

## *FDI and the Investment Climate in Lao PDR*

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### *Abstract*

*FDI in Lao PDR has been increasing rapidly since the open door policy was adopted in 1986, and has now become the major source of the investments in the country. This paper attempts to place FDI activity in Lao PDR in the contexts of history, more recent trends in investment flows, and changes in FDI policy. The study focuses on assessing the current investment climate and its impact on firms' performance. This paper contributes to fill a deficiency in existing studies in Lao PDR by indentifying the differences in the investment climates between domestic and foreign firms. The findings reveal that the government should pay more attention to improving the investment climates of tax rates, access to finance, and labor skills. The study does not show regulatory framework to be a major constraint to firms' performance, perhaps a sign of government's successes in improving regulatory framework.*

### **1. Introduction**

The economy of Lao People's Democratic Republic (Lao PDR) has performed relatively well in recent years. The real GDP growth was high at about 6.4% in 2009, in the midst of the global financial crisis. Although the Lao economy is relatively insulated from the global financial system and its exposure to global trade is relatively limited, this impressive growth rate – the second highest in the East Asia region after China – was possible as (1) it benefited from a sustained demand for exports (e.g. minerals from China, electricity from Thailand and garments from Europe) and for tourism services, and from lower fuel prices; and (2) it was supported by a significant fiscal stimulus to sustain economic growth (World Bank 2009, p.5). In Lao PDR, the contribution to GDP growth has shown a noticeable shift toward the resource sectors (mostly mining and hydropower) which was dominated by Foreign Direct Investments (FDI)

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FDI inflows are seen as one important means of boosting economic development and growth, and assisting in the transition process – consisting of both economic reforms and business liberalization measures – underway in the developing countries. For Lao PDR, FDI has been increasing rapidly since the adoption of open-door policy in 1986. It becomes now the major source of investments in the country. This paper attempts to place FDI activity in Lao PDR in the pertinent contexts of history, more recent trends in investment flows, and changes in FDI policy. The study focuses on assessing the current investment climate and its impact on firms' performance<sup>1</sup>. Existing studies on investment climate assessment in Lao PDR including Suzuki et al. (2002), Schultze (2003), GTZ-HRDME (2006, 2008, 2010), Asian Development Bank (ADB) and World Bank (2007) and Oraboune (2008), however, did not pay much attention to the differences between domestic and foreign firms. This paper contributes to fill this deficiency and to demonstrate how institutional and policy weaknesses actually affect firms. The study makes use of the recent investment climate survey conducted in 2009. It addresses the perceptions of firms operating in the country regarding the relative importance of investment climate constraints to their businesses – a number of key indicators cover the degree, quality, or accessibility of infrastructure, regulation, tax, finance, and governance. Moreover, it shows the quantitative data on firms' performance and productivity by estimating production functions suggested by Escribano and Guasch (2005, p.17-27). A good investment climate ensures conditions for attracting foreign/domestic firms to invest, create jobs, and expand. With this in mind, this paper ends with some suggestions as to how Lao PDR might build on her recent successes in attracting relatively substantial FDI inflows and best harness future FDI activity in the next phases of her economic development programs.

## **2. Dynamic Changes of FDI over 1988-2009**

Historically, FDI in Indochina (Cambodia, Lao PDR and Vietnam) dates back to the period of French colonial rule between 1887 and 1953. FDI in the region before 1900 appears to have been utterly insignificant. Initially, the business activity focused on small trading, but

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<sup>1</sup> The concept of investment climate is closely related to what some authors in the macroeconomics literature have called high-quality institutions or “Social Infrastructure”. Dollar et al. (2005, p.1) define investment climate as the institutional, policy, and regulatory environment in which firms operate – factors that influence the link from sowing to reaping. If the local government is highly bureaucratic and corrupt, and if government's own provision or regulation of infrastructure and financial services is inefficient so that firms cannot get reliable services, then returns on potential investments will be low and uncertain, and one would not expect much accumulation and growth in these investments.

industrial revolution made the need for resources in the new markets and foreign investments. Most investments in Indochina were from France during the colonization (Linbald, 1998, p.13-19). With respect to Lao PDR, only in tin mining was French capital in any considerable amounts invested under the colonization (Stuart-Fox, 1995, p.135). Lao PDR has experienced a rapid change in FDI activity since the late 1980s when the country began the economic transition.

Law on FDI in Lao PDR was first promulgated in 1988. According to the statistics of Investment Promotion Department (IPD)<sup>2</sup> under the Ministry of Planning and Investment (MPI)<sup>3</sup>, FDI inflows to Lao PDR at the beginning were very small, less than US\$3 million in 1988 from a few countries such as Thailand, USA and France. Investment inflows to Lao PDR started to rise in the early 1990s associated with the large investments into the energy sector and the global economic boom that showed increased FDI to Asian countries. The Asian financial crisis in the late 1990s temporarily impacted on the FDI flows to ASEAN regions including Lao PDR. In recent years, however, Lao PDR has seen a significant increase in FDI, especially in mining, hydropower and plantation agriculture.

## **2.1 FDI by Countries and Sectors**

Before examining the FDI data for Lao PDR, it is worth noting that all data need to be treated with some caution given the potential for inaccuracies<sup>4</sup>. This is particularly true for data before year 2000<sup>5</sup>. Therefore, FDI data provided here should be regarded as a broad indicative. With this in mind, the paper will focus on trends and patterns of FDI in Lao PDR since 2000<sup>6</sup>.

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<sup>2</sup> Known as former Foreign Investment Management Committee (FIMC) and former Department for Promotion and Management of Domestic and Foreign Investment (DDFI)

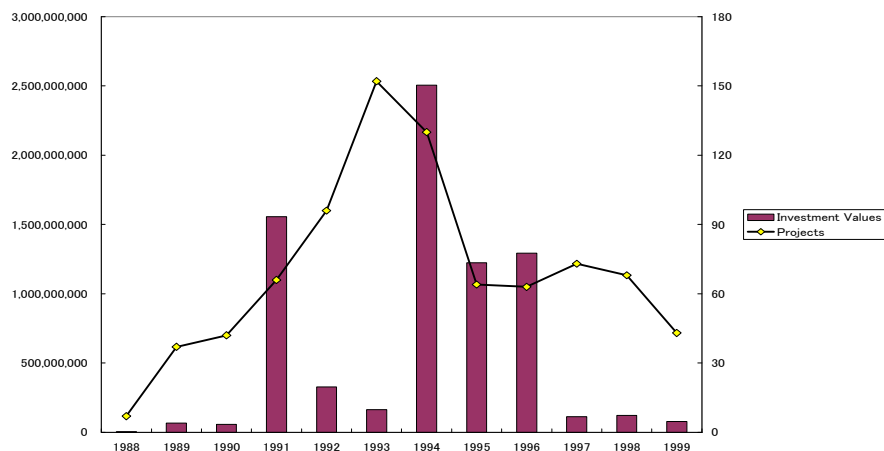
<sup>3</sup> Known as former the Committee of Planning and Cooperation (CPC) and former the Committee of Planning and Investment (CPI)

<sup>4</sup> The FDI figures may be inaccurate due to (1) joint venture projects by multiple foreign investors are often attributed to the lead investor only and sometimes it not clear share ownership between foreign investors and the local partners; and (2) the official FDI data may not cover many of investments made by former Lao citizens now living overseas, typically in collaboration with families and friends. Likewise, small scale investments by foreigners may also be under-reported.

<sup>5</sup> The authors observed significant differences in FDI data among sources in terms of project numbers, approved investment values, and investments by sectors and country of origin over 1988 to 1999 presented by Menon (1999, p.348-349), Freeman (2001, p.105-110), Gunawardana and Sisombat (2008a, p.47-51), Kyophilavong (2009, p.80-81) and Suzuki (2010, p.5-7).

<sup>6</sup> The FDI data since 2000 are more relatively consistent as shown in Sihomvong (2010, p.8-10), U.S. Commercial Service (2010, p.28-29), and Suzuki (2010, p.3).

**Figure 1:** FDI approvals in Lao PDR, 1988-1999



Sources: Menon (1999, p.348-349) and Freeman (2001, 109-110)

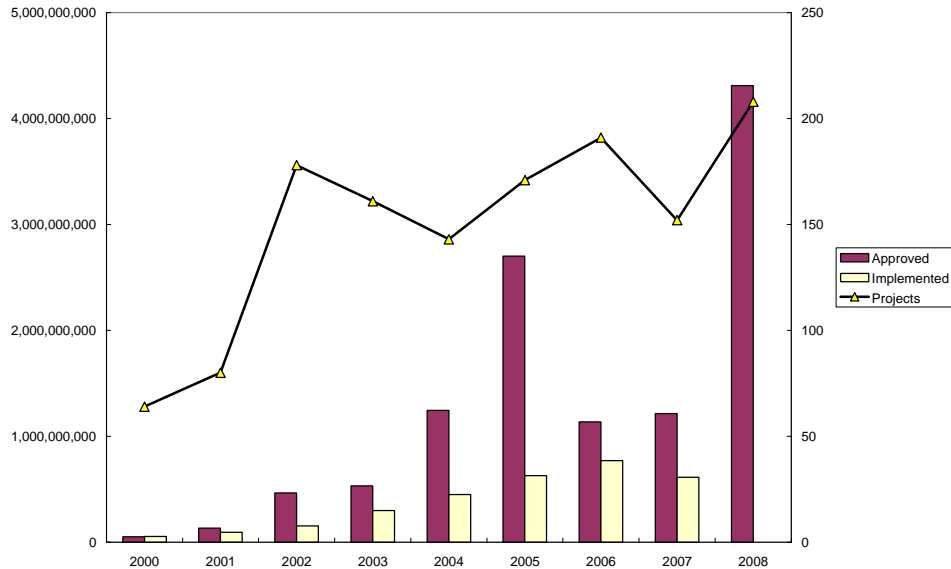
Figure 1 presents the approved investment values and the number of projects for the period 1988 to 1999 based on Menon (1999, p.348-349) and Freeman (2001, p.109-110)<sup>7</sup>. It is clear that there have been big fluctuations in FDI flows since 1991 after the hydroelectric power energy sector was licensed. Years when no power projects were approved tended to be much leaner for total FDI inflow pledges in Lao PDR. Menon (1999, p.347) showed that over 1988 to 1996, this sector has dominated for more than 70% of the total FDI inflows. The other sectors that were significant include banking, telecommunications and transport, and tin mining. However, the overall actual implemented investments surveyed by FIMC found that only about one-fourth of licensed investment flows had been realized after five years from the proposed start date. Freeman (2001, p.104, 110) reported that Lao PDR had approved around 844 foreign investment projects with roughly US\$5.8 billion over 1988-1999. Of these, half were wholly foreign-owned and two-thirds were small scale projects of less than \$1 million. Not surprisingly, the largest investor in Lao PDR was neighboring Thailand, followed by USA, South Korea, France and Malaysia<sup>8</sup>. Even with the impacts of the financial crisis that struck in mid-1997, Thailand had continued to be the main investor in Lao PDR albeit at a much lower level than in

<sup>7</sup> Freeman (2001, p.105-110) presents two different figures of the FDI data depending on whether they were based on FIMC or IMF sources in his paper.

<sup>8</sup> The authors found a number of inconsistencies among the previous studies. For example, according to Gunawardana and Sisombat (2008a, 47-51), during the same period, the top investors ranked by Thailand, USA, Malaysia, France and South Korea and the approved investment values significantly differ from Freeman (2001, p.105-110).

the early 1990s. Moreover, the largest proportion of FDI was located intensively in and around Vientiane, with lesser quantities flowing to other major cities including Luang Prabang, Savannakhet and Pakse. This was due to the lack of FDI in the agricultural sector and the inadequacy of the transportation in rural areas of the country.

**Figure 2:** Approved and Implemented FDI, FY2000-FY2008



Source: Investment Promotion Department, Ministry of Planning and Investment

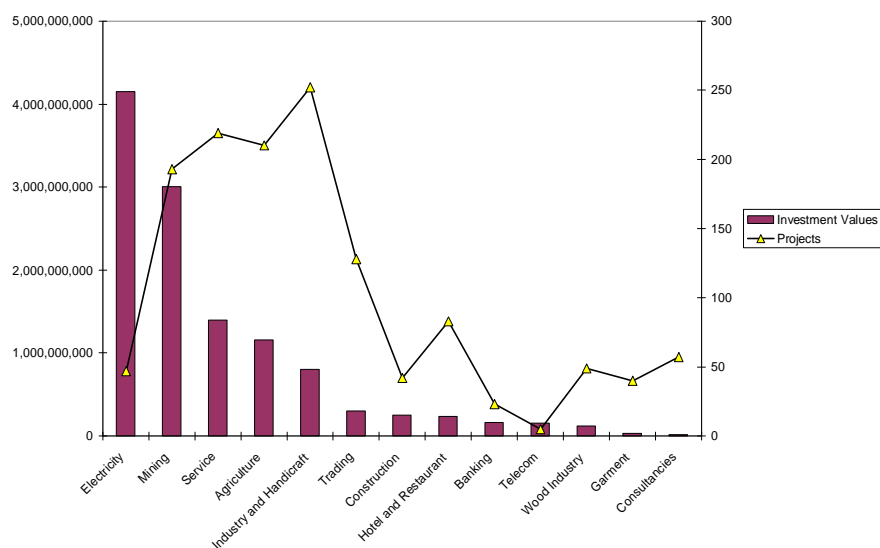
Note: Implemented Investment Values in FY2008 are not yet available.

Figure 2 presents the approved and implemented investment values, and number of projects for the period FY2000 to FY2008. Still wide fluctuation can be seen. Foreign investment figures fluctuate widely from year to year due to the prevalence of large-scale investments in the hydropower and mining sectors. During 2008/09, Lao PDR approved US\$4.3 billion worth of 208 foreign investment projects. This records the highest value in the history of FDI inflows in Lao PDR.

The recovery from the global financial crisis, along with the rebound in copper prices on the world market, led foreign investment in Lao PDR to increase sharply. Compared to 1990s, the actual implemented investments have been increasing over 2000s. Whereas public expenditures varied from 15.4% to 22.2% of GDP, the share of implemented FDI has strengthened its presence by rising sharply from 3.3% of GDP in 2001 (FY2000) to 18.3% of GDP in 2007 (FY2006). However, it also shows a big drop in 2008 due to the global economic downturn.

Table 1 shows the country rankings of aggregate FDI inflows to Lao PDR from October 2000 through to September 2009 based on the approved investment values. During this period, there have been foreign investments from 38 countries totaling 1,348 projects and about US\$12 billion licensed. Although Thailand still ranks the highest foreign investor in Lao PDR, China and Vietnam have now risen up very close to the top. Table 2 clearly shows the strong presence of the big three in recent years as they all together rank among the top 5 investors since 2003/04. Just these three top countries together account for roughly 60% of total FDI inflows. This less diverse ‘spread’ would make Laos’ aggregate FDI inflows more vulnerable to an economic downturn occurring in just one or two of these countries.

**Figure 3: FDI Approvals by Sectors, FY2000-FY2008**



Source: Investment Promotion Department, Ministry of Planning and Investment

**Table 1: Top 10 FDI Inflows to Lao PDR, FY2000-FY2008**

Ranks	Country of Origin	Number of Projects	Approved Values (Million US\$)
1	Thailand	237	2,646
2	China	324	2,242
3	Vietnam	207	2,113
4	France	67	454
5	Korea	139	442
6	Japan	41	425
7	India	6	353
8	Australia	31	334
9	Norway	4	230
10	Malaysia	342	151

Source: Investment Promotion Department, Ministry of Planning and Investment

**Table 2:** Top 5 Foreign Investors in Lao PDR by year

Ranks	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09
1	China	China	China	Australia	Thailand	Thailand	China	Thailand	Vietnam
2	France	France	Thailand	Vietnam	France	China	Vietnam	Norway	China
3	Korea	Sweden	Malaysia	Thailand	China	Japan	Thailand	Vietnam	Thailand
4	USA	Korea	Canada	Switzerland	Vietnam	India	Korea	China	Korea
5	Vietnam	USA	Singapore	China	Australia	Vietnam	Malaysia	Korea	UK

*Source: Investment Promotion Department, Ministry of Planning and Investment*

In terms of the distribution of investment inflows by sector, however, it becomes relatively more diverse in 2000s. While the share of energy sector has declined, mining, service, agriculture, and industry and handicraft sectors have increased their shares<sup>9</sup>. Especially, the mining (e.g. copper and gold) and plantation agriculture sectors now become more attractive than they were in 1990s. Among top three foreign investors, Thailand has been investing heavily in the energy sector, while China focuses on the mining sector and Vietnam pays attention to agriculture. It may come as a surprise that wood industry and garment sector received less interest from investors. Moreover, large FDI projects, especially in hydropower and mining, often either find it advantageous or are required to give the government partial ownership, frequently with money borrowed from the investor or multilateral institutions. Perhaps the most well-known is the Nam Teun II dam, whose 25% government ownership stake was financed by a consortium of international financial institutions.

## 2.2. FDI and Policy Changes

Since the first law on foreign investment in Lao PDR was promulgated in 1988, it was revised in 1994 and 2004. Currently, the government of Lao PDR in the process to approve the unified the foreign investment law and the domestic investment law into one in 2010, but the new provisions have yet to take effect. It is of interest to examine the changes on FDI policy over this period.

The Lao government proclaimed the law on foreign investment promotion and management in 1988, two years after the adoption of the economic reforms from centrally planned to a market-oriented system in 1986. It allowed 100% foreign ownership of investments since the beginning. The investment term of a foreign investment enterprise depended on the nature, size, and conditions of the business project but normally could not exceed 15 years for

<sup>9</sup> For an overview of recent development of energy, mining and agriculture sectors see, Pholsena and Phonekeo (2004), Keophilavong (2009) and Voladet (2009).

100% foreign ownership and 20 years for joint venture. The profit tax differed largely by sectors and their reduction and exception measurements were ambiguous (Table 3).

The first revision to investment law was done in 1994 when the profit tax was simplified to 20% for all sectors, whereas the expiration of investment term was retained relatively short at 15-20 years. It seems that the Lao government desired to promote but at the same time, it seems, wanted to tread cautiously on it. In the second revision in 2004, the investment term of a foreign investment enterprise was extended to 50 years and under special circumstances it may further extend to 75 years with the approval of the government. The profit tax was maintained at 20% for all sectors and the reduction and exception criteria were revised by three zones based on social-economic conditions and geographical locations.

**Table 3: Major Points of Law on Investment in Lao PDR, 1988-2010**

Formal Name	Joint Venture	Values	Expiration	Profit Tax	Reduction & Exception
1988 Law on Foreign Investment Promotion and Management	30%+	\$100,000+	15-20 yrs	20-50% by sectors	By items
1994 Law on Foreign Investment Promotion and Management	30%+	\$100,000+	15-20 yrs	All 20%	None
2004 Law on Foreign Investment Promotion	30%+	\$100,000+	50-75 yrs	All 20%	By zone
2010 Law on Unified Investment Promotion (Draft)	10%+	Enterprise Law	99 yrs or no limit	All 35%	By zone

*Sources: Law on Foreign Investment in Lao PDR 1988, 1994, 2004 and 2010 (Draft)*

Lao PDR joined ASEAN in 1997 further promoting the regional integration. This is perhaps a reason that the word “management” was eliminated from the official name of the law – making it look more open. Moreover, under the newly unified investment promotion (draft), the investment term was going to set no limit for a general project, and 99 years for a large project subject to concession from the government. The measures for profit tax reduction and exemptions are promoted with more incentives. However, the taxes on profit are set at 35% which is going to be higher than the previous one. Overall, the update law on investment promotion is prepared to clear the conditions for accession to WTO that the government is aiming to achieve soon.

### **3. FDI and Investment Climate**

#### **3.1 Literature Review**

A number of studies have investigated the investment climate assessment worldwide. For instance, Dollar et al. (2005, p.27) examined the relationship between the investment climate and firm performance in Bangladesh, China, India, and Pakistan. They found objective measures of investment climate vary significantly across countries and across locations within these countries. Escribano and Guasch (2005, p.54-57) analyzed the impact of investment climate on productivity in Guatemala, Honduras, and Nicaragua. They concluded that variables in several categories appear to affect the productivity in these countries. Neighboring to Lao PDR, World Bank (2004, p.12-14) reported top five investment climate constraints in Cambodia as corruption, crime, anti-competitive or informal practices, regulatory policy uncertainty and legal system/conflict resolution. World Bank (2008, p. 22-29) has reported two investment climate assessment surveys in Thailand in 2004 and 2007. The results were quite similar between the two surveys, identifying skilled labor shortage and tax regulations as particular constraints. However, not surprisingly, because of political conflicts in the recent past in that country, firms indicated macroeconomic instability and economic policy uncertainty as the major bottlenecks in 2007.

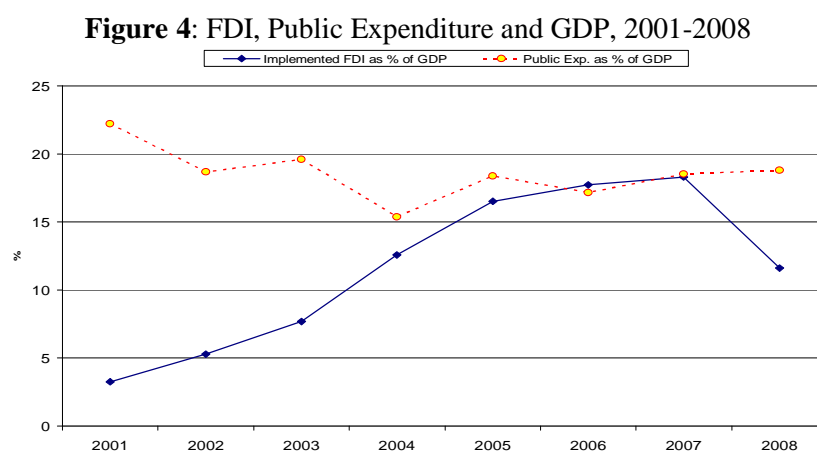
For Lao PDR, previous studies on investment climate assessment include Suzuki et al. (2002), Schultze (2003), GTZ-HRDME (2006, 2008, and 2010), ADB and World Bank (2007) and Oraboune (2008). However, they all did not pay much attention to the differences between domestic and foreign firms. First, Suzuki et al. (2002, p.172-176) reported the major business constraints perceived by 50 foreign firms in Vientiane, Khammouane and Savannakhet as (1) tax rate and tax administration; (2) customs and trade regulations; and (3) uncertainty in government regulations. The survey ranked problems on investment climate by four levels, and found that nearly 60% of the firms specifically stated taxation as a “serious problem”...

Schultze (2003, cited in ADB and World Bank 2007, p.127-128) interviewed 40 small and medium sized firms in Vientiane and found that the major obstacles were (1) tax rate; (2) competition; (3) lack of marketing; and (4) lack of capital. Over 40% of firms rated too high taxes as the major obstacle. Regarding “competition” that one-third of the firms claimed as a major obstacle, it should be noted, however, that since the survey was conducted only in Vientiane where relatively more firms operate than in other provinces, competition could indeed be more pronounced. On the other hand, Oraboune (2008, p.177-183) surveyed 60 firms, mainly

foreign firms, in Vientiane and Savannakhet who indicated macroeconomic uncertainty as the top constraint, while other investment climate variables including finance, governance, regulation framework, land, infrastructure, and labor issues as almost immaterial. .

German development cooperation agency (GTZ) and the Lao-German Human Resource Development for a Market Economy program (GTZ-HRDME) has conducted a series of enterprise baseline surveys in 2005, 2007 and 2009 and published in 2006, 2008 and 2010, respectively. GTZ-HRDME (2006, p.9-10) reported the survey results of 390 firms, mainly micro, small and medium size enterprises (MSME) in four provinces, Vientiane, Luang Prabang, Luang Namtha and Champasack. They reported that the lack of capital, competition, and fees and regulations as the top constraints. They further reported the survey results of 490 firms, mainly MSME in five provinces by adding Savannakhet and found that the lack of capital, and taxes and fees as the major constraints. In addition, GTZ-HRDME (2010, p.17-21) suggested that access to finance, tax rates, and infrastructure as the top constraints based on the survey of 728 firms.

ADB and World Bank (2007, p.12-17) presenting investment climate survey results of 303 firms in 6 provinces namely Vientiane, Luang Prabang, Luang Namtha, Oudomxay, Xayabury, Savannakhet and Champasack reported that infrastructure, regulations, and tax as the major constraints. The findings of the survey will be discussed again in the next session as a comparison with the investment climate survey used in this paper.



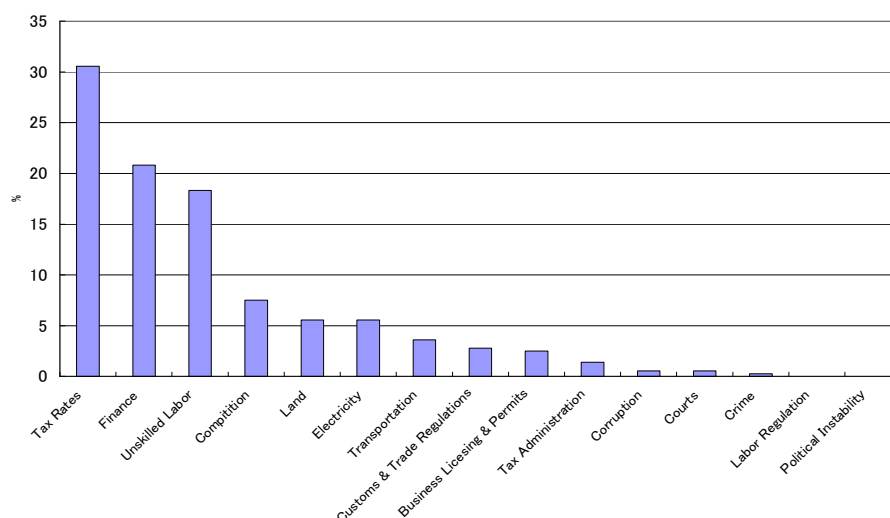
Sources: Authors' compiled based on Investment Promotion Department and ADB Key Indicators 2010.

### 3.2 Investment Climate Assessment by Sectors

This study applies data from the Investment Climate Surveys (ICS) in Lao PDR undertaken in 2009<sup>10</sup>. It is an update of ICS conducted from April to June in 2005. The ICS2009 survey covers 360 establishments from manufacturing and services sectors in four major provinces – Vientiane, Luang Prabang, Savannakhet and Champasack. This paper analyzes the investment climate survey results of 125 manufacturing firms and 235 firms in services sector. The numbers of surveyed firms are relatively small due to the scale of Lao economy, but they well represent the industrial structure and account as much as for 20% of the eligible manufacturing universe and for 13% of the eligible service universe in the region. Through face-to-face interviews with managers/owners, the ICS 2009 qualitative and quantitative information regarding the investment climate and the performance of firms can be compared with the previous survey conducted in 2005.

In short, firms rank the three biggest obstacles faced out of 15 indicators as (1) tax rates, (2) access to finance, and (3) unskilled labor as shown in Figure 5. Comparing the differences between domestic and foreign firms, we found that the lack of labor skills as the main constraint for foreign firms. Rating the constraints by each indicator, however, firms perceived access to land as the major constraint, followed by tax rates and the lack of skilled labor (see Table 4 for a summary).

**Figure 5: Biggest Obstacle Faced by All Firms in 2009**



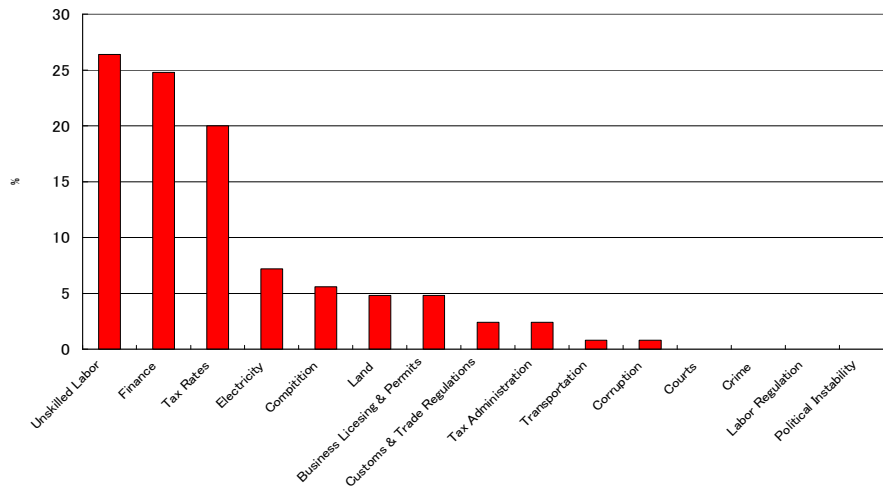
Sources: Lao PDR Investment Climate Survey 2009. Authors' calculation

<sup>10</sup> The official report of the Investment Climate Surveys (ICS) in 2009 for Lao PDR is not yet available. But, the raw data is accessible at the website of Enterprise Surveys, The World Bank Group.

### 3.2.1 Investment Climate in Manufacturing

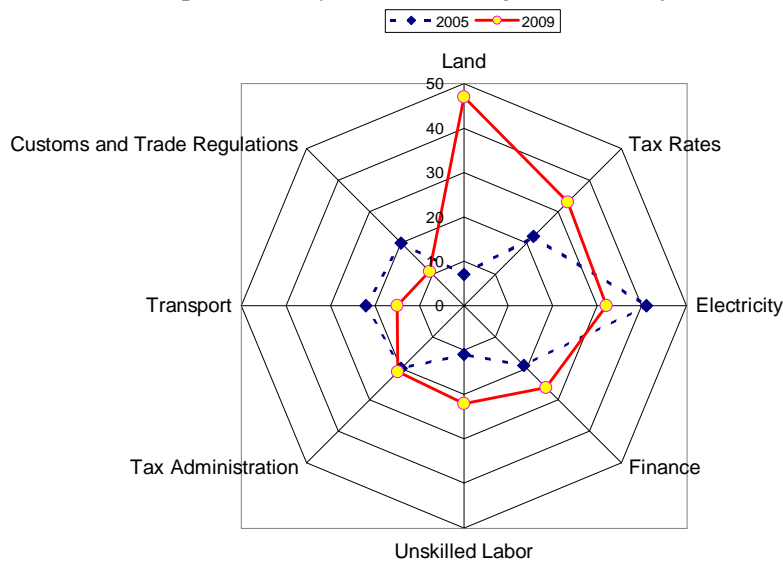
The manufacturing part of the survey covers four industries: garment/textiles (47%), wood processing (25%), food/beverages (12%), and others (16%). One-fourth of surveyed firms have at least 10% foreign equity that is defined as FDI firms in this study, and roughly 60% of them belong to the garment/textiles sector. Of them, 67% are located in the Vientiane capital. In size, one-fourth are small (5-19 employees), 42% are medium (20-99), and 33% are large (100+).

**Figure 6:** Biggest Obstacle Faced by Manufacturing Firms in 2009



Sources: Lao PDR Investment Climate Survey 2009. Authors' calculation.

**Figure 7:** Constraints perceived by Manufacturing firms as Major or Severe in 2005 and 2009



Sources: Lao PDR Investment Climate Survey 2005 and 2009. Authors' calculation.

As shown in Figure 6, manufacturing firms indicate the biggest obstacle among 15 investment climate variables as the lack of skilled labor (26.4%), access to finance (24.8%), and tax rates (20.0%). Domestic firms rank access to finance (27.7%), the lack of skilled labor (24.5%), and tax rates (24.5%) as against foreign firms which rank the lack of skilled labor (32.3%), access to finance (16.1%), and tax rates (6.5%). In ranking the top investment climate constraints by each indicator, the results in 2009 are quite dissimilar to 2005 as shown in Figure 7<sup>11</sup>. It stands out for having the highest proportion of firms that rated access to land (47%) as a major or severe obstacle as compared with only 7% in the previous survey. Tax rates ranks the second highest obstacle, an increase from 22% in 2005 to 33% in 2009. Electricity remains the important constraints, but it is has improved from 41% to 32% over the study period.

**Table 4: Summary of Investment Climate Constraints in Lao PDR, 2009**

Rank	Investment Climate	No	Minor	Moderate	Major	Severe	Don't Know/Apply	Major & Severe as % of Total
1	Access to Land	94	20	46	78	122	0	55.6
2	Tax Rates	124	60	39	70	66	1	37.9*
3	Unskilled Labor	162	76	32	47	43	0	25.0
4	Electricity	153	85	40	28	54	0	22.8
5	Tax Administration	194	47	43	36	39	1	20.9*
6	Access to Finance	140	88	61	19	50	2	19.3*
7	Transportation	229	45	38	20	28	0	13.3
8	Practices of Competitors in the Formal Sector	270	31	17	10	31	1	11.4*
9	Customs & Trade Regulations	249	45	34	12	18	2	8.4*
10	Business Licensing & Permits	276	54	14	11	5	0	4.4
11	Labor Regulations	318	26	8	4	4	0	2.2
12	Crime, Theft & Disorder	240	109	6	5	0	0	1.4
13	Political Instability	348	8	2	0	0	0	0.0
14**	Corruption	131	45	44	33	25	82	20.9*
15**	Courts	130	24	28	29	9	140	17.3*

Source: *Investment Climate Survey 2009*. Total observations are 360. Authors' Calculation.

Note: \* calculated by sum of investment climate from "No obstacle" to "Severe obstacle", divided by total observations, less the number of "Don't know/apply".

\*\* We do not find the measures of corruption and courts in the explanation of the constraints perceived by each indicator and their impacts on firm performance. It may be that the survey has not measured these effectively.

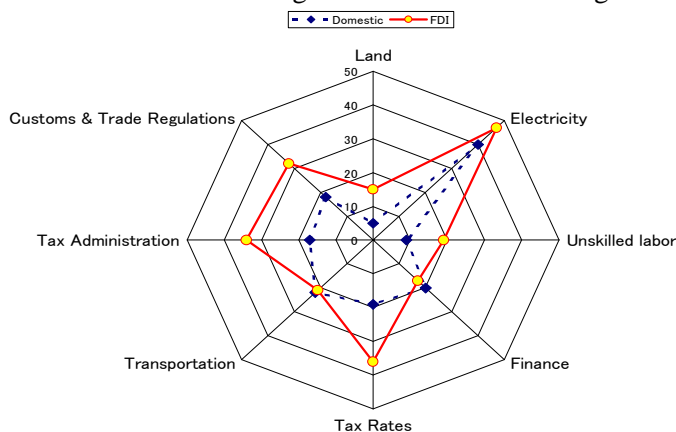
The authors observe large improvements in transportation, customs and trade regulations, while access to finance and the lack of skilled labor have becomes worse. On the other hand, the

<sup>11</sup> In general, the aspects of the environment such as how long it takes to get goods through customs, how long it takes to get a phone line, or how frequent and disruptive are power outages are used. If we took each investment climate indicator like that, we would end up with a very small sample of observations available. Thus, we define dummies of investment climate variables perceived by firms as major or severe obstacle = 1, and as no, minor or moderate obstacle = 0.

surveyed firms do not consider practices of competitors in the informal sector, business licensing and permits, labor regulations, crime, and political instability to be binding obstacles to their operations, and this feature remains unchanged in the both surveys.

With respect to ownership, major investment climate constraints in 2005 and 2009 are shown in Figure 8 and Figure 9, respectively. In general, FDI firms are more sensitive than domestic firms in many respects. In 2009, both domestic and foreign firms perceive access to land to be the top investment climate constraints. Land prices in Lao PDR have been increasing sharply in recent years, especially in the major cities. Access to land is also the highest constraint in all other analyzed categories of industrial subsectors, firm size, region, and export status. For FDI firms, infrastructure (electricity, water, telephone, and roads) is the second significant obstacle. Especially for electricity, more than half of all firms cited electricity supply (voltage and frequency stability) as inadequate and electricity prices too high, whereas power outages are rarely a problem. Foreign firms are more critical of electricity than domestic firms (48% vs. 27%).

**Figure 8:** Constraints of Domestic and Foreign Firms in Manufacturing as major or severe in 2005

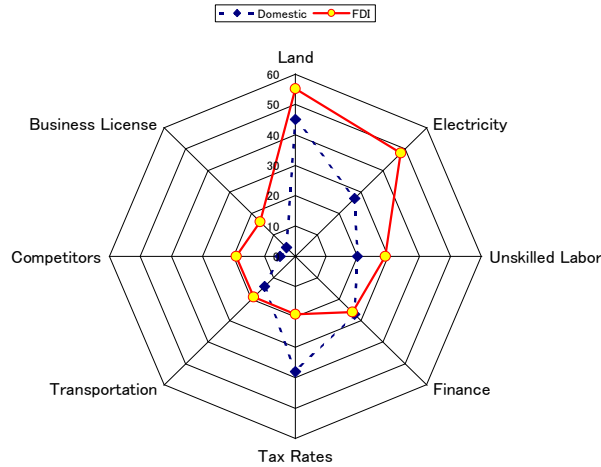


Sources: Lao PDR Investment Climate Survey 2005. Authors' calculation.

It should be noted that the size of FDI firms are larger than domestic ones and thus consume much more electricity. Similarly, foreign firms rate the lack of skilled labor as a higher obstacle in comparison to domestic ones (29% : 20%). Moreover, they also face more difficulties in obtaining business licenses and permits. In contrast, domestic firms are more critical of tax rate as a heavy burden than foreign firms (38% vs. 19%). It is worth noting that the profit tax rate for domestic firms is considerably high at 35% compared to 20% for foreign firms. In addition,

surveyed foreign and domestic firms indicate no differences in labor regulations, crime, and political instability as these are no constraints to doing their business.

**Figure 9:** Constraints of Domestic and Foreign Firms in Manufacturing as major or severe in 2009

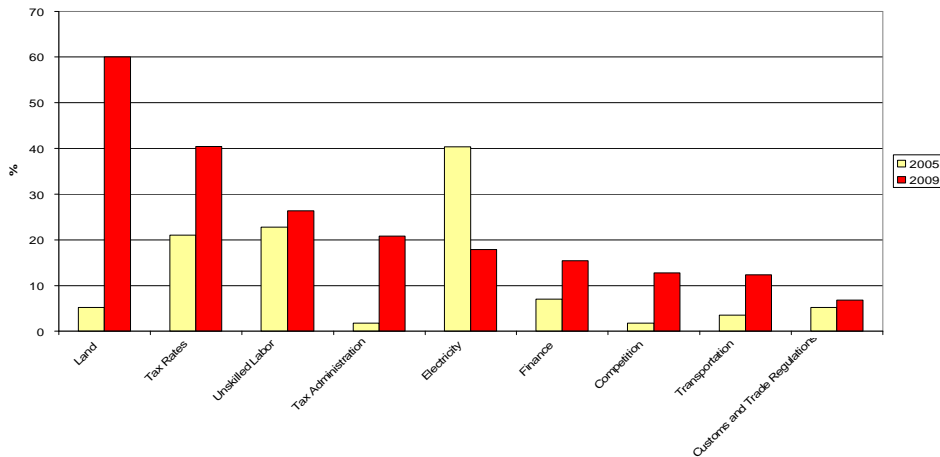


Sources: Lao PDR Investment Climate Survey 2009. Authors' calculation.

### 3.2.2 Investment Climate in Services

In this study, the service part of the survey covers three industries: retails/wholesales (54%), restaurant and hotel (23%), and other services (23%). About 14% of surveyed firms are FDI firms and one-third of them belong to restaurant and hotel subsector. Slightly over one-half of the firms are located in the Vientiane capital; and in terms of firm size, 60% are small (5-19 employees), 30% are medium (20-99), and 10% are large (100+).

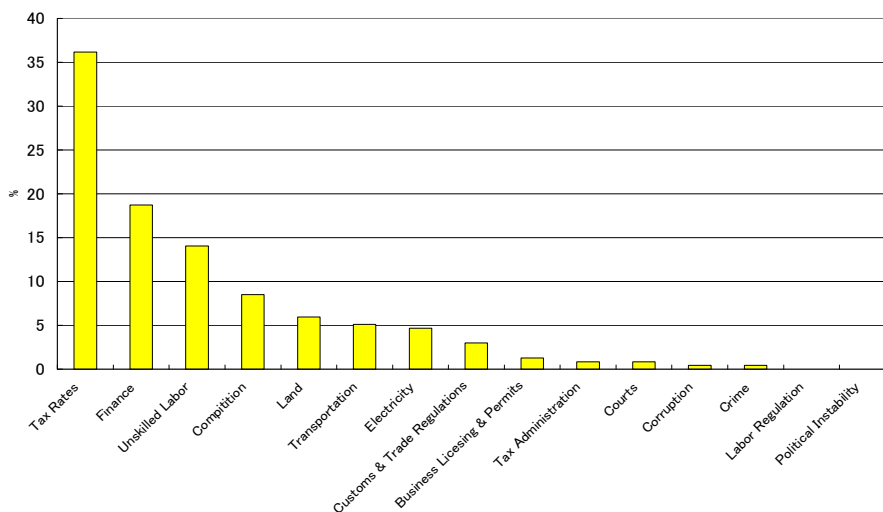
**Figure 10:** Constraints perceived by Service firms as Major in 2005 and 2009



Sources: Lao PDR Investment Climate Survey 2005 and 2009. Authors' calculation.

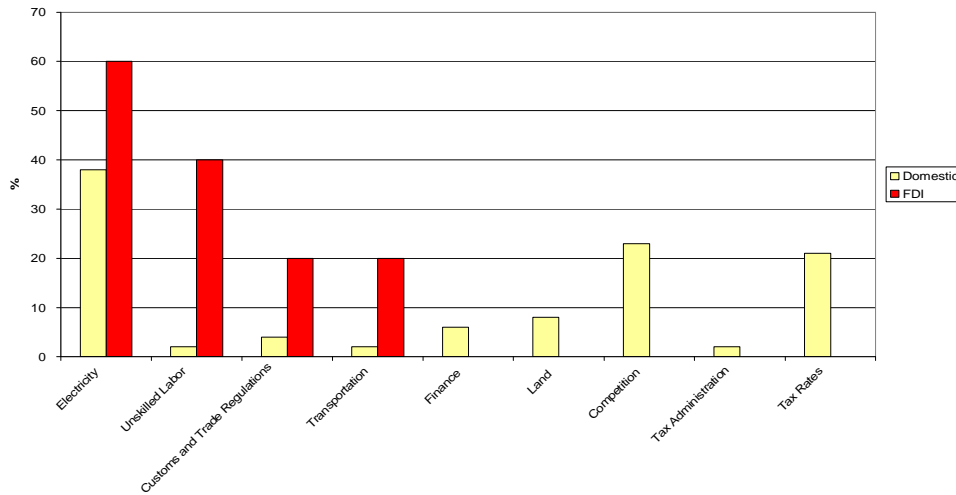
As shown in Figure 11, services sector firms rank the obstacles among 15 investment climate variables as tax rates (36.2%), access to finance (18.7%), and the lack of skilled labor (14.0%). Domestic firms rank tax rates (37.9%), access to finance (19.7%), the lack of skilled labor (12.3%), as against the foreign firms ranking tax rates (25.0%), the lack of skilled labor (25.0%), and access to finance (12.5%). With respect to the top investment climate constraints by each indicator, the results in 2009 are quite dissimilar to those in 2005 as shown in Figure 10. But the findings here are relatively similar to what we found in the case of manufacturing. It stands out that access to land at 60% in 2009 is the highest obstacle as compared with just only 5% in 2005. Tax rates ranks the second highest obstacle an increase from 21% in 2005 to 40% in 2009. The lack of skilled labor ranks third with a slight increase from 23% to 26%. Electricity remains an important constraint, but it has improved from 40% to 18% over the study period. Generally, most investment climates such as tax administration, access to finance, and practices of competitors in the informal sector have become worse in 2009. On the other hand, surveyed firms do not consider business licensing and permits, labor regulations, crime, and political instability to be binding obstacles to their operations, and this trend remains unchanged in both surveys and lends support to investment climates in the manufacturing sector.

**Figure 11: Biggest Obstacle Faced by Service Firms in 2009**



Sources: Lao PDR Investment Climate Survey 2009. Authors' calculation.

**Figure 12:** Constraints of Domestic & Foreign Firms in Service Sector as major in 2005

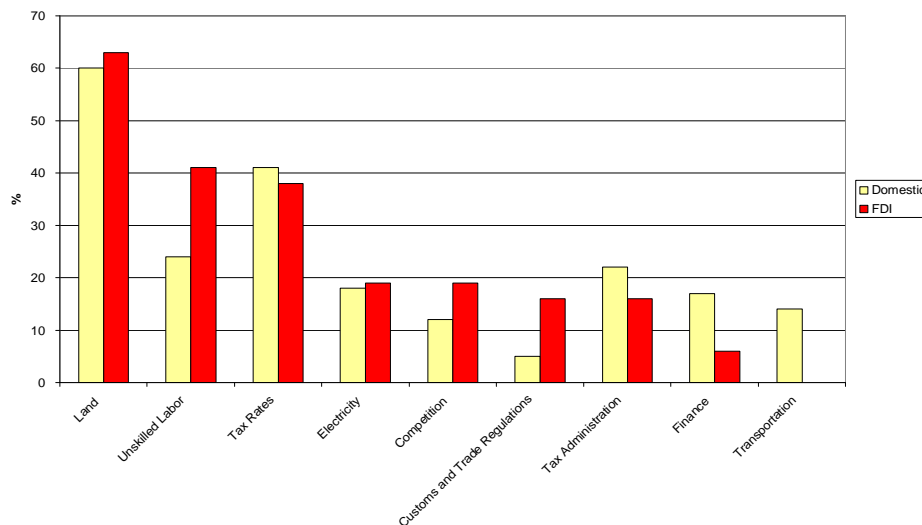


Sources: Lao PDR Investment Climate Survey 2005. Authors' calculation.

Note: Data on constraints perceived by FDI firms should be treated with caution as insufficient samples.

With respect to ownership, major investment climate constraints in 2005 and 2009 are shown in Figure 12 and Figure 13, respectively. In 2005, the survey covered 57 firms in only tourism sector e.g. hotel and travel agencies. It is also worth noting that the number of foreign firms in the survey 2005 is insufficient and the results presented here should be seen with caution. On the other hand, domestic firms rated the top constraints as electricity, practices of competitors in the informal sector and tax rates.

**Figure 13:** Constraints of Domestic & Foreign Firms in Service Sector as major in 2009



Sources: Lao PDR Investment Climate Survey 2009. Authors' calculation.

In the survey 2009, the investment climate constraints perceived by domestic and foreign firms are quite similar and comparable with those of the manufacturing sector. Whereas domestic

firms rank access to land, tax rates, the lack of skilled labor and tax administration as severe or major obstacles, foreign firms also rate access to land as the primary constraint, followed by lack of skilled labor and tax rates. Compared to manufacturing sector, infrastructure (electricity and transportation) are less significant constraints for both domestic and foreign firms in the service sector. In addition, surveyed firms indicate that there are no differences in business licensing and permits, labor regulations, crime, and political instability as these are not obstacles in running their business.

**Table 5:** Major Challenges Facing an Investment in Lao PDR

Selected Investment Climate	Items	Lao PDR	Region	All Countries
Regulations & Tax	Average number of visits or required meetings with tax officials	4.37	2.33	2.16
	% of firms identifying tax rates as a major constraint	43.16	23.07	35.35
Finance	% of firms with line of credit or loans from financial institutions	18.53	40.40	34.50
	% of firms using banks to finance investments	0.00	27.60	23.43
	% of firms using banks to finance expenses	10.73	31.45	27.53
	Value of collateral needed for a loan (% of the loan amount)	307.56	170.95	144.21
	% of firms identifying access to finance as a major constraint	18.97	19.42	30.94
Workforce	% of firms offering formal training	11.13	47.05	34.37
	Average number of seasonal/temporary employees	1.26	23.61	7.81
	Average number of permanent/full time employees	22.62	77.69	49.25

*Source: Website of Enterprise Surveys, the World Bank Group – Explore Economies: Lao PDR. (<http://www.enterprisesurveys.org/ExploreEconomies/?economyid=107&year=2009>)*

To sum up the constraints faced by both manufacturing and service firms in Lao PDR, the government needs to improve the investment climates of taxation, access to finance, and skilled labour in particular. Table 5 provides useful information for the Lao government in the comparison of these challenges with the region and all countries. Nearly half of firms in Lao PDR identify tax rates as a major constraint compared to the region. There is also the heavier burden on tax bureaucracy. Moreover, only a small proportion of firms in Lao PDR has access to

finance, and one of obstacles to finance is a high value of collateral needed for a loan. In addition to the relatively low supply of educated workers, only a few firms in Lao PDR offer any formal training to their employees as compared to the region.

### **3. FDI, Investment Climate and Firm Performance**

This section will investigate the relationship between value added and wages with firm characteristics and the investment climate in Lao PDR. Given the characteristics of the data set, we use econometric analysis based on the level of productivity rather than the rate of growth as suggested by Escribano and Guasch (2005, p.17-27)<sup>12</sup>. Since productivity variables are always in log form, it is important to take into account that the interpretation when control variable is expressed in logs, the estimated coefficient is described as a constant elasticity (productivity induced by a percentage change), and when the variable is not in log term, the estimated coefficient is a semi-elasticity (productivity induced by a unitary change, multiplied by 100).

#### **4.1 Firm Performance in Manufacturing**

There are significant differences in total sales, labor productivity (defined as value added per worker), and wage across ownerships, industrial sectors, sizes of firms, regions, and exporting status as summarized in Table 6. As expected, total sales and average wage per worker are higher in foreign firms, large firms, and exporting firms than their counterparts. But, surprisingly, value added per worker is higher in small and medium size firms, non-exporters, and firms located out of the capital, which suggests that investment climate constraints are not affecting to the same extent for all the surveyed firms.

As shown in Table 7, the production function estimations show that manufacturing firms in Lao PDR are very labor intensive. In general, macroeconomists assume the returns to capital and labor as approximately 7:3. However, in equation 2, an increase in one percent of labor will increase value added by roughly 0.73%, while a percent increase in capital will raise value added

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<sup>12</sup> In our empirical model, we are going to treat the investment climate as exogenous to firms. We realize that some of indicators could be endogeneous to firm performance. For example, an inherently more efficient firm can work with the exogenously given environment to reduce inspections or days for customs clearance. Using IV (instrumental variables) is an option, but valid instruments are so hard to find. We lack better alternatives than making this strong assumption. However, it is worth noting that the correlations among investment climate variables are generally very low both in manufacturing and service firms. Thus, the empirical results are safe from multicollinearity problems.

by only 0.17%. Nevertheless, this finding lends support to a previous study (ADB and World Bank 2007, p.136).

Focusing on the impact of FDI on the firm performance, this study finds that foreign firms have statistically significantly higher value added than domestic firms by roughly 21% in the basic equation (1) and 23% in the extended equation (2). Although insignificant, the coefficients of FDI on wage determinants indicate the expected positive signs by estimated semi-elasticities. The surveyed firms in garment/textiles and wood processing have lower value added than in other manufacturing sectors. Moreover, there are differences in value added across sizes of firms, regions, age of firms, and exporting status.

**Table 6:** Statistical Summary on Productivity in Manufacturing (Unit: \$)

	Total Sales in 2008	Total Sales per worker	Value Adder per worker	Capital* per worker	Number of Workers	Monthly Wage per worker
All Firms	955,995	5,815	3,392	3,176	164	77
<b>Ownership</b>						
Domestic	756,667	6,167	3,241	3,997	123	74
Foreign	1,601,815	5,347	3,590	2,086	300	86
<b>Industry</b>						
Food/Beverages	169,004	7,348	6,664	2,648	23	51
Garment/Textiles	1,059,443	3,908	2,298	2,081	271	78
Wood Processing	761,994	15,313	7,063	11,289	50	67
Others	1,395,421	21,405	13,923	9,275	65	105
<b>Size</b>						
Small	80,693	9,795	6,392	10,468	8	51
Medium	502,667	10,745	8,251	7,741	47	82
Large	2,176,613	4,976	2,576	2,358	437	85
<b>Region</b>						
Vientiane capital	1,071,787	5,208	3,074	2,957	206	84
Others	617,915	14,244	7,803	6,217	43	56
<b>Export Status</b>						
Non-exporters	524,739	12,124	7,322	6,219	43	69
Exporters	1,299,537	4,981	2,872	2,774	261	83

Sources: Lao PDR Investment Climate Survey 2009. Authors' calculation

Notes: Average exchange rate in 2008 was 8,744 Kips per US Dollar.

The total number of observation is 106 firms, except for wage data.

\* Capital is measured by assets (machinery, vehicles, and equipment) after depreciation.

Regarding investment climate variables, if firms perceived that electricity as a major obstacle, the value added will decrease by 19%. Similarly, for firms that perceived tax rates as constraints, the value added will decrease by 22%.

**Table 7: Determinants of Value Added and Wages in Manufacturing**

Variables	Log(Value Added)		Log(Wage)	
	(1)	(2)	(3)	(4)
Log(Capital)	0.1353** (0.0662)	0.1712** (0.0688)		
Log(Labor)	0.8608*** (0.1930)	0.7291*** (0.2074)		
FDI	0.2085* (0.1152)	0.2271* (0.1270)	0.0316 (0.0531)	0.0316 (0.0531)
Exporter	0.1026 (0.1174)	0.1174 (0.1246)	-0.0172 (0.0630)	0.0122 (0.0586)
Food/Beverages	-0.0754 (0.1904)	-0.1046 (0.1848)	-0.1649** (0.0754)	-0.2000** (0.0816)
Garment/Textiles	-0.4540*** (0.1712)	-0.4627** (0.1780)	-0.0936 (0.0677)	-0.1146* (0.0652)
Wood Processing	-0.3933** (0.1641)	-0.4606*** (0.1654)	-0.1270* (0.0680)	-0.1002 (0.0793)
Age of Firm	0.0027 (0.0040)	0.0029 (0.0044)	0.0023 (0.0026)	0.0009 (0.0032)
Vientiane capital	-0.0725 (0.1105)	-0.0940 (0.1128)	0.1212* (0.0689)	0.0358 (0.0630)
Medium (20-99 employees)	-0.1442 (0.1663)	-0.0465 (0.1744)	0.0984 (0.0683)	0.1643** (0.0728)
Large (100+ employees)	-0.2533 (0.2962)	-0.1067 (0.3082)	0.0407 (0.1063)	0.1145 (0.1003)
Investment Climate				
Electricity		-0.1858** (0.0895)		-0.0924 (0.0625)
Transportation		0.0389 (0.1352)		-0.1187 (0.0766)
Customs & Trade Regulations		0.0750 (0.1836)		-0.2137* (0.1243)
Tax Administration		0.0901 (0.1383)		-0.1214 (0.0737)
Tax Rates		-0.2218* (0.1154)		0.0863 (0.0776)
Access to Finance		-0.0530 (0.1063)		0.0511 (0.0655)
Lack of skilled Labor		0.1386 (0.1019)		0.0020 (0.0517)
Constant	6.8262*** (0.5297)	6.7523*** (0.5072)	5.6682*** (0.0899)	5.7318*** (0.0858)
Observations	106	106	105	105
R-squared	0.668	0.703	0.185	0.312

Notes: Robust standard errors in parentheses. \* significant at 10%, \*\* significant at 5%, \*\*\* significant at 1%.

Dummies of investment climate variables perceived by firms as major or severe obstacle = 1, and as no, minor or moderate obstacle = 0.

Industries by 4-digit ISIC code. Omitted comparison group respective set of dummy variables: size – small (5 to 19 employees); provinces

– Luang Prabang, Savannakhet and Champasack.

Sources: Lao PDR Investment Climate Survey 2009. Authors' calculations.

This study finds that these two variables are very important investment climates. On the other hand, transportation, red tape (customs and trade regulations, and tax administration), access to finance, and the shortages of skilled labor seem to be insignificant investment climate issues for the firms.

Regarding investment climate indicators, we also regressed the dependent variable of log (labor productivity) and generally observed the similar results of investment climate with using log(valued added) as the measurement. It is worth noting that the authors also tested other omitted control variables including business licensing and permits, practices of anti-competitors in the informal sector and labor regulations, and find that these all are not significant constraints to firm performance. In addition, the study also shows that investment climate variables generally do not affect the wage determinants among manufacturing firms in Lao PDR.

#### 4.2 Firm Performance in Services

There are significant total sales, labor productivity (value added per worker), and wage differences across ownerships, industrial sectors, sizes of firms and regions as summarized in Table 8. As expected, total sales and average wage per worker are higher in foreign firms, medium and large firms and firms located in the capital than their counterparts. But value added per worker is slightly higher in small firms.

**Table 8:** Statistical Summary on Productivity in Service Sector (Unit: \$)

	Total Sales in 2008	Total Sales per worker	Value Adder per worker	Capital* per worker	Number of Workers	Monthly Wage per worker
All Firms	656,141	22,791	8,507	16,477	29	64
Ownership						
Domestic	434,333	19,790	7,071	21,077	22	59
Foreign	2,240,483	28,847	11,405	11,031	78	102
Industry						
Retails	394,341	25,682	7,505	16,811	15	58
Hotel/Restaurant	433,431	9,782	5,876	19,471	44	65
Others	1,592,287	35,081	16,607	16,607	45	79
Size						
Small	194,473	25,768	9,534	20,280	8	57
Medium/Large	1,409,015	22,213	8,307	17,258	63	76
Region						
Vientiane capital	1,072,678	28,785	10,418	20,296	37	75
Others	263,271	12,660	5,275	13,444	21	53

Sources: Lao PDR Investment Climate Survey 2009. Authors' calculation

Notes: Average exchange rate in 2008 was 8,744 Kips per US Dollar.

The total number of observation is 171 firms, except for wage data.

\* Capital is measured by assets (machinery, vehicles, and equipment plus land and buildings) after depreciation.

**Table 9:** Determinants of Value Added and wages in Service

Variables	Log(Value Added)		Log(Wage)	
	(1)	(2)	(3)	(4)
Log(Capital)	0.2246** (0.0912)	0.1495 (0.0940)		
Log(Labor)	0.6831*** (0.2595)	0.6316*** (0.2492)		
FDI	0.3073* (0.1582)	0.2810* (0.1554)	0.1807*** (0.0387)	0.1595*** (0.0376)
Retails/Wholesales	0.0866 (0.1503)	0.0870 (0.1556)	-0.1002** (0.0417)	-0.1042** (0.0438)
Hotel/Restaurant	-0.1923 (0.1501)	-0.2788* (0.1584)	-0.1001** (0.0408)	-0.1008** (0.0464)
Age of Firm	-0.0067 (0.0068)	-0.0068 (0.0070)	-0.0014 (0.0022)	-0.0008 (0.0023)
Vientiane capital	0.3374*** (0.1094)	0.3653*** (0.1065)	0.1447*** (0.0302)	0.1359*** (0.0288)
Small (5-19 employees)	-0.0874 (0.2263)	-0.1539 (0.2229)	-0.0575* (0.0336)	-0.0330 (0.0341)
Investment Climate				
Electricity		0.1056 (0.1395)		0.0282 (0.0355)
Transportation		-0.2118 (0.1975)		-0.0217 (0.0482)
Customs & Trade Regulations		0.1543 (0.1954)		0.0856* (0.0440)
Tax Administration		0.1953 (0.1392)		0.0110 (0.0353)
Tax Rates		0.0856 (0.1268)		0.0490 (0.0311)
Access to Finance		0.2607* (0.1332)		0.0644 (0.0527)
Lack of skilled Labor		0.1552 (0.1307)		0.0357 (0.0309)
Competition		-0.1687 (0.1479)		0.0654 (0.0397)
Constant	5.6726*** (0.8401)	6.3370*** (0.8372)	5.7294*** (0.0518)	5.6611*** (0.0599)
Observations	171	171	169	169
R-squared	0.472	0.513	0.293	0.352

Sources: Lao PDR Investment Climate Survey 2009. Authors' calculations

Notes: Robust standard errors in parentheses. \* significant at 10%, \*\* significant at 5%, \*\*\* significant at 1%.

Dummies of investment climate variables perceived by firms as major or severe obstacle = 1, and as no, minor or moderate obstacle = 0. Industries by 4-digit ISIC code. Omitted comparison group respective set of dummy variables: size – medium (20 to 99 employees) and large (100+); provinces – Luang Prabang, Savannakhet and Champasack.

Regarding to investment climate indicators, we also regressed the dependent variable of log (labor productivity) and generally observed the similar results with using log (valued added) as the measurement.

As shown in Table 9, the production function estimations show that service firms in Lao PDR are very labor intensive as well as manufacturing firms. In equation 1, an increase in one percent of labor will increase value added by roughly 0.68%, while a percent increase in capital

will raise value added by only 0.22%. The sum of elasticities of capital and labor in equation 1 and 2 are both lower than one, meaning that there are no economies of scale in the production.

Focusing on the impact of FDI on firm performance, this study finds that foreign firms have a higher value added than domestic firms by roughly 31% in the basic equation (1) and 28% in the extended equation (2). On the other hand, the coefficients of FDI on wage determinants indicate the wage difference by roughly 16% to 18% of advantage. The surveyed firms in hotel/restaurant subsector have a lower value added than other sectors. Moreover, there are also differences in productivity across sizes and age of firms. However, firms located in the capital show a significant higher productivity than those located outside the capital.

Regarding investment climate variables, unlike the findings in manufacturing firms, the study finds that no any specific investment climate seems to have a strong negative impact on the performance of service firms. Infrastructure (electricity and transportation), red tape (customs and trade regulations, and tax administration), competition and the lack of skilled labor are all statistically insignificant factors. Similarly, we also found that investment climates have no negative effect on determining wage advantage across the firms.

## **5. Conclusion**

This paper reviews the FDI activity in Lao PDR in the contexts of history, more recent trends in investment flows, and changes in FDI policy. It focuses on assessing the current investment climate and its impact on firm performance. In particular, it fills the absence in existing studies in Lao PDR the identification of differences in the investment climate between domestic and foreign firms. Overall, FDI inflows in Lao PDR have played a more important role in recent years. During the 1990s, FDI in Lao PDR had largely concentrated on investments only in energy (hydropower) sector and from Thailand. However, it has since become more diversified into other areas such as mining, energy and plantation agriculture, and beyond Thailand to China and Vietnam in 2000s. However, efforts in attracting and diversifying FDI inflows should be continued.

Opening up to the global economy and providing a more secure investment climate have created opportunities to exploit resource advantages, which in turn has transformed the government's capacity to reduce its high debt levels and to provide much needed public goods. However, the mining and electricity exports originated from a few very large investments.

Manufacturing (e.g. garments) and services (e.g. tourism) are, by contrast, more labor-intensive and the benefits more widely diffused through the workforce.

To promote rapid growth in manufacturing and services in Lao PDR, it is important to understand which aspects of the investment climate matter most for FDI and domestic firms and how the investment climate impacts on productivity. This study presents an analysis of these aspects. The government, so far, has focused attention on improving the investment climates – especially tax rates, access to finance, and labor skills. Although this study cannot find significant impacts of these climates on firms' performance (except for the impact of tax rates on manufacturing), reducing tax rates, widening opportunities to access formal sources of finance, and strengthening the education and training for workers would eliminate the binding constraints on the ability of businesses to increase firm performance, and thus would expand and create jobs but also would promote attraction of foreign investments.

This research also finds that infrastructure, especially electricity for manufacturing firms, remains one of the most important constraints in Lao PDR, but it should be noted that electricity becomes rather a small obstacle in 2009 compared to 2005. Regardless of manufacturing or services, and foreign or domestic, firms identify their strong concerns about access to land as a severe obstacle. This issue suggests that the government needs to consider review of the current development plans of the major cities and on developing new towns in the near future.

The government, of course, need to further reduce unnecessary regulations to ease procedures of doing business for firms. However, contrary to many previous studies in Lao PDR that suggested regulations as a major obstacle in doing business in Lao PDR, this paper shows that regulatory frameworks are not a significant determinant. Moreover, the investment climate of regulatory framework does not seem to affect the performance of firms. This finding is a very important contribution made by this study. In addition to regulations on customs and trade, and tax administration, business licensing and permits, and labor regulations are proved here to be less important matters for both domestic and foreign firms in the country. This should be acknowledged and updated when one wants to assess the investment climate in Lao PDR.

In the next round of surveys, we should aim to gain more traction over time for testing the changes in the investment climate and their impact on firm behavior. It should also be possible to extend this study to neighboring countries and to measure their progress over time.

We hope that this paper will be a benchmark and a useful tool for authorities trying to improve the investment climates in Lao PDR and in the region.

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