limited resources (capital, human) for industrialization, unclear industrial promotion policy, limited usage of modern technology in the production process, and low investment by firms to improve the skill of their workforce (MPI, 2017). In addition, industrialization has been rather slow compared to other countries in the region.

Industrialization reached a new stage with development of the special economic zones (SEZ). SEZ are developed as a mean to focus the country's limited resources into improving the infrastructure and facilitating investment and business procedures. Several SEZs manage to attract diversified manufacturing activities, contributing to increased

industrialization of the Laos' economy. Development of a SEZ can as well be regarded as a servicification process for the following reasons. Firstly, an industrial estate including a SEZ is effectively real estate development for firms, and therefore belongs to the services industry by conventional definition. Secondly, some SEZs in Laos explicitly target the services industry, i.e. luxury accommodation, commercial and recreational complexes, instead of manufacturing factories.

This chapter aims to discuss the role of SEZs in the industrialization and servicification process of the Lao economy, firstly by showing the policy environment for SEZ. The chapter discusses the recent development of SEZs in Laos and attempt to depict their important role in industrialization and servicification. Policy recommendations are provided at the final section.

5.2 Policy Environment for SEZ Development

A Special Economic Zone may be named differently from country to country. It covers a wide range of zones, such as industrial estates, export processing zones, hightech zones, multi-functional economic zones, and others. Generally, it refers to a "demarcated geographical area contained within a country's national boundaries where the rules of business are different from those that prevail within the national territory. These different rules principally deal with the investment conditions, international trade and Customs procedures, taxation, and the regulatory environment; whereby the zone is given a business environment that is more liberal from a policy perspective and more effective from an administrative perspective than that within the national territory" (Farole 2011, p.23). In Laos, the draft revised Investment Promotion Law, which was endorsed, in principle, at the National Assembly in November 2016, defines a SEZ as "An area established by the government, with unique management mechanism in order to respond to the needs to attract investment especially in the areas of high technology, environmentally friendly sectors, export promotion, import substitution, new technology for agricultural production, aiming at clean production, energy saving, and natural resource conservation for sustainable development". Until promulgation of the new revised Investment Promotion Law, the relatively smaller scale zones (less than 1,000
hectares) with specific objectives were referred to as "Specific Economic Zones" while the larger ones (more than 1,000 hectares) with a multi-functional focus were called "Special Economic Zones". However, this definition has been applied rather loosely. For example, the Phoukhyo Specific Economic Zone and Boten Beautiful Land Specific Economic Zone have a land area of 4,850 hectares and 1,640 hectares respectively, but are still being referred to as a "Specific economic zone". But in the near future, especially after the revised Investment Promotion Law comes into effect, all zones will be referred to as Special Economic Zones. Thus, this paper will only use the term "Special economic zone" to refer to a generic SEZ, while the words "Specific economic zone" will be used for SEZs that have been established.

Source	Total over	Share of	Annual
	Five Years	Total (%)	(approx.)
Government Investment/Revenue	3 billion	10.9	600 million
ODA	3.5 billion	12.7	700 million
Foreign and Domestic Private	15.5 billion	56.1	3.1 billion
Investment			
Bank Lending	5.6 billion	20.2	1.12 billion
Total	27.6 billion	100	

 Table 5.1 Estimated Investment Requirements for the 8th NSEDP (in USD)

Source: Ministry of Planning and Investment.

SEZ in Laos aims to attract private investment from domestic and foreign direct investment (FDI) to create the foundation necessary for industrialization, while creating jobs for the local people, promoting technology transfer, and generating revenue for the government in order to contribute to realization of Vision 2020 by bringing the country out of the Least Developed Country status. SEZ development is also seen as an important approach contributing to diversification of Laos' economy, moving from a natural resource based growth to a more diversified industrial economy. Private investment has played a critical role in the country's development. The 8th National Social Economic Development Plan (2010-2015) envisions total resource requirements of about of USD 27.6 billion, 56.1% of which is to be mobilized from private sector (Table 5.1). Laos is ranked number 139 in the 2016 World Bank's "Ease of Doing Business" index, and given increased competition for FDI in the region after ASEAN integration plus the global economic slowdown, significant efforts will have to be made to improve the investment and business environment in the country. It is even more important to focus on beefing up the existing SEZs to become more attractive investment destinations.

Up to date, the main legal foundation for the SEZs in Laos is the revised Investment Promotion Law (latest version was adopted in principle by the National Assembly in November 2016), Decree No. 443 on Special and Specific Zones in Laos as well as individual zone contracts and other applicable sectorial rules and regulations. To further strengthen the legal framework for SEZ, based on the revised Investment Promotion Law, the Decree on Special Economic Zones is being revised. In the meantime, the existing rules and regulations remain valid.

Following the restructuring of various government offices in 2016, the overall SEZ supervision and management has been transferred from the Lao National Committee for Special Economic Zones (NCSEZ) since April 2016 to the Ministry of Planning and Investment, supported by the SEZ Promotion and Management Office – SEZO (formerly known as the Secretariat of NCSEZ or S-NCSEZ). The change in the institutional framework, at the time of this study, has not affected arrangements at the zone level. Each zone has a Management Board or Economic Board, composed of representatives from the government and the private sector developers. Usually, the Board is chaired by the developer. In the case where developers are from the private sector, the Vice-chair of the Board is the government representative supervising the One-Stop-Service (OSS) office located within each zone. In addition, government representatives also perform all the functions of public administration within the given zone, while the developer focuses on physical development of the zone and attracting investment. This principle will be further reinforced during the ongoing improvement of the SEZ' overall regulatory framework.

5.3 SEZ Development and Linkage with Industrialization

The development of SEZs began in the early 2000s when the Savan-Seno SEZ was established. Progress was slow at the initial stage due to the lack of necessary infrastructure. The number of SEZs increased significantly after establishment of the national government body to oversee, manage, and promote SEZs. Most SEZs are located near the border area with ease of access to our neighbouring markets. This section of the chapter describes the development of selected major SEZs in order to provide some evidence about how their development has promoted industrialization in Laos.

At present, there are 12 zones in the country, 4 of which are Special Economic Zones, 8 are Specific Economic Zones (Table 2). Many zones have more than 10 approved activities being carried out. Based on the priority for investment promotion, the zones can be broadly classified into three categories:

- i. Industrial Zones: Savan-Seno, VITA Park, Saysettha development zone, Phoukhyo and Champasak.
- ii. Tourism and new urban center zones: Golden Triangle SEZ, Louang Phabang SEZ, That Luang SEZ, Longthanh SEZ.
- iii. Trade and Logistics: Boten SEZ, Dongphosy SEZ, Thakhek SEZ.

These classifications highlight the key business sectors of the SEZs. In fact, most have adopted an integrated development approach by focusing on building industrial estates and also commercial, residential, tourism and recreational townships to provide a greater range of business support services. Collectively, the 12 existing SEZs occupy a total land area of 19,782 hectares. There are 294 firms registered in the zones (56 domestic firms, 217 foreign firms, and 21 joint ventures). At present 220 are still active, 30% in the industry sector, 32% in trade, and 38% in the services sector (S-NCSEZ Annual Report 2016). Total actual investments made in the zones are over USD1.6 billion, generating almost USD 16.48 million government revenue and over 15,500 jobs, 46% attracting local labor. It is worth noting here that if the Golden Triangle SEZ is excluded the

percentage of jobs held by local workers would be as high as 87% out of the 7,828 jobs created. Based on the study conducted by the National Statistical Bureau in collaboration with the former secretariat of the Lao National Committee for Special Economic Zones (S-NCSEZ) in 2015, SEZ contribution to the national GDP was 0.3% in 2013, rising to 1% in 2014, despite some data gaps. Although the contribution is not significant, it is expected to increase as the number of firms exporting their products is increasing, as evidenced in the export value from the year of establishment until the present, the total value of exports from the SEZs (mainly Savan-Seno, VITA Park and Champasak) is about USD 352,175,553, and the figures from October 2015 to 1 June 2016, show the export value from these three zones at USD 278,630,092. If the tourism services provided by the zones such as Boten SEZ and Golden Triangle SEZ are included, this figure would be significantly higher. At the beginning of 2017, a new study on SEZ contribution to GDP is expected to be carried out and hopefully this will shed more light concerning this aspect.

No.	Name of zone	Year of Est.	Location	Developer	Size in ha	Labor (Foreign)
1	Savan-Seno Special Economic Zone	2003	Savannakhet		1,012	4,229 (101)
1.1	Site A	2003	Savannakhet	Government (30%) & Thailand (70%, private)	110	
1.2	Savan Park SEZ (Site C of Savan-Seno SEZ)	2008	Savannakhet	Laos (30%), Malaysia (70%, private)		
1.3	Savan-Japan Joint Development (Site B of Savan-Seno SEZ)	2013	Savannakhet	Government (30%), Laos (50%, private) & Japan (20%, private)		
1.4	Site D	2013	Savannakhet	Laos (30%) &Malaysia (70%, private)		
2	Boten Beautiful Land Specific Economic Zone	2003 (revise d 2012)	Luang Namtha	China 100% (Private)	1,640	641 (429)
3	Golden Triangle Special Economic Zone	2007 (revise d 2010)	Bokeo	Government (20%) & China Developer (80%, private)	3,000	7,674 (7,336)
4	Vientiane Industrial and Trade Area (VITA Park)	2009 (revise d 2011)	Vientiane Capital	Government (30%) &Taiwan: (70%, Private)	110	1,250 (52)
5	Saysettha Development Zone	2009 (revise d 2011)	Vientiane Capital	Government (25%) &China (75%, Private)	1,000	214 (132)
6	Dongphosy Specific Economic Zone	2009 (revise d 2012)	Vientiane Capital	Government (15%) &Malaysia (85%, Private)	54	56 (14)
7	Phoukhyo Specific Economic Zone	2010	Khammouan	Laos 100% (Private)	4,850	72 (12)
8	That Louang Lake Specific Economic Zone	2011	Vientiane Capital	China 100% (Private)	365	205 (93)

Table 5.2 List of Existing SEZs in Laos

9	Longthanh-Vientiane Specific Economic Zone	2008 (revise d 2012)	Vientiane Capital	Vietnam 100% (Private)	560	517 (28)
10	Thakek Specific Economic Zone	2012	Khammouan	Government: 100%	1,035	146 (96)
11	Champasak Special Economic Zone	2015	Champasak	Government (30%) &Laos(70% Private)	1,306	540 (71)
11.1	Pakse-Japan SME Specific Economic Zone					
11.2	Champasak Lao-Service Industrial Park					
11.3	Champa City SEZ					
11.4	Vangtau-Phonthong SEZ					
12	Luang Prabang Special Economic Zone	2016	Luang Prabang	Government 30% &Laos (70% Private)	4,850	-

Source: Ministry of Planning and Investment, 2017.

The Savan-Seno SEZ was established in 2003. As the pioneer, this SEZ is located in the most strategic location at the promising East-West Economic Corridor (EWEC). Firms located in this SEZ can easily access the neighbouring markets as well as seaports. This SEZ is located 720 km from Laem Chabang port in Thailand and 500 km from Danang port in Vietnam. The former remains the most frequently used port for firms in this SEZ. The progress of developing this SEZ was slow at the initial stage. There were several difficulties, such as a lack of government capital to invest in the basic infrastructure, the delay in land clearance, and very importantly the lack of an experienced developer. Development of this zone picked up quickly after the partnership between the government and the private foreign developer focused on development of site C, "Savan Park". At the end of 2016, there are over 50 companies investing in site C (Savan Park, 2016). Recently, the government granted another developer site B to further develop this zone. The Savan-Seno SEZ is equipped with the most developed basic and investment infrastructure. As hard infrastructure, this SEZ is provided with a separate power substation, a high-voltage electricity transmission network, specifically developed water supply network, a good road network inside the zone, and an efficient telecommunications network. More importantly, there are some outstanding achievements in the development of the soft-infrastructure in this zone, such as the dry port service located within the premises of the SEZ. This facility helps reduce the time and cost for cross-border transactions and increases the reliability of cargo transportation

(See Table 3 for more details). Companies within and outside the zone increasingly rely on the services provided by the dry port. Several multinational corporations (MNCs) operate in Savan-Seno SEZ including Toyota Boshoku, Nikon, Essilor, and Aeroworks.

Table 5.3 Comparison of the Status before and after Establishment of the ICD Dry Port in Savan-Seno SEZ in Savannakhet Province.

No.	Description	Before	After
1	Tracking system of containers incoming and	No	Yes
	outgoing from Laos		
2	Information system linkages with other ports	No	Yes
	around the world with Laos on import-export		
	or transit goods		
3	Existence of a port or dry port in Laos	No	Yes
4	Dry port/ICD (Laos) registered as a member	No	Yes (LA SAV 1633N 1044E)
	of the UN (UN/LOCODE) LA SAV		
5	Cost of sending goods per container in and	USD 4,320	USD 1,460
	out of Leam Chabang port (Thailand) to the		
	dry port/ICD in Savannakhet province		
6	Time taken for transportation from Leam	5 days	2 days
	Chabang port (Thailand) to the dry port/ICD		
	in Savannakhet province		
7	Deposit per container before moving from	USD3,000 per container	No deposit fee
	Thai or Vietnamese ports to Laos		
8	Duration for keeping containers in Laos	One to two weeks	No limitation
9	Container monitoring using electronic locks	No	Yes
10	Agricultural products from Laos such as rice,	Cannot be exported via	Can be exported via Thailand
	cassava, rubber	Thailand and has vey	with streamlined
		cumbersome	documentation
		documentation	

11	Steps in preparing import -export	Many sectors located in	Many relevant sectors are
	documentation	different locations	located within a single area
12	Mode of payment for import-export	By cash	Smart tax
	documentation fee		
13	Less Container Load (LCL)	No system for LCL	Yes
14	Container cleaning and maintenance service	No	Yes

Source: Savan Park, 2016.

The Vientiane Industry and Trade Park (VITA Park) is another growing manufacturing based SEZ located in Vientiane. This SEZ is located at the outskirt of the city with a good highway connecting with the first Laos-Thai Friendship Bridge. The park is also located close to the planned Vientiane train station and the planned new international airport. Firms located in VITA Park enjoy the benefits of the city's infrastructure and avoid some of the negative aspects of locating in the city, such as traffic congestion. VITA Park aims to attract mainly manufacturing factories, while a small area is dedicated to trade and services. Support services, such as a vocational school, factory dormitory, healthcare centre, and a school, are planned to provide full support to investors in the park. At present, many factories operate in the park including MMC Electronics (Japanese), Mascot International (Denmark) and CP (Thailand).

The Pakse-Japan SME specific economic zone, established in late 2015, is the latest manufacturing based SEZ in Laos as part of the Champasak special economic zone. This Pakse-Japan SEZ is located 14 km from the centre of Champasak and 60 km from the Laos-Thai border checkpoint. The Pakse-Japan SEZ is very unique because it aims to attract FDI especially by small and medium size enterprises from Japan. In addition, establishment of this zone, unlike others, emerged after the private sector saw the business opportunity in this area. Prior to establishment of this SEZ, a few Japanese linked manufacturing firms already operated in the area. Currently, there are more than 10 Japanese and Laos-Japanese manufacturing firms registered to operate in this zone.

In more recent years, developers have become interested in services based SEZs.

Although, they aim to promote manufacturing and services sectors in their zones but in practice services based SEZs have not been successful in attracting manufacturing business. Table 5.4 below shows that less than one-third of the number of firms registered in the industrial or manufacturing sectors, and the majority of the firms are either trade of services entities. The Golden Triangle SEZ in Bokeo province is one of the older services based SEZs that attracts entertainment and hospitality business such as casinos, hotels, and restaurants. That Louang Lake, Longtang and Dongphosy SEZs in Vientiane target the services business such as residential services, recreational activities, and other hospitality facilities.

Louang Phabang SEZ (LSEZ) is the latest SEZ approved by the government in 2016. Based on the conceptual design of the LSEZ and the research team's field visit²⁴, the LSEZ covers a large area of 4,850 ha of which 1,500 ha is located in Luang Prabang district and the rest of the area is located in Chomphet district (LSEZ, 2017). The LSEZ plans to have three zones. Zone S1, which is located across the Mekong river from the old town, plans to develop a new urban centre integrating tourism, resorts, and education and training facilities. Development of S1 aims to reduce congestion in the town and promote new tourism opportunities in other areas. Zone S2 is located near the railway station, and this zone aims to attract manufacturing and logistical business to the area. Finally, Zone S3 plans to develop a comprehensive tourism business area. There are some observations regarding development of the LSEZ. Firstly, the LSEZ was developed at a good time when the tourism sector at Luang Prabang was at its peak. Recent developments in the tourism industry have concentrated in the old town area, which is protected by the World Heritage conditions and standards. Such standards benefit the province in terms of preserving its rich cultural and historical values and, at the same time, limit development of modern tourism facilities. Therefore, the development at Zone S1

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²⁴Field visit to Luang Prabang, 5-6 February 2017, funded by the IDE-JETRO

opens up new potential for tourism related business. In addition, Zone S2 is strategically located near the planned railway station that will also have great potential for logistical business. Secondly, the very large size of LSEZ makes it challenging for the developer to manage and develop the area timely. Based on the experience of many other SEZs in Laos, it takes a lot of financial resources and expertise to develop a successful SEZ. Especially, the LSEZ that has many functions or objectives; hence, the LSEZ needs to work with different partners that have relevant experience and expertise. Thirdly, the government decision on the development of the Mekong Bridge connecting Luang Prabang and Chomphet, the location of S2, and progress of the railway project will have a substantial impact on the prospects for this zone. The construction of the Laos-China railway project officially began in December 2016 in Luang Prabang. The total length of the track passing through this province is 80 kms, covering 3 districts and 29 villages. At the time of this study, the project has completed marking the route for the track, marking reserved areas, bidding for the contractors, and construction of the access road to the project site. Finally, the LSEZ has to work very closely with all the relevant agencies to conduct a comprehensive assessment of the social and environmental impact of the project and ensure that it will not have any negative impact on the core elements of the tourism industry.

		Numb	Number of firms by			Number of firms		
		type of	of inves	tment		by sect	or	
No.	Name of the SEZ	D	F	JV	Industry	Trade	Services	Total
1	Savan-Seno Special Economic Zone	19	48	10	23	21	33	77
2	Boten Specific Economic Zone	0	15	0	1	8	6	15
3	Golden Triangle Special Economic Zone	4	72	1	6	31	40	77
4	VITA Park	4	36	1	23	10	8	41
5	Saysettha Development Zone	1	15	3	11	4	4	19
6	Dongphosy Specific Economic Zone	1	1	0	0	0	2	2
7	Phoukyo Specific Economic Zone	4	8	3	6	7	2	15

Table 5.4 Number of Firms registered to Operate in SEZs (as of June 2016)

8	That Louang Lake Specific Economic Zone	3	10	0	0	10	3	13
9	Longtang-Vientiane Specific Economic Zone	0	2	0	0	0	2	2
10	Thakek Specific Economic Zone	15	2	2	5	5	9	19
11	Champasak Special Economic Zone	4	8	1	7	4	2	13
12	Luang Prabang Special Economic Zone	1	0	0	0	1	0	1
	Total	56	217	21	82	101	111	294

Note: D = Domestic, F = Foreign, JV = Joint Venture

Source: Ministry of Planning and Investment, 2016

Some observations on SEZs and industrialization

Manufacturing based SEZs have helped to connect Laos with the regional and global production networks and thus promoted industrialization of the economy. As shown earlier, the few manufacturing based SEZs in Laos have successfully attracted several multinational corporations (MNCs). Prior to this, manufacturing in Laos had a low level of direct integration to the production network. Firms in Laos simply imported the parts and components and assembled finished products for export. However, many factories located in the SEZs now operate as part of the regional production network. Their regional headquarters (for instance in Thailand) relocated or expanded the more labor intensive processes to Laos. These activities are part of the so-called "Thailand Plus One" investment strategy by Japanese MNCs in Thailand. Therefore, the production of intermediate goods only emerged in Laos recently at the later stage of SEZ development. Although currently only labor intensive processes with low technological intensity is handled in Laos, this beginning could provide a solid foundation for more advance processes in the future. This has already pushed the industrialization efforts of Laos to a higher level.

Expansion of such regional production linked manufacturing sectors is a result of the push and pull factors. The most important push factor is the change in the minimum wage policy in Thailand, and the key pull factors are the improvement in transport infrastructure between Laos and Thailand, more simplified and more efficient cross-border custom clearance, and a better investment climate in the SEZ (Umezaki et al, 2014).

These factors contributed to lower service linked costs between the satellite factories in Laos and their regional headquarters. From this dimension, the better facilities in the SEZs have also played an important role in attracting large regional and global manufacturing firms and hence promoted industrialization of the country.

Although the expansion of the SEZs has contributed to the increase in industrialization of Laos' economy, there are some observable limitations to the relationship. First and foremost, the linkage between the activities by firms in the SEZ ad those outside the zones are very small if any. Currently, there are some manufacturing firms outside the SEZ engaged in complementary upstream activities. For example, small foreign firms in Vientiane and Champasak assemble electric coils but instead of sending their output to firms inside SEZs in Laos, they export directly to the mother company or customers in Thailand or other countries. Secondly, local firms have a lower absorption capacity to provide goods or services to firms inside the SEZ. Unlike the experience in some other Asian countries, it is very difficult to provide protection or a preferential policy for local firms for the local content requirement in this integrated market. Furthermore, the rules and regulations are still unclear on how best to engage local businesses outside the SEZs to establish business links with the firms registered within the zones and the incentives that could be offered to promote increased involvement by local firms in supplying raw materials and services to companies located within the SEZ. For domestic firms, locating in a SEZ also offers an opportunity to develop their capacity to produce for export markets and access to international distribution and marketing channels. However, the capacity of Laos' firms in general to produce for export is still very limited. Therefore, the spillover benefits from the advancement of technology inside the zone and the rest of the economy is low.

5.4 SEZs and Servicification

Servicification means the "Increased use of services in manufacturing, both in terms of production processes and sales (Low, 2013)". "The servicification of manufacturing can involve either domestic sourcing or international sourcing. Services

are not only traded cross-border, but also through the movement of people, capital, or goods" (Lanz and Maurer, 2015). According to ESCAP (2014) the increasing importance of "servicification" implied that services have become key to enhancing the competitiveness of economies, especially those exporting industrial products through global value chains (GVC). SEZ development, in essence, is the creation of a service-based, enabling environment offering investors comprehensive facilities and services for businesses to operate efficiently. SEZs foster servicification through the following channels.

Provision of infrastructure in strategic locations

The SEZs in Laos are strategically located throughout the country. Most are located along the international borders with neighbouring countries and well positioned to support Laos' regional and global integration. The necessary infrastructure such as roads, water systems, electricity, communications, and other support services are built in the zones and provided by the zones' developers with special policies and procedures in place that are more enabling than in general areas. In many countries, governments invest to develop the zones, build the necessary infrastructure and amenities. However, in Laos, given the budget constraints, the government has adopted a more flexible approach by allowing the private sector (domestic or/and foreign) as well as public-private joint ventures to participate as zone developers. Out of 12 existing SEZs, 7 zones are being developed in partnership with the government and private sector while 4 zones have private sector entities as the developers (2 domestic and 2 foreign). In the case of publicprivate partnerships, the public sector is usually responsible for land allocation, also sometimes land compensation, and provision of the off-site infrastructure such as utilities and road connections to the zone. The private sector developer usually follows the buildoperate-transfer arrangement with regards to the zone's on-site infrastructure and facilities. However, in some cases given the urgency of the need to connect with the infrastructure outside the zone, and with the government's endorsement, developers also invest in creating the necessary linkages with the off-zone infrastructure, which later be compensated by the government. In the future, it would be useful for policy implications to study the different approaches to the zone development adopted in Laos. International experience seems to suggest that privately-operated zones tend to offer better facilities

and amenities, command higher prices from tenants, and attract higher-end types of activity (FIAS, 2008).

The basic infrastructure such as roads, water, electricity, and telecommunications are in place in most of the zones (with the exception of the newly established zones like Luang Prabang SEZ and some sites in the Champasak SEZ), but reliability of supply is sometimes still an issue. This highlights the importance of the need to better coordinate between the SEZ development (including the industrial estates) and urban and town planning so that they are integrated rather than a stand-alone basis.

Increasingly, SEZ developers should actively move beyond providing only the basic infrastructure to value-added services within the SEZ such as: pre-built standard factory buildings and offices for lease (Saysettha development zone is already moving in this direction); in-house logistical facilities and services, on-site Customs clearance, container freight stations (as in Savan-Seno SEZ), supply-chain management, extensive logistical and transportation services, and systems to facilitate the flow of inputs or goods, a greater range of business support services, specialized facilities, production support facilities, recreational and social facilities, as well as professional services such as legal and financial consultancy.

Providing an incentive framework

To attract private sector investment to develop the zones, the government offers some tax and non-tax incentives (Table 5), including a relatively long-term concession period of up to 75 or in some cases 99 years, due to the fact that investing in zone development takes a considerable amount of time to yield investment results. However, it should be noted that the concession period for SEZ development for any new zone in Laos will now follow the duration as prescribed by the new revised Investment Promotion Law, which is not exceeding 50 years. Investors in the zones also enjoy similar incentives. In addition, investors also receive more efficient services provided by the One Stop Service Office located within each zone. Efficient and reliable services are the key for the SEZs in Laos to stay competitive in today's world, as the tax incentives offered by SEZs in other countries within the region and beyond are increasingly similar. Therefore, to avoid the situation of "racing to the bottom" and to be competitive, the SEZs have to focus on improving the services as described above.

Туре	Description
Profit tax holiday	Duration specified in individual contracts
	(between 4-10 years)
Personal Income Tax	5% flat rate
Value Added Tax	5%
Import Customs duty for raw	0%
materials/ equipment for production	
and infrastructure development	
Key role in zone management	Zone developer chairs the Management Board,
	responsible for zone development and
	operations
Long-term land lease	Duration specified in individual contracts (75
	or in some cases 99 years)

Table 5.5 Some investment incentives for developers

Source: S-NCSEZ (2016)

Provision of comprehensive and streamlined business services

SEZs create an enabling business environment by providing streamlined services – quick business registration and start up through the One-Stop-Service Office (OSS). Functions and procedures handled by the OSS Office are illustrated in Diagram 1 below.



Investors can receive all the necessary documentation to start business within the zone within a few days. However, for an activity that has significant environmental implications or the activities listed in the Control List of the Ministry of Commerce and Industry, usually the approval process takes longer depending on the nature and scope of the proposed undertaking, as there is a need for the zone's authorities to consult the relevant agencies. Import of inputs and export products are also handled by the OSS Office. The officers are trained to provide certificates of origin for products produced in the zones for export. In some zones, such as Savan-Seno SEZ and VITA Park, Customs check points are located within the zones where Customs officers check the goods to be exported and seal the containers. Goods transported by sealed containers do not require to undergo physical checking again at the border checkpoint. This tremendously facilitates the import-export process. Although this facility only exists in these two zones, it is expected that it will be expanded to the other zones soon, especially the industrial zones that start to export products. In principle, the One Stop Service Office has the authority to decide all matters relevant to the zone, but in practice the Office acts as the liaison between the investors and relevant agencies to get the necessary permits and

approvals. It requires strong and continuous commitment from all parts of government if the One Stop Service program is to work effectively.

The division of roles and responsibility between the private party as the developer and the government's representative in the Board is usually defined in the SEZ development contract and/or decree pertaining to the zone. However, sometimes the lines of responsibility become blurred as the Board is responsible for development, administration, planning, and promoting the zone, while also regulating zone activity. Based on international best practice, a more rigorous division of public and private ownership, regulation, and governance functions within SEZs should apply, to avoid the risk of a conflict of interest and lack of financial rigor in SEZ management (J.P. Gauthier, 2016).

Strengthening Human Resource Development

Compared to the neighbouring countries, Laos has a population of 6.4 million that may seem to be a disadvantage, when it comes to the labor-intensive manufacturing and services sectors. At the zone level, on the administrative side, many of the One Stop Service Offices still have limited staff in terms of numbers and capacity; the inability to speak foreign languages also prohibits them from providing efficient services. Very limited orientation is provided before starting the job at the office. Some OSS offices do not have readily available standard operating procedures. As a result, they are unable to manage the business process efficiently and effectively. On the side of the enterprises and factories in SEZs, foreign firms tend to hire foreign supervisors from other countries in the region, especially Thailand, due to language similarity (such as Essilor and Nikon), while others recruit locally competent supervisors (Mascot in Vientiane). In some cases, it has been challenging for firms to recruit qualified local staff and workers and to retain them, as many are considered as seasonal workers with no prior experience in an industrial setting. But generally, it has been observed in the SEZs that the companies that offer an attractive benefit package and reasonable working conditions can usually retain and attract new staff. One of the positive impacts expected by SEZ development is workforce upgrading and skills development, both through formal training and apprenticeship programs and learning by doing. Efforts are underway to provide education and training to potential workers. Some firms in Savan-Seno for example have collaborated with vocational training centres by providing equipment and machinery to the training centre so that students can receive hands-on experience. Once they graduate, they are offered jobs at the companies.

Each SEZ tries to support the firms located in the SEZ to mobilize the workforce. The management authority of the SEZ, for instance in Savan-SENO SEZ, often manages an outreach job fair program in the surrounding districts and provinces. In VITA Park, there seems to be no issue of a labor shortage. This is could be due to the location of the zone surrounded by populated villages near Vientiane.

5.6 Conclusion and policy recommendations

SEZs contribute to industrialization of Laos' economy by attracting manufacturing firms with advanced and sophisticated product technology and linking the economy with the regional and global production network. SEZs also provide a services based environment that further promotes servicification. SEZs provide an enabling business environment by providing streamlined services – quick business registration and start up, incentives such as duty free import and export, simplified Customs procedures, fewer impediments to foreign ownership, a flexible foreign labour policy, as well as a better infrastructure. The strategic location of SEZs offers great opportunities to advance regional integration and the improved logistical services and systems being in SEZs facilitate the flows of inputs and goods.

For SEZs to play the catalyst role, here are some of the recommendations on the way forward:

• New SEZ Designation: In the short term, new SEZ designations should be strictly limited. The focus should be on realigning the existing assets with business and economic opportunities, by applying rigorous SEZ designation criteria and

procedures. Developers should be screened by a more rigorous process, with their business plans more fully evaluated for feasibility and sustainability. A SEZ has to be part of the broader urban development agenda and included in urban planning from early on.

- Regulatory framework for a SEZ: Revision of the SEZ Decree based on the newly approved Investment Law will provide confidence for investors. Besides, it will also provide the authority needed by the One-Stop Service Office to perform according to its mandate. Additionally, the provisions for the finance, budget, human resources, and training of the staff are required. Finally, commitment by all relevant governmental agencies is needed to further improve the business services offered by the One Stop Service Office in SEZs.
- Development and operational arrangements: A more rigorous division of public and private ownership, regulatory, and governance functions within SEZs should be applied.
- Moving beyond providing the basic infrastructure: SEZ developers have to ensure a reliable supply of utility services such as electricity, water, while also actively move to value-added services within SEZ, such as improved logistics and transportation services, business services, and professional services.
- Skills training: It is very crucial to acquire sufficient manpower to enhance productivity and sustain competitiveness. Therefore, concerted efforts are need to provide technical and vocational training centres with market driven curricula and management to ensure that capacity is created in the field where it is most needed. Technical skills as well as working disciplines need to be covered in such courses.
- Labor mobility: In areas where local manpower is not available, foreign labor mobility should be encouraged, especially in the area of specialized business services and professional services that contribute to improve the overall performance of services in the zone. But, it is also important to have comprehensive policies to encourage knowledge spill-over and learning effects from the foreign to the domestic services providers.
- Establishing more linkages with firms outside the SEZ: It is crucial for firms outside the SEZ to connect with the more advanced firms in the SEZ to promote the spill-

over effects as well as capitalize on the potential of SEZs as a platform for connecting local SMEs/ firms to regional and global value chains, while further strengthening industrialization of Laos' economy. At the beginning, incentives may be given to firms located inside SEZs who make successful upstream or downstream linkages with local or foreign firms outside the zones. Clear rules and regulations are also necessary to promote such linkages. Regional value chains in other sectors such as tourism and services should be identified.

• Promote the build-up of industrial clusters around SEZs: Currently most MNCs in the SEZs operate independently from one another. For the next level of industrialization, forming industrial cluster is important. This will promote synergy and stimulate research and development. From the experience of the successful east and southeast Asian economies, industrial clusters provide a catalyst role for industrialization. Therefore, there is a need for further research on how industrial clusters could be established around the SEZs in Laos.

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