

**Impact of Generalised System of Preferences (GSP) by
Developed Countries on Less Developed Countries:
The Case of Lao PDR-EU Exports**

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Table of contents

List of Figures.....	iv
List of Tables	v
List of Abbreviations	vi
Abstract.....	x
Chapter 1: Introduction	1
1.1 Background and Motivation	1
1.2 Objectives	7
1.3 Structure	9
Chapter 2: Lao-EU bilateral trade and the role of the GSP	11
2.1 Introduction	11
2.2 Lao PDR in the Global Economy	12
2.3 Lao PDR-EU trade: Emerging Trends	17
2.3.1 Export volumes	17
2.3.2 Composition of Lao PDR's Bilateral Export to EU	18
2.4 GSP and its role in Economic development	21
2.4.1 EU GSP and implication for LDCs	24
2.5 European Union's GSP	25
2.5.1 Rules of Origin or RoO	26
2.5.2 Proof of Origin: Certificate of Origin Form A	28
2.6 Summary	29
Chapter 3: Literature Review	31
3.1 Introduction	31
3.2 Theoretical and Empirical Literature on Impact of EBA on LDCs' Export Demand from the EU	32
3.2.1 Theoretical Literature	32

3.2.2	Empirical Literature	33
3.3	Existing Studies on the Impact of EBA on Lao Exports to the EU	37
3.4	Summary	40
Chapter 4: Empirical Analysis and Results.....		42
4.1	Introduction	42
4.2	Data	43
4.3	Methodology	43
4.4	Econometric Estimation and Results.....	49
4.4.1	Unit root test.....	49
4.4.2	Cointegration Test.....	50
4.4.3	Export demand equation	52
4.5	Summary	60
Chapter 5: Conclusion and Policy Implication		62
5.1	Main Findings.....	62
5.2	Contribution to the Literature by this Research	63
5.3	Directions for Future Research.....	65
Appendices		66
Appendix 1: List of current FTAs that Lao PDR is a member.....		66
Appendix 2: List of current unilateral preferential trade agreements that Lao PDR is a Recipient.....		67
Appendix 3: Summary of Literature.....		68
Appendix 4: Note on data compilation.....		74
References		75

List of Figures

Figure 1: Proportion of Lao Commodity Exports to Major GSP Providers	5
Figure 2: Direction of Trade, Exports (US \$ Million)	14
Figure 3: Lao PDR's Intra-ASEAN Trade, 1996-2015	16
Figure 4: Lao PDR's Trade Share (% of GDP), 1996-2015	17
Figure 5: Lao PDR's Commodity Exports to the EU, 1996-2015	18
Figure 6: Export of Garment, Coffee, Sugar, and Rice from Lao PDR to the EU, 1996-2015	20
Figure 7: Lao PDR's Top 5 EU Markets, Selected Year, 1996-2015	21
Figure 8: Proportion of Developed Countries Total Imports (by value) from Developing and LDCs, As Compared with Lao PDR, Admitted of Duty Free for All Product Categories (excluding arms)	23
Figure 9: Average Tariffs Imposed by Developed Market Economies on All Products (excluding arms) from Developing and LDCs, as Compared with Lao PDR	23

List of Tables

Table 1: Current GSPs where Lao PDR is a Beneficiary	4
Table 2: Lao PDR's Structure of Commodity Exports, 1996-2015 (in million US \$) ...	13
Table 3: Lao PDR's main export products to EU in decreasing order: selected years, 2000-2014 (US \$ Million) in 2 digits.....	19
Table 4: EU's Garment Imports from Some Asia LDCs, 2000-2014, US \$ Million	20
Table 5: Variables and their descriptions.....	47
Table 6: Unit root test with structural breaks 1996Q1-2015 Q4.....	50
Table 7: Johansen Cointegration Test, 1996 Q1 -2015 Q4.....	51
Table 8: Gregory and Hansen Cointegration Test, 1996 Q1 -2015 Q4	51
Table 9: Gregory and Hansen equation 1996 Q1 -2015 Q4.....	52
Table 10: Export demand equation for Lao PDR-EU bilateral export.....	57
Table 11: Export demand equation for Lao PDR-Germany bilateral export.....	58
Table 12: Export demand equation for Lao PDR-UK bilateral export	59

List of Abbreviations

ADB	Asian Development Bank
ASEAN	Association of Southeast Asian Nations
CTC	Change of Tariff Classification
CTH	Change in Tariff Heading
DFQF	Duty Free Quota Free
EC	European Commission
ECB	European Central Bank
EU	European Union
EBA	Everything but Arms
GATT	General Agreement on Tariffs and Trade
GSP	Generalised System of Preferences
HS	Harmonised System
IMF	International Monetary Funds
ITC	International Trade Centre
LDCs	Least Developed Countries
MDGs	Millennium Development Goals
MFN	Most Favoured Nation
MOIC	Ministry of Industry and Commerce
RoO	Rules of Origin
RVC	Regional Value Content
SDGs	Sustainable Development Goals
UNCTAD	United Nations Conference on Trade and Development

UNDP	United Nations Development Program
WB	World Bank
WDI	World Development Indicators
WTO	World Trade Organization

Attestation of Authorship

I hereby declare that this dissertation is my own work. To the best of my knowledge and belief, it contains no materials previously written or published by any other person, except for the authors defined in the acknowledgements. I also declare that this work have not been submitted to any other institution or university for the award of any other degree or diploma from any university or other institution of higher learning.



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Abstract

Generalised System of Preferences (GSP) is a non-reciprocal preferential trade agreement where developed countries grant concessions or elimination of their tariffs on imports from developing and less developed countries (LDCs). The primary objective of GSP is to help increase the beneficiaries' export revenues. Lao People's Democratic Republic (Lao PDR) acceded as a new member of the Association of Southeast Asian Nations (ASEAN) in 1997 and became a member of the World Trade Organization (WTO) in 2013. The country is also a beneficiary of the European Union (EU)'s GSP since the 1990s and thus benefits from concessions or elimination of two-third of their tariffs on Lao PDR exports to the EU. In addition, as a LDC, Lao PDR currently enjoys duty-free, quota free market access to the EU via a special arrangement known as Everything but Arms (EBA) that the EU has offered to all LDCs since 2001. This study empirically analyses the impact of EBA on the export volumes of Lao PDR to the EU using an export demand model with quarterly time series data over the period 1996-2015. Following (Cuyvers & Soeng, 2013), the impact of EBA has been quantified taking into account changes under the EU GSP, which potentially affect the effectiveness of EBA scheme, such as the complete removal in 2009 of duties and quota on remaining agricultural products (banana, rice, and sugar) and the application of more favourable Rules of Origin (RoO) in 2011. The results of this study show that none of the mentioned changes in the scheme has affected the effectiveness of the EBA on Lao exports to the EU. Instead, it is observed that production supply constraints and declining comparative advantage of Lao PDR's key export products to the EU are the two important factors affecting the export volumes from Lao PDR to the EU. Thus, in order to increase Lao exports to the EU, it is necessary to address these two crucial constraints in order to take advantage of the EBA GSP.

Key words: EBA, GSP, LDCs, Lao PDR

Chapter 1: Introduction

1.1 Background and Motivation

Reciprocal preferential trade agreements such as Free Trade Agreements (FTAs) have proliferated in international trade arena for decades. There are currently 147 FTAs that are signed and are in effect and 122 of them involved in developing countries (Asian Development Bank, 2015). Another type of preferential trade agreement named the Generalised System of Preferences (GSP), which is also known as a unilateral preferential trade agreement, has continued to be an important trade policy tool for developing countries to expand and increase their exports in particular to the developed countries who are the GSP providers.

The GSP concept originated from the UNCTAD II Conference in New Delhi in 1968. Under this scheme, some developed and developing countries offer concessions or exception of their imported tariff rates against their most-favoured nation rate¹ or MFN to specific products that originate from those developing countries that receive the preferences. For LDCs, more products are covered and there are further tariff reductions for imports from these countries. (United Nations Conference on Trade and Development, n.d.).

The objectives of GSP are: 1) to help increase the preference receivers' export revenue, 2) to help stimulate their industrialisation, and 3) to boost up the economic growth rate for them. There are currently 39 GSP providers that includes the EU, Japan, Norway,

¹ MFN is the “normal non-discriminatory tariff charged on imports (excludes preferential tariffs under free trade agreements and other schemes or tariffs charged inside quotas)”. (World Trade Organization, n.d-a)

New Zealand, Switzerland, Australia, Canada, United States, Turkey, Iceland, Kazakhstan, and Russian Federation.(World Trade Organization, n,d)

European Union (EU) was the first GSP provider since 1971 and the EU GSP has the most inclusive scheme given as it has provided the biggest product coverage. For instance, the current standard GSP offers concessions and elimination for about 66% of the total tariffs lines for imports from developing countries and all products except arms and ammunition from least developed countries (LDCs) admit duty free under the Everything but Arms (EBA). Prior to EBA, most LDCs received trade preferences from the EU under the standard GSP. (European Commission, 2016d).

It is important to note that GSP is not only consistent with the World Trade Organization (WTO)'s most favourite nations (MFN) principle that a member must treat all other members equally, but also it is in line with the Millennium Development Goals (MDGs) set by 189 United Nations (UN) members in 2000. One of the MDGs aim is to develop a global partnership for development where trade targets are set to ensure preferential market access provided to LDCs. (Millennium Development Goals Monitor, n.d).

According to the database developed by International Trade Centre, United Nations Conference on Trade and Development, and World Trade Organization (2006), the market access indicators for both developing countries and LDCs have improved. It shows that the proportion of exports to the developed countries for all products excluding arms that received duty free market access has increased from 67.69% in 1996 to almost 90% in 2014. With respect to the MFN and the preferential tariff rates imposed by developed countries on all LDC exports excluding arms, the average tariffs decreased during the period 1996 to 2014 from 6.57% to 5.58% for MFN rate and from

3.60% to 2.18% for the preferential rate. Due to the absence of data on the preferential trade utilisation, it is not possible to determine whether these results are due to FTAs or GSP. However, looking specifically at the EU non-reciprocal preferential schemes extended to LDCs, it can be stated that EU EBA provides the biggest product coverage (except products belongs to Chapter 93) whilst the EU's MFN rates have been slightly reduced from 6.13% in 1996 to 5.64% in 2014. In addition, the preferential tariff rates under EBA are zero from 2001 onwards.

In 1986, the Government of Lao PDR embarked on a plan for economic reform and adopted the New Economic Mechanism (NEM), which put the country on a path towards greater trade openness at both regional and multilateral level. The government joined a number of trade agreements, starting with Asia Pacific Trade Agreement (APTA) in 1976. In 1997, the country joined the Association of Southeast Asian Nations (ASEAN) and signed the ASEAN Free Trade Area (AFTA) in 1998². At multilateral level, the country officially became a member of the WTO in February 2013. As a LDC, Lao PDR is a beneficiary of many GSP schemes granted by developed countries as shown in Table 1³. The EU is one of Lao PDR's GSP providers and among all the GSP providers, the EU provided the biggest product coverage that admits zero tariffs at 6,936 out of its total tariff lines. Lao PDR first applied the EU GSP to export its products to EU in 1993 and there were only 12 EU members at that time.⁴

Furthermore, the EU is one of the major trading partners of Lao PDR after Thailand, China, and Vietnam. It is Lao PDR's 4th export market representing 5.5% of total exports in 2015 (European Commission, 2016a).

² See appendix 1 for more details on these agreements.

³ For all the current unilateral preferential trade agreements that Lao PDR is a beneficiary including those preferences granted by some developing countries can be found from the Appendix 2.

⁴ Those countries are: the EU founders (Belgium, France Italy, Luxembourg, Netherland, and Germany) and Denmark, Ireland, United Kingdome, Greece, Portugal, and Spain.

Table 1: Current GSPs where Lao PDR is a Beneficiary

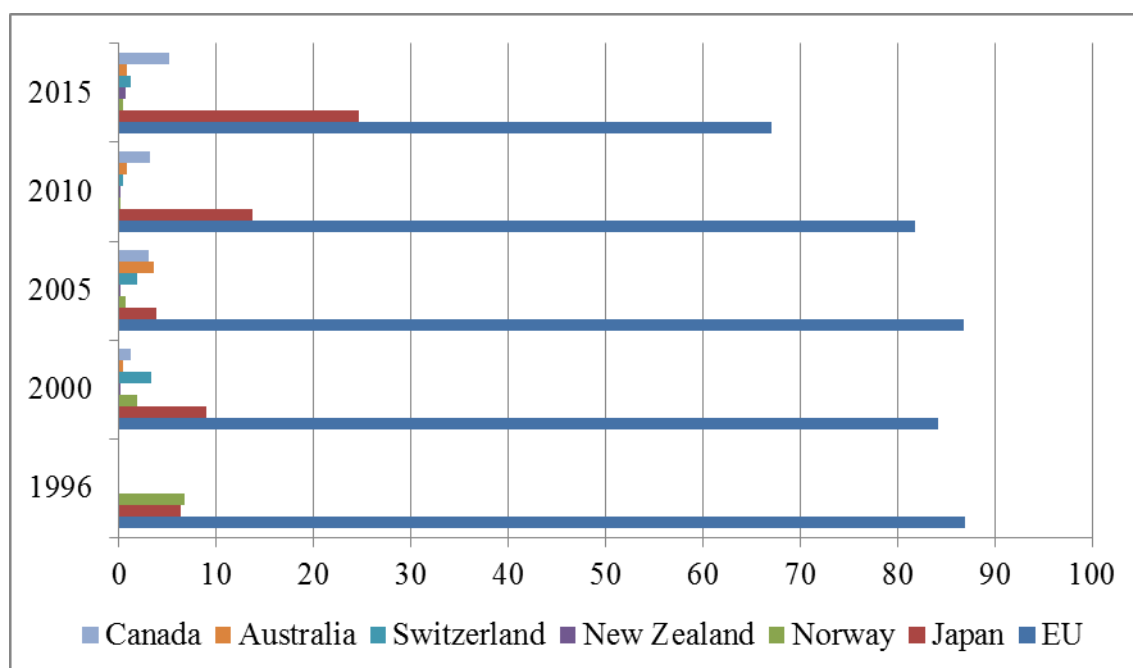
No	Type of scheme	Provider	Product coverage	tariffs	Entry into force
1	GSP	EU	6,936 of 9,414	Zero	01/07/1971
2	GSP	Japan	3,779 of 9,321	Zero	01/08/1971
3	GSP	Norway	1,056 of 6,963	Zero	01/10/1971
4	GSP	New Zealand	3,129 of 7,510	Zero	01/01/1972
5	GSP	Switzerland	2,349 of 8,299	Zero	01/03/1972
6	GSP	Australia	3,241 of 6,184	Zero	01/01/1974
7	GSP	Canada	2,038 of 7,129	Zero	01/07/1974
8	GSP	Turkey	9,613 of 16,515	Zero	01/01/2002
9	GSP	Iceland	1,828 of 8,593	Zero	29/1/2002
10	GSP	Russian Federation ⁵	2,472 of 11,610	Zero	01/01/2010

Source: Lao PDR Trade Portal (2012) and World Trade Organization (n.d-b)

Lastly, Figure 1 also clearly indicates that among the major GSP providers, the majority of Lao exports went to the EU. However, the share of the total exports from Lao PDR to the EU decreased approximately from 87% in 1996 to around 67% in 2015. In contrast, the share of Lao exports to Japan, which is the second top GSP provider, has increased from just 6.3% in 1996 to almost 25% in 2015. This growth maybe contributed by the increase in the exports from Lao PDR to Japan under the ASEAN Japan Comprehensive Economic Partnership (AJCEP) that became effective in late 2008 in which these two countries were the signatories.

⁵ In 2007, Russia established a custom union with Kazakhstan and Belarus and it was officially launched in 2010. Thus, Kazakhstan and Belarus are also another two GSP providers of Lao PDR.

Figure 1: Proportion of Lao Commodity Exports to Major GSP Providers



Source: International Monetary Fund (2017)

Given the importance of the EU as one of Lao PDR's top trading partners, this study will focus on analysing Lao-EU bilateral trade, in particular whether the EU GSP and (EBA) schemes have had any impacts on Lao PDR's export volumes to the EU.

A number of studies have been carried out to examine the impact of EBA on Lao exports to the EU. Earlier studies were carried out by Brenton and Manchin (2003), which found that EBA would not benefit Lao PDR due to the manufacturing sector's inability to comply with the rules of origin (RoO) in particular the RoO for textile and clothing. The study also showed that in 1997 the export volumes of textile and clothing from Lao PDR to EU were only 6%. More recent empirical studies by (Aiello & Demaria, 2009; Cirera, Foliano, & Gasiorek, 2016; Gil-Pareja, Llorca-Vivero, & Martínez-Serrano, 2014; Gnangnon & Priyadarshi, 2016; Yu & Jensen, 2005), show mixed results, which can possibly be due to the different methodologies applied. In addition, it is important to note that these empirical studies were cross-country studies and that there has been no

analysis made specifically for Lao PDR. Thus, the impact of EBA on Lao exports to the EU cannot be concluded from these studies.

In contrast to the above studies, a recent regional study was carried out by Zhou and Cuyvers (2012). The author analysed the impact of the EU GSP on each individual ASEAN countries. This included analysis on the impact of the EBA on the exports of the ASEAN LDCs namely: Cambodia, Lao PDR, and Myanmar. It shows that Lao PDR had successfully utilised the EBA scheme for its exports to the EU. Available statistics indicates that exports from Lao PDR to the EU from the period 1990-2007 had significantly increased.

There are a number of factors to play which potentially could have contributed to the effective use of the EBA schemes. There are two important changes in particular that are attributed to the improved utilisation on EBA. Firstly the removal of all tariffs and quotas on remaining agricultural products which were previously excluded i.e. banana, sugar, and rice (tariffs and quotas have been phased out on 1 January 2006, 1 July 2009, and 1 September 2009 respectively).

Secondly, the revised Rules of Origin, which were effective as from 2011, is another development that potentially could have had impacted on the effectiveness of the EBA scheme. Under the new RoO, two major improvements are to specifically resolve the LDCs' production capacity limitation and reduce RoO restrictiveness. Firstly, the percentage of non-originating materials was relaxed allowing for the use of larger percentage of imported materials that do not meet the origin requirement for manufactured products. Another change is the adoption of the single transformation rule for clothing products, thus allowing the use of third country fabric.(United Nations Conference on Trade and Development, 2016a). Given the importance of RoO in

improving utilisation of trade preferences, it is therefore relevant to examine the impact of the new RoO on the export volumes from Lao PDR to the EU.

It is important to note that till date, the only existing empirical study on the impact of the changes in EU GSP was carried out by Cuyvers and Soeng (2013). The impacts of those changes captured by the GSP dummies constructed, based on four periods such as the period 1995-1999, 2000-2001, 2002-2005, and 2006-2007. However, this study did not cover the analysis on a country basis. In addition, this analysis did not cover the period of the completed removal of the remained agricultural products. What's more, neither this study nor other existing studies have empirically analysed the impact of revised RoO on the export volumes of LDCs including Lao PDR to the EU.

Therefore, this present study will be the first empirical study that makes such an analysis for Lao PDR. Thus, it expects that the findings from this study will be valuable for informing Lao policy makers on how to best utilise the EU GSP and provide recommendations on how to better utilise trade preferences and thus improve market access for Lao exporters to the EU.

1.2 Objectives

The primary objective of this study is to estimate the impact of changes in EU GSP, in particular those related to the EBA scheme on the Lao PDR's exports to the EU. This study is based on a quarterly time series data covering 20 years, i.e. from 1996-2015. Therefore, with this time length and its sequence, they will enable the analysis of this study to be as accurate and comprehensive as possible.

In order to examine the impact of EBA on the LDCs exports to the EU, the majority of the existing studies have applied the gravity model (Aiello & Cardamone, 2011; Aiello & Demaria, 2009; Cirera et al., 2016; Gil-Pareja et al., 2014). However, the major

drawback of using the gravity model is that the impact of EBA on an individual country cannot be captured by its coefficients as they refer to the average impact of the EBA on the entire set of LDCs. (Aiello & Cardamone, 2011).

Thus, in contrast to most of the existing studies on the impact of the EU GSP and the EBA that have utilised panel data, this study will be the first to utilise bilateral time series data to analyse the impacts of EU GSP (EBA) on the Lao PDR's export flow to the EU. According to Cirera et al. (2016), there are modelling challenges in using panel data to analyse the impacts of preferential trade agreements that include variables for EU GSP and EBA on the exports from developing countries to the EU. The main problem is the difficulty in identifying the preference scheme for an export flow in which could be more than one for the same country and year. Another issue of using the panel data noted by the above-mentioned authors is that, preference margins not defined for the zero trade flow and the fact that one country is eligible for more than one preference may lead to the role of trade preference regime overemphasised.

For this study, the only preferences for Lao exports to the EU are the standard GSP from 1971 to 2000 and the EBA from 2001 onwards. Further, this study on Lao exports to the EU contains only non-zero flow for the observed period, thereby avoiding the above-mentioned problems with panel data estimation.

For this study, an export demand model quantifies the impact of EBA on the export volumes from Lao PDR to the EU by utilising the quarterly time series data over the period 1996 to 2015. In addition, following Cuyvers and Soeng (2013), the analysis of the impact of EBA will be made via the dummies constructed based on the changes related to the EU GSP scheme periodically.

Nevertheless, it is important to note that this study not only covers a longer period, but also applies the quarterly time series data that can allow for more in-depth analysis. What's more, the length of the period of this study allows the analysis to cover all the significant developments related to the EBA, which will be discussed in details in the next chapter.

The research questions addressed in this study are as follows:

1. What is the EU GSP policy for Lao PDR and how has it changed over recent period in terms of coverage of goods and RoO?
2. Has the EBA GSP since 2001 had any significant impact on the export demand of Lao PDR to the EU over the period 1996-2015? How important is the role of bilateral exchange rates, gross domestic product (GDP) of the EU countries?

1.3 Structure

The remainder of this study is organised as follows: Chapter 2 provides an overview of the Lao-EU bilateral trade relationship and analyses the trends in the export volumes, export composition, and identifies the major export sectors that maybe beneficial to Lao exporters in the context of the EU GSP. It also discusses the role of GSP and their implications on the preference receiving countries especially the LDCs. Finally, it provides details about the EU GSP and the import requirements under this preferential trade scheme.

Chapter 3 reviews the existing theoretical and empirical literature on the EU EBA, which is the current special arrangement for LDCs on whether it has had any significant impacts on these beneficiaries' exports to the EU. This also includes a critical review of the existing studies on Lao-EU bilateral exports.

Chapter 4 provides an empirical analysis that first discusses and reviews the data and methodology. It then estimates the impact of the EU GSP and the EBA on the export volumes from Lao PDR to the EU focusing on changes of the EU GSP scheme over the period, using quarterly time series data in which findings analysed and compared with the existing literature.

Chapter 5 concludes this study and presents the main findings, the contribution of this study, limitations, and direction for future research in this area.

Chapter 2: Lao-EU bilateral trade and the role of the GSP

2.1 Introduction

Lao People's Democratic Republic or Lao PDR is a small landlocked country located in the South East Asia with the total area of 236,800 sq. km having a total population of approximately 7 million. It became a member of Association of Southeast Asian Nations (ASEAN) in 1997 and a member of World Trade Organization (WTO) in 2013. (Central Intelligence Agency, 2016).

Given that Lao PDR is a least developed country (LDC), the country has been trading with the EU under the Generalised System of Preference (GSP) since 1993⁶ and under a special arrangement of the EU GSP named Everything but Arms (EBA) from 2001 to date. The total trade between Lao PDR and the EU reached EUR 362 million in 2015. The EU is the fourth major export market for Lao PDR after Thailand, Vietnam, and China. (European Commission, 2016a). In addition, the EU has the highest share in the total imports of developed countries from Lao PDR during 2011-2013. The total imports of developed countries from Lao PDR is around 16.90 % in which the EU has shared about 10.40 % and is equivalent to approximately 61.50 % of the total developed countries imports. (United Nations conference on Trade and Development, 2014).

Both Lao PDR and the EU are members of the WTO. Lao PDR successfully accessed to the WTO in early 2013 while the EU has been a member of this organisation since 1995. Given the ASEAN-EU FTA has been on hold, the EU EBA is the only current

⁶ Lao PDR started to export under GSP in 1993 temporarily terminated in 1995 and resumed in 1997. (Department of Import and Export, Ministry of Industry and Commerce of Lao PDR)

important preferential trade arrangement that Lao PDR uses to export its products to the EU market. Therefore, it should be necessary to examine whether EBA has had any impact on the export volumes from Lao PDR to the EU.

This chapter is organised as follows: Section 2.2 presents about Lao PDR in the global economy including the commodity export structure and the direction of trade from 1996 to 2015. Section 2.3 analyses the bilateral trade between Lao PDR and the EU, focussing on Lao PDR's commodity export trend to the EU over the period 1996-2015 in which it covers the export values, export shares, and commodity composition. The data sources are from the Direction of Trade Statistics, IMF, and the United Nations Commodity Trade, UN, and the World Development Indicator, WB, and the Ministry of Industry and Commerce of Lao PDR. Section 2.4 discusses about the GSP and its role on development and the discussion on the development of EU GSP and its implication for LDCs. Section 2.5 discusses the EU GSP and the imported rules and requirements under this preferential scheme such as the Rules of Origin and the proof of origin while Section 2.6 summarises the chapter.

2.2 Lao PDR in the Global Economy

According to World Trade Organization (2016), as of 2015, Lao PDR's merchandise trade has been ranked in the global trade as 126th and 132nd on exports and imports respectively. For commercial services, it is 138th for exports and 154th for imports. Table 1 shows the structure of commodity exports of Lao PDR over the period 1996 to 2015. It notes that the country achieved an impressive average annual growth of the merchandise exports at 63.19 % over the last two decades and 45.98% during 2005 to 2015. This growth was mainly driven by the resource sector, particularly mining product (copper) during that period.

Garment is one of its traditional exports in which the export value gradually increased, but its share in the total exports declined significantly. For other traditional exports such as wood and wood products, hydropower and coffee, their export values significantly increased their shares in the total exports, declined gradually. In contrast, mining product (copper) grew rapidly by almost 20,000 per cent, during 1996 to 2015 and about 48.78 per cent, during 2005 to 2015.

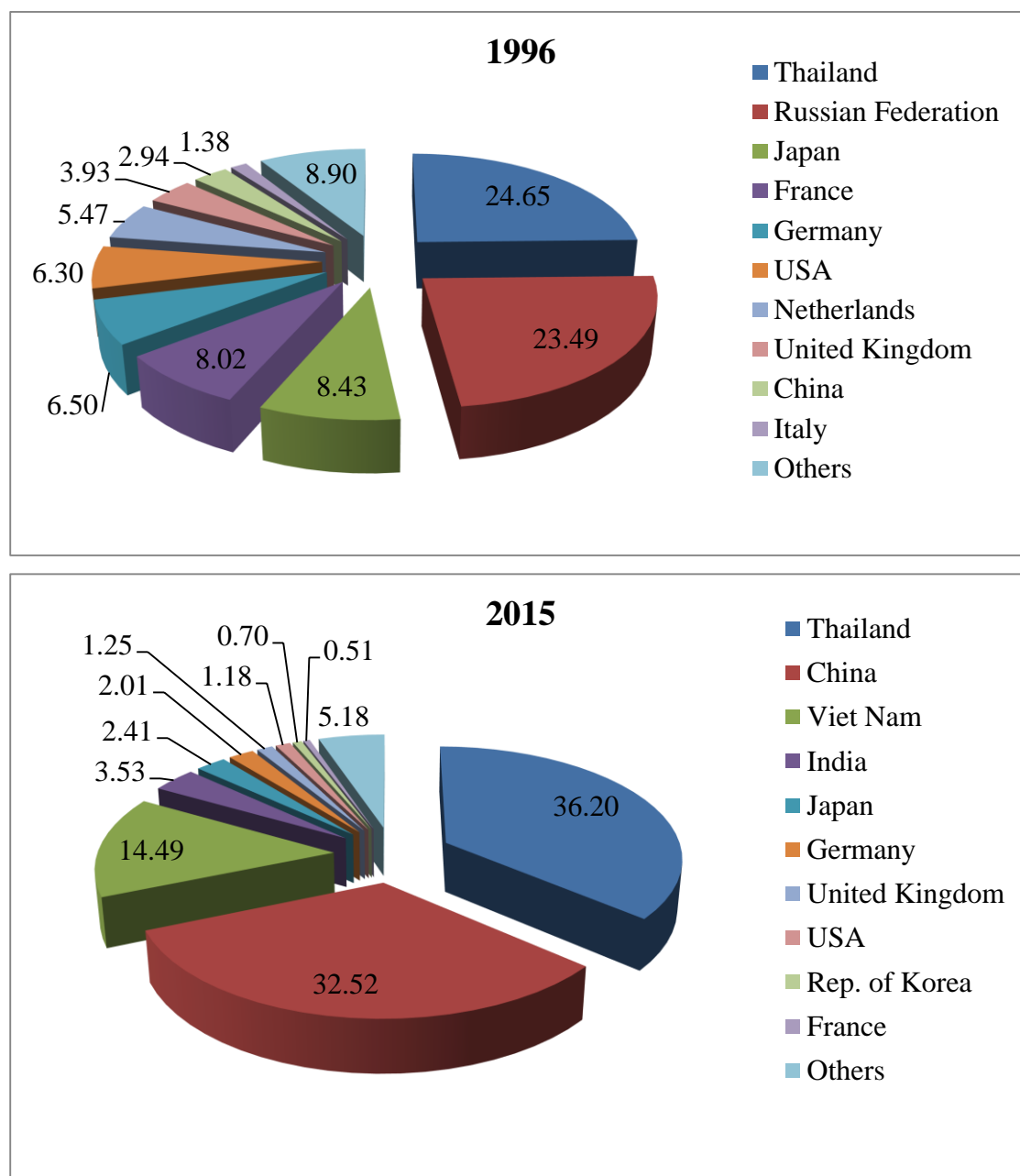
Table 2: Lao PDR's Structure of Commodity Exports, 1996-2015 (in million US \$)

HS code	Description	1996	2000	2005	2010	2015	Average growth 1996-2015	Average growth 2005-2015
61-62	Garment	119.16 (37.16)	133.52 (34.14)	181.7 (25.16)	246.24 (11.21)	243.09 (5.56)	5.20	3.07
44	Wood & wood products	92.74 (28.92)	115.73 (29.59)	170.47 (23.61)	323.80 (14.74)	957.10 (21.88)	46.60	41.95
64	Footwear	15.12 (4.71)	4.42 (1.13)	7.01 (0.97)	13.01 (0.59)	29.43 (0.67)	4.73	29.05
0901	Coffee	13.03 (4.06)	18.72 (4.79)	15.82 (2.19)	45.14 (2.06)	89.41 (2.04)	29.31	42.27
26	Ores	2.03 (0.63)	2.56 (0.65)	3.03 (0.42)	418.57 (19.06)	10.70 (0.24)	21.33	23.00
24	Tobacco	0.79 (0.25)	-	1.06 (0.15)	7.32 (0.33)	25.63 (0.59)	156.84	209.89
85	Electrical & electrical Equipment	0.08 (0.25)	0.81 (0.21)	6.34 (0.88)	23.18 (1.06)	321.73 (7.36)	2,057.32	452.39
17	Sugar	0.54 (0.17)	0.00 (0.00)	0.02 (0.00)	21.33 (0.97)	32.32 (0.74)	294.74	14,515.23
74	Copper	0.13 (0.04)	0.00 (0.00)	82.05 (11.36)	466.07 (21.22)	522.30 (11.94)	19,764.84	48.78
1006	Rice	0.05 (0.01)	0.03 (0.01)	3.02 (0.42)	7.64 (0.35)	31.19 (0.71)	3,258.41	84.78
1005	Maize	0.03 (0.01)	0.04 (0.01)	3.22 (0.45)	32.25 (1.47)	60.14 (1.37)	9,108.30	160.49
2716	Electricity	29.70 (9.26)	112.20 (28.69)	99.00 (13.71)	178.43 (8.13)	495.56 (11.33)	78.43	36.42
4001	Natural rubber	-	0.07 (0.02)	4.22 (0.58)	23.72 (1.08)	111.31 (2.54)	-	230.48
	Others	46.60 (14.53)	2.95 (0.75)	145.09 (20.09)	389.34 (17.73)	1,444.06 (33.01)	149.96	81.39
	Total	320.70 100.00	391.05 100.00	722.07 100.00	2,196.04 100.00	4,373.97 100.00	63.19	45.98

Source: Author's calculation, based on United Nations (2017), Ministry of Industry and Commerce of Lao PDR (2015), and (Asian Development Bank, 2007, 2016)

N.B. the share of each product in the total exports shown within parentheses.

Figure 2: Direction of Trade, Exports (US \$ Million)



Source: United Nations (2017)

Figure 2 shows the export market destinations of Lao commodity in 1996 and 2015 respectively. It clearly indicates that Thailand is the largest trading partner of Lao PDR for both the periods and that of Thailand's share in the total exports of Lao PDR has increased from 24.65 % in 1996 to 36.20% in 2015. It is also important to highlight that compared to the year 1996; Lao PDR has traded more in 2015 with other Asian countries such as China, Vietnam, Japan, and India. It is worth noting that these

countries are Lao PDRs' trading partners under the ASEAN Free Trade Agreement (AFTA) and FTA between ASEAN and its dialogue partners⁷.

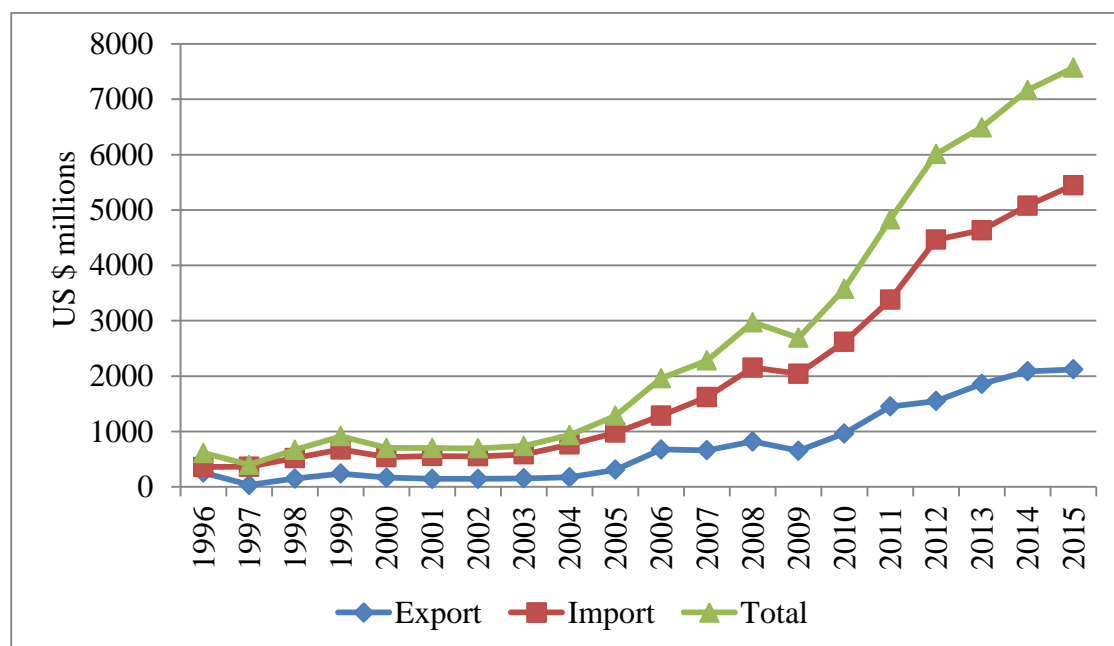
Moreover, it is noteworthy that the share of China in the total exports of Lao PDR has dramatically increased from just 2.94% in 1996 to 32.52% in 2015. China has therefore emerged as the current second largest export destination of Lao PDR and the main products that China imports from Lao PDR are wooden products, copper, and natural rubber. Vietnam has moved up as the third largest export market of Lao PDR and has shared approximately 15% in 2015.

In addition, intra-ASEAN trade has increased both exports and imports as shown in Figure 3 and they started to rise significantly from 2005. For exports, there was a huge drop from about US \$ 255.10 million in 1996 to just about US \$ 34.76 million in 1997. This could be due to impact of the Asian Financial Crisis (1997-1999) that had caused the decline in the demand for the imports from one of the top trading partner such as Thailand, severely affected by the crisis. However, the export volumes have significantly increased from US \$ 172.55 million in 2004 to US \$ 306.38 million in 2005, due to the rapid increase in the exports of mineral products, mainly copper as shown in Table 1 and about 90% of it was exported to ASEAN countries.

Lastly, the figure also indicates that the share of the top three EU markets (France, Germany, and United Kingdom) in the total exports of Lao PDR has remarkably decreased from 8.02% to 0.50%, 6.50% to 2.01%, and 3.93% to 1.25% respectively. This may be due to the result of the slow growth of garment, which is the top dominant export product of Lao PDR to the EU.

⁷ See appendix 1 for a list of current FTAs that Lao PDR is a signatory.

Figure 3: Lao PDR's Intra-ASEAN Trade, 1996-2015

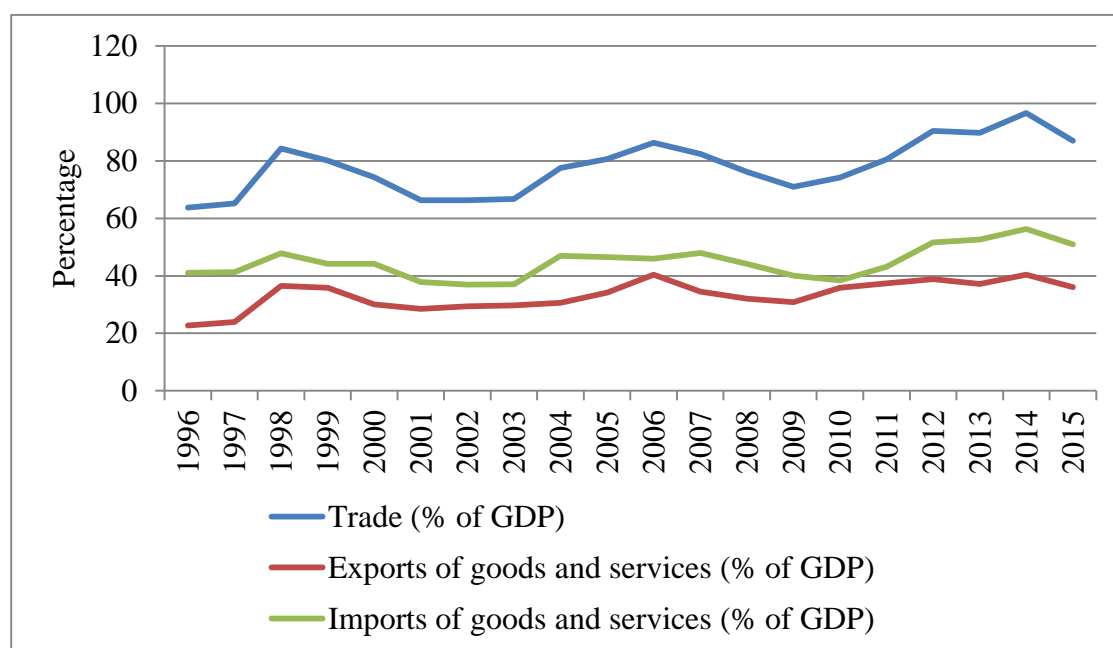


Source: Author's calculations, based on International Monetary Fund (2017)

In addition, it is worth to note that Lao PDR is a LDC that has experienced the highest growth among all LDCs in 2015 in which the average growth is 7 % (United Nations Conference on Trade and Development, 2016b). From 1996 to 2015, the proportion of trade to the gross domestic product (GDP) has significantly increased from approximately 63.76 % in 1996 to roughly 86.97% in 2015, as shown in the Figure 4. This can be the results from trade openness to both regional and international level started becoming a member of the ASEAN in 1997 and a signatory of the ASEAN Free Trade Area (AFTA) in 1998 and the Free Trade Agreement (FTA) between ASEAN and its dialogue partners in subsequent years⁸. In addition, there was a significant increase in the exports of resource sector especially mining sector, which started from 2003.

⁸ See appendix 1 on the list of current FTAs that Lao PDR is a member.

Figure 4: Lao PDR's Trade Share (% of GDP), 1996-2015



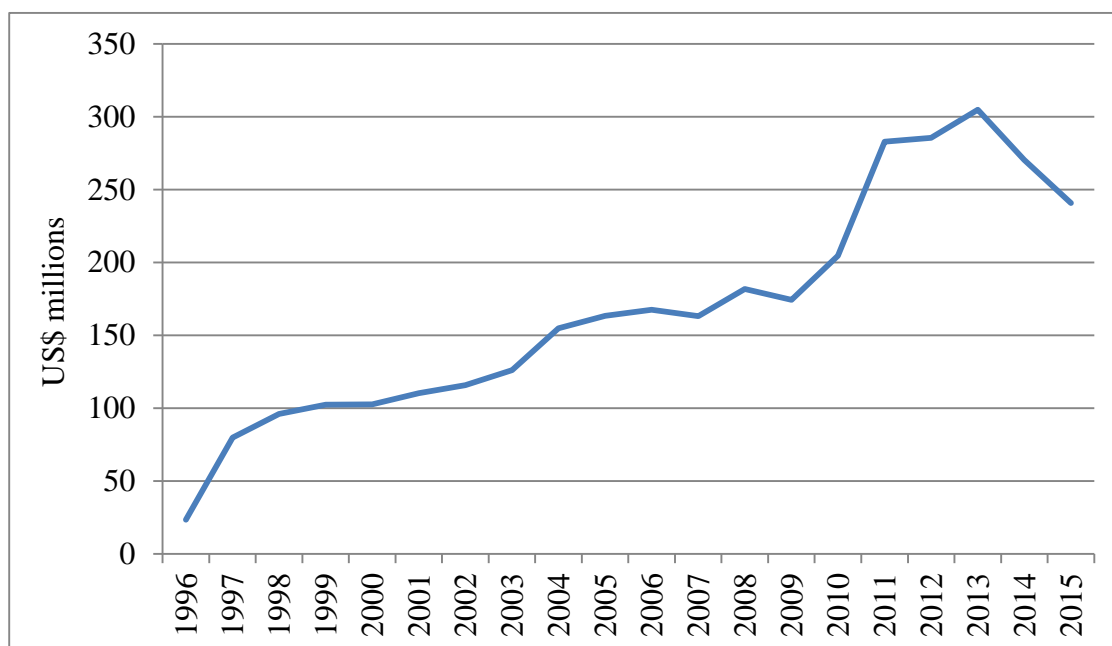
Source: The World Bank (2017)

2.3 Lao PDR-EU trade: Emerging Trends

2.3.1 Export volumes

It is important to note that the EU is the top ranked destination market for Lao PDR among developed countries. According to the LDCs' report in 2014 by (United Nations conference on Trade and Development, 2014), the total percentage of developed countries imports from Lao PDR in 2011-2013 was 16.9 % , out of which EU's share was equivalent to approximately 61.5 % or close to two-thirds. Figure 5 clearly indicates a significant increase in the commodity exports from Lao PDR to the EU from just about US \$ 23.40 million in 1996 to approximately US \$ 240.75 million in 2015.

Figure 5: Lao PDR's Commodity Exports to the EU, 1996-2015



Source: International Monetary Fund (2017)

2.3.2 Composition of Lao PDR's Bilateral Export to EU

Table 3 below shows the main products that Lao PDR exports to the EU during the period of 1996 to 2015 and the top three export products are garment, coffee, and sugar accordingly. However, it highlights that the share of the dominant export product such as garment in the total exports from Lao PDR to the EU has gradually declined by approximately 20% from 84.76 % in 2000 to 65.79 % in 2014. One of the main factors contributing to the decline in exports to the EU is Lao PDR's low comparative advantage in its main export products to the EU compared to other Asian LDCs such as Bangladesh, Cambodia, and Myanmar. The export volumes for Bangladesh and Cambodia have significantly increased, especially during EBA implementation as shown in Table 4. For the period 2010 to 2014, there was almost a double increase from Bangladesh and more than triple from Cambodia; but for Lao PDR, it was just negligible.

According to, Nolintha and Jajri (2016), the Reveal Comparative Advantage (RCA)⁹ of Lao garment industry has substantially decreased from 13.02 in 2001 to 3.71 in 2011 and the reasons of the decline are low labour productivity, wage hike, and increase in utility cost. Another factor is the local currency appreciation, due to the booming in the resource sector particularly in mining that has become the key export of Lao PDR since 2003. What's more, Ounkham (2015) has identified another problem that Lao garment industry faces is the shortage of labour and labour demand from other sectors of the economy.

It is worth noting that there was an immediate big increase in the exports of agricultural products such as sugar and rice, after the tariffs of these two products completely removed by the EU in late 2009¹⁰. For sugar, export value has jumped from only US \$ 2,880 in 2005 to approximately US \$ 19.06 million in 2010. Similarly, the export of rice has increased from only around US \$ 100,000 in 2005 to approximately US \$ 1 million in 2010.

Table 3: Lao PDR's main export products to EU in decreasing order: selected years, 2000-2014 (US \$ Million) in 2 digits

Items	HS code	Products	2000	2005	2010	2014
1	61-62	Garment	108.42 (84.76%)	148.74 (82.74%)	159.53 (70.60%)	196.78 (65.79%)
2	0901	Coffee	12.51 (9.78%)	10.46 (5.82%)	30.66 (13.57%)	31.97 (10.69%)
3	17	Sugar	0.00 (0.00%)	0.00 (0.00%)	19.06 (8.44%)	27.22 (9.10%)
4	64	Footwear	3.31 (2.59%)	4.64 (2.58%)	5.66 (2.50%)	3.48 (1.16%)
5	1006	Rice	0.03 (0.02%)	0.10 (0.05%)	1.03 (0.46%)	4.10 (1.37%)
6	63	Textile	0.01 (0.00%)	0.02 (0.01%)	0.17 (0.07%)	0.53 (0.18%)
7	44	Wood and wood products	1.18 (0.92%)	0.30 (0.17%)	0.22 (0.10%)	0.36 (0.12%)

Source: United Nations (2017)

⁹ Reveal Comparative Advantage (RCA) is an index showing a country's trade relative advantage or disadvantage in certain goods and services in the world economy.

¹⁰ This is part of policy made under EBA on the removal of tariffs for some agricultural products (banana, rice, and sugar)

N.B. the share of each product in the total exports to EU shown within parentheses and the export products that have value of less than one hundred thousand are not included.

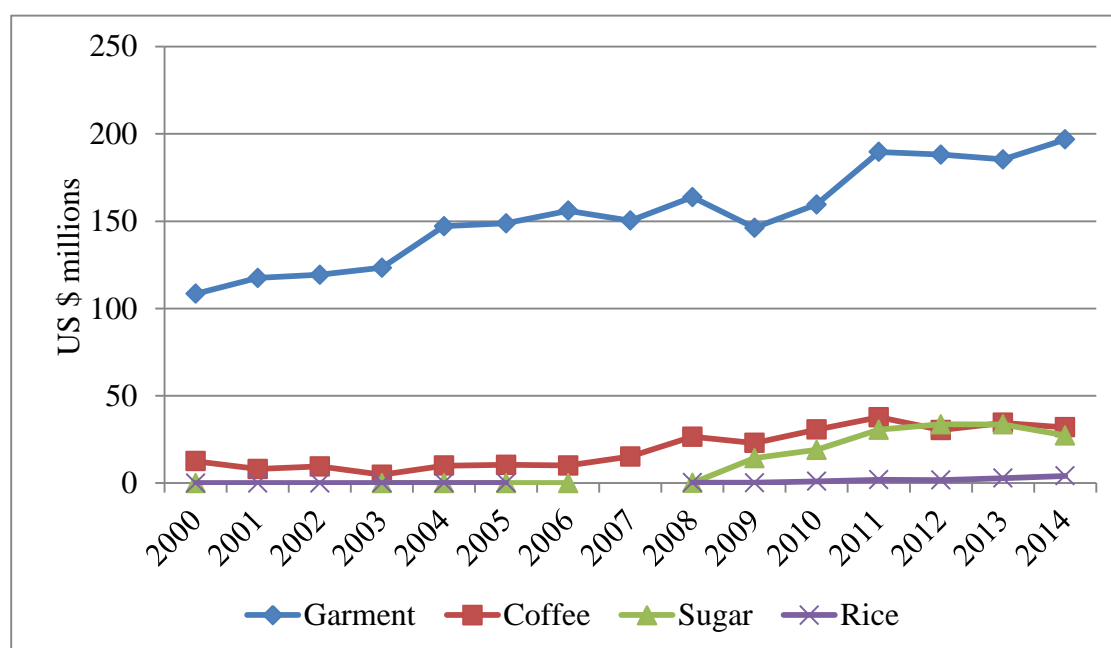
Table 4: EU's Garment Imports from Some Asia LDCs, 2000-2014, US \$ Million

Country	Year			
	2000	2005	2010	2014
Bangladesh	2,377.86	4,404.60	7,757.08	14,697.88
Cambodia	260.19	591.47	790.21	2,970.75
Myanmar	278.39	241.35	177.65	311.41
Lao PDR	108.42	148.74	159.53	196.78
Nepal	44.71	35.00	45.54	52.11

Source: United Nations (2017)

Figure 6 further indicates the growth of some key exports products of Lao PDR to the EU over the period 2000 to 2014 such as garment, coffee, sugar, and rice.

Figure 6: Export of Garment, Coffee, Sugar, and Rice from Lao PDR to the EU, 1996-2015

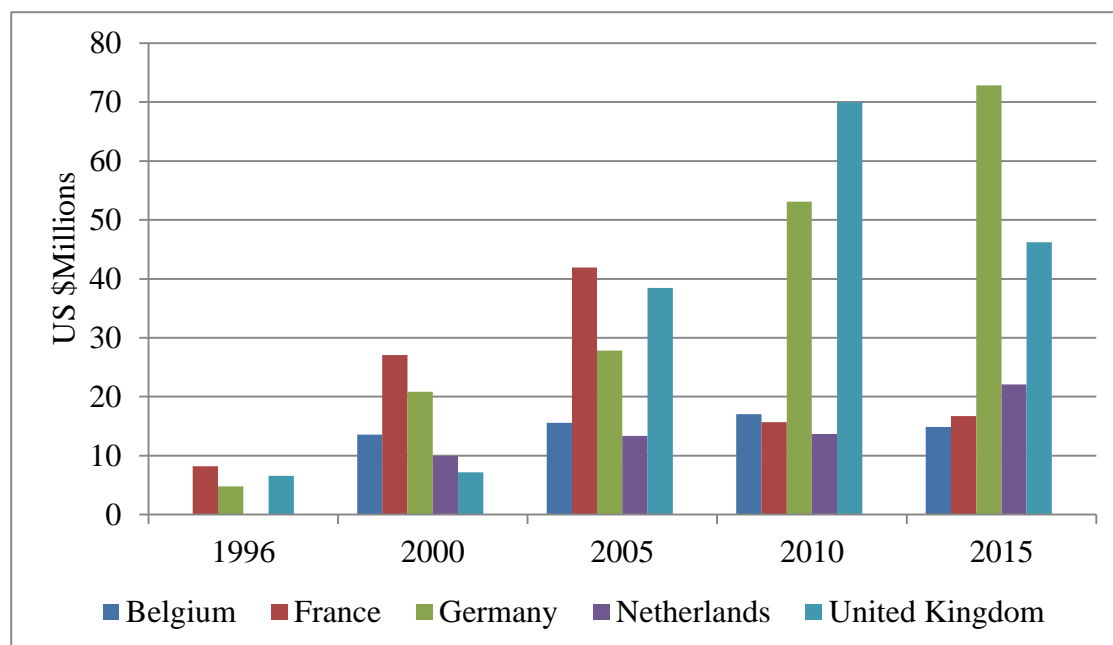


Source: United Nations (2017)

Over the observed periods, it is worth highlighting the top five EU markets of Lao PDR as Belgium, France, Germany, Netherland, and the United Kingdom. In 2015, Germany ranged the first top importer representing approximately 30.27 % of the EU total

imports from Lao PDR followed by the United Kingdom (19.21%), Netherlands (9.16%), France (6.95%), and Belgium (6.17%).

Figure 7: Lao PDR's Top 5 EU Markets, Selected Year, 1996-2015



Source: International Monetary Fund (2017)

2.4 GSP and its role in Economic development

GSP is the first unilateral trade preference scheme that many developed nations have adopted in order to help the less developed nations benefit from trade and it has been in place for around 30 years. It is important to note that GSP is consistent with the WTO law, specifically to the General Agreement on Tariffs and Trade or GATT and the “Enabling Clause” which stipulates that the MFN principle can be waived in the case of GSP. This means that a WTO member who is the GSP provider is allowed to impose import tariffs to their trading partners differently. (European Commission, 2014).

In addition, this concept is in line with the Millennium Development Goals (MDGs) which is “a framework to measure the development progress”. (Mikic & Ramjoe,

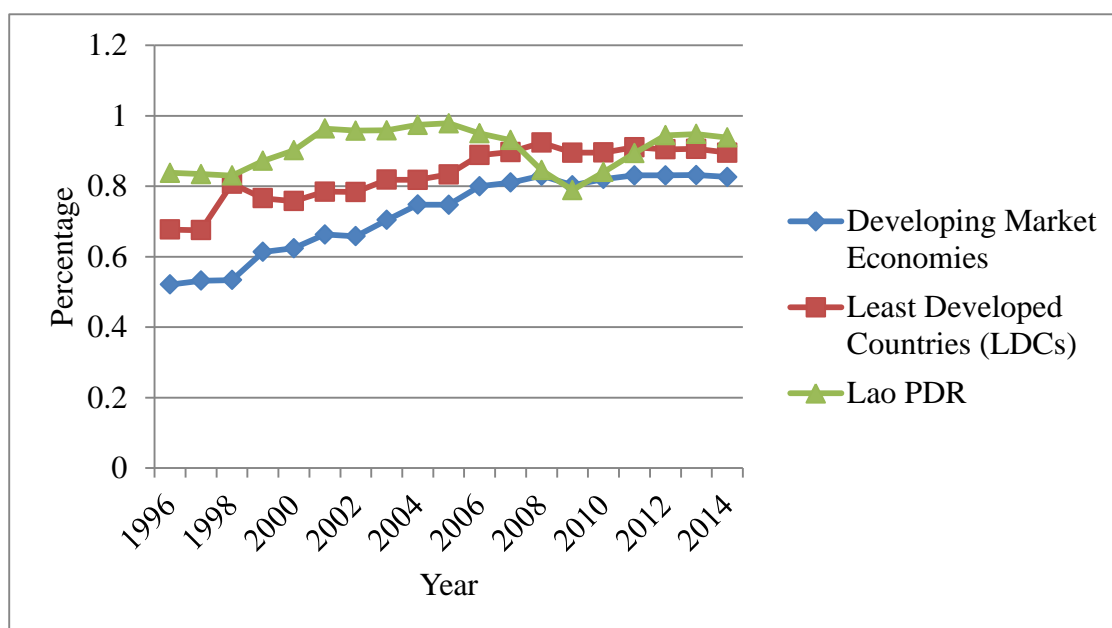
2010). The goals set by 189 United Nations members in 2000 aims to improve the conditions of the poorest nations of the world. MDGS consists of eight goals¹¹ and international trade development was set under MDG 8 named “Develop a global partnership for development” which aims to improve the market access for the poorest nations via the following targets:

1. To develop a trading system that is more opened, rules-based, predictable, and fair.
2. To provide duty free quota free access for LDCs’ exports.

The two trade targets have been measured by the market access indicator database developed by International Trade Centre et al. (2006) that provides the data on the percentage of total developed countries imports from the developing countries and LDCs that is duty free and the average tariffs charged by the developed countries on products from developing countries and LDCs. According to the database, the market access for both developing countries as well as LDCs has improved. For LDCs, it shows that the proportion of exports to the developed countries for all products excluding arms received duty free has increased from 67.69% in 1996 to almost 90% in 2014. Likewise, the average tariff both the MFN and the preferential rate imposed by the developed countries charges on all products excluding arms from LDCs has decreased during the period 1996 to 2014 from 6.57% to 5.58% for MFN rate and from 3.60% to 2.18% for the preferential rate. Figures 8 and 9 below illustrates in more detail.

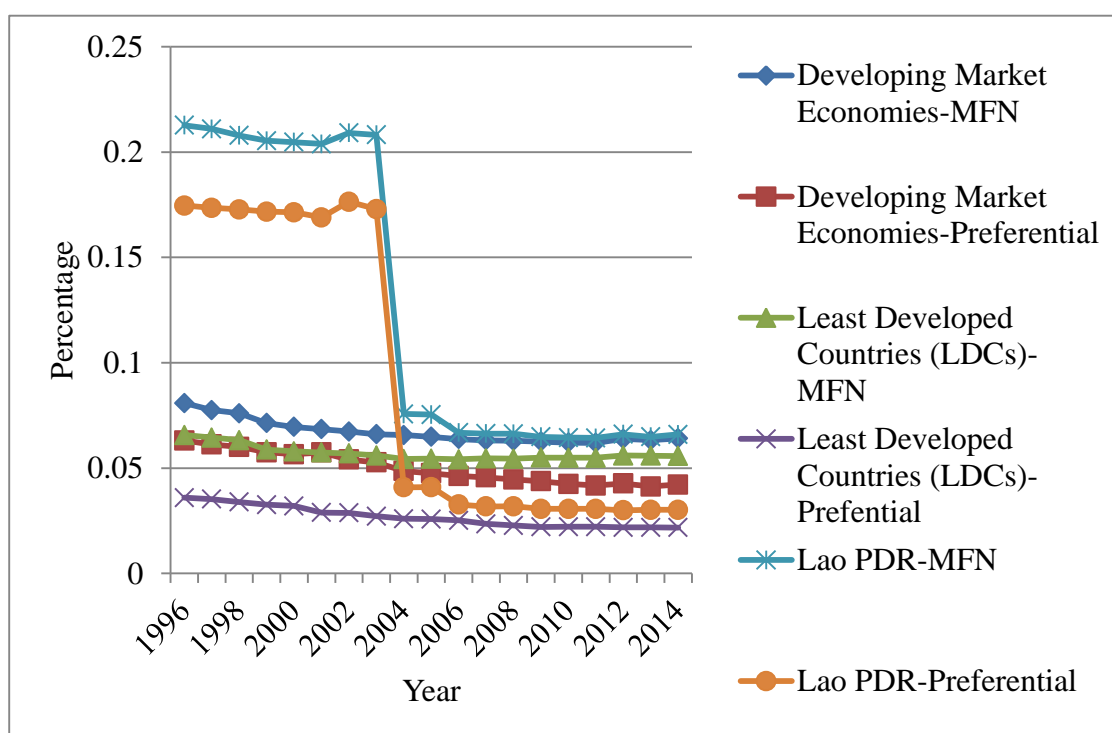
¹¹ Further details on MDGs can be found at <http://www.mdgmonitor.org/millennium-development-goals/>

Figure 8: Proportion of Developed Countries Total Imports (by value) from Developing and LDCs, As Compared with Lao PDR, Admitted of Duty Free for All Product Categories (excluding arms)



Source: International Trade Centre et al. (2006)

Figure 9: Average Tariffs Imposed by Developed Market Economies on All Products (excluding arms) from Developing and LDCs, as Compared with Lao PDR



Source: International Trade Centre et al. (2006)

For Lao PDR, more than 90% of its exports have received duty free from developed countries since 2000 until present and it has attracted zero tariffs for all merchandise imports (except arms and some agricultural products) into the EU market since the EBA became effective in 2001. Likewise, the tariff rates of the developed countries reduced significantly for Lao PDR from 2003 at 24% to 7% in 2004 for MFN rate, and from 20% to 3% for the preferential rate during the same period.

2.4.1 Development of EU GSP and implication for LDCs

Prior to the implementation of EBA, LDCs granted the general or standard GSP in which about 66% of EU's total import tariff lines were partially or fully removed for their exports. (European Commission, 2016d). The implementation of EBA became effective in 2001 for all imports from LDCs except arms and the three agricultural products namely banana, sugar, and rice in which their tariffs were later fully being eliminated in 1 February 2006, 1 July 2009, and 1 September 2009 accordingly (Cuyvers & Soeng, 2013). Therefore, the full effect of EBA started from late 2009 onward.

Another significant improvement of the EU's GSP that has benefited the LDCs is the revised RoO, in 2011. The rules amend to reflect mostly, the actual difference of each production sector and specific manufacturing conditions required. For LDCs, the new rules now allow them to import raw materials from any sources for their production as long as the required value added and substantial transformation rules are met so that the product is qualified to claim for being originated in their countries. In the past, the beneficiaries could only import raw materials from certain country groups under the regional accumulation that were set out by the EU.(European Commission, 2016e).

Finally, the most recent development on the EU's GSP is expected to give more advantages for the LDCs beneficiaries is the new GSP recently adopted on 1 January 2014. The purpose of this new GSP is : 1) to prioritise the preference to those countries need it the most, 2) to reinforce the GSP plus as an encouragement for a good governance and sustainable development and 3) to increase the transparency, stability, and predictability of the scheme. Thus, this new GSP is likely to benefit the LDCs in the way that it can help minimising their pressure from being competitive, given reduction in the list of beneficiaries and increase in the preference graduation. (European Commission, 2014).

2.5 European Union's GSP

EU is the first GSP provider on 1 July 1971 and the current scheme classifies into three arrangements as follows:

- 1) Standard or General GSP: Under this arrangement, about 66% of total tariff lines eliminate or reduce and there are currently 34 recipients.
- 2) GSP plus: It is a specific incentive arrangement which provides the same tariffs reduction as the standard GSP and the recipients are those countries that have made their commitment to implement the international agreement concerning to human and labour rights, environment and good governance. There are currently 13 beneficiaries.
- 3) Everything but Arms (EBA): This arrangement especially provides duty free quota free to all imported products except arms from LDCs. At present, 49 LDCs are eligible for this special regime.

The purpose of this study is to focus on the third arrangement, which is the EBA and the important facts to note about the EBA are as follows:

- EBA was born in 2001 and officially enacted in 2005 by the EC council.
- Unlike other arrangements, EBA has no expiry date. However, the preference will be the last until the beneficiary is graduated from being a LDC, as classified by the United Nations with a three-year transition period.
- Given the EBA initiative is a part of the EU GSP, the duty-free quota-free treatment is the same as of the scheme, such as the non-reciprocal and unbound character of the GSP, the possibility of the temporary withdrawal of the preferences and its rules of origin.(United Nations Conference on Trade and Development, 2016a).

To claim for the preferential tariffs treatment under the EU GSP, there are some important rules and import requirements that an exporter in the beneficiary must comply with are as follows:

2.5.1 Rules of Origin or RoO

They are defined as “the conditions that a product must satisfy to be deemed as originating in the country from which preferential access to the EU is being sought” (Brenton & Manchin, 2003). Principally, the preferential EU GSP RoO will make a distinction between two types of products as: 1) products wholly obtained in the beneficiaries and 2) products that have gone through a sufficient transformation in the beneficiaries.

- 1) Goods wholly obtained in a beneficiary: This refers to the products sourced or, produced within a single beneficiary without using any imported raw materials. For example: vegetables, animals, and minerals considered as originating products if they are harvested, born, and raised, and extracted accordingly within a beneficiary.

2) Goods sufficiently transformed in a beneficiary: This refers to the products manufactured in one or more countries or there is usage of imported materials in the production. However, a beneficiary country must make the final products. In order to determine whether the product is sufficiently transformed, the products must meet one of the following three criteria:

- **Value added rule:** It requires that the value of all materials used in the production must not exceed a certain threshold of the ex-work price of the final product. Under the current RoO of EU GSP, for a specific product the required threshold is 70% for LDCs and 50% for other beneficiaries. For example, the ex-work price of a doll is US \$ 100 and the total value of imported materials is US \$ 65.
- **Change of Tariff Classification or CTC:** This rule requires that the tariff classification of materials used in the production must be different from that of the final product based on 4-digit level in which it is the Change in Tariff Heading or CTH. For example, use of imported materials such as plastic (HS 3910) and fabric (HS 5208) for a production of a doll (HS 9502).
- **Specific processing rule:** For example, manufacture from [yarn], [meat], etc.: Requirement for LDCs is more simplifying than that for other beneficiaries. (European Commission, 2016b). For example, in the production of an apparel (HS 61 and 62), single transformation (using fabric) allowed for LDCs while double transformation (using yarn) is required or other developing countries.

Apart from the above basic rules that a product must comply with to be qualified as an originating product, there are many other conditions to meet to be able to claim the preference such as minimal operations, cumulating, tolerance or de minimis, direct

transport or non-manipulation rule, duty drawback¹², and proof of origin, as presented below:

2.5.2 Proof of Origin: Certificate of Origin Form A

The eligible products for the preferential treatment from the EU must be proved either by a Certificate of Origin Form A¹³ issued by the government body of the beneficiary country or an invoice declaration made by the exporter if the export value is less or equivalent to 6,000 euros. (EUropean Commission, 2016c).

However, the EU previously has adopted the Self-Certification system in order to facilitate the proof of origin further. This new system allows an exporter, registered via an electronic system, to declare and certify the origin of their product by themselves. The advantages of this system are that the government authority will mainly focus on administering and controlling any defections and misuses while it will help reducing the time consumed and associated costs for exporters. (European Commission, 2016e).

The new certifying system will be starting from early 2017 under a pilot project for one-year period. Here, all the beneficiaries shall have a further three-year preparation, if they are not ready for the implementation in 2017. During this transitional period, the origin of products can be certified either by certificate of origin Form A, or by the statement of origin, under the self-certification system. The certificate of origin Form A, will be superseded by the statement of origin from 1 January 2020. (Becquart, 2015). With this new certification system, it expects to have trade facilitation, which

¹² For more details on these conditions, please visit:

http://exporthelp.europa.eu/thdapp/display.htm?page=cd%2fcd_RulesOfOrigin.html&docType=main&languageId=en

¹³ The sample of the Certificate of Origin Form A can be found from:

<http://www.laotradeportal.gov.la/kcfinder/upload/files/Form-A.PDF>

is another challenge for the government of Lao PDR to ensure that the exporters are equipped with both technical skills and technology in order to use the system.

2.6 Summary

This chapter presented the trade profile of Lao PDR and EU. The first one has been ranked at the bottom line in the world trade both export and import on both trade in goods and services while the latter has been ranked as the top second exporter and importer for trade in goods and the world first top exporter and importer for trade in services. It is also important to note that although the proportion of trade share relating to GDP has increased significantly, Lao PDR has experienced trade deficit throughout the period 1996-2015.

Section 2.3 presented and discussed about Lao's commodity export trend to the EU over the period 1996-2015. The EU has emerged as the fourth biggest export market destination of Lao PDR. In addition, EU is the biggest market among other developed countries who are also the GSP providers of Lao PDR who is a LDC beneficiary. EU is not only the first GSP provider in 1970, but the union has also offered the EBA in 2001, which provides a duty free quota free access to all LDCs including Lao PDR. The volume of Lao exports to the EU has increased continuously over the study period from 1996 and has shown a significant growth from 2009 onward, which is the time of a completed removal of quotas and tariffs for certain agricultural products (banana, rice, and sugar).

Lao PDR exports mainly the industrial products to the EU where garment has the highest share of the total commodity exports. As for agricultural products, the highest share is coffee. The top five EU market destinations of Lao PDR in 2015 are Germany, United Kingdom, Netherland, France, and Belgium accordingly.

Next, the chapter discussed the role of GSP by developed countries on the beneficiaries' development particularly for the LDCs, which had been in line with the recent MDGs (2000-2015). The trade targets set under the MDG 8, made some improvements as the increase in the proportion of developed countries imports from LDCs admitted duty free and the decline in tariffs imposed both MFN and preferential rates. Lao PDR is an LDC that has received a good preferential trade treatment from the developed countries on both trade targets compared with developing countries and other LDCs.

Lastly, this chapter discussed some related significant changes in the EU GSP, which can potentially affect the effectiveness of the EBA scheme for LDCs specifically the complete quota and tariffs removal of the remaining agricultural products (banana, rice, and sugar) in late 2009 and the revised ROO in early 2011. For Lao PDR, there was a significant increase in the exports of sugar and garment to the EU during the observed periods.

Chapter 3: Literature Review

3.1 Introduction

Chapter 2 assessed the export trend from Lao PDR to the EU for the period 1996-2015. Lao PDR's exports to the EU for that period mainly manufactured products, of which garments were the dominant product. Garment exports to the EU for that period had been on the rise. However, while garments have remained as the first top dominant export products from Lao PDR to the EU, its share of total exports has substantially declined from around 84.76% in 2000 to approximately 65.79% in 2014. The main causes which can be attributed to the of the decline are the local currency appreciation, low labour productivity, wage hike, and increase in utility cost (Nolintha & Jajri, 2016). In addition, it could be due to the change in Lao PDR's export structure, where the exports of the resource sector in particular mining (Gold and Copper) has been on the rise since 2003, to become one of its main exports.(The World Bank, 2003). It should also be noted that Germany and United Kingdom are the top two EU export markets of Lao PDR and they also are the current top garment importers from Lao PDR.

In addition, Chapter 2 has discussed some significant changes in the EU GSP structure, which can potentially explain the bilateral export between Lao PDR and the EU. In particular the changes in the revised rules of origin to the EBA¹⁴ scheme in 2011 have had a significant impact on the export of Lao Garments to the EU-Lao PDR. The EU has the highest share of Lao exports than any other GSP providers, with 67% of exports under the GSP regime in 2015 going to the EU. Moreover, it is important to note that among other GSP providers, EU has shared the highest export market destination for

¹⁴ Everything but Arms (EBA) is the current arrangement that the EU has provided for Lao PDR

Lao PDR of almost 67.03 % in 2015. Thus, it assumes that EBA may be a factor affecting the export volume from Lao PDR to the EU.

Nevertheless, before embarking on, ascertaining the role of the EBA in Lao PDR's exports to the EU, there is a need to review the existing relevant theoretical and empirical literature on the impact of EU GSP system. In particular, the EBA arrangement on the LDCs' export demand from the EU and other possible related factors affecting the effectiveness of EBA and the export performance of LDCs.

The remainder of this chapter organised as follows: Section 3.2 examines the theoretical and empirical literature on the impact of EU GSP (EBA) on LDCs' exports to the EU. Section 3.3 reviews the relevant existing studies on Lao-EU trade. Section 3.4 summarises the literature review and concludes this chapter.

3.2 Theoretical and Empirical Literature on Impact of EBA on LDCs' Export Demand from the EU

Since the adoptions of EBA, many existing studies both theoretical and empirical have been carried out to examine whether EBA has had a positive impact or helped increase the export volume from the recipients which are all the LDCs to the EU or not. These studies are as follows:

3.2.1 Theoretical Literature

Panagariya (2002) carried out the earlier studies. The author argued that the effect of the removal of tariffs on potential agricultural products such as banana, rice and sugar was negligible, regardless of potential agricultural export from LDCs. In addition, the author also posits that LDCs are not able to effectively utilise the EBA preferences extended to LDCs as Lao PDR due to the difficulty of being small and poor

countries, who are only mostly able to produce products with simple operations such as assemble and therefore unable to comply with RoOs' value addition requirements.¹⁵

In addition, according to Brenton (2003) who specifically analysed the early impact of EBA on the LDCs' exports to the EU. Apart from the delay, on removing tariffs on the three agricultural products and the RoO, the author asserted that market access, price volatility and limited production capacity which were the factors affecting the export volume from LDCs to the EU. Moreover, Brenton and Manchin (2003) further discussed the impact of RoO on particular export products such as clothing and textile. This study confirmed that RoO is the main factor that impedes the EU GSP recipients from enjoying preferential market access to the EU in particular to those beneficiaries that exports textile and clothing. For these products, the RoO requires a certain value added to the final production which makes it difficult for small economies to comply with.

3.2.2 Empirical Literature

The impact of the EU GSP and in particular the EBA scheme was analysed both from a theoretical perspective and empirically as well. A study by Yu and Jensen (2005), runs a modeling scenario whereby the EU removes all its tariffs on all its imports from LDC. The study applies the Global Trade Analysis Project (GTAP) model with 19 aggregated regions and 20 aggregated products and most LDCs are grouped as one region. The overall results indicate that EBA is not likely to benefit LDCs, given its limited product coverage and given that the gains are most likely to come from the remaining agricultural products (especially sugar), which in the period under study was still a subject to duty. Moreover, this study asserted that imperfect market and supply side constraints which seem to be key factors contributing to LDCs' inability to benefit

¹⁵ For more details on value added rule, see Chapter 2 on section on ROO.

from the EBA. However, it is important to note that the study did not factor in the role of safeguard and RoO under the EBA.

There have been numerous empirical studies using gravity model to quantify the impact of EU unilateral preferential trade arrangements such as GSP and EBA on the exports of the recipients. Mixed results obtained, which could be due to different methodologies applied. A study by Aiello and Demaria (2009) applies the gravity model to measure the impact of trade preference agreement on 769 agricultural products exported from 169 countries (including Lao PDR) to the EU over the period 2001-2004. The impact of each trade agreement including the EBA estimated based on its preferential margin, which is the difference between the MFN and Preferential tariff divided by MFN. EBA had positive significant impact on agricultural exports from LDCs, but for some particular products only.

Similarly, Aiello and Cardamone (2011) estimated the impact of EBA on LDCs' exports to the EU using the gravity model for a period from 1995 to 2006, but focused on only some agricultural products such as clove, coffee, crustaceans, molluscs, and vanilla beans. The selections of these products based on the export intensity of LDCs, the actual preference of EBA, and the intra-year distribution of EU tariffs. The results show that EBA has a positive impact on exports of crustaceans, and vanilla beans. Thus, three main suggestions from the author for future research are: 1) the authors support to move forward with disaggregate analysis but should focus on those products that are potential for LDC's exports. 2) the impact of EBA on individual beneficiary cannot be correctly captured by the gravity model given the coefficients are the average impact for the entire LDCs. 3) the authors asserted that the reasons for the low utilisation of EBA can be attributed to the RoOs and other private standards set by the importers.

A recent empirical study is carried out by Gil-Pareja et al. (2014) on whether EU unilateral preferential trade agreements have had any impact on the exports volume of its beneficiaries,. This study applied the gravity model to estimate the significance of each non-reciprocal trade scheme for bilateral commodity trade between 177 countries over the period of 1960-2008. The EU GSP and EBA generally have significant impact on the corresponding beneficiaries' exports. This includes Lao PDR. However, this study also asserted that the impact of individual non-reciprocal trade agreement depends on the degree of its preference, product coverage and the flexibility of rules that govern each regime. Nevertheless, as previously mentioned, the drawback of the gravity model is that the impact of EBA on individual beneficiary cannot be correctly measured though the coefficients of the gravity model.

Finally, Gil-Pareja, Llorca-Vivero, and Martínez-Serrano (2016) also applied a gravity model to quantify the impact of preferential trade arrangements on exports of 219 developing countries to the EU at the product level for the period 2002 to 2008. The overall result shows that the preferential trade regimes including the EU EBA have had positive impacts on the export volumes from those developing countries to the EU given the fact that the lower the tariffs, the greater preference margin. However, there are some limitations of this study that are: 1) the difficulty to identify which preferential trade agreement (PTA) is used for each export good given that there is more than one regime applicable. 2) the difficulty to address the zero trade flow for a huge dataset due to the fact that not all countries export, regardless of the availability of preferential trading schemes. Lastly, this study also supported that the impact of a preferential trade regime can be different due to other factors such as different product coverage, RoO, non-tariff barriers, and investment linked to each trade arrangement.

Last but not least, another relevant study by Cuyvers and Soeng (2013) has quantified impacts of EU GSP on exports from Asian and Latin American countries and their utilisation rate of the GSP. The analysis of the bilateral exports from two country groups (ASEAN plus China and Latin America) to the EU was made using an export demand equation with panel data for the period of 1994 to 2007. The export demand is a function of EU (15 members)'s GDP, exporting country's relative price level against EU's weight price level, and the bilateral exchange rate between the exporting country's currency to that of EU. The model included dummy variables on GSP that was broken into different periods based on the changes in the EU's policy towards their GSP scheme.¹⁶ The analysis made at sectoral levels as agricultural, industrial, and textile products.

For agricultural products, change in the EU GSP has significant negative impact on the agricultural imports from both country groups. A possible reason for this is due to the slow reaction of agricultural products in response to those changes. For industrial products and textile products, it is observed that exports of these products from ASEAN plus China and Latin America to the EU are unaffected by EU GSP policy changes. The two reasons that can explain this result is the sensitive reaction of the textile sector in both the EU and the EU policy makers on several textile imports from developing countries. Another reason is the presence of the protective multi-fibre arrangement during the study period. Nevertheless, ASEAN plus China has performed better on industrial export especially on textile exports to the EU compared to Latin America. This is due to the former group's stronger industrial based and more advanced development. Lastly, concerning the impact of the change in the EU GSP on

¹⁶ For more details, see the Cuyvers, L., & Soeng, R. (2013). The impact of the EU Generalised System of Preferences on exports and GSP utilisation by Asian and Latin American countries. *Journal of International Trade Law and Policy*, 12(1), 80-97.

the utilisation rate, preferential market access not been utilised much by the LDCs. Another finding of the authors with respect to the increase in the EU's imports of industrial products from middle income developing countries is that this trend is most likely to be due to the competitive advantage of the middle-income developing countries than due to effectiveness of the EU GSP policy changes. However, the results from the above study are ambiguous because the impact captured is the average impact for all the countries chosen in which each of them been granted different EU GSP arrangements.

It is important to note that none of the above studies covers the late 2009, in which the period is corresponding to the complete tariff removal on the remaining agricultural products (banana, rice, and sugar). These studies did not take into account the possible effect of the more favorable revised RoO for the LDCs¹⁷ that became effective in 2011.

3.3 Existing Studies on the Impact of EBA on Lao Exports to the EU

In spite of the fact that Lao PDR is a beneficiary of the EU EBA and that there has been a continuous increase in the country's value of exports to the EU from 1996 to 2015, there are only few existing related studies on the impact of EU GSP in particular the EBA on Lao PDR's export volume to the EU. Brenton and Manchin (2003) has pointed out that Lao PDR is a LDC that could not utilise the EU GSP because the country could not satisfy the RoO and as a result, in 1997 only 6 percent of garment and textile products were exported from Lao PDR to the EU. Given this difficulty, the European Commission has granted quota derogation to the RoO for textile and clothing from Lao PDR, Nepal, and Sri Lanka to enter the EU at the EBA preferential tariff rate. These RoO were further revised in 2011 with a view of making them more flexible for LDCs, thus minimising the need for the application of derogations. The RoO were made

¹⁷ See the discussion in Chapter 2, section on Rules of Origin.

more flexible specifically by changing the requirement for double transformation (made from yarn) to single transformation (made from fabric). (Zikuna, 2014).

According to Zhou and Cuyvers (2012) who have descriptively analysed the impact of EU's GSP on the ASEAN countries' exports. The authors have examined the impact at aggregate, sectoral, and individual country levels by utilising trade data over 15 years from 1990 to 2007. The outcome of this study indicates that the EU imports under GSP from the ASEAN countries showed no improvement; however, the overall EU imports from these countries increased during the same period, indicating that exporters were not utilising the GSP preferences but that they were nevertheless exporting to the EU. In contrast, the data shows that Lao PDR, Cambodia, and Myanmar have utilised the preference at very high rate and they have effectively applied the EBA to enhance their market access in the EU. This may be due to the bigger product coverage under the EBA and the fact that these LDCs are in the stage of being familiar with applying the scheme. Nonetheless, this study did not cover the analysis of the impact of removing the remained agricultural products (banana, rice, and sugar) from duty free by late 2009 as well as the analysis did not cover the period when the RoO revised in 2011.

Given the importance of garment, as one of Lao PDRs top exports and given that it has the highest share of the total exports to the EU, this section reviews existing studies that have specifically analysed the export of Lao garment. A recent study by Nolintha and Jajri (2016), found that Lao garment industry has faced many challenges. As of 2005, Lao PDR has undergone remarkable structural changes in its export composition, due to the boom in the resource sectors (hydropower and mining). This has had an indirect effect on the garment sector, resulting in the sector's decline in export share. However, there also been a number of factors which have directly

contributed to the decline of the Garment exports and one key factor has been the declining competitiveness. The declining competitiveness of the garment sector can be caused due to the following factors: (i) the appreciation of local currency and (ii) the wage hike which has contributed to the increase production cost. This trend of declining competitiveness is captured by the authors, who demonstrate that the reveal comparative advantage of Lao garment has decreased during the period of 2001 to 2011 from 13.02 to 3.71.

Moreover, Ounkham (2015) highlighted that another major concern for Lao garment industry is the shortage in the labour supply. There is additionally a problem of agglomeration of labour and the quality of labour. Most of the labours tend to be recruited from the rural areas and there is a rising competition on labour demand from other sectors of the economy. In addition, regional demand for labour and the opportunities which the ASEAN neighboring market offers, has in the last years exerted increasing pressure of the labour supply. Thailand represents one of the main competitions for labour, mainly due to the belief that it offers better opportunities and salary.

Another related country specific study was carried out by Sayavong (2015) who estimated trade flow from Lao PDR to its 34 major trading partners that includes the EU (15) over the period 2001 to 2011. This study applied the stochastic frontier gravity model, and GSP added, as dummy variable to indicate that the trading partner is GSP provider. The results of this study show that GSP provided from the trading partner such as the EBA by the EU was found to have significant impact on the exports from Lao PDR to the EU and it also indicates that with the presence of the GSP, the export volumes increase by around 1%. In addition, another finding from this empirical study is that the global financial recession did not have significant

impact on the Lao exports to its trading partners including the EU. However, it is necessary to point out again, that the impact of trade preferences on bilateral trade cannot be measured using the gravity model. Lastly, one of the strong recommendations from this study is that, a future research should be done using time series data.

A further recent study was carried out by Gnangnon and Priyadarshi (2016) to estimate the impact of EBA granted by the EU in the context of Duty Free Quota Free (DFQF) on the exports of 41 LDCs, which includes Lao PDR over the period 1995 to 2013 by using an export demand equation. The results show that EBA has had positive impact on the overall exports and the exports of primary products while it did not have any significant impact on the exports of manufactured products. Nonetheless, this study is not a cross-country study and thus the impact of EBA on exports from individual LDC such as Lao PDR to the EU should be carried out further at bilateral level.

Finally, according to the World Economic Forum (2014), in 2013, the top three problems faced by Lao PDR with respect to exports are: 1) the difficulty of identifying potential markets and customers 2) the difficulty in meeting the quality or quantity required by the customers and 3) improper technology and skills. Lastly, one of the factors affecting trade of Lao PDR was RoO.

3.4 Summary

Chapter 3 looks at the effectiveness of the EBA scheme and whether it does indeed meet its set of objectives, which is to boost LDCs exports to the EU market.

Whilst it is claimed that Lao PDR has utilised the EBA scheme to expand its export to the EU market, there are no empirical studies to quantify the impact of this special

arrangement and no studies which demonstrates whether the EBA is a key determinant of Lao PDR export to the EU.

A number of studies have attributed the low utilisation of the EBA scheme and its inability to meet its intended objective of expanding LDC export to the EU due to its limited product coverage. Another crucial factor, which has contributed to the underutilisation of the EBA scheme, is the RoO, which restricts the production requirement for product eligibility. Nevertheless, it is important to point out that none of the existing empirical studies have analysed the impacts of changes in the EU GSP that address the two mentioned problems. For instance, the complete tariffs and quotas removal of some remaining agricultural products (banana, rice, and sugar) and the application of the revised RoO that is less stringent and effective since 2011.

Therefore, this study will be the first study that provides the most updated empirical analysis taken into account, the above-mentioned changes on Lao PDR's export flow to the EU. It is also important to note that none of the existing studies covered the period of the development of the EU GSP scheme especially on the revision of the RoO, which became effective in 2011. Therefore, the study will be the first empirical study that analyses the impact of EU GSP by covering the period of the improved RoO.

The next chapter presents the empirical analysis and covers the description of data and their source, the applied methodology, and analyses the empirical results from this study.

Chapter 4: Empirical Analysis and Results

4.1 Introduction

Chapter 3 discussed the existing studies on a unilateral preferential trade arrangement such as Generalised System of Preferences (GSP) and its implications for the development of LDCs. In addition, it discussed the development of EU GSP and its implication for LDCs. Furthermore, this chapter reviewed the existing related theoretical and empirical studies on the impact of EU GSP (EBA) on LDC's exports to the EU. The results of the existing studies were ambiguous, which could be due to the difference in the applied methodologies. Nevertheless, it is worth noting that the existing studies claim that the limited product coverage and the stringent RoO are two common factors that have led the EU GSP (EBA) to be less effective, and underutilised. As a result, it has not significantly increased export flows from LDCs to the EU. However, none of those studies have analysed the impact of complete tariffs and quota removal of the remaining agricultural products (banana, rice, and sugar) since late 2009 and the revised RoO that became less stringent in which it came into effect since early 2011. Therefore, the study will be the first empirical study, which analyses the impact of EU GSP (EBA) on Lao PDR's export flow to the EU by taking into account the mentioned changes in the EU GSP scheme.

In this chapter, the impacts of EU GSP and EBA on Lao PDR's commodity export volumes to the EU, will be estimated using an export demand model by utilising a quarterly time series data over the period 1996-2015. Export demand is the function of EU GDP, bilateral real exchange rate, and the EU GSP (EBA) s' dummy constructed based on the changes in the EU GSP scheme.

The organisation of this chapter is as follows: Section 4.2 is the description of data and their sources. Section 4.3 reviews and discusses the existing methodology. Section 4.4 is on the econometric estimation in which it will cover the discussion on the findings. Then, Section 4.5 is the summary of the chapter.

4.2 Data

The observation period of this study covers the time 1995Q1 to 2015Q4. The data on export volumes from Lao PDR to the EU was obtained from the IFS (International Financial Statistics) of the IMF (International Monetary Fund), the EU (28)'s real GDP (2010) was taken from the Statistical Data Warehouse of the European Central Bank. The bilateral exchange rate (kips/US \$) was obtained from the Bank of Lao PDR and (US \$/euro) from the Economic Research Division of Federal Reserve Bank of St. Louise, USA.¹⁸ Lao PDR's consumer price index (CPI) and EU's harmonised index of consumer price (HICP) were used as deflators in which their base years were re-referenced to 2010 (quarter 4) and are obtained from Lao Statistics Bureau, Ministry of Planning and Investment of Lao PDR and the Economic Research Division of Federal Reserve Bank of St. Louise, USA respectively. Data on the key variables, GSP and EBA were mainly obtained from the European Commission website.¹⁹

4.3 Methodology

There are different methodologies, which estimated the bilateral exports. For this study, the model chosen is the export demand model that has been used to estimate the bilateral exports by many recent studies (Ahmed, Hoque, & Talukder, 1993; Choudhury, 2001; Cuyvers & Soeng, 2013; Heng & Suu, 2009; Kabir, 1988; Rajan,

¹⁸ See appendix 2 for more details on the calculation of the real exchange rate (kip/euro).

¹⁹ See http://trade.ec.europa.eu/doclib/docs/2014/november/tradoc_152865.pdf

Sen, & Siregar, 2003). The export demand model is the most suitable model for measuring the impact of the EU GSP (EBA) on the export volumes from Lao PDR to the EU compared to other well-known model such as the computable general equilibrium (CGE) and the gravity equation. This is because CGE is mostly used for prediction while the gravity equation has faced some issues related with specifying the model (Siddique, Sen, & Srivastava, 2015). In addition, since the focus of this study is on the bilateral exports from Lao PDR to the EU, the simple export demand model is the most suitable model and the most used specification of the export demand equation is:

$$\ln X_t = \beta_0 + \beta_1 \ln Y_F + \beta_2 \ln E_t + \varepsilon_t \quad (1)$$

Wherein

X_t = export volume from A to B at time t

Y_{ft} = country B's real Gross Domestic Products (GDP) at time t

E_t = real exchange rate of country A 'currency to that of country B at time t

For this study, the model specification is as follows:

$$\ln \text{EXPORT}_t = \alpha_0 + \alpha_1 \ln \text{EUGDP}_t + \alpha_2 \ln \text{EXR}_t + \varepsilon_t \quad (2)$$

Wherein

EXPORT_t = export volumes from Lao PD to the EU at time t

EUGDP_t = EU's real GDP at time t

EXR_t = real exchange rate of Lao PDR's currency (kips) to that of EU (euro) at time t

Income and price effect have significant impacts on the export demand. In addition, theoretically it is claimed that the more the income is, the higher demand for import. Thus, the estimated coefficient of lagged income of the EU should be positive. In addition, the given high price of the domestic goods compared to that of the importing country, should reduce the demand for import. Thus, the estimated coefficient of the

lagged price effect should be negative. The coefficient of lagged export growth should be negative since it is most likely that the higher growth in the export demand in the previous period, the lower the export demand in the current period (Siddique et al., 2015).

In addition, following Cuyvers and Soeng (2013), some dummies were added into the models based on changes on the EU GSP policies. However, the given study uses a quarterly time series data, the constructed dummies related to the GSP and EBA are more specific. For instance, the standard GSP in 1997, denoted as GSP. Likewise, the EBA that first became effective in 2001, denoted as EBA. The partial effect of EBA from the time the tariffs and quotas for three main agricultural products (banana, rice, and sugar) remained from early 2001 to 2009 (quarter 3), denoted as EBA_P. The full effect of EBA when the tariffs and quotas for those agricultural products were completely removed since late 2009 (quarter 4) onward, denoted as EBA_F, and the effect of EBA when the RoO was revised and came into effect from early 2011 onward, denoted as EBA_RoO.

The EBA, EBA_F, and EBA_RoO would positively affect the export volumes because EBA and EBA_F refer to more products from LDCs admitted duty free and thus can encourage more exports from these countries to the EU. Likely, to be expected that EBA_RoO will give a positive sign on given the improved Rules of origin means that the production requirement has become easier for LDCs to meet. In contrast, GSP and EBA_P will have negative signs as GSP has offered less product coverage and more stringent RoO²⁰ and thus limited the exports from LDCs. Similarly, the EBA_P should give negative sign since LDCs still had to pay duty for exports of banana, sugar, and rice and thus, this can limit their export volumes.

²⁰ This was discussed in Chapter 3.

Some dummies on external shocks such as Asian Financial Crisis (AFC), Global Financial Crisis (GFC), and the European Union Debt Crisis (EU Crisis) that can possibly affect the export volume from Lao PDR to the EU are included into the model. For AFC, the exports from Lao PDR to the EU can be affected negatively, given the fact that Lao PDR imported most raw materials from Thailand, who was severely affected by the AFC. Thus, the expected sign of AFC should be negative. Next, GFC is another shock that had affected many countries around the world including the EU, as it could cause a decrease in the EU's import demand. Thus, it should be included in the model and its expected sign is negative. Finally, EU debt crisis is another factor, that can cause a decline in the EU's import demand due to the euro depreciation and therefore, it is important to include this dummy into the model with expectation of negative sign.

Next, following Pesaran and Pesaran (1997) and Pesaran, Shin, and Smith (2001), the Autoregressive Distributed Lag (ADRL) model will be applied, given this can be used to model time series regardless of whether they are I(0), I(1), or mutually co-integrated (Sari, Ewing, & Soytas, 2008). This model has been also recently applied by (Siddique et al., 2015).

Therefore, the modified specifications of the export demand equation²¹ estimated as:

$$\Delta \ln \text{EXPORT}_t = \alpha_0 + \sum_{i=1}^h \alpha_i \Delta \ln \text{EXPORT}_{t-i} + \sum_{j=0}^k \beta_j \Delta \ln \text{EUGDP}_{t-j} + \sum_{l=0}^n \gamma_l \Delta \ln \text{EXR}_{t-l} + \ln \text{EXPORT}_{t-1} + \ln \text{EUGDP}_{t-1} + \ln \text{EXR}_{t-1} + \text{Dummy}_t + u_t \quad (3)$$

The description of each variable and its expected sign, indicated in Table 5 below:

²¹ Bilateral real exchange rate is calculated based on the formula applied by (Kumar, 2011). In addition, by adding the interaction between income and each dummy, it caused more incorrect signs for variables, so it was dropped from the specification used in the estimation process.

Table 5: Variables and their descriptions

Variable	Description	Expected sign
$\Delta \ln \text{EXPORT}_{t-i}$	Lagged export growth	Negative
$\Delta \ln \text{EUGDP}_{t-i}$	Lagged EU GDP growth	Positive
$\Delta \ln \text{EXR}_{t-i}$	Lagged bilateral exchange rate growth	Negative
$\ln \text{EXPORT}_{t-1}$	Lagged export	Negative
$\ln \text{EUGDP}_{t-1}$	Lagged EU GDP	Positive
$\ln \text{EXR}_{t-1}$	Lagged bilateral exchange rate	Negative
GSP	Standard GSP of EU applied from 1997-2000	Negative
EBA	EBA , it is 1 from 2001-2015 and 0 otherwise	Positive
EBA_P	Partial EBA when tariffs and quota for banana, sugar, and rice still remained, it is 1 from 2001 to 2009Q3 and 0 otherwise	Negative
EBA_F	EBA with full product coverage, except arm, it is 1 from 2009Q3 to 2015 and 0 otherwise	Positive
EBA_RoO	EBA is equal to 1 from 2011 to 2015 and 0 otherwise	Positive
AFC	Asian Financial Crisis from 1997Q3-1999	Negative
GFC	Global Financial Crisis from 2007-2009	Negative
EUCrisis	European Union Debt Crisis from 2009Q4 to 2014Q3	Negative

Apart from that, following the existing studies (Choudhury, 2001; Kumar, 2011; Rajan et al., 2003; Siddique et al., 2015) , this study has utilised the time series data given the fact that the main variables of this export demand model uses macroeconomic data that are mostly non-stationary or have unit root. With time series data techniques, this property can be tested and to ensure that the variables become stationary before the estimation. This is to ensure that the obtained results are non-spurious. The first technique this study has applied is the unit root test and was chosen by Zivot and Andrews (1992). This unit root test takes into account the structural breaks and it has been applied by many recent studies (Altinay & Karagol, 2004; Ling, Nor, Saud, &

Ahmad, 2013; Narayan, 2005; Tang & Tan, 2015). In addition, according to Ling et al. (2013), it is found that there are structural breaks in most macroeconomic data of most ASEAN countries and it is expected that the macroeconomic data of Lao PDR would also have gone through structural changes.

In the next step, Cointegration test is carried out to examine whether there are any short or long run relationships among variables or not. Firstly, the Johansen (1988) Cointegration test is given applied. However, considering the possible structural breaks, this study next applied the Gregory and Hansen Cointegration test by (Gregory & Hansen, 1996a, 1996b) or GH technique, which is another test for the Cointegration of the non-stationary time series, that takes into account the impact of structural breaks. Many recent studies applied this model (El-Shazly, 2016; Kumar, Webber, & Fargher, 2013; Kumar, Webber, & Perry, 2012).

There are two steps on performing the GH Cointegration test. The first step is to test for the break dates and GH proposed four models, considering the possible expectations on structural breaks such as: 1) level shift, 2) level shift with trend, 3) regime shift where both intercept and the slope coefficients change, and 4) regime shift where intercept, trend, and slope coefficient change. Following specification (2), the four GH equations estimated are as follows:

GH-1: level shift

$$\ln \text{EXPORT}_t = \gamma_1 + \gamma_2 \phi_{tk} + \alpha_1 \ln \text{EUGDP}_t + \alpha_2 \ln \text{EXR}_t + \varepsilon_t \quad (4)$$

GH-2: level shift (include trend)

$$\ln \text{EXPORT}_t = \gamma_1 + \gamma_2 \phi_{tk} + \beta_1 t + \alpha_1 \ln \text{EUGDP}_t + \alpha_2 \ln \text{EXR}_t + \varepsilon_t \quad (5)$$

GH-3: regime shift (intercept and slope coefficients change)

$$\begin{aligned} \ln \text{EXPORT}_t = & \gamma_1 + \gamma_2 \phi_{tk} + \beta_1 t + \alpha_1 \ln \text{EUGDP}_t + \alpha_{11} \ln \text{EUGDP}_t \phi_{tk} + \alpha_2 \ln \text{EXR}_t \\ & + \alpha_{22} \ln \text{EXR}_t \phi_{tk} + \varepsilon_t \end{aligned} \quad (6)$$

GH-4: regime shift (intercept, trend, and slope coefficients change)

$$\begin{aligned} \ln \text{EXPORT}_t = & \gamma_1 + \gamma_2 \phi_{tk} + \beta_1 t + \beta_2 t \phi_{tk} + \alpha_1 \ln \text{EUGDP}_t + \alpha_{11} \ln \text{EUGDP}_t \phi_{tk} + \alpha_2 \ln \text{EXR}_t \\ & + \alpha_{22} \ln \text{EXR}_t \phi_{tk} + \varepsilon_t \end{aligned} \quad (7)$$

The second step is the estimation of any of the above GH equations that Cointegration exists by adding constructed dummy, based on the break dates identified from first step.

The dummy is equal to one from the break date onwards.

The econometric estimator employed for all the tests in this study is the Ordinary Least Square (OLS) given that, it is sufficient to estimate the liner regression models used in this study.

4.4 Econometric Estimation and Results

4.4.1 Unit root test

Firstly, the stationarity of the variables are tested using Zivot and Andrews (1992). The results from Table 1 indicate that $\ln \text{EXPORT}$, $\ln \text{EUGDP}$, and $\ln \text{EXR}$ are all non-stationary and $I(1)$ in their levels. The structural break that occurred in the export volumes from Lao PDR to the EU ($\ln \text{EXPORT}$) may be associated with the significant decrease in the export of wooden products affected by timber cultivation regulation introduced during 2006. In addition, the structural break occurred in the EU's GDP ($\ln \text{EUGDP}$) may refer to the impact of global financial crisis (2007-2009) as it is observed that there is a decline in the EU GDP growth started from 2008 (quarter 2). Lastly, the structural break occurred in the bilateral exchange rate between Lao PDR's

currency (kip) to that of EU (euro) may refer to the high investment inflow in the resource sector in 2005 which caused Lao PDR's currency (kip) to be appreciative. Moreover, it was the period of resource boom on Lao PDR, where in there was high export volume of resource products especially, the mining products.

Table 6: Unit root test with structural breaks 1996Q1-2015 Q4

Zivot-Andrews Unit Root Test			
Break in Trend			
Variable	Level	Difference	Break date
lnEXPORT	-3.433 (1)	-6.203***(1)	2006q2
lnEUGDP	-2.949 (1)	-6.726***(1)	2008q2
lnEXR	-3.978 (1)	-7.380***(1)	2005q2

Notes:

- Null hypothesis is the series is non-stationary or contains unit root.
- Lag selection via input reported in parenthesis, which ranges from 1 to 4 (maximum).
- ***, **, * represent the rejection of the null hypothesis at 1%, 5%, and 10% significance level respectively.

4.4.2 Cointegration Test

According to Johansen Cointegration test, there is no Cointegration among variables and this is probably because of this test does not allow for the structural breaks. The results are demonstrated in Table 7. Nevertheless, the Cointegration among variables existed from the GH Cointegration test. According to Table 8, the null hypothesis are rejected for all the four models and there are two break dates identified, which are breaks in 1999Q3 for models 1 to 3 and 2009Q4 for model 4 respectively. This implies that there is long run relationship between the export demand from Lao PDR to the EU, real EU GDP, and real bilateral exchange rate in which, it could have been probably influenced by crisis or related development policies occurred in 1999Q3 and 2009Q4. Such policies would include the impact of the Asian Financial Crisis from 1997 to 1999 and the complete tariffs and quotas removal of the remaining agricultural products (banana, rice, and sugar) since late 2009 in the EU GSP.

Table 7: Johansen Cointegration Test, 1996 Q1 -2015 Q4

Variables: lnEXPORT, lnEUGDP, lnEXR			
lag	Trace statistic	5% Critical value	Existence of Cointegration
1	10.09	15.41	No
2	25.72	29.68	No
3	15.13	15.41	No
4	14.27	15.41	No

Table 8: Gregory and Hansen Cointegration Test, 1996 Q1 -2015 Q4

GH model	Specification			
	Break date	GH test statistic	Critical Value	Existence of Cointegration
$\ln\text{EXPORT}_t = \alpha_0 + \alpha_1 \ln\text{EUGDP}_t + \alpha_2 \ln\text{EXR}_t + \varepsilon_t$				
GH-1	2009q4	-5.69	-5.44*** (4)	Yes
GH-2	2009q4	-5.66	-5.29**(4)	Yes
GH-3	2009q4	-5.53	-5.50 **(4)	Yes
GH-4	1999q3	-7.57	-6.45*** (1)	Yes

Note:

- Number of lags is reported in the parenthesis and the selection is based on the Akaike criterion in which it ranges from zero to four lag maximum.
- ***,** indicate the acceptance of Cointegration at 1%,5% significance level respectively.

Moreover, according to Table 9, GH-1 is found to be the most plausible model, given the coefficients of the independent variables (GDP and Exchange rate) are statistically significant with expected signs. The magnitude of the income effect is 0.91 and that of the price effect is -0.39 and both are statistically significant at 1% level. Thus, it can be argued that the export demand of Lao PDR to the EU has gone through a level shift, which has caused a change in the intercept. The results suggest that during the quarter 4 of 2009, on average 1% increase in the lagged income effect is likely to increase the export volumes from Lao PDR to the EU by around 0.91 %, *ceteris paribus*. In contrast, during the same period 1% increase in the lagged price effect is likely to cause a decrease in the export volumes by around 0.39%, *ceteris paribus*.

Table 9: Gregory and Hansen equation 1996 Q1 -2015 Q4

	Specification: $\ln \text{EXPORT}_t = \alpha_0 + \alpha_1 \ln \text{EUGDP}_t + \alpha_2 \ln \text{EXR}_t + \varepsilon_t$			
	GH-1(2009q4)	GH-2(2009q4)	GH-3(2009q4)	GH-4(1999q3)
intercept	-17.328(-1.90)*	-12.679(-1.17)	-9.616(-0.84)	80.136(0.56)
Dum×intercept	0.238 (1.99)*	0.085 (0.38)	-25.639(-0.61)	-87.411(-0.61)
Trend	-	0.006(0.80)	-0.010(-0.97)	-1.383(-1.56)
Dum×trend	-	-	-	0.149(1.67)*
$\ln \text{EUGDP}_{t-4}$	0.918(2.81)***	0.733(1.83)*	0.617(1.44)	-1.487(-0.32)
Dum× $\ln \text{EUGDP}_{t-4}$	-	-	1.627(0.97)	2.024(0.43)
$\ln \text{EXR}_{t-4}$	-0.390 (-6.60)***	-0.329(-3.44)***	-0.703(-6.14)***	0.721(0.90)
Dum× $\ln \text{EXR}_{t-4}$	-	-	2.280(1.84)	-1.005(1.25)

Note:

- The absolute t-ratios are in the parenthesis next to the coefficients
- The quarter break for the dummy variable is shown in the column header in parenthesis. It is equal to 1 from the quarter break onward.
- ***, **, * is 1%, 5%, 10% significance level respectively.

4.4.3 Export demand equation

The given GH model indicates that the main variables are cointegrated, the export demand model is estimated, to examine the long run relationship among variables based on specification (3). The results of export demand equation of Lao PDR-EU bilateral exports are reported in Table 10. The results are robust by estimating the export demand equation of the bilateral exports between Lao PDR-Germany and that of Lao PDR-UK respectively, given they are the two dominant EU export markets of Lao PDR and the results are reported in Table 11 and 12 accordingly²².

As shown in Table 10, the results of the export demand equation for Lao PDR-EU bilateral exports show that only lagged exports, lagged income effect and AFC had expected signs and therefore were statistically significant. The overall magnitude of the lagged exports were approximately 0.60 suggesting that on average 1% increase in the exports in the previous quarter is likely to decrease the current export volume by around 0.60%, ceteris paribus. For lagged income effect, its magnitude is approximately 1.00

²² The same unit root test and Cointegrated test were also carried out for the bilateral export between Lao PDR and these two countries. The results confirmed that all variable are all non-stationary and I(1) in their levels and there are Cointegration exist among them.

suggesting that on average 1% increase in the EU GDP in previous quarter is likely to increase the export volume from Lao PDR to the EU by around 1%, *ceteris paribus*. The overall magnitude of AFC is approximately 0.85 suggesting that with the presence of Asian financial crisis during 1997 to 1999, the export volume of Lao PDR to the EU decreased by around 0.85%, *ceteris paribus*.

In contrast, although the lagged export growth is found to be statistically significant but its impact is not negative as expected. Instead, it is seen that lagged export growth has positive impact and the overall magnitude is approximately 0.36 suggesting that on average 1% increase in the lagged export growth is likely to increase the export volumes from Lao PDR to the EU by around 0.36%, *ceteris paribus*.

In addition, while AFC were found to have a negative significant impact on the export flow from Lao PDR to the EU, other external shocks such as GFC and EU crisis were not found to have significant impact on the export volumes. There was same result for Lao exports to Germany and to the United Kingdom. According to the The World Bank (2009), Lao PDR has endured the GFC better than its neighbouring countries and some impacts of the crisis are the declining foreign direct investment, prices and demand for exports, particularly in the resource sectors and agriculture. However, the crisis had less impact on the tourism and manufacturing (garments) in early 2009, while the two sectors remained vulnerable. In addition, this given study yields similar results compared to Sayavong (2015) in that GFC is not found to have a significant impact on Lao PDR exports.

Furthermore, the results indicate that none of the dummies constructed based on the changes in the EU GSP policies have had significant impact on the export volumes from Lao PDR to the EU. In contrast to the study by Sayavong (2015), this study found that

EU GSP (EBA) is not a factor affecting the export volumes from Lao PDR to the EU. The coefficient of GSP is positive but statistically insignificant.

Concerning the EBA, it turned out to have negative impact, but statistically insignificant. This includes the impact of EBA with a complete tariffs and quotas removal of some agricultural products (banana, rice, and sugar) since late 2009 (quarter 4). From the discussion in chapter 2, it is seen that there is a huge increase in the exports of sugar from Lao PDR to the EU from just about US \$ 66,000 in 2008 to approximately US \$ 14 million in 2010. Likewise, the exports of rice significantly increased from around US \$ 100,000 to around US \$ 1 million for the same period.

However, sugar and rice shared only very small proportion in Lao PDR's top exported products to the EU over the period 2000-2014. For example, in 2010, sugar shared only about 8.44% and rice shared only 0.46%. This is due to the limited production capacity (e.g., for sugar production, only two factories produced sugar and the first factory was just built in 2008²³, only a year prior to the sugar was admitted duties free and quotas free from the EU). As for rice, the small share can be the result of the introduction of the regulation on rice exportation in 2010 in which the export quantity is subject to the domestic demand, and is fulfilled.²⁴

What's more, while the export volumes of garment have increased consistently, its share in the total exports to the EU has gradually decreased. As a result, a complete removal of the three agricultural products did not make the EBA become significant determinant of Lao Exports to the EU. There were same findings for bilateral export between Lao PDR and Germany and between Lao PDR and the United Kingdom. The results are reported in Table 11 and 12 respectively.

²³ At present, there are only three factories producing sugar in Lao PDR.

²⁴ See more details from the discussion in Chapter 2.

Likewise, EBA_RoO, which reflects the impact of Rules of Origin, was not a significant factor affecting the bilateral export between Lao PDR and the EU as expected. This could be due to the increased export competitiveness in garments, which is the highly concentrated exported product of Lao PDR to the EU. Recently, there are changes in the export market share of clothing (both woven and non-woven) in the EU market for the Asia LDC economies. For instance, during 2010-2014 with the implementation of the revised RoO in 2011, there was a massive increase in the exports of clothing from Bangladesh and Cambodia to the EU and the share of Bangladesh increased from around 9.30% in 2010 to about 15% in 2014. Likewise, the share of Cambodia's clothing exports in the EU market jumped from approximately 0.95% in 2010 to around 3.04% in 2014. This finding is in line with that of the study by Cuyvers and Soeng (2013) that the increased EU imports is not due to the effectiveness of the EU GSP scheme, but is attributed to the comparative advantage of the exporting countries. Further, Gnangnon and Priyadarshi (2016) confirmed that the EBA did not have a significant impact on the manufactured exports from the beneficiaries to the EU.

In addition, it is important to note that for Lao PDR, the volume of exports were steady and the share of clothing in the total exports to the EU had even declined while the share of agricultural products such as coffee and sugar had increased. One of the main causing factor could be due to the high relative export competitiveness among the LDCs in the same region as discussed above and the supply constraint is another potential factor as pointed out earlier by (Aiello & Cardamone, 2011). Also, according to the recent report from the Lao garment association, many garment factories faced shortage in labour and thus led to low production capacity (Ounkham, 2015). Therefore, can be argued, that the current EU GSP RoO is not a factor that can help increase the exports of Lao PDR to the EU. There were same finding for bilateral export between Lao PDR and

Germany and between Lao PDR and the United Kingdom in which results are reported in Table 11 and 12 accordingly.

To sum up, given the fact that none of the EU GSP dummies were found to be significant factors affecting the exports from Lao PDR to the EU. It seems that the possible factor is the increased export competitiveness as discussed in chapter 2. According to Hoekman, Martin, and Braga (2005), the authors argue that the individual LDC can experience further loss from the rising export competitiveness given the high concentration in exports of the products that has the biggest preferences. For Lao PDR, the highest share of exported products to the EU is garment, which accounts for about 60% to 85%. As a result, it can be concluded that the decline in export competitiveness and supply constraints seem to be an important factor affecting the export volumes from Lao PDR to the EU, even in presence of a EBA GSP.

Table 10: Export demand equation for Lao PDR-EU bilateral export

	(1)	(2)	(3)	(4)	(5)	(6)
$\Delta \ln \text{EXPORT}_{t-i}$	0.412*** (0.113)	0.361*** (0.074)	0.361*** (0.074)	0.357*** (0.075)	0.358*** (0.074)	0.354*** (0.075)
$\Delta \ln \text{EUGDP}_{t-i}$	0.144 (0.975)	-0.442 (0.761)	-0.442 (0.761)	-0.603 (0.756)	-0.703 (0.725)	-0.710 (0.740)
$\Delta \ln \text{EXR}_{t-i}$	0.222 (0.198)	0.047 (0.146)	0.047 (0.146)	0.008 (0.147)	-0.032 (0.135)	-0.008 (0.137)
$\ln \text{EXPORT}_{t-1}$	-0.630*** (0.114)	-0.566*** (0.094)	-0.566*** (0.094)	-0.570*** (0.094)	-0.558*** (0.095)	-0.574*** (0.098)
$\ln \text{EUGDP}_{t-1}$	0.232 (0.324)	0.966*** (0.334)	0.966*** (0.334)	1.023*** (0.333)	0.922*** (0.350)	1.033*** (0.341)
$\ln \text{EXR}_{t-1}$	-0.221*** (0.082)	0.030 (0.109)	0.030 (0.109)	0.061 (0.119)	0.134 (0.107)	0.077 (0.109)
Time effect	0.008*** (0.003)	0.002 (0.003)	0.002 (0.003)	0.001 (0.004)	0.007 (0.006)	0.001 (0.005)
GSP		0.191 (0.188)				
EBA			-0.191 (0.188)			
EBA_P				-0.058 (0.151)		
EBA_F					-0.253 (0.302)	
EBA_RoO						0.039 (0.178)
AFC		-0.886*** (0.172)	-0.886*** (0.172)	-0.867*** (0.172)	-0.851*** (0.170)	-0.855*** (0.170)
GFC		-0.089 (0.112)	-0.089 (0.112)	-0.728 (0.113)	-0.110 (0.119)	-0.068 (0.118)
EUCrisis		0.010 (0.099)	0.010 (0.099)	-0.008 (0.128)	0.141 (0.418)	0.019 (0.100)
Constant	-2.189 (8.897)	-20.955** (9.022)	-20.764*** (9.040)	- 21.907** * (9.069)	-19.577** (9.365)	-22.039*** (9.185)
Adjusted R ²	0.352	0.520	0.520	0.513	0.518	0.513
Sample	77	75	75	75	75	75
F Statistic	6.92***	8.30***	8.30***	8.11***	8.23***	8.09***
Root MSE	0.325	0.254	0.254	0.256	0.255	0.256

Note:

- Standard errors are reported in the parenthesis and the selection is based on the Schwarz Information Criterion in which it ranges from zero to two lags maximum. But some cointegratoin among variables were found in lag 4, so we extended the number of lags from 2 to 4.

- ***, **, * indicate the coefficient is at 1%, 5% , and 10% significance level respectively.

Table 11: Export demand equation for Lao PDR-Germany bilateral export

	(7)	(8)	(9)	(10)	(11)	(12)
$\Delta \ln \text{EXPORT}_{t-i}$	0.385*** (0.084)	0.392*** (0.077)	0.392*** (0.077)	0.389*** (0.078)	0.393*** (0.078)	0.391*** (0.079)
$\Delta \ln \text{GDP}_{t-i}$	-0.590 (0.845)	-0.289 (0.803)	-0.289 (0.803)	-0.492 (0.800)	-0.663 (0.775)	-0.640 (0.785)
$\Delta \ln \text{EXR}_{t-i}$	-0.124 (0.154)	0.177 (0.157)	0.177 (0.157)	-0.027 (0.158)	-0.095 (0.100)	-0.082 (0.148)
$\ln \text{EXPORT}_{t-1}$	-0.622*** (0.103)	-0.665*** (0.097)	-0.665*** (0.097)	-0.677*** (0.098)	-0.655*** (0.095)	-0.667*** (0.102)
$\ln \text{GDP}_{t-1}$	0.372 (0.328)	0.655* (0.387)	0.655* (0.387)	0.764* (0.386)	0.660 (0.408)	0.750* (0.391)
$\ln \text{EXR}_{t-1}$	-0.158*** (0.065)	-0.014 (0.107)	-0.014 (0.107)	0.012 (0.119)	0.121 (0.108)	0.084 (0.106)
Time effect	0.013*** (0.003)	0.011*** (0.004)	0.011*** (0.004)	0.008* (0.004)	0.015** (0.007)	0.011* (0.005)
GSP		0.297 (0.200)				
EBA			-0.297 (0.200)			
EBA_P				-0.128 (0.160)		
EBA_F					-0.242 (0.327)	
EBA_RoO						-0.027 (0.187)
AFC		-0.798*** (0.182)	-0.798*** (0.182)	-0.775*** (0.184)	-0.747*** (0.182)	-0.754*** (0.183)
GFC		0.056 (0.123)	0.056 (0.123)	0.086 (0.124)	0.038 (0.133)	0.067 (0.134)
EUCrisis		0.092 (0.109)	0.092 (0.109)	0.043 (0.138)	0.222 (0.187)	0.112 (0.111)
Constant	-7.047 (8.469)	-12.751 (9.938)	-12.454 (9.963)	-14.665 (10.001)	-12.331 (10.390)	-14.282 (10.083)
Adjusted R ²	0.425	0.537	0.537	0.526	0.525	0.521
Sample	75	75	75	75	75	75
F Statistic	8.82***	8.83***	8.83***	8.48***	8.46***	8.34***
Root MSE	0.301	0.270	0.270	0.273	0.273	0.274

Note:

- Standard errors are reported in the parenthesis and the selection is based on the Schwarz Information Criterion in which it ranges from zero to two lags maximum. But some cointegration among variables were found in lag 4, so we extended the number of lags from 2 to 4.

- ***, **, * indicate the coefficient is at 1%, 5%, and 10% significance level respectively

Table 12: Export demand equation for Lao PDR-UK bilateral export

	(13)	(14)	(15)	(16)	(17)	(18)
$\Delta \ln \text{EXPORT}_{t-i}$	0.112 (0.107)	0.154 (0.099)	0.154 (0.099)	0.153 (0.099)	0.142 (0.099)	0.144 (0.100)
$\Delta \ln \text{GDP}_{t-i}$	-0.858 (1.516)	-1.862 (1.577)	-1.862 (1.577)	-1.640 (1.548)	-1.404 (1.567)	-1.407 (1.596)
$\Delta \ln \text{EXR}_{t-i}$	-0.062 (0.264)	0.071 (0.266)	0.071 (0.266)	0.086 (0.265)	0.182 (0.248)	0.186 (0.249)
$\ln \text{EXPORT}_{t-1}$	-0.492*** (0.107)	-0.522*** (0.104)	-0.522*** (0.104)	-0.511*** (0.104)	-0.510*** (0.106)	-0.513*** (0.105)
$\ln \text{GDP}_{t-1}$	1.347** (0.582)	2.392*** (0.662)	2.392*** (0.662)	2.227*** (0.651)	2.182*** (0.706)	2.224*** (0.681)
$\ln \text{EXR}_{t-1}$	-0.228** (0.112)	0.217 (0.179)	0.217 (0.179)	0.234 (0.199)	0.121 (0.178)	0.105 (0.166)
Time effect	0.002 (0.005)	-0.006 (0.006)	-0.006 (0.006)	0.000 (0.007)	-0.001 (0.013)	-0.003 (0.011)
GSP		-0.380 (0.343)				
EBA			0.380 (0.343)			
EBA_P				0.273 (0.271)		
EBA_F					-0.153 (0.565)	
EBA_RoO						-0.050 (0.323)
AFC		-0.953*** (0.274)	-0.997*** (0.274)	-0.965*** (0.274)	-0.997*** (0.274)	-0.998*** (0.274)
GFC		-0.079 (0.204)	-0.126 (0.218)	-0.123 (0.204)	-0.126 (0.218)	-0.115 (0.214)
EUCrisis		0.089 (0.185)	0.128 (0.314)	0.203 (0.233)	0.128 (0.314)	0.063 (0.186)
Constant	-33.311** (14.564)	- 55.192** *	- 51.482** *	- 52.901** *	-51.482*** (17.339)	- 52.398** *
		(16.339)	(17.339)	(16.276)		(16.873)
Adjusted R ²	0.184	0.311	0.311	0.309	0.299	0.298
Sample	75	76	76	76	76	76
F Statistic	3.39***	4.08***	4.08***	4.05***	3.91***	3.90***
Root MSE	0.496	0.470	0.470	0.470	0.474	0.474

Note:

- Standard errors are reported in the parenthesis and the selection is based on the Schwarz Information Criterion in which it ranges from zero to two lags maximum. But some cointegratoin among variables were found in lag 4, so we extended the number of lags from 2 to 4.

- ***, **, * indicate the coefficient is at 1%, 5%, and 10% significance level respectively.

4.5 Summary

This chapter presented the empirical analysis and its results. For this study, the impact of EU GSP (EBA) scheme on the export volumes from Lao PDR to the EU over the period 1996 to 2015 were estimated by using an export demand model. Prior to the estimation of the export demand model, unit root test of stationarity was performed for the applied quarterly time series data. By taking into account of the structural breaks, this study applied the Zivot and Andrews (1992). Given, the test showed that all the variables are non stationary and $I(1)$ in their levels, the two Cointegration tests were then conducted using, the Johansen Cointegration test and Gregory and Hansen (GH) Cointegration Test. The results of the Cointegration test suggest that the Cointegration among variables was found in the latter, but not in former. This is because the latter method takes into account the structural breaks. Lastly, the export demand model followed the ADRL model, which was estimated by adding some dummies based on the changes in the EU GSP policies and some related external shocks dummies were also included into the model.

The export demand model was not only estimated for the bilateral export between Lao PDR and the EU, but also for bilateral export between Lao PDR and Germany and the United Kingdom respectively; given these two countries are the two dominant EU export markets of Lao PDR. The results of the estimated export demand models show that none of the dummies constructed based on the changes in the EU GSP policies have had significant impact on the export volumes from Lao PDR to the EU, Germany, and the United Kingdom respectively. This includes the dummies of interest, the full impact of EBA when tariffs and quotas of the remaining agricultural products (banana, rice, and sugar) were completely removed since late 2009 and the impact of the revised rules of origin, which came into effect since early 2011.

The regression also shows similar results for the export demand models of the bilateral exports between Lao PDR and Germany and between Lao PDR and the United Kingdom. Nevertheless, it is found that Asian financial crisis (1997 to 1999) had an adverse impact on the export volumes from Lao PDR to the EU and also on export volumes from Lao PDR to Germany, as well as the United Kingdom accordingly.

Chapter 5: Conclusion and Policy Implication

The GSP is a unilateral preferential trade agreement which is extended to developing and LDCs, the EU GSP. In particular, the EBA is currently amongst the most generous scheme that provides the broadest duty free market access coverage to the EU. Given, the EU is one of the major trading partners of Lao PDR and one of Lao PDR's GSP providers, this study analyses in particular, the impact of the EU GSP and whether, it had any impact on the exports of Lao PDR to the EU.

5.1 Main Findings

Lao PDR's exports to the world have been increasing steadily over the period under investigation. Its exports to the EU have also been an important steady expansion throughout the period under observation when compared with its overall exports. However, whilst its overall exports to the EU have been on the rise, an observation shows that its major export e.g. garment has been on the decline.

The results of this study show that the presence of EBA did not significantly affect the export volumes from Lao PDR to the EU, regardless of all the recent significant changes in the EU GSP scheme such as complete removal of agricultural products in late 2009, and the revised RoO in 2011. However, this study finds that external shock such as the Asian Financial Crisis has had significant negative impact on the export volumes from Lao PDR to the EU during the observed period. The empirical results show that the Asian Financial Crisis caused a decrease of approximately 0.85% of its export volumes. In contrast, this study found that other external shocks such as the Global Financial Crisis and the EU debt crisis did not have significant impact on the export flow from Lao PDR to the EU.

More importantly, declined export competitiveness and limited production capacity are the actual factors affecting Lao PDR's export demand from the EU. This is particularly significant in garment sector, which is the top export product from Lao PDR to the EU. Lao PDR's share of garment exports to the EU has been on a gradual steady decline, whilst its neighbours have seen a remarkable increase in garment exports particularly in Bangladesh and Cambodia. The contraction of Lao PDR's garment exports to the EU, is attributed as argued in previous chapters, to its persistent loss in export competitiveness. The main factors, which have caused the decline in the competitiveness of the sector are the shortage of labour and low skilled labour, appreciation of Lao currency, and increased cost of production. This has been the main factors affecting its supply of garment to the EU.

5.2 Contribution to the Literature by this Research

This research is the first empirical study, which analyses the impact of changes in the EU GSP on bilateral trade between Lao PDR and the EU. It examines in particular the factors, which potentially affect the effectiveness of EBA scheme on Lao exports to the EU. Findings from studies on the impact of EBAs, (Aiello & Demaria, 2009; Cirera, Foliano, & Gasiorek, 2016; Gil-Pareja, Llorca-Vivero, & Martínez-Serrano, 2014; Gnanngnon & Priyadarshi, 2016; Yu & Jensen, 2005) are mixed. This study follows the study carried out by Cuyvers and Soeng (2013) which analyses the impact of changes in the EU GSP in particular on complete tariffs and quotas removal of the remaining agricultural products (banana, rice, and sugar) in late 2009 and the application of the new revised RoO effective from 2011. The results from this study show that none of the changes in the EU GSP (EBA) has had significant impact on Lao exports to the EU.

The findings have important policy implication for Lao PDR. Some of the key findings are that the actual factors affecting Lao exports to the EU are not the market access but they are the limited production supply and the decline in the comparative advantage of its export products. The policy recommendation is that in order for Lao PDR to effectively make use of its EU GSP (EBA) market access preferences, it should first and foremost address its supply side constraints and competitiveness factors. This is particularly important given the current context of Lao PDR's plan to graduate from its LDC status.(Ministry of Planning and Investment, 2016). By 2025, the country will no longer be eligible for EBA market access scheme as foreseen. As planned, if this target achieved, then 2028 will be the expiry date of EBA and all other related LDCs will preference for Lao PDR.

In addition, the data from this study indicates that the United Kingdom is currently the second largest markets of Lao PDR. This presents a new challenge in the light of the UK's imminent exit from the EU in 2019. Therefore, Lao PDR may urgently need to prepare for a trade talk with the United Kingdom and prepare for alternative types of preferential trade arrangements too.

Lastly, given that supply side constraints have been identified as some of the key factors affecting Lao PDR's export capacity, it is recommended that aid for trade program²⁵ should focus on addressing the supply side and in particular the production capacity of Lao PDR in those products which have export potential to the EU. Trade facilitation has important bearing on the cost of trade; Lao PDR as a landlocked country in particular sensitive to trade facilitation cost. Trade facilitation cost has the effect of a tariff and greatly reduces country competitiveness. The Government of Lao PDR has prioritised

²⁵ For instance, the establishment of the Lao Garment Services Center from 2009 to 2013 in which the aim of the project is to enhance the competitiveness of Lao PDR garment industry. (Ministry of Industry and Commerce of Lao PDR, n.d).

trade facilitation as one of the main areas of capacity building and infrastructure investments. To recommend that more work on trade facilitation may be in need to stimulate trade growth for Lao PDR. The Lao trade portal launched in 2012²⁶ is a good example of trade facilitation program for Lao PDR, which is the single stop point for all information relating to imports and exports into and from Lao PDR. In addition, the government of Lao PDR has recently ratified the trade facilitation program under the WTO, in 2015. All these initiatives can help improve Lao PDR's international trade.

5.3 Direction for Future Research

One of the major challenges faced in undertaking this research has been the paucity of data and its reliability. The results of this study, could be improved further by conducting a firm level survey, which would shed light on the factors affecting the efficiency of GSP scheme and the ability of firms meeting the requirement set in these schemes. This would help improve the understanding of why the GSPs did not work for Lao exporters. Furthermore, understanding the impact of EU GSP (EBA) at a product level would have important sector and product specific policy recommendations, which would help target resources to key areas of potential Lao exports to the EU²⁷.

²⁶ See <http://www.laotradeportal.gov.la/>

²⁷ See <http://www.intracen.org/layouts/CountryTemplate.aspx?pageid=47244645034&id=47244652175> for the list of the top 20 export potential in Lao PDR.

Appendices

Appendix 1: Lis of current FTAs that Lao PDR is a member

No	Name	Effective date	Members
1	Asia-Pacific Trade Agreement	17 June 1976	Bangladesh, India, Lao PDR, People's Republic of China, Republic of Korea, and Sri Lanka
2	Laos-Thailand Preferential Trading Arrangement	20 June 1991	Lao PDR and Thailand
3	ASEAN Free Trade Area	1 January 1993	10 ASEAN member countries (Brunei, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippine, Singapore, Thailand, and Vietnam)
4	ASEAN-China Free Trade Agreement	1 July 2005	10 ASEAN member countries plus People's Republic of China
5	ASEAN-Republic of Korea Free Trade Agreement	1 June 2007	10 ASEAN member countries plus Republic of Korea
6	ASEAN-Japan Comprehensive Economic Partnership	1 December 2008	10 ASEAN member countries plus Japan
7	ASEAN-India Comprehensive Economic Cooperation Agreement	1 January 2010	10 ASEAN member countries plus India
8	ASEAN-Australia New Zealand Free Trade Agreement	1 January 2010	10 ASEAN member countries plus Australia and New Zealand
		Negotiation launched	
9	Regional Comprehensive Economic Partnership	9 May 2013	10 ASEAN member countries plus People's Republic of China, Republic of Korea, Japan, India, Australia, and New Zealand
10	ASEAN-Hong Kong, China Free Trade Agreement	10 July 2014	10 ASEAN member countries plus Hong Kong

Source: Asian Development Bank (2015)

Appendix 2: List of current unilateral preferential trade agreements that Lao PDR is a Recipient

No	Type of scheme	Provider	Product coverage	tariffs	Entry into force
1	GSP	EU	6,936 of 9,414	Zero	01/07/1971
2	GSP	Japan	3,779 of 9,321	Zero	01/08/1971
3	GSP	Norway	1,056 of 6,963	Zero	01/10/1971
4	GSP	New Zealand	3,129 of 7,510	Zero	01/01/1972
5	GSP	Switzerland	2,349 of 8,299	Zero	01/03/1972
6	GSP	Australia	3,241 of 6,184	Zero	01/01/1974
7	GSP	Canada	2,038 of 7,129	Zero	01/07/1974
8	GSP	Turkey	9,613 of 16,515	Zero	01/01/2002
9	GSP	Iceland	1,828 of 8,593	Zero	29/1/2002
10	GSP	Kazakhstan	2,472 of 11,610	Zero	01/01/2010
11	GSP	Russian Federation	2,472 of 11,610	Zero	01/01/2010
12	LDC-specific	Tajikistan	N/A	N/A	25/10/2003
13	LDC-specific	Taipei, Chinese	137 of 8,930	Zero	17/12/2003
14	LDC-specific	Kyrgyz Republic	5,879 of 10,991	Zero	29/3/2006
15	LDC-specific	India	10,478 of 11,469	Zero	13/8/2008
16	LDC-specific ²⁸	China	459 of 7,977	Zero	01/07/2010
17	LDC-specific	Chile	7,709 of 7,785	Zero	28/02/2014
18	LDC-specific	Thailand	6,993 of 9,559	Zero	09/04/2015

Source: Source: Lao PDR Trade Portal (2012) and World Trade Organization (n.d-b)

²⁸ China has granted this special tariff treatment for Lao PDR under ASEAN-China FTA prior to the conclusion of this FTA in 2005.

Appendix 3: Summary of Literature

Authors/year	Methodology	Key findings
Theoretical literature		
Murray (1973)	Descriptive analysis, for the case of impacts of EU and Japanese GSP.	<p>The benefit of GSP for LDCs is subject to the price incentive caused by the preferential tariff margin and their supply response.</p> <p>Imposing ceiling or limited quantity of preferential imports for domestic protection purpose tended to limit the LDC's export and export earnings.</p>
Panagariya (2002)	Descriptive analysis on each arrangement of the EU GSP including the EBA for LDCs	<p>The potential agricultural products of LDCs (banana, rice, and sugar) remained admitted duty regardless of the potential agricultural export of LDCs is negligible.</p> <p>Rules of Origin may be difficult for small and poor countries to comply with given mostly they are able to produce goods with simple operation such as assembling.</p>
Brenton (2003)	Descriptive analysis	<p>Market access and price volatility, and limited production capacity are the main factors affecting the export volume from LDCs to the EU.</p> <p>The delay on removing tariffs on some agricultural products (banana, rice, and sugar) is another factor causing the EBA being ineffective</p> <p>Rules of Origin could be the another factor causing the EBA being less utilised</p>

Brenton and Manchin (2003)	Descriptive analysis in particular, for those countries that export clothing and textile.	<p>EBA that has the same ROO as the GSP would not help improve market access of Lao PDR to the EU.</p> <p>Lao PDR was unable to satisfy the ROO of textile and clothing products. In 1997, only 6 of these products from Lao PDR exported to the EU.</p> <p>For textile and products, the ROO required a curtailed value added to the final production in the beneficiaries, but most of them were able to perform simple assemble or with less technical operation.</p>
Empirical studies		
Fugazza (2004)	<p>Gravity model, to estimate bilateral export flow of 84 countries using Quantile regression.</p> <p>Market access is the external determinant of export performance, while internal factors are related to supply capacity.</p>	<p>Poor supply production capacity is often found to be more constraint on export performance</p> <p>The increased production capacity can be a factor of the export growth of South Asian countries.</p> <p>For African and Middle East countries, they have faced the huge supply capacity bottleneck since last two decades.</p>
Yu and Jensen (2005)	<p>Global Trade Analysis Project (GTAP) model with 19 aggregated regions and 20 aggregated products.</p> <p>Most LDCs grouped as one region.</p> <p>Scenario on eliminating EU' tariffs on all imports from</p>	<p>The EBA is not likely to benefit LDCs given limited product coverage.</p> <p>The gains are likely to come from the remaining agricultural products (especially sugar) in which these products still subject to duty.</p> <p>Imperfect market and supply</p>

	LDCs.	<p>constraint seems to be the actual affecting the impact of EBA</p> <p>Other penitential factors are EBA's safeguard and RoO that were not taken into account in this empirical analysis.</p>
Aiello and Demaria (2009)	Gravity model for 769 agricultural products exports from 169 countries (including Lao PDR) to the EU over the period 2001-2004. The impact of EBA is estimated based on its preferential margin which calculated from the difference between the MFN and Preferential tariff divided by MFM	EBA had positive significant impact on agricultural exports from LDCs, but for some particular products only.
Aiello and Cardamone (2011)	Same methodology as Aiello and Demaria (2009) but longer time period from 1995-2006. Also, only five agricultural products were selected for the estimation based their export intensity of LDCs, the actual preference of EBA, and the intra-year distribution of EU tariffs	<p>Out of the five products, only exports of Crustaceans and vanilla beans were positively affected by the EBA.</p> <p>The coefficients of the gravity model are the average impact of EBA on the entire set of LDCs, as a result the impact of an individual LDC cannot be correctly captured by this model.</p> <p>Only few LDCs exported to the EU, which could be due to the poor supply capacity and other non-tariff barrier such as trade costs associated to ROO.</p> <p>Suggestion is to choose potential export products of beneficiaries.</p>

Zhou and Cuyvers (2012)	Statistical analysis using trade data for the period 1990-2007 at aggregate level, sector level, and individual ASEAN beneficiaries of EU GSP.	ASEAN LDCs (excluded Myanmar) has utilised the GSP (EBA) at high rate and their exports to the EU have significantly increased. This dues to the bigger product coverage under EBA and they are in the stage of getting familiar with the scheme and thus higher utilisation rate.
Cuyvers and Soeng (2013)	Export demand model with panel data for two groups of countries, the ASEAN plus China and the Latin American over the period 1994-2007. Not on a country basis, two models were estimated; one on the export volume and the other on utilisation of GSP.	<p>Changes in the EU GSP including the EBA have negative impact on the agricultural exports from both country group given the slow reaction of this product exports to the changes made.</p> <p>Neither industrial nor textile products exports was affected by the EU GSP policy changes.</p> <p>ASEAN plus China has exported more industrial and textile products compared to the Latin America given the former group has better industrial structure and industrial development.</p> <p>Low utilisation degree was found for the LDCs and the positive impact of the EU's industrial imports is not caused by the effectiveness of the GSP changes, but due to the competitive advantage of the middle-income country of the two country groups.</p>
Gil-Pareja et al. (2014)	Gravity model with panel data for 177 countries (including Lao PDR) over the period 1960-2008 (four-year interval).	<p>EBA has had positive impacts on the exports of the beneficiaries including Lao PDR to the EU.</p> <p>The impact of individual non-</p>

		reciprocal trade agreement is varied depend on the degree of its preference, different product coverage and the flexibility of rules that govern each regime.
Cirera et al. (2016)	<p>Gravity model with panel data for exports from 219 countries to the EU for the period 2002-2008.</p> <p>The impact of each preferential trade regime was estimated via their preferential margin.</p>	<p>EBA has had positive impact on trade flow (intensive margin) and the opposite impact found for extensive margin.</p> <p>Two major problems of using the gravity model for this study is 1)the difficulty to identify which preference is used for each exports and 2) the zero trade flow regardless of the availability of preferences.</p> <p>The impact of a preferential trade regime can be different due to other factors such as: different product coverage, ROO, non-tariff barrier, and investment linked to each trade arrangement.</p>
Gnangnon and Priyadarshi (2016)	<p>using export demand functions (total exports, total export of primary product, total export of manufactured products), panel data consists of 41 LDCs including Lao PDR for a period of 1995 to 2013</p> <p>The impact of DFQF including EBA was captured by the DFQF dummy, in which it is zero from 1995 to 2005 and unity from 2005 to 2013.</p>	<p>The impact of DFQF (including EBA) has had positive significant impact on the total exports of LDCs and the export of primary products while it was found to be insignificant for manufactured products.</p>

Nolintha and Jajri (2016)	Calculation of Reveal Comparative Advantage Index	<p>The Comparative Advantage (RCA) garment industry has substantially declined from 13.02 in 2001 to 3.71 in 2011. This was the results of the increasing production cost, external crisis, and local currency appreciation.</p> <p>The sharp decrease started from 2006.</p>
Sayavong (2015)	<p>A stochastic frontier gravity model with panel data for the period 2001-2011 with 34 trading partners of Lao PDR</p> <p>GSP is included as a dummy variable indicate whether the trading partner grants Lao PDR the GSP or not.</p>	<p>GSP was found to be a significant determinant of Lao PDR's export and thus has contributed to the export growth of Lao PDR.</p> <p>GFC did not affect the export of Lao PDR.</p>

Appendix 4: Note on data compilation

1. Real Export volume

It is available in quarterly in US dollar and then, Lao CPI deflates it.

2. Real EU's GDP

It is available in quarterly and in EU's currency. Thus, it is converted into US's currency. Then, it is being deflated by EU (28)'s HICP and the base rate is re-referenced from 2015 to 2010 Q4.

3. Real bilateral exchange rate

The bilateral real exchange rate for one kip against one euro is calculated based on the following formula:

$$\text{Real exchange rate} = PD/E * Pf.$$

- PD = domestic price of exports or Lao PDR's Consumer Price Index
- E = exchange rate measured as the price of foreign currency in domestic currency or kip/Euro
- Pf = price of trading partners or EU (28)'s Harmonised Index of Consumer Prices

Notes:

- 1) Lao PDR's CPI is a discontinuous data which is available both monthly and quarterly. Monthly data is converted into quarterly data.
- 2) Kip/EU is also a discontinuous data available in monthly and then is converted into quarterly. Kip/EU is computed by multiplying Lao/US \$ with US \$/Euro.

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