



Munich Personal RePEc Archive

# **FDI, industrial upgrading and economic corridor in Myanmar**

Taguchi, Hiroyuki and Lar, Ni

Saitama University

March 2015

Online at <https://mpra.ub.uni-muenchen.de/64411/>

MPRA Paper No. 64411, posted 17 May 2015 19:47 UTC

## **Chapter VI: FDI, Industrial Upgrading and Economic Corridor in Myanmar**

Ni Lar, Chiang Mai University, Thailand

Hiroyuki Taguchi, Saitama University, and Visiting Researcher, ESRI

This chapter addresses the issues on inward foreign direct investment (FDI), industrial upgrading, and economic-corridor development in Myanmar. We first present the economic profile of Myanmar by comparing with other economies in Mekong region as well as its brief history. Second, we discuss the role of inward FDI in Myanmar. From a short-term perspective, Myanmar needs to accept inward FDI to participate in international production networks and thus to develop a manufacturing sector. This section represents empirical evidence on the linkage between FDI and the growth of GDP and exports, and investigates a specific issue to be addressed for accepting inward FDI in Myanmar manufacturing sector. Third, from a long-term perspective, we discuss the issues on industrial upgrading and geographical linkage in Myanmar economy. Myanmar now depends heavily on natural resource production in its economy, and also on labor-intensive production in its manufacturing sector. Thus, the industrial reformation should address how to diversify its industries towards a variety of manufacturing sectors and how to upgrade its industries towards upstream and high-valued manufacturing sectors. From the geographical viewpoint, Myanmar also now depends on spot-area development through its SEZ framework. For extending the economic impacts of the SEZ development to nation-wide level, the SEZ development should contribute to an economic corridor approach linked with

neighboring countries.

## **1. Economic Profile of Myanmar**

This section first presents the economic profile of Myanmar by comparing with other economies in Mekong region, and then reviews its brief history and the recent economic reforms.<sup>1</sup>

### *Economic Profile of Myanmar*

Myanmar has just opened up its economy and started its economic reforms under President U Thein Sein since March 2011. Myanmar, however, still stays at the lowest level in economic performances among ASEAN and Mekong-region economies, and also still depends on agricultural-based and resource-dependent industries.

The basic economic profile of Myanmar in comparison with other Mekong-region economies is shown in Table 1. Myanmar has a larger scale of population of 64.9 million persons, which is roughly the same size as that of Thailand, though the scale of Myanmar GDP is far smaller than that of Thailand. Then, the GDP per capita of Myanmar and the Human Development Index are still the lowest among Mekong-region economies. Looking at industrial structure in terms of GDP share in 2012 (Figure 1), the agricultural sector occupies around one-third in Myanmar, while it does one-tenth in Thailand. Regarding trade structure in Myanmar (Figure 2), the exports depend highly on primary-sector products, i.e., on natural gas by 29% and on agricultural products by

---

<sup>1</sup> The descriptions of the brief history and the recent economic reforms in Myanmar are mainly based on ERIA (2013) and OECD (2013).

24%, while the imports depend much on capital goods by 44%. Thus, Myanmar industries can be said to be still now agricultural-based and resource-dependent ones.

### ***Brief History of Myanmar***

It is the fact that Myanmar's economy had been slightly larger than that of Thailand before World War II, and expected to achieve rapid industrialization supported by its rich natural resources and highly literate population. However, it seems to be the control-oriented and inward-looking policies taken by the successive governments since its dependence in 1948 that Myanmar has been transforming from being one of Asia's most prosperous economies into one of the poorest ones through its heavily suppressed industrialization. As an issue peculiar to Myanmar, the continuous conflicts with ethnic minority groups and the imposed economic sanctions due to suppression of human rights have also made its economy stay at a stagnant position.

During the period of the so-called "Burmese Way to Socialism" from 1962 to 1988, the centrally planned and inward-looking strategies, i.e., nationalization (Burmanization) of all major industries and import-substitution policies had long been pursued. These strategies resulted in economic problems such as inactive industrial production, high inflation, rising living costs, and macroeconomic mismanagement including demonetization in 1987, which eventually led to the collapse of the socialist regime in 1988.<sup>2</sup> The economic decline saw the country officially reach Least Developed Country status in 1987. Under the next phase of military-ruled regime

---

<sup>2</sup> The nationwide protests to the socialist regime on August 8, 1988, referred to as the "8888 uprising", dismantled the regime, and were brought to an end when the military retook power.

so-called SLORC/SPDC<sup>3</sup>, the government had started to promote a market-oriented economy in its early stage. It typically promulgated the Foreign Investment Law in 1988 for the intake of private foreign capital, and the State-owned Economic Enterprise Law in 1989 for authorizing private companies to engage in specific industries. After the Asian currency crisis in 1997, however, the government policies had again turned inward and against market-mechanisms by adopting measures to emphasize import-substitutions and to intervene in many economic activities with state controls.

### ***Reforms under President U Thein Sein***

The birth of new civilian government led by President U Thein Sein since March 2011 after the dissolved SPDC under a new constitution has turned around the trend again. It has launched the wide-ranging reforms toward an open and market-oriented economy. The inaugural speech of President U Thein Sein embraced “reform and openness”. A year after a series of politically liberalizing measures were introduced, President announced a “second stage of reforms” in May 2012, focusing on the social and economic transformation of Myanmar. In accordance with his vision and guidelines, the Framework for Economic and Social Reforms (FESR) has been presented for prioritizing policy agenda for 2012-15 towards the long-term goals of the National Comprehensive Development Plan that the government is drawing up as a 20-year long-term plan. The FESR consists of ten areas of interrelated reforms, namely, 1) fiscal and tax reform, 2) monetary and finance sector reform, 3) trade and investment liberalization, 4) private sector development, 5) improvements in health and education,

---

<sup>3</sup> SLORC means the State Law and Order Restoration Council for 1988 – 1997 and SPDC means the State Peace and Development Council for 1997 – 2011.

6) food security and agricultural growth, 7) governance and transparency, 8) mobile telephony and internet, 9) infrastructure investment, and 10) efficient and effective government.

We herein emphasize the following three points related with the economic reforms above. First, one of the most notable reforms that have been carried out to the present is the improvements in exchange rate system in Myanmar. Since October 2011, private banks have been allowed to trade foreign currency in the usual market. What is more important is that a managed floating exchange rate regime has been established by the Central Bank of Myanmar since April 2012 by abolishing the multiple exchange rate system. This currency reformation has been and will be the basis for the development of private sectors in Myanmar. Second, the international community has responded positively to the reforms, by easing sanctions and by increasing development assistance. The government of Japan has decided to provide a total of more than 100 billion Japanese yen of ODA assistances as well as the debt-relief measure for Myanmar.<sup>4</sup> For another instance, EU has adapted the LDC (least developed countries) framework of Generalized System of Preferences (GSP) for Myanmar since July 2013. Third, the conflicts with ethnic minority groups as an issue peculiar to Myanmar have also been in the ending process. Ceasefires have been negotiated with 10 out of the 11 armed ethnic groups, and hundreds of political prisoners have been released, including Daw Aung San Suu Kyi, who became a Member of Parliament following the 2012 by-elections.

## **2. Role of Inward FDI in Myanmar**

---

<sup>4</sup> See [http://www.mofa.go.jp/region/page23e\\_000032.html](http://www.mofa.go.jp/region/page23e_000032.html) and [http://www.mofa.go.jp/press/release/press6e\\_000096.html](http://www.mofa.go.jp/press/release/press6e_000096.html).

This section discusses the role of inward FDI in Myanmar. As the ESRI report on the “potentials of the Asian economic zones” in 2013 emphasized, one of the driving forces for Asian economic growth has been and will be their economic integration through forming and deepening international networks in manufacturing sectors. The creation of the production networks usually involve the prevailing FDI undertaken by transnational corporations. UNCTAD (2013) identified the statistical relationship between FDI stock in countries and their participation in global value chains (GVCs). Figure 3 indicates that their correlation is strongly positive, implying that FDI may be an important avenue for an economy to gain access to GVCs and increase their participation. Under this context, we first examine whether the FDI has really led to the growth of GDP and exports in ASEAN economies. Then we focus on the case of Myanmar and investigate the prerequisites for Myanmar to accept inward FDI especially in manufacturing sector.

## **2.1 Impacts of FDI on GDP and Exports in ASEAN**

Under the endogenous growth theory developed in the 1980s, FDI has been considered to have permanent growth effect in the host country through technology transfer and spillover. Most of empirical studies have found positive effects of FDI on transitional and long-run economic growth through capital accumulation and technical and knowledge transfers. Some of them, however, identified opposite causality from growth to FDI, suggesting that FDI inflows have been attracted to the growing

economies and markets.

Several studies of an individual economy have identified the causality between FDI and growth / exports: bidirectional causality between each pair of FDI, GDP and exports for China (Liu et al., 2002); unidirectional causality from FDI to GDP for Thailand (Kohpaiboon, 2003), for Pakistan (Ahmad et al. 2004) and for Mexico and Argentina (Cuadros et al., 2004); and bidirectional causality between FDI and GDP for Malaysia and Thailand (Chowdhury and Mavrotas, 2006). The studies targeting a group of economies have also verified their causality: unidirectional causality from FDI to GDP for 24 developing countries (Nair-Reichert and Weinhold, 2000); bidirectional causality between FDI and GDP for 31 countries (Hansen and Rand, 2006); and unidirectional causality from FDI to exports for 9 economies (Cho, 2005). It is Hsiao and Hsiao (2006) that investigated the most comprehensive causalities among all three variables of FDI, GDP and exports together, through such a sophisticated method as panel-data-VAR causality analysis for eight East and Southeast Asian economies with the stationarity of each variable being examined. They also found unidirectional effects of FDI on GDP directly and also indirectly through exports in the panel-data analysis, although the analysis of individual economies represented different causality relations among sample economies.

Our study basically follows Hsiao and Hsiao (2006) in our analytical methodology with a focus on the impact of FDI on GDP as well as the one of FDI on exports. Our contributions are to extend the sample period of Hsiao and Hsiao (2006), i.e. from 1986 to 2004 towards the period from 1984 to 2012, and to target all of ASEAN economies including such latecomers as Cambodia, Lao PDR, Myanmar and Vietnam whereas

Hsiao and Hsiao (2006) focus rather on forerunning economies.

### ***Methodology and data***

We examine the bilateral Granger causalities between FDI and GDP and between FDI and exports by their time-series data of individual economies and also by their panel data of all sample economies.

The sample economies are ten ASEAN economies, and the sample period is from 1984 to 2012. The data for FDI (inward), GDP and exports are retrieved from UNCTADSTAT<sup>5</sup> and expressed in real and natural logarithm terms: *fdi*, *gdp* and *ext*<sup>6</sup>.

We then construct a vector autoregression model with *p*-lag, VAR(*p*), for *fdi* and *gdp* as well as for *fdi* and *ext* to test the bilateral Granger causalities as follows.

$$y_t = \mu + V_1 y_{t-1} + \dots + V_p y_{t-p} + \varepsilon_t$$

where  $y_t$  is a  $(2 \times 1)$  column vector of the endogenous variables:  $y_t = (fdi_t \ gdp_t)'$  or  $y_t = (fdi_t \ ext_t)'$ ,  $\mu$  is a  $(2 \times 1)$  constant vector, each of  $V_1$  and  $V_2$  is a  $(2 \times 2)$  coefficient matrix, each of  $y_{t-1}$  and  $y_{t-2}$  is a  $(2 \times 1)$  vector of the lag endogenous variables, and  $\varepsilon_t$  is a  $(2 \times 1)$  vector of the random error terms in the system. The lag length  $p$  is selected by the minimum Akaike Information Criterion (AIC) with maximum lag equal to 2 under the limited number of observations.

Before examining the causality relations, we check the stationarity of the

---

<sup>5</sup> See <http://unctadstat.unctad.org/EN/>.

<sup>6</sup> All the data are deflated by GDP deflator retrieved from “Key Indicators for Asia and the Pacific 2014” by ADB.

time-series and panel data by employing a unit root test, and if needed, a cointegration test for them. Based on the data property, we select either the level series or the first-difference series in the VAR estimation. Regarding a unit root test, we adopt the augmented Dickey-Fuller (ADF) test for the time-series data analysis of individual economies, and the Levin, Lin and Chu (LLC) test for the panel data analysis of all sample economies<sup>7</sup>. The both tests are conducted by including “intercept” and “trend and intercept” in the test equation. Table 2 reports the test results for the combination of *fdi* and *gdp* and that of *fdi* and *ext*. In Cambodia and Vietnam for the combination of *fdi* and *gdp*, and in panel data for any combinations, both variables are stationary in their level series, and so we use their level series for the VAR estimation. In Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, and Thailand for any combinations, a set of variables are not stationary in the level, but stationary in the first-difference, which are supposed to be the case of  $I(1)$ , and then can be further examined by Johansen cointegration test<sup>8</sup>. For the remaining cases, we use the first-difference series for the estimation. Table 3 represents the results of Johansen cointegration test with “intercept” and “trend and intercept” being included in the test equation. Both the trace test and the Maximum-eigenvalue test indicate that the level series are cointegrated in Lao PDR and Malaysia for the combination of *fdi* and *gdp*, and in Malaysia and Singapore for the combination of *fdi* and *ext*. The final selection of the level or first-difference series for the VAR model analysis of individual economies is described in the rightmost column of Table 3.

---

<sup>7</sup> For the ADF test, see Said and Dickey (1984), and for the LLC test, see Levin et al. (2002).

<sup>8</sup> See Johansen (1995).

### *Estimated Causalities*

We now show the estimation outcomes on the bilateral Granger causalities between FDI and GDP and between FDI and exports by their time-series data of individual economies and also by their panel data of all sample economies (see Table 4). The main findings are as follows. First, regarding the panel data analysis, the very clear bidirectional causalities are significantly identified in both the combination of FDI and GDP and that of FDI and exports. Second, as for the time-series data analysis of individual economies, each economy has different causality relations. When we focus on the direction from FDI to GDP, Lao PDR, Singapore, Thailand and Vietnam have its significant causality, while Philippines, Singapore and Thailand have the significant causality from FDI to exports. At least, such latecomers as Cambodia and Myanmar are turned out not to represent the causalities from FDI to GDP and exports. There should be some reservations in the time-series data analysis of individual economies since the number of observations in a sample country is limited only to 29 of annual data. This point seems to be in line with Hsiao and Hsiao (2006), which argues that the time-series analysis based on a single country cannot yield a general rule.

The panel data analysis of all sample economies, on the other hand, represents the clear causality from FDI to GDP and exports as well as the opposite causality from GDP and exports to FDI. It suggests that as a general tendency as a whole ASEAN, FDI has been a driving force for economic growth through capital accumulation and technical and knowledge transfers, while FDI inflows have been attracted to the growing economies and markets. This finding is also consistent with Hsiao and Hsiao (2006), which verified the significant effects of FDI on GDP directly and also indirectly through

exports in the panel-data analysis. It should also be noted that the significant causality from FDI to exports may imply that the inward FDI has facilitated the participation of international production networks.

## **2.2 How to Attract Inward FDI in Myanmar**

We herein turn to the issue on FDI in Myanmar. The causality analysis for individual economies in the previous section revealed no significant impacts of FDI on GDP and exports in the case of Myanmar. We pick up the possible reasons for no causality in Myanmar as follows. First, the inward FDI share to GDP since the 2000s has been much lower in Myanmar than those in Thailand and Vietnam. Figure 4 indicates that the share in Myanmar has been around 2%, while that of Thailand and Vietnam being around 4% and 4 -10% respectively. This fact may suggest that the role of FDI in Myanmar has been too small to give some impacts on GDP, while the larger share of FDI may have affected the trend in GDP in Thailand and Vietnam as the previous causality analysis represented. Second, the inward FDI in Myanmar has highly depended on oil and gas sectors. Figure 5 shows the industrial composition of the inward FDI during the period from fiscal year of 1989 to 2010 in Myanmar, and tells us that the oil and gas sector occupies 69% whereas the manufacturing sector does only 5%. The natural resources exploration by foreign investors has not much involved domestic job opportunities and technology transfers so far in the case of Myanmar.<sup>9</sup>

The question is, therefore, how to attract inward FDI into Myanmar, in particular, in

---

<sup>9</sup> This description is based on the phone interview by Dr. Ni Lar with some oil and gas enterprises.

manufacturing sectors. As a matter of fact, there have been still several constraints in doing business in Myanmar. Figure 5 represents the top 10 business constraints in Myanmar as the results of the survey that the International Finance Corporation, World Bank Group conducted from February to April in 2014 by interviewing with business owners and top managers of 632 firms. It tells us that the legal system of the access to finance and land, infrastructure such as electricity and transportation, and educated workforces are main business constraints, which can also be a blockage to attract FDI in Myanmar. Regarding the soft infrastructure indicated by the Logistic Performance Index (LPI) by the World Bank in Figure 7, its performances of Myanmar is far behind the other ASEAN economies and even behind such latecomers as Cambodia, Lao PDR and Vietnam.

As a formal legal system on FDI, the Foreign Investment Law was promulgated in November 2012 in Myanmar. It is expected that the new law together with the economic reforms under President U Thein Sein will remove the business constraints and facilitate inward FDI in Myanmar.

### **3. The Way toward Industrial Upgrading for Myanmar**

This section discusses the way toward industrial upgrading for Myanmar from a long-term perspective. As we showed in the previous sections, Myanmar now depends heavily on natural resource production in its economy, and also on labor-intensive production in its manufacturing sector in the initial process of participating in the GVCs. In this sense, Myanmar is still facing the risk of “thin” industrialization, where a

country enters an industry, but only in its low-value and low skill aspects such as natural resource exploration and assembly of manufacturing products without the ability to upgrade. In a large scale economy like Myanmar with about 60 million populations, its economic growth accompanied with income growth often would induce the higher demand for imported goods, and thus reach so-called “balance of payment ceiling”, which might make its economic growth unsustainable.<sup>10</sup> The sustainable growth would, therefore, require such consolidated production structures as industrial diversification towards a variety of manufacturing sectors and industrial upgrading towards upstream and high-valued manufacturing sectors.

### ***Dynamism in GVCs Participation***

In the aforementioned context, the ESRI report on the “potentials of the Asian economic zones” in 2013 represents the dynamism of industrial upgrading in Asian economies with empirical evidence. In this report, three key variables in the manufacturing sector are extracted by using value-added-trade data: 1) foreign value added as a share of gross exports (FVX) as a proxy of GVCs participation ratio; 2) domestic value added as a share of gross exports (DVX), and 3) domestic value added in exports as a ratio of GDP (DVY). The report then constructs a hypothesis illustrated in Figure 8. At the early stage before GVCs participation, an economy stays at high DVX and low DVY, in which most of exports are domestically produced and their contribution to GDP is small. When an economy participate in GVCs, it moves to the stage with low DVX and high DVY, since an economy’s production for its exports have

---

<sup>10</sup> The resource dependent economies also have a risk of suffering so-called “Dutch disease”. Kubo (2014) points out this risk in Myanmar.

to depend highly on imports of parts, components and machineries from foreign countries, whereas its absolute production value for exports contributes a lot to its rising GDP. At the matured stage of GVCs involvement, an economy can enjoy a combination of high DVX and high DVY; its production for exports continues to contribute to GDP growth, and at the same time, the dependence on imports for its exports declines due to the expansion of domestic productive capacities.

This hypothesis was empirically tested by a panel-data analysis with samples of eight Asian developing economies for 1995, 2000, 2005 and 2008. The main findings were: 1) the economies' participation in GVCs in manufacturing sectors has allowed the absolute domestic value added for their exports to contribute to their GDP growth; 2) the development paths of domestic value added contributions to exports in the GVCs participating economies have followed "smile curve" with its turning point being 5,651 U.S. dollars in per capita GDP.

These findings imply the dynamic process of GVCs impacts, where at the initial stage of GVCs participation the domestic value added contributions to exports have reduced, but have recovered at the later stage of GVCs involvement with upgrading domestic productive capacities. The process of enhancing local productive capacities may involve a number of mechanisms: the key exporting industries may provide opportunities for local industries to be raised up and participate in GVCs, which will leads to generating additional value added through local outsourcing within and across industries; and/or the key exporting industries themselves may attain their industrial upgrading through technology dissemination and skill building, which will improve their productivity and will facilitate their entries and expansions towards higher valued

sectors. It should be noted that these development paths are not always realized automatically and its achievements differ according to the characteristic of the GVCs and the involved countries. Government policies also matter to optimize the economic contributions of the GVCs participation and involvement.

### ***Dynamism in Multi-manufacturing Sectors and Double-track Strategy***

We herein extend the analysis above of the previous report by breaking down the “smile curve” into the ones of individual manufacturing sectors. Specifically, we examine the relationships between DVX and per capita GDP in each of eight manufacturing sub-sector categories: “Food products, beverages and tobacco”, “Textiles, textile products, leather and footwear”, “Wood, paper, paper products, printing and publishing”, “Chemicals and non-metallic mineral products”, “Basic metals and fabricated metal products”, “Machinery and equipment”, “Electrical and optical equipment” and “Transport equipment”.<sup>11</sup>

As Table 5 reported, all the coefficients of PCY are significantly negative and those of a square of PCY are discernibly positive, and thus the smile curves were identified in the development paths of all manufacturing categories. The most noteworthy finding is that the turning points of smile curves differ a lot and even represent a clear contrast according to manufacturing sectors as the sectoral “smile curve” in Figure 9 illustrated. The sectors of food, wood and textile products reach the turning point at lower per capita GDP ranging from 5,100 to 5,400 U.S. dollars and at higher ratio of domestic value added contributions to gross exports from 57% to 71%. On the contrary, the

---

<sup>11</sup> As for the data source and methodology, see the ESRI report on the “potentials of the Asian economic zones” in 2013.

sectors of machinery, electrical, and transport equipment face the turning point at higher per capita GDP ranging from 5,800 to 6,400 U.S. dollars and at lower ratio of domestic value added contributions to gross exports from 37% to 49%. It suggests that the sectors of food, wood and textile products, which require relatively less sophisticated technologies and a smaller number of supply chains, can attain the higher degree of localization of production capacity necessary for exports at the earlier time; on the other hand, the sectors of machinery, electrical, and transport equipment, which involve relatively more sophisticated technologies and a larger number of supply chains, take a longer time to raise up the local production capacity, since such sectors need to acquire a lot of technology transfer along with long supply-chains and also to materialize transferred technology for their local production.

What this finding implies for Myanmar industrial strategy is “double-track” strategy. As the first track, Myanmar should promote such less sophisticated sectors as food, wood and textile products, whose production is rather easy to be localized. It is namely a “quick-win” approach to pursue the maximization of the existing local-resource utilization in the short-term perspective. In a large scale economy like Myanmar with about 60 million populations, however, there should be another track at the same time to clear the afore-mentioned balance-of-payment constraint. Myanmar should raise up some key industries among more sophisticated sectors such as machinery, electrical, and transport equipment in the long run. For this purpose, the role of inward FDI is definitely important in that the FDI involves technology transfers to contribute to enhancing the local production capacity in Myanmar manufacturing sectors. The policy priority should thus be put on attracting the inward FDI in the sophisticated

manufacturing sectors, in terms of institutional arrangement like special economic zone, infrastructure development and human resource development.

#### **4. The Way toward Geographical Linkage for Myanmar**

This section deals with the issue on geographical linkage for Myanmar from a long-term perspective. At present, Myanmar depends on spot-area development through the SEZ framework. Figure 10 shows three big development projects: Dawei projects cooperated by Thailand, Thilawa projects by Japan, and Kayukphyu projects by China. The new SEZ law to provide privileges for area-development was promulgated in January 2014, and the adaptation of this SEZ law to the three development project above was already decided. Myanmar has development projects in other spot-areas including the border areas with Thailand, China, and India, although the SEZ law has not yet been decided to be adapted to these areas.

The critical issue is then how to extend the economic impacts of the spot-area development to nation-wide level in the long-run. In this context, the creation of “economic corridor” is one of the most attractive approaches in the sense that this approach would make it possible for the developing spot areas to be linked with each other. The economic-corridor approach is not confined to constructing roads and bridges as infrastructure projects, but contains the momentum to facilitate trade and investment. In particular, it is expected that the production networks and supply-chain networks would be formed along with the corridor line, since it would create win-win relationships of each spot-area production. If the economic corridor is linked with the

production base in more advanced neighboring countries, the approach would be more attractive since it might involve the inward FDI with technology transfers from the neighboring economies. This dimension would be nothing more than the concept of three economic corridors proposed by ADB in the Greater Mekong Sub-region including Myanmar.

We herein focus on the two supposed corridors crossing Thailand, and describe their development strategies. The two corridors are Mae Sot – Myawaddy – Hpa-an – Yangon, and Bangkok – Kanchanaburi – Hit Khee – Dawei, which nearly correspond to East-West Economic Corridor and South Economic Corridor in the GMS economic corridors proposed by ADB (see again Figure 10).<sup>12</sup>

#### ***Mae Sot – Myawaddy – Hpa-an – Yangon: Garment Industry Corridor***

We first describe the current situation of the corridor for Mae Sot – Myawaddy – Hpa-an – Yangon. Mae Sot is a city of Thailand bordering Myawaddy, a city of Myanmar. Mae Sot has a large industrial agglomeration that is composed of labor-intensive manufacturing such as garment, textile, and food-processing. About 400 factories are located and around 20,000 migrants with legal qualification are working in Mae Sot. The adaptation of SEZ framework to Mae Sot is under consideration by Government of Thailand.

Myawaddy is a border city in Myanmar side. Myawaddy has set up the Border Trade Zone since 2008 partly and 2009 fully, and has also been constructing the industrial zone towards its completion in 2015. The Border Trade Zone is located 11 km

---

<sup>12</sup> The description thereafter is mainly based on JICA (2014).

away from the border on a site with around 200 ha. The industrial zone now under construction is located at the neighbor of the Border Trade Zone on the west and is planned to occupy 1,301 acres (equivalent to 527 hectare). The zone has completed its planning and designing, in which power supply and transmission system will depend on the Thai side. The expected industries in the zone are garment, food-processing, fertilizer, wood product/ furniture, etc.

Hpa-an is the capital city of Kayin State in Myanmar, and 185 km away from Myawaddy. Hpa-an has set up an industrial zone since 2011, which is located 11 km away from the city and occupies 1,000 acre (equivalent to 405 hectare). The zone has such several factories as those of garment, wood processing, construction materials and candle manufacturing, but not many factories have been established yet. In this zone, electricity and water supply system have not completed yet. In particular, the insufficiency of electricity is so serious that companies have to equip their own generators. Yangon is a well-known for a former capital city in Myanmar with 6 million people, one-tenth of nation-wide population.

The trade flows along with the corridor can be represented by the border trade between Mae Sot and Myawaddy. The trade value (the sum of exports and imports) between Thailand and Myanmar counted at the Mae Sot custom house amounts to 1.5 billion USD in 2013, which occupies more than half of the total Thai border trade with Myanmar excluding the import of natural gas, and thus the largest among trade values counted at border custom houses bordering Myanmar. The annual growth of the trade value records 82 % increase in 2012 (affected by the gate-lock from July 2010 to December 2011) and 17 % increase in 2013. The import value from Thailand extremely

exceeds the export value to Thailand. The main articles of imports from Thailand are gasoline, beer, textile and those of exports to Thailand are buffalo alive, wood and mining products. As for the investment flows, there have been some progressive symptoms in that some Thai garment companies at Mae Sot have shown concern to set up their branch factories in Hpa-an.

Regarding future prospects on the creation of production networks and supply chains along with the corridor, we can expect the following driving forces for their promotion. First, the large gap in wage-levels between Myanmar and Thailand would urge manufacturing companies at Mae Sot to extend their supply-chains towards Myanmar side by setting up their branch factories with labor-intensive process. Thailand has raised its minimum-wage drastically to 300 baht per day since January in 2013. Most of factories have then lost an advantage of employing migrant workers at lower wages since the minimum-wage has also been adapted to migrant workers, and thus they are facing the serious and urgent needs to save labor costs. According to “The 24th Comparative Survey of Investment-Related Costs in Major Cities and Regions in Asia and Oceania May 2014” by JETRO, the monthly average wage of factory workers is 366 US dollar at Bangkok, whereas it is 71 at Yangon, one-fifth of that at Bangkok. Second, the changes in the adaptation of GSP (Generalized System of Preferences) by EU for both countries also would promote the investment to Myanmar by Thai manufacturing companies. While Thailand will graduate from EU-GSP in January 2015, Myanmar has been a target of EU-GSP as LDC (least developed countries) framework since July 2013. Third, the growing markets, in particular, at such big cities as Yangon and Hpa-an, in accordance with income increases in Myanmar, would provide the

motivation for Thai companies manufacturing consumer goods to invest inside of Myanmar. These driving forces might facilitate the invitation of Thai manufacturing investors, and if we suppose that Thai manufacturing companies at Mae Sot extend their supply-chains towards Myanmar side, it might create a “garment industry” corridor, since the garment industry is one of the major industries at Me Sot.

On the other hands, there have been such issues to be cleared for the corridor creation as the adaptation of SEZ framework for enabling “in-bond processing”, enhancing connectivity through infrastructure development, and securing labor forces with skill development, as the ESRI report on the “potentials of the Asian economic zones” in 2013 emphasized. We herein add the progress in road connectivity along with the corridor. The road linkage between Yangon and Myawaddy is important in the sense that for Yangon, Myawaddy is the closest border gate, and the road connectivity further extends to the deep-sea Laem Chabang Port in Thailand. At the event of Cyclone Nargis in May 2008 by which Yangon Port was seriously damaged, the road linkage from Yangon through Myawaddy to Laem Chabang Port was refocused much attention on. The most serious section is the one between Myawaddy and Kawkareik, which is so hilly and narrow that the traffic has been restricted to only one way with the direction being changed on every alternative day. As Figure 11 indicates, the alternative by-pass road between Myawaddy and Kawkareik is under construction by getting the grant from Thai government towards its completion in 2015. The road from Kawkareik to Ein Du will be rehabilitated by getting the assistance from ADB, while the other sections are under consideration through feasibility study.

### ***Bangkok – Kanchanaburi – Hit Khee – Dawei: Automotive Industry Corridor***

Dawei, Hit Khee and Kanchanaburi are in the process of preparing for their development and the industrial estates and the necessary infrastructure have not operated yet. Dawei faces the Andaman Sea in Myanmar, and is 330 km away from Bangkok in Thailand. The Dawei development project, which is composed of industrial estate, deep seaport, roads and so on, is a joint national project conducted by both of Myanmar and Thailand government. Hit Khee in Myanmar is located at the border with Kanchanaburi in Thailand, and is 160 km away from Dawei and 170 km away from Bangkok. The Hit Khee development project, which has been planned by a private developer in Thailand, has been paid attention as a pilot project for a new industrial estate, prior to the materialization of the large Dawei project.

The driving forces for creating the production networks along with the corridor are the large gap in wage level between Myanmar and Thailand and the changes in the adaptation of GSP by EU, which are common with those of the previous corridor. We here add the other forces to attract the investors for extending the supply chains from Thailand. The first one is the large agglomeration of automotive industry in Bangkok area. The group of suppliers of parts and components and of assemblers is searching for an appropriate location to set up their branch factories for saving their labor costs in labor-intensive production processes. Dawei and Hit Khee are attractive candidates for them since they are a short distance from Bangkok area. The second force is the plan for constructing a deep seaport in Dawei. Dawei can be a western gate for Mekong economies to trade South Asian, Middle East and European areas. At present, the usual sea transportation for Mekong economies' trade with western areas has to go through

the Strait of Malacca, the detour route. The development of a deep seaport in Dawei would thus contribute to taking a shortcut towards western areas. If we suppose automotive industries extend their supply chains along with this corridor based on the aforementioned driving forces, it might be an “automotive industry” corridor.

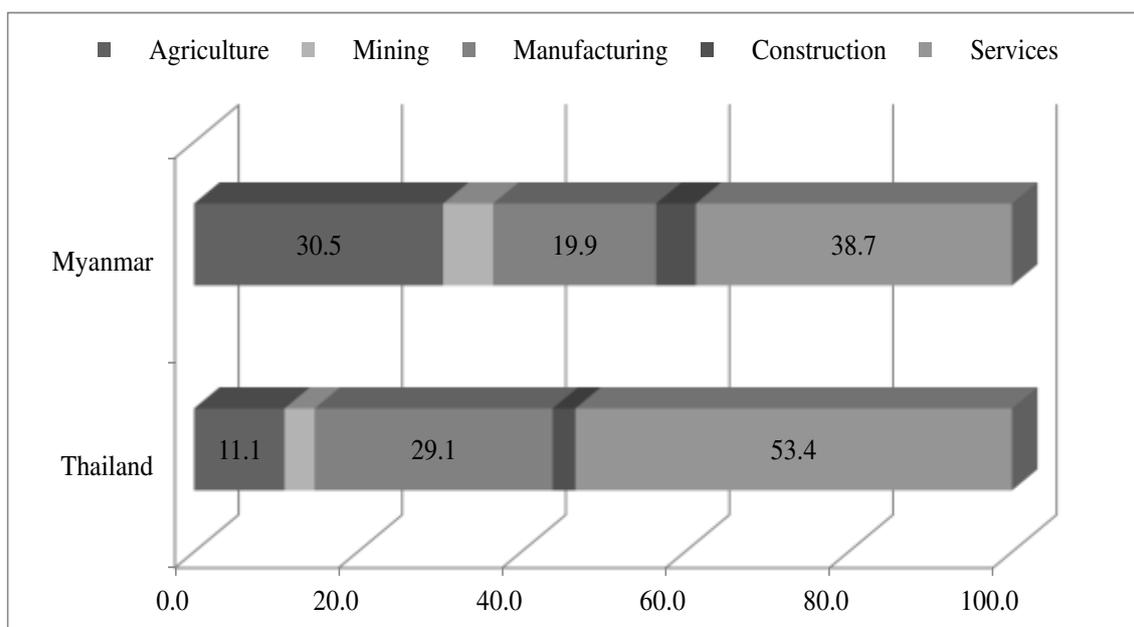
There have been also the issues to be cleared for the corridor creation, which would be common with the previous corridor. Among them, the crucial precondition of the Hit Khee development is the adaptation of the SEZ law at this area so that the investing factories can enjoy the in-bond processing and the other privileges. In fact, the SEZ adaptation was already decided to Dawei whereas it has not been to Hit Khee yet.

**Table 1 Economic Profile of Myanmar**

	Population (million, 2013)	GDP (\$bil., 2013)	GDP per capita (\$, 2013)	HDI Index (Ranking/187, 2012)
Myanmar	64.9	56.4	869	149
Cambodia	15.4	15.7	1,016	138
Lao P.D.R.	6.8	10.0	1,477	138
Thailand	68.2	387.2	5,674	103
Vietnam	89.7	170.6	1,902	127

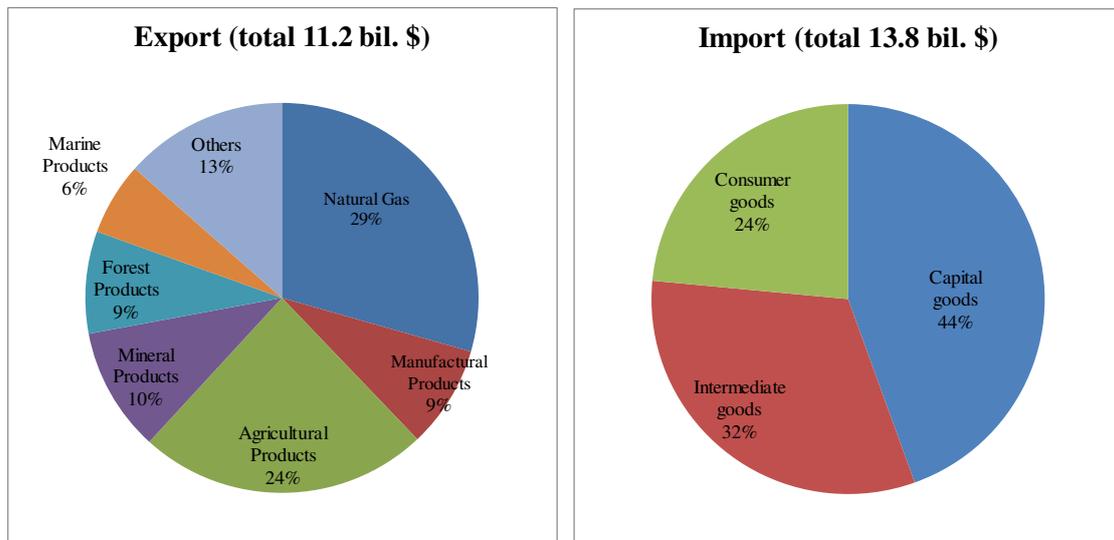
Sources: Population, GDP and GDP per capita are from World Economic Outlook Database April 2014 (Estimates in 2013). HDI (Human Development Index) is from UNDP website.

**Figure 1 GDP by Industrial Origin (% share, at current producer prices in 2012)**



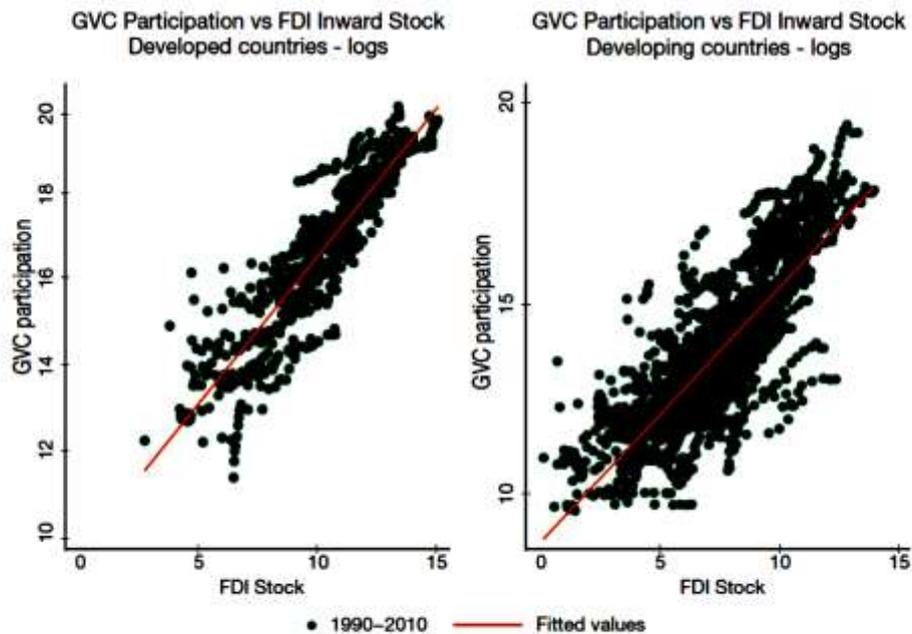
Sources: Key Indicators for Asia and the Pacific 2014 by Asian Development Bank (ADB)

**Figure 2 Trade Structure (% share, Apr. 2013 – Mar. 2014)**



Sources: [https://www.mnped.gov.mm/html\\_file/foreign\\_trade/s07MA0201.htm](https://www.mnped.gov.mm/html_file/foreign_trade/s07MA0201.htm)

**Figure 3 Correlation between Inward FDI Stock and GVC Participation**



Source: UNCTAD-Eora GVC Database, UNCTAD FDI Database, UNCTAD analysis.

Note: Data for 187 countries over 20 years. The regression of the annual GVC participation growth on the annual FDI inward (stock) growth yields a positive and significant correlation (at the 5 per cent level) both for developed and developing countries ( $R^2 = 0.77$  and  $0.44$ , respectively). The correlation remains significant considering the two time periods 1990 - 2000 and 2001 - 2010 separately. Regressions use lagged (one year) inward FDI (stock) growth rates and include year fixed effects to account for unobserved heterogeneity.

**Table 2 Results of ADF and LLC Unit Root Tests**

**Combination of *fdi* and *gdp***

		level		first difference		For estimation
		intercept	trend & intercept	intercept	trend & intercept	
Brunei	<i>fdi</i>	-3.71**	-2.09	-2.94*	-3.35*	first difference
	<i>gdp</i>	-0.34	-7.07***	-9.70***	-9.24***	
Cambodia	<i>fdi</i>	-8.05***	-4.21**	-	-	level
	<i>gdp</i>	-7.54***	-1.81	-	-	
Indonesia	<i>fdi</i>	-2.07	-2.04	-3.66**	-3.59**	I(1)
	<i>gdp</i>	-2.99**	-1.33	-5.38***	-5.27***	
Lao PDR	<i>fdi</i>	-2.36	-2.19	-2.93*	-3.04	I(1)
	<i>gdp</i>	-1.69	-1.93	-5.13***	-5.88***	
Malaysia	<i>fdi</i>	-1.05	-1.64	-5.27***	-5.20***	I(1)
	<i>gdp</i>	-0.61	-1.88	-4.88***	-4.79***	
Myanmar	<i>fdi</i>	-2.50	-2.28	-3.71**	-4.02**	I(1)
	<i>gdp</i>	-2.79*	0.61	-3.28**	-4.98***	
Philippines	<i>fdi</i>	0.10	-2.01	-4.40***	-4.53***	I(1)
	<i>gdp</i>	-1.26	-0.68	-4.31***	-4.59***	
Singapore	<i>fdi</i>	-0.63	-3.92**	-5.86***	-5.91***	I(1)
	<i>gdp</i>	-0.59	-2.30	-3.84***	-3.83**	
Thailand	<i>fdi</i>	-1.32	-2.36	-5.70***	-5.84***	I(1)
	<i>gdp</i>	-0.86	-2.27	-3.98***	-3.91**	
Vietnam	<i>fdi</i>	-3.81***	-6.74***	-	-	level
	<i>gdp</i>	-3.61**	-7.41***	-	-	

**LLC Unit Root Test**

		level		first difference		For estimation
		intercept	trend & intercept	intercept	trend & intercept	
Panel data	<i>fdi</i>	-1.70**	-1.21	-	-	level
	<i>gdp</i>	-2.01**	-0.21	-	-	

**Combination of *fdi* and *ext***

		level		first difference		For estimation
		intercept	trend & intercept	intercept	trend & intercept	
Brunei	<i>fdi</i>	-3.71**	-2.09	-2.94*	-3.35*	first difference
	<i>ext</i>	-1.94	-3.72*	-4.94***	-5.11***	
Cambodia	<i>fdi</i>	-8.05***	-4.21**	-11.10***	-10.41***	first difference
	<i>ext</i>	-2.30	-1.76	-12.77***	-12.96***	
Indonesia	<i>fdi</i>	-2.07	-2.04	-3.66**	-3.59**	I(1)
	<i>ext</i>	-2.60	-2.37	-4.78***	-4.87***	
Lao PDR	<i>fdi</i>	-2.36	-2.19	-2.93*	-3.04	I(1)
	<i>ext</i>	-1.33	-2.21	-6.02***	-6.13***	
Malaysia	<i>fdi</i>	-1.05	-1.64	-5.27***	-5.20***	I(1)
	<i>ext</i>	-1.75	-1.57	-4.17***	-4.42***	
Myanmar	<i>fdi</i>	-2.50	-2.28	-3.71**	-4.02**	I(1)
	<i>ext</i>	-0.85	-1.57	-4.61***	-4.49***	
Philippines	<i>fdi</i>	0.10	-2.01	-4.40***	-4.53***	I(1)
	<i>ext</i>	-0.51	-0.18	-4.15***	-5.61***	
Singapore	<i>fdi</i>	-0.63	-3.92**	-5.86***	-5.91***	I(1)
	<i>ext</i>	-0.35	-2.26	-5.27***	-5.19***	
Thailand	<i>fdi</i>	-1.32	-2.36	-5.70***	-5.84***	I(1)
	<i>ext</i>	-1.59	-1.90	-4.10***	-4.16**	
Vietnam	<i>fdi</i>	-3.81***	-6.74***	-13.99***	-14.10***	first difference
	<i>ext</i>	-1.41	-2.06	-4.55***	-4.47***	

**LLC Unit Root Test**

		level		first difference		For estimation
		intercept	trend & intercept	intercept	trend & intercept	
Panel data	<i>fdi</i>	-1.70**	-1.21	-	-	level
	<i>ext</i>	-2.64***	1.36	-	-	

Note: (1) The lag length in the test equation follows automatic selection by Schwarz Info Criterion. (2) \*\*\*, \*\*, \* denote rejection of null hypothesis of "series has a unit root" at the 1%, 5% and 10% level of significance, respectively.

**Table 3 Results of Johansen Cointegration Test**

<b>Combination of <i>fdi</i> and <i>gdp</i></b>					
	intercept		trend & intercept		For estimation
	trace	max-eigen	trace	max-eigen	
Brunei	-	-	-	-	first difference
Cambodia	-	-	-	-	level
Indonesia	9.10	6.15	16.30	12.21	first difference
Lao PDR	26.80***	21.33***	27.67**	21.53**	level
Malaysia	17.13**	15.74**	26.73**	19.52**	level
Myanmar	16.83**	10.21	18.05	11.35	first difference
Philippines	2.01	1.95	11.01	9.09	first difference
Singapore	5.56	5.15	20.37	15.85	first difference
Thailand	6.26	4.16	8.22	5.94	first difference
Vietnam	-	-	-	-	level

<b>Combination of <i>fdi</i> and <i>ext</i></b>					
	intercept		trend & intercept		For estimation
	trace	max-eigen	trace	max-eigen	
Brunei	-	-	-	-	first difference
Cambodia	-	-	-	-	first difference
Indonesia	10.83	7.22	13.02	8.88	first difference
Lao PDR	15.05*	10.17	16.60	11.31	first difference
Malaysia	19.50**	16.16**	21.89	16.96	level
Myanmar	7.13	6.43	10.60	7.87	first difference
Philippines	1.70	1.67	13.93	12.37	first difference
Singapore	7.31	6.65	26.3**	19.80**	level
Thailand	10.31	8.01	14.67	8.77	first difference
Vietnam	-	-	-	-	first difference

Note: \*\*\*, \*\*, \* denote rejection of null hypothesis of “no cointegrating equations” at the 1%, 5% and 10% level of significance, respectively.

**Table 4 Results of Granger Causality Test****Combination of *fdi* and *gdp***

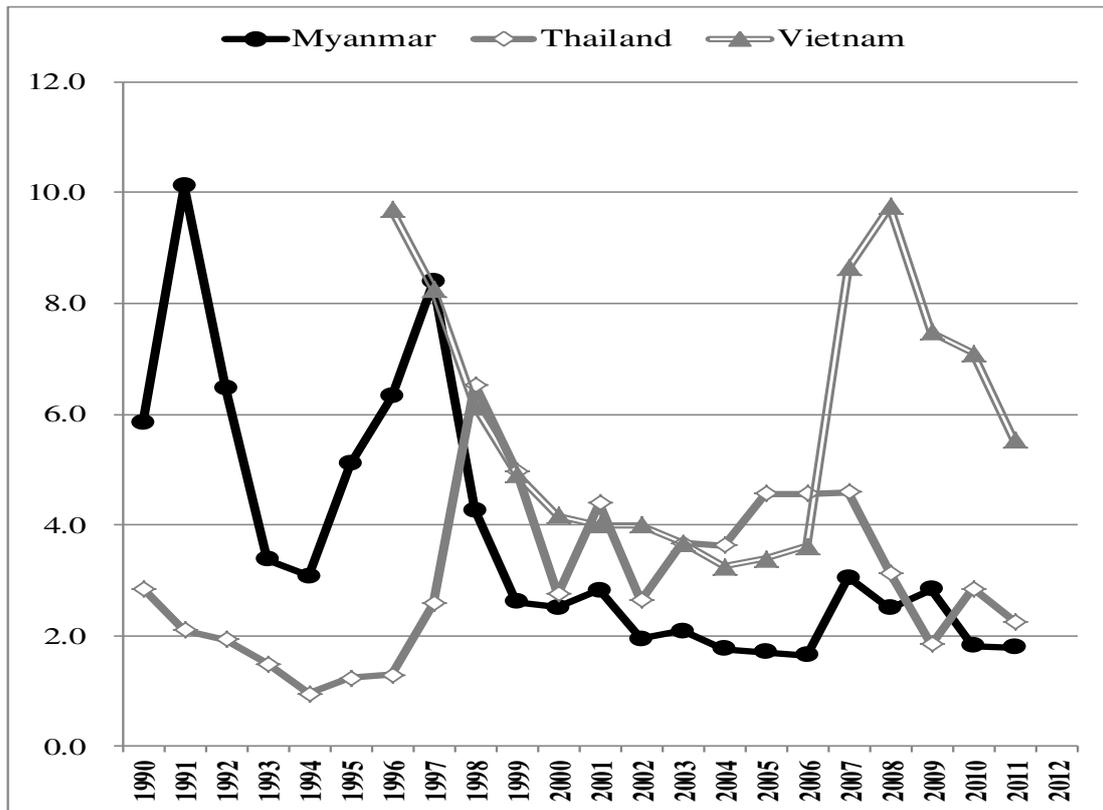
	Lags	Null Hypothesis	F-Statistic
Brunei	1	D(FDI) does not Granger Cause D(GDP)	0.52
		D(GDP) does not Granger Cause D(FDI)	0.03
Cambodia	2	FDI does not Granger Cause GDP	0.46
		GDP does not Granger Cause FDI	5.61**
Indonesia	1	D(FDI) does not Granger Cause D(GDP)	0.03
		D(GDP) does not Granger Cause D(FDI)	0.00
Lao PDR	2	FDI does not Granger Cause GDP	3.79**
		GDP does not Granger Cause FDI	0.10
Malaysia	1	FDI does not Granger Cause GDP	0.12
		GDP does not Granger Cause FDI	7.76**
Myanmar	1	D(FDI) does not Granger Cause D(GDP)	0.03
		D(GDP) does not Granger Cause D(FDI)	0.31
Philippines	1	D(FDI) does not Granger Cause D(GDP)	0.00
		D(GDP) does not Granger Cause D(FDI)	0.94
Singapore	2	D(FDI) does not Granger Cause D(GDP)	6.76***
		D(GDP) does not Granger Cause D(FDI)	0.31
Thailand	1	D(FDI) does not Granger Cause D(GDP)	21.84***
		D(GDP) does not Granger Cause D(FDI)	3.09*
Vietnam	2	FDI does not Granger Cause GDP	12.80***
		GDP does not Granger Cause FDI	16.76***
Panel data	2	FDI does not Granger Cause GDP	20.85***
		GDP does not Granger Cause FDI	9.44***

**Combination of *fdi* and *ext***

	Lags	Null Hypothesis	F-Statistic
Brunei	1	D(FDI) does not Granger Cause D(EXT)	0.95
		D(EXT) does not Granger Cause D(FDI)	0.41
Cambodia	2	D(FDI) does not Granger Cause D(EXT)	0.80
		D(EXT) does not Granger Cause D(FDI)	6.19**
Indonesia	1	D(FDI) does not Granger Cause D(EXT)	0.38
		D(EXT) does not Granger Cause D(FDI)	0.69
Lao PDR	1	D(FDI) does not Granger Cause D(EXT)	2.06
		D(EXT) does not Granger Cause D(FDI)	0.00
Malaysia	1	FDI does not Granger Cause EXT	0.00
		EXT does not Granger Cause FDI	6.21**
Myanmar	1	D(FDI) does not Granger Cause D(EXT)	1.13
		D(EXT) does not Granger Cause D(FDI)	3.76*
Philippines	2	D(FDI) does not Granger Cause D(EXT)	11.55***
		D(EXT) does not Granger Cause D(FDI)	3.26*
Singapore	2	FDI does not Granger Cause EXT	3.55**
		EXT does not Granger Cause FDI	0.02
Thailand	1	D(FDI) does not Granger Cause D(EXT)	8.52***
		D(EXT) does not Granger Cause D(FDI)	0.71
Vietnam	1	D(FDI) does not Granger Cause D(EXT)	0.01
		D(EXT) does not Granger Cause D(FDI)	0.16
Panel data	2	FDI does not Granger Cause EXT	5.58***
		EXT does not Granger Cause FDI	8.27***

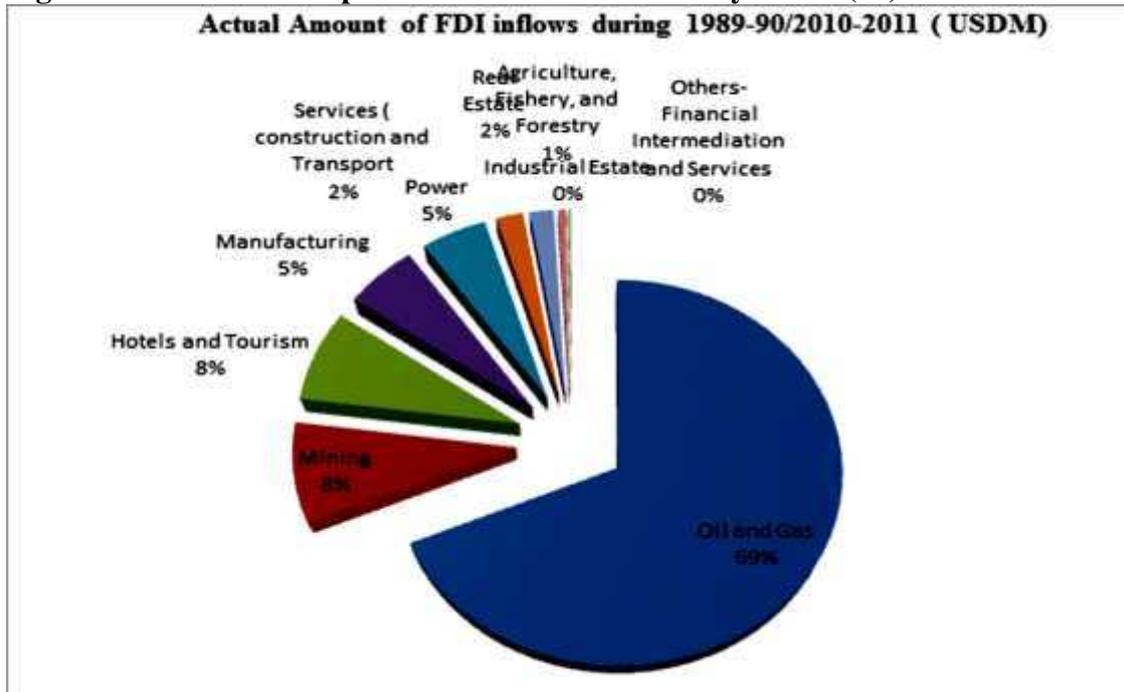
Note: \*\*\*, \*\*, \* denote rejection of null hypothesis at the 1%, 5% and 10% level of significance, respectively.

**Figure 4 Inward FDI Share to GDP in Myanmar (%)**



Sources: Inward FDI from International Financial Statistics, IMF; GDP from World Economic Outlook, IMF

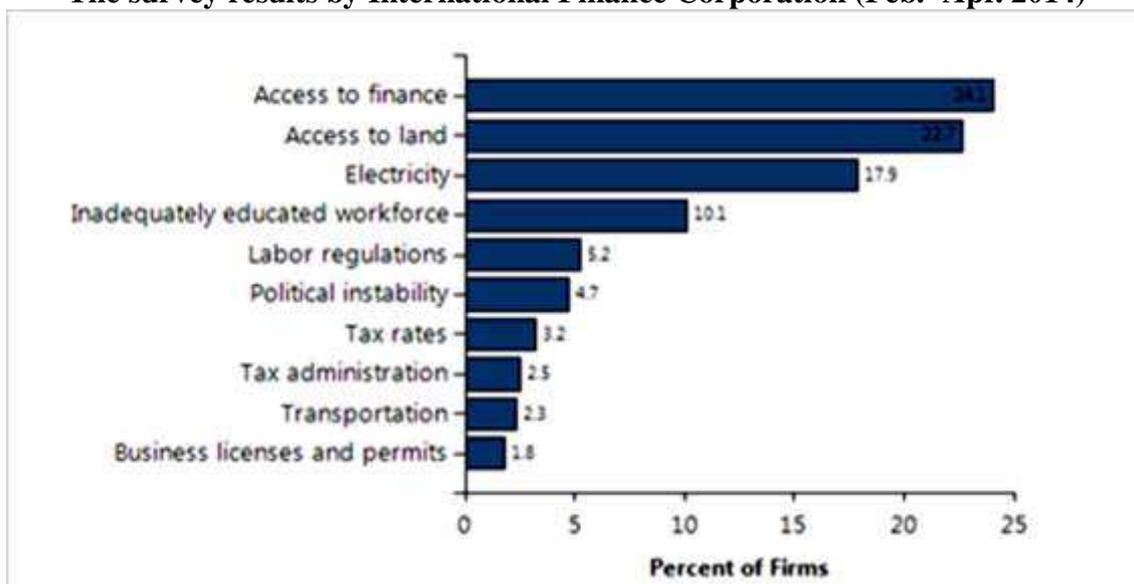
**Figure 5 Industrial Composition of Inward FDI in Myanmar (%)**



Source: DICA, MNPED <http://www.dica.gov.mm/dicagraph%200.htm>

**Figure 6 Top 10 Business Constraints in Myanmar**

### The survey results by International Finance Corporation (Feb.- Apr. 2014)



Source:

<http://www.enterprisesurveys.org/Data/ExploreEconomies/2014/myanmar#firm-characteristics--ownership-type>

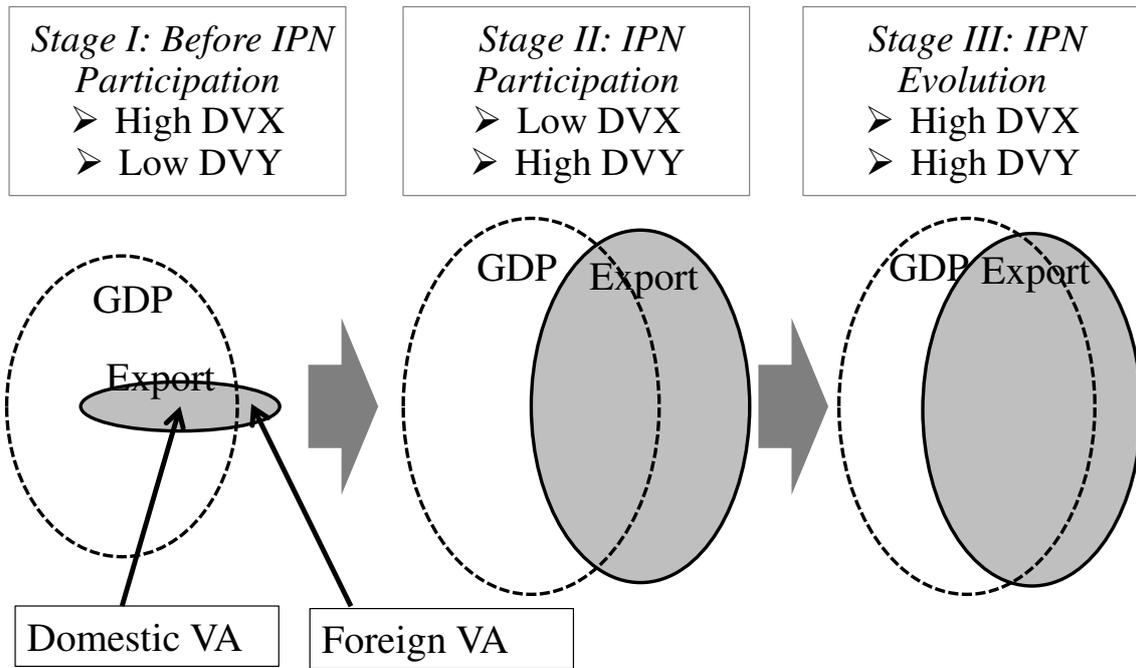
### Figure 7 Global Ranking in Logistics Performance Index 2014 by the World Bank

(Total: 160 countries)

	Overall LPI	Customs	Infrastructure	International shipments	Logistics competence	Tracking & tracing	Timeliness
Singapore	5	3	2	6	8	11	9
Malaysia	25	27	26	10	32	23	31
Thailand	35	36	30	39	38	33	29
Indonesia	53	55	56	74	41	58	50
Philippines	57	47	75	35	61	64	90
Vietnam	48	61	44	42	49	48	56
Lao PDR	131	100	128	120	129	146	137
Cambodia	83	71	79	78	89	71	129
Myanmar	145	150	137	151	156	130	117

Source: Logistics Performance Index 2014: The World Bank,  
(<http://lpiurvey.worldbank.org/international/global>)

**Figure 8 Hypothesis on Development Paths of GVCs Participation**



Source: Taguchi (2014)

**Table 5 Estimation on Development Paths of GVCs Participation by Sectors**

Variables	DVX Asia			
	Food products, beverages and tobacco	Textiles, textile products, leather and footwear	Wood, paper, paper products, printing and publishing	Chemicals and non-metallic mineral products
Const.	88.256 *** (23.555)	69.926 *** (10.214)	82.066 *** (18.729)	72.510 *** (13.731)
PCY	-6.661*10 <sup>-3</sup> *** (-3.417)	-4.830*10 <sup>-3</sup> ** (-2.399)	-7.894*10 <sup>-3</sup> *** (-3.281)	-8.022*10 <sup>-3</sup> *** (-3.111)
PCY <sup>2</sup>	6.350*10 <sup>-7</sup> *** (3.022)	4.470*10 <sup>-7</sup> ** (2.162)	7.640*10 <sup>-7</sup> *** (2.911)	7.940*10 <sup>-7</sup> *** (2.889)
Turning Point	5,245	5,403	5,166	5,052
Average DVX	80.3	64.1	72.7	63.1
Adj R <sup>**2</sup>	0.203	0.103	0.209	0.185
Sample size	32	32	32	32
Estimation Type	Random	Random	Random	Random

Variables	DVX Asia			
	Basic metals and fabricated metal products	Machinery and equipment, nec	Electrical and optical equipment	Transport equipment
Const.	70.362 *** (10.097)	65.220 *** (10.819)	65.469 *** (8.534)	69.928 *** (10.608)
PCY	-8.410*10 <sup>-3</sup> *** (-3.488)	-5.941*10 <sup>-3</sup> ** (-2.487)	-9.767*10 <sup>-3</sup> *** (-3.456)	-7.291*10 <sup>-3</sup> *** (-2.803)
PCY <sup>2</sup>	6.890*10 <sup>-7</sup> *** (2.763)	4.660*10 <sup>-7</sup> * (1.870)	8.260*10 <sup>-7</sup> *** (2.815)	6.210*10 <sup>-7</sup> ** (2.290)
Turning Point	6,103	6,374	5,912	5,870
Average DVX	59.6	57.4	53.1	60.7
Adj R <sup>**2</sup>	0.253	0.141	0.261	0.170
Sample size	32	32	32	32
Estimation Type	Random	Random	Random	Random

Note:

1) The T-value is shown in parentheses.

2) One, two, or three asterisks indicate that a coefficient estimate is significantly different from zero at 10, 5, or 1% percent level, respectively.

Source: OECD TiVA Data May 2013

**Figure 9 Smile Curve by Manufacturing Sectors**

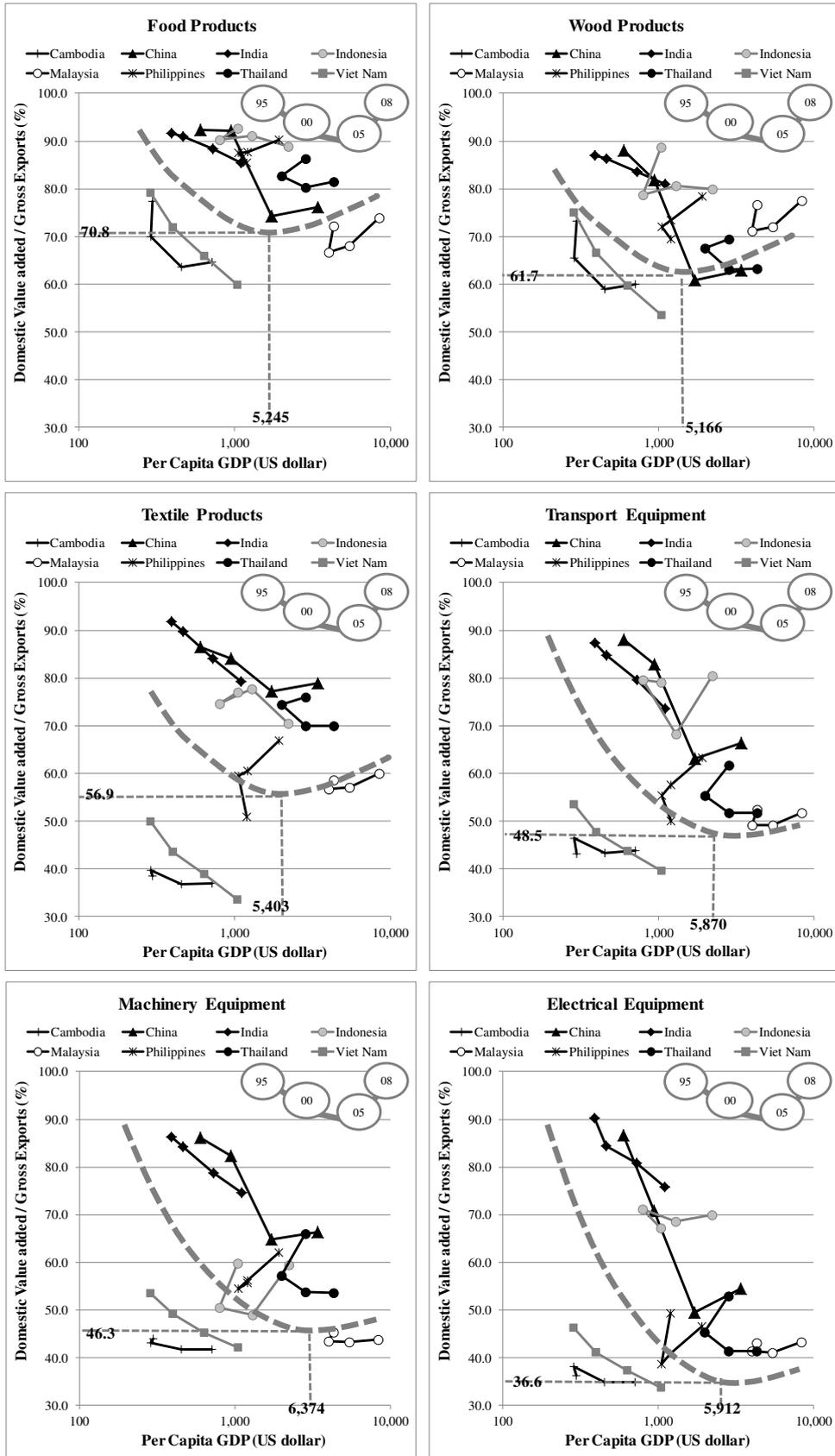


Figure 10 Spot-area Development Projects in Myanmar

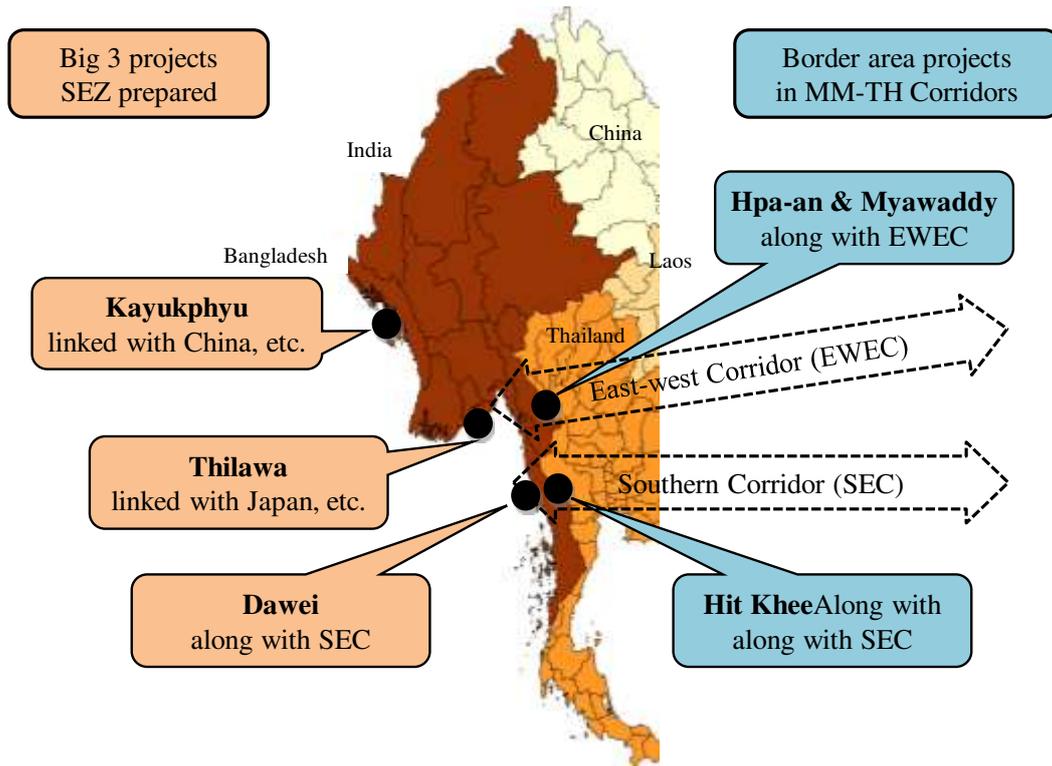


Figure 11 Road Development from Myawaddy to Kawkareik



Source: Author based on "The Daily NNA" on December 25, 2013

## References:

- Ahmad, M.H., Alam, S., and Butt, M.S. 2004. Foreign direct investment, exports and domestic output in Pakistan. Paper presented at the 19th Annual General Meeting, PIDE, Quaid-e-Azam University, Islamabad.
- Cho, K. 2005. Studies on knowledge spillovers, trade, and foreign direct investment—Theory and empirics, Ph.D. Thesis, Boulder, CO: Department of Economics, University of Colorado at Boulder.
- Chowdhury, A., and Mavrotas, G. 2006. FDI and growth: What causes what? *World Economy*, 29(1), pp. 9–19.
- Cuadros, A., Orts, V., and Alguacil, M. 2004. Openness and growth: Re-examining foreign direct investment, trade and output linkages in Latin America. *The Journal of Development Studies*, 40(4), pp. 167–192.
- Economic Research Institute for ASEAN and East Asia (ERIA). 2013. Draft of Myanmar Comprehensive Development Vision (MCDV).
- Hansen, H., and Rand, J. 2006. On the causal links between FDI and growth in developing countries. *World Economy*, 29(1), pp. 21–41.
- Hsiao, F.S.T., and Hsiao, MC. W. 2006. FDI, exports, and GDP in East and Southeast Asia—Panel data versus time-series causality analyses. *Journal of Asian Economics*, 17, pp. 1082–1106.
- Japan International Cooperation Agency (JICA) 2014. Report on Job Creation by Border Area Development between Thailand and Myanmar, Phase II.
- Johansen, S. 1995. *Likelihood-based Inference in Cointegrated Vector Autoregressive Models* (Oxford: Oxford University Press).
- Kohpaiboon, A. 2003. Foreign trade regimes and FDI-growth nexus: A case study of Thailand. *The Journal of Development Studies*, 40(2), pp. 55–69.
- Kubo, K. 2014. Myanmar's Non-resource Exports Potential after the Lifting of Economic sanctions: a Gravity Model Analysis. *Asia-Pacific Development Journal*, 21(1), pp. 1-22.
- Levin, A., Lin, C.F., and Chu, C. 2002. Unit root tests in panel data: Asymptotic and finite-sample properties. *Journal of Econometrics*, 108, pp. 1–24.
- Liu, X., Burridge, P., and Sinclair, P.J.N. 2002. Relationships between economic growth, foreign direct investment and trade: Evidence from China. *Applied Economics*, 34, pp. 1433–1440.
- Nair-Reichert, U., and Weinhold, D. 2000. Causality tests for cross-country panels: New look at FDI and economic growth in developing countries. *Oxford Bulletin of Economics and Statistics*, 64, pp. 153–171.
- OECD. 2013. *Multi-dimensional Review of Myanmar: Volume 1. Initial Assessment*, OECD Development Pathways, OECD Publishing.  
<http://dx.doi.org/10.1787/9789264202085-en>
- Said, S., and Dickey, D.A. 1984. Testing for unit roots in autoregressive-moving average models of unknown order, *Biometrika*, 71, pp. 599–607.
- Taguchi, H. 2014. Dynamic Impacts of Global Value Chains Participation on Asian Developing Economies. *Foreign Trade Review*, 49(4), pp. 1-14.
- UNCTAD. 2013. *World Investment Report - Global Value Chains: Investment and Trade for Development*, UNCTAD.