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INDUSTRIAL POLICY AND THE WTO WITH SPECIAL REFERENCE TO THE LEAST DEVELOPED COUNTRIES' EXCEPTIONS[1]

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List of Abbreviations

AB	Appellate Body
ADA	Anti-Dumping Agreement
ADB	Asian Development Bank
AFTA	ASEAN Free Trade Area
AGP	Agreement on Government Procurement
AILP	Agreement on Import Licensing Procedures
AMS	Aggregate Measurement of Support
AOA	Agreement on Agriculture
ASEAN	Association of Southeast Asian Nations
ATC	Agreement on Textile and Clothing
BOP	Balance of Payment
CEPT	Common Effective Preferential Tariff
CTG	Council for Trade in Goods
CVD	Countervailing Duties
DSB	Dispute Settlement Body
EPZ	Export Processing Zone
FDI	Foreign Direct Investment
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
IMF	International Monetary Fund

IP	Industrial Policy
IPRs	Intellectual Property Rights
ITT	International Technology Transfer
Lao PDR	Lao People's Democratic Republic
LDC	Least Developed Country
MDG	Millennium Development Goal
MFN	Most Favoured Nation treatment
MNC	Multi-national Corporation
NDC	Newly Developed Country
NSEDP	Laos National Socio-Economic Development Plan
NT	National Treatment
NTB	Non-Tariff Barriers
NTFP	Non-Timber Forest Products
ODC	Other Duties and Charges
R&D	Research and Development
RBP	Restrictive Business Practice
S&D	Special and Differential Treatment
SCM	Subsidies and Countervailing Measures
SEZ	Special Economic Zone
SGA	Agreement on Safeguards
SPS	Sanitary and Phytosanitary measures
SSG	Special Safeguard provision
STE	State Trading Enterprise

TRIMS	Agreement on Trade-Related Investment Measures
TRIPS	Agreement on Trade-Related Intellectual Property Rights
UPOV	Union for the Protection of New Varieties of Plants
UR	Uruguay Round
VAT	Value Added Tax
VER	Voluntary Export Restraint
WIPO	World Intellectual Property Organization
WTO	World Trade Organization

Executive Summary

Industrial policies, known as a nation's strategic effort to influence sectoral development and national industry portfolio, have been widely used to forge development especially in the context of Least Developed Countries (LDCs). The industrial policy objectives and instruments have changed over time following a conceptual evolution of industrial policy and also vary according to country-specific situations. Recent research has shown growth accelerations based on structural or diversification of manufacturing industry have exerted the most enduring impact on developing countries.

Given Laos' Economic and Social development, the present memorandum aims to analyze the industrial development objectives of Laos, and subsequently come up with policies recommendations that help to upgrade the industrial structure of Laos' product space. Based on the current economic and geographic situation, Laos enjoys certain comparative advantages in high-end agricultural products, garment and handcraft, wood and forest products. These industries can serve as the starting point of Laos' economic development. However, special emphasis should be put on the dynamic development of the industry profile. Analysis reveal that currently the product portfolio of Laos remains undiversified and largely resource driven. In order to develop a high-end modernized industry structure, Laos should strive to develop the backward and forward linkages of the industry. A few policy recommendations with regard to the industry modernization are given at the end of the memorandum.

The rest of the memorandum features an examination of the policy instruments from economic and legal perspective. Five main categories of industrial policies, namely import barriers, aid to enterprises, export promotion, technological promotion and investment measures, are most commonly practiced by industrializing countries and thus the policy discussion is followed by the categories.

In the context of Laos' accession to the WTO, certain policy instruments are more pertinent to its development objective. These positive industrial policy instruments include:

Export promotion related

- Marketing of domestic industries and firms
- Export finance, insurance, guarantees
- Export quality management
- Export promotion organizations
- Export processing zones

Aid to Enterprises

- Government assistance to R&D
- Credit subsidy

- Regional assistance

Technological Promotion

- Facilitating reverse engineering and imitation
- Technological transfer through FDI
- Education and human capital development

The analysis of the WTO legal regime reveals that LDCs enjoy a special position, reflected both in the interaction with other WTO Member states within the organization and in the legal discipline established for them by the WTO Agreements.

The number of Ministerial initiatives and the variety of programmes of technical assistance coordinated by the WTO Secretariat bear witness to the WTO effort at supporting capacity-building and overcoming supply-side constrains faced by LDCs.

Further, the legal discipline designed by the most relevant agreements dealing with trade in goods shows that a broad margin of action exists for LDCs. Either the exceptions built-in a number of obligations or the special and differential treatment (S&D) accorded to LDCs permit to use many of the policy tools listed under the different catalogues of IP objectives.

What matters most is the way in which an LDC chose among different policy options apt at meeting the same objective. Proof of that is provided, for instance, by the discipline of subsidies or by some aspects of the protection of IPRs through patents.

After an in-depth analysis of the legal regime designed by each WTO Agreement, the focus of analysis shifts toward a reconciliation between the economic and the legal perspective. The goal sought is understanding to what extent the two rationales overlap and, thereby, identify the ‘development space’ effectively enjoyable by LDCs.

The memorandum concludes that the WTO legal framework provided more policy flexibilities than is commonly assumed. In most cases, it is not the WTO Agreements *per se* that restricts the flexibilities of industrial policies, but the incapability of LDCs to take full advantages of these flexibilities. What is truly needed, perhaps, is not a reform the current WTO jurisdiction, but rather legal assistance provided for LDCs to take better advantage of the global trading system.

General Introduction

Industrial policy (thereafter, 'IP') can be seen as 'a nation's declared, official, total strategic effort to influence sectoral development and, thus, national industry portfolio.'[1]

Historically, there is a growing consensus that most developed countries, including United Kingdom, United States, Germany and France, have intervened actively in their domestic economy through industrial policies[2]. These early examples are followed by interventionist import substitution strategies pursued in Latin American countries such as Brazil, Mexico or Argentina[3]. More recently, the rapid growth of East Asian economies, or the Newly Industrialized Countries (NICs), has also been associated with active industrial policies that selectively promoted manufacturing and facilitated technology transfer and industrial upgrading[4].

The current global financial crisis has seen a resurgence of industrial policies in many economies. Given that least developed countries (LDCs) have been particularly vulnerable to outside economic instabilities, industrial policy may present an opportunity to build a more diversified economic structure, to help ensure both a rapid recovery from the current problems and to reduce vulnerability to future shocks.

It has been argued, however, that the current global trading system, particularly the WTO legal framework, provides limited space for LDCs to design and implement their industrial policy. For instance, development economist Ha-Joon Chang argues that almost all of today's rich countries used tariff protection and subsidies to develop their industries, however, 'rich countries are trying to kick away the ladder that allowed them to climb where they are.' Dani Rodrik[5] has put forward a number of rules which need to be changed in WTO to allow latecomers to industrialize. As the author says: '[...] compliance with WTO rules, even when these rules are not harmful in themselves, crowds out a more fully developmental agenda – both at the international and national level'.

Does the WTO system pose constraints on the industrial policy space of LDCs? A close scrutiny of the policies instruments and its relation with the WTO agreement is needed before any conclusion is drawn. In attempt to answer the question, the present memorandum will discuss the availability of industrial policies to LDCs from both economic and legal perspective. Starting from legitimate objectives of an industrial policy, it would be very useful to analyse the instruments which are available within WTO to achieve those objectives and whether there is indeed need for additional flexibilities or not. The discussion will take place against the background of Lao People's Democratic

Republic (Lao PDR) and its accession to the WTO.

In Part I, an economic ranking of relevant industrial policy instruments for LDCs is given following a general discussion on the economic theory and policy practice of LDCs. We try to put the policy recommendations in the specific context of Lao PDR and aim to explore a range of industrial policies most pertinent to the development needs of Laos. Subsequently, a thorough legal analysis is presented in Part II that aims to examine whether the industrial policy instruments are permitted under WTO system. In Part III, a table summarizing the economic and legal analysis will be presented with a discussion on the policy flexibilities of the WTO. Finally the memorandum will arrive at a conclusion on whether developmental space is compromised under the current global trading system.

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1 Graham, O. L. Jr. Losing Time: The Industrial Policy Debate. (Harvard : Harvard University Press, 1994).

2 Chang (2002). *Kicking away the ladder: development strategy in historical perspective*. Anthem Press.

3 Gereffi and Wyman (1990) Manufacturing miracles: paths of industrialization in Latin America and East Asia Princeton, N.J, Princeton University Press.

4 Wade, Robert. (1992). *Governing the market*. Princeton: Princeton University Press.

5 Rodrik, D. 'The Global Governance of Trade as if Development Really Mattered,' UNDP Paper, 2001, p. 32.

I. Economic Overview of Industrial Policy

A. INTRODUCTION TO PART I

Part I of the memorandum presents an analysis of industrial policies from an economic perspective. It will be composed of the following two sections.

First, the analysis begins with a brief examination of the conceptual evolution on industrial policy in the economics literature. The section will then discuss the objectives of industrial policies and the relevant policy instruments adopted. It is demonstrated that growth accelerations based on structural change and industrial diversification remains a key objective of the industrial policy for LDCs. This section of the analysis will be concluded by a list of key industrial policy instruments used by successful industrialising countries. (Section B).

The second section is devoted to an in-depth analysis of potential industrial policies for Lao PDR. In order to make pertinent policy suggestions, the section first identifies the objectives of industrial policy in light of Laos economic, geographic and social-demographic situation. The subsequent analysis is focused on the economic relevance of various policy instruments to achieve these goals. The analysis is organized according to the catalogues of industrial policies (import barriers, export promotion, aid to enterprises, technological promotion and investment incentives) (Section C).

Ultimately, Part I will lay out a clear picture of the IP tools available for LDCs in the short and medium term. The conclusions here achieved will direct the analysis on the legal feasibility of IP tools within the WTO framework.

B. OVERVIEW OF INDUSTRIAL POLICY

The views among mainstream economists with regard to industrial policy have evolved significantly from import-substitution based industrialization to the rise of the neoliberal paradigm, and most recently to favouring state intervention on the basis of market failure. The present section will sketch the main features of the scholarly and practitioners' debates on industrial policy.

1. Conceptual Evolution

The traditional arguments for industrial policies go back as far as the 18th century. Early arguments in favour of selective protection of industries have been prominently associated with US economist and politician Alexander Hamilton (1790) and the German economist Friedrich List (1844).

Since the 1950s, the approaches to government-assisted industrial development and preferences for specific policy instruments have evolved as a result of changes in development thinking and the external environment.

In the 1950s and early 1960s, development was equated with industrialization, and import substitution was seen as the route to this end. The traditional infant industry argument (Kemp 1964), based on the existence of some dynamic externality, is the rationale behind most advocacy of import substitution industrialization. According to this line of thinking, whole industries may become more competitive as they produce more (i.e., they have declining costs). However, since these industries will face high costs at early stages of production, they require protection from foreign competitors until output rises to the point that they are internationally competitive. The view that a more or less free market would not solve the development problem was widely accepted at the time. Large-scale comprehensive planning was considered to be the appropriate policy instrument.

While early development theory affirmed the crucial role of industrial policy, the rise of neoclassical economics in 1970s was more critical towards the interventionist measures and instead stressed the importance of free market *laissez-faire* in promoting structural change. By the 1970s, economists had started having doubts regarding import substitution as a development strategy. An early attack on the import substitution strategy came from Robert Baldwin (1969).[6] It is shown in his paper that infant-industry duties not only distort consumption, they may fail to correct important market failures and may even result in a decrease in social welfare. Theoretical doubts were further accompanied by the economic performance of some developing countries. Japan, Chinese Taipei and the Republic of Korea achieved exceptional export and economic growth following substantial policy changes in the late 1950s and early 1960s. Common factors among the economies include export promotional policies such as export subsidies, public ownership of enterprises, tax holidays and currency devaluation.

In the 1980s, the advent of endogenous growth theories has led to a convergence towards acknowledging the role of the state in correcting externalities and market failures. A new strategy relying on outward orientation with minimal government involvement emerged from the perceived failure of import substitution and successful experience of the export promotion policies in a few East Asian economies. Moreover, Anne Krueger’s work on rent seeking and difficulties with policy implementation supported the view that government failures are more likely to occur than market failures.

In light of relatively disappointing results in Latin America and Africa since the 1990s, there has been a general reconsideration of the role of governments in industrial development strategies. In particular, a new strand of literature has been exploring novel approaches to industrial policy that promotes structural change by solving market failures and coordination problems. The emphasis in this literature is on information externalities and coordination externalities in the presence of scale economies, and industrial policy is seen as a discovery process where firms and the government learn about underlying cost and opportunities in strategic coordination. In the work of Hausmann and Rodrik (2003), for example, the authors demonstrate that in the presence of uncertainty about what a country can be good at producing, there can be great social value to discovering costs of domestic activities.

2. Objective of Industrial Policy

States adopt industrial policy in order to achieve certain policy objectives. These objectives range from maintaining a sustained growth in productivity; enhancing gainful employment; achieving optimal utilisation of resources; to attaining competitiveness in international market and transforming the country into a major partner in the global arena. In the context of LDCs, their common characteristics and obstacles point to a need for objectives related to structural economic change and product diversification.

Productive diversification is a key correlate of economic development. As Dani Rodrik put it, 'In a situation of generalized poverty, the most effective mechanism of reducing it is not only sustained economic growth, but also inclusive growth'.[7] Imbs and Wacziarg (2003) discovered that as incomes increase, economies become less concentrated and more diversified. It is only at relatively high levels of income that further growth is associated with increased specialization. A detailed analysis of export data by Klinger and Lederman (2004) arrives at a similar finding in trade: the number of new export products follows an inverted U-shaped curve as income grows.

Recent research demonstrated that growth accelerations, based on structural diversification of the manufacturing industry, have exerted the most enduring impact on developing countries (Taylor and Rada, 2007). It is suggested that enhancing an economy's productive capabilities over an increasing range of manufactured goods is an integral part of economic development.

In order to achieve such objectives, industrial policies for LDCs require strategic intervention by the State that catalyse structural change and stimulate economic restructuring toward more dynamic, higher value added activities. With the evolution of economic theory and development practice, the focus of industrial policies nowadays has been moved to industries as a way of rectify alleged market failures due to externalities, missing markets or other failures (Lall 1994).

3. Catalogue of IP Instruments

Successful industrializers have adopted a range of industrial policies through their development practice. An examination of these policy instruments would shed light on LDCs' industrial policy options.

These policy instruments can be categorized into several groups according to their development target and the beneficiaries. These tools are typically used to correct market imperfections such as economy of scale, externalities, knowledge spillovers, coordination and information problems. The objective of the tools is to create beneficial environment for dynamic economic development on basis of structural change and industrial diversification.

Key policy tools and measures under the catalogue are listed as follows:

Import Barriers

- Import tariffs
- Import licensing
- Import quotas
- Import and export prohibitions
- Government procurement
- Exchange rate controls
- Antidumping measures
- Safeguard measures

Aid to Enterprises

- Subsidies in the form of:
  - Production subsidies
  - Credit subsidies
  - Tax subsidies
- Credit allocation to priority sectors

Export Promotion

- Marketing of domestic industry and firms
- Import duty drawback
- Export finance/insurance/guarantee
- Export quality management
- Export Tax
- Export processing zones
- Export promotion organizations

Technological Promotion

- Lax enforcement of intellectual property rights
- Facilitating reverse engineering and imitation
- Assistance to R&D (subsidies/ direct public participation)
- Technology-related requirements on domestic firms
- Human capital development

Investment Measures

- FDI policy
- Setting up Special Economic Zones (SEZs)
- Investment regulation
- Industry targeting via administrative measures
- Regional assistance

C. IP INSTRUMENTS FOR LAOS

This section puts the developmental IP instruments outlined in the previous section in the specific context of Laos, and examines the relevance of these potential tools for Laos. The analysis begins with an effort to define the objective of Laos' industrial policy, followed by a close examination of the catalogue of industrial policy instruments.

1. Objective of IP for Laos

Laos has a population of 6.2 million (World Bank, 2008) with a current GDP of 5,195 million US$ in 2008[8]. The low per capita income of about 800 US$ together with other criteria in human asset and economic vulnerability put Laos in the Least Developed Countries list[9]. The population density of 24 people per square kilometre in Laos is relatively low among Southeast Asian countries. Considerable differences exist between people living in rural and in urban areas.

In addition, Laos is a landlocked country. 70% of the country's surface area is mountainous. Laos is the only country in the Greater Mekong Sub-region that borders on all other countries of the region.

Generally, since 2002, the Government of Lao PDR has embarked on an industrial strategy and policy to help narrow the gap, and integrate its economy with other ASEAN countries. The Laotian government aims to achieve the Millennium Development Goals (MDGs) by 2015 and graduate from LDC status by 2020.

The government of Lao PDR set up its development objectives in the five-year National Socio-Economic Development Plan (NSEDP), a policy framework that lays down the main directions of its economic policies. This latest 2006-2010 plan emphasizes balanced economic growth and sets out an annual economic growth target at 7.5% to 8%. Within this context, the Government of Lao PDR has undertaken great efforts to achieve the goals.

The NSEDP, as well as the Medium Term Strategy and Action Plan for Industrial Development of 2003, recognize the private sector as the engine of growth for industrial development.

According to the government, the foundations for reaching the development goals are strengthened by:

- Moving steadily towards a market-oriented economy,
- Building necessary infrastructure throughout the country,
- Improving the well-being of the people through greater food security, extension of social services and environmental conservation, while enhancing the

spiritual and cultural life of the Lao multi-ethnic population.

2. Comparative advantage of Laos

As an economy with low income and relatively small population, it is of crucial importance for Laos to develop an export-driven development strategy. In this way, Laos can take advantage of the benefits associated with economy of scale by specializing in some industries of its comparative advantage.

To achieve the benefit of export market, the first question to ask is: where is the comparative advantage of Laos? A classic economic analysis will begin with a search for the factor abundance of the country.

It should be noted, however, that a country should not only focus on industries with factor abundance and lower production costs. Economic development is an interrelated, dynamic process, and thus the comparative advantage changes as a developing country gradually gain an upgrading industry structure.

A recent World Bank study[10] applying the "product space" methodology revealed a few industries that where Lao PDR has demonstrated comparative advantage, these industries include the following:

- **High-value agricultural products**

Located in the Mekong Area in Southeast Asia, Laos has relatively large land space, most of which are not used by human beings. Thus it would be beneficial for Laos to develop high value products such as off-season fruits, non-timber forest products, etc. These products are usually higher in price and less volatile in price.

- **Wood and forest products and selected non-timber forest products (NTFPs)**

A country with 41.5% of the land covered with forest, Laos might be interested in exporting wood processed products or other forest products. Importantly, exports in preliminary products such as timber and wood panels are not beneficial for manufacturing industry. On the contrary, Laos should upgrade the industry to value adding processed wood and forest products.

High-value and expanding Asian paper markets could be explored by relying on paper mulberry, a NTFP quite easily available in Laos.

- **Garments and Handicraft**

Relatively cheap in labour costs, textile processing meets the comparative advantage for most Southeast Asia countries. Production of coat, jacket and footwear constitutes a big portion of Laos' total export. During the process of industrial transition and upgrading, Laos could keep garment processing as a source of foreign exchange and means of employment.

In general, the study shows that although Laos has been rapidly discovering new products, the Lao export basket remains undiversified and the country vulnerable to a number of risks. It is also suggest that the Lao export basket is dominated by products with low value addition and few linkages to products with higher value addition.

As discussed in the previous section, a sustained economic growth should be achieved through structural change and diversification towards a value-added industrial profile. The development of some industries provides the backward and forward link of the economy, brings positive spill-over effect for other economic activities and thus helps the country to reach a diversified, dynamic, sustainable growth pattern.

These industries that generate most positive externalities include infrastructure building, primary education, research activities, credit provision to small and medium sized enterprises and government assistance for export promotion.

3. Availability of Policy Instruments

Under the policy objective of achieving sustainable growth via structural change and industry diversification, a number of policy measures may be envisaged. In the following analysis, we will present the policy measures according to the catalogues discussed above, and examine the effectiveness of these measures in the context of Laos.

a) Import Barriers

The measures of import barriers stem from the proposition that a country should protect its local industry by imposing higher tariff and non-tariff barriers on importation. The theoretical rationale is typically rooted in the infant industry argument, which urges governments to protect new industries from competition until they attain economies of scale.

In terms of the welfare effects, higher tariffs will result in higher prices and less demand in the domestic market. Consumers will have welfare loss and local producers gain from increased production which, in the presence of external economies of scale, may allow these firms to achieve increased cost competitiveness over the long-run. Tariffs are also important source of public revenue for governments.

Many countries have successfully industrialized behind tariff barriers. For example, from 1816 through 1945, tariffs in the USA were among the highest in the world. According to Ha-Joon Chang, "…almost all NDCs [Newly Developed Countries] had adopted some form of infant industry promotion strategy when they were in catching-up positions. In many countries, tariff protection was a key component of this strategy, but was neither the only nor even necessarily the most important component in the strategy." [11]

Despite plausible benefits from infant industry protection, high tariffs as import barrier are controversial as a policy recommendation. It is hard for governments to know which industries they should protect and it is often abused by rent-seeking interests. For example, during the 1980s Brazil enforced strict controls on the import of foreign computers in an effort to nurture its own 'infant' computer industry. However, the industry never matured; the protected industries merely copied low-end foreign computers and sold them at inflated prices.[12]

[Box 1 - Tariffs in the Lao PDR are ad-valorem rates with an unweighted average tariff of 9.7% and weighted average tariff of 14.7% - a rate considered to be low among LDCs.

Lao PDR – Distribution of Tariff Rates by Product Category
(2001)

Sector	**Product**	**Tariff Rate (%)**
Agriculture	Seeds	5
	Fertilizer	5
	Other	5 – 40
Fisheries		5 – 20
Stock	Feed	5
Manufacturing	Raw Materials	5 – 10
	Packaging	10 – 20
	Energy	5 – 20
	Machinery and Equipment	5 – 20
	Trucks	5 – 30
	Cars	40
	Beer and Alcohol	30 – 40
	Other Manufactures	10 – 20
Consumption	Luxury - food	10 – 30
Goods	Luxury - non-food	10 – 40

(Compiled for ADB. Source: World Bank and Lao PDR Customs)

The philosophy behind the tariff structure is to have low tariffs on investment goods and inputs for industry and higher tariffs on non-essential luxury good. For example the tariff on most equipment and machinery is set at five percent while a twenty percent tariff applies to electronic consumer goods and a forty percent tariff to automobiles. Low tariffs of 1 percent are applied to investment goods under FDI, while tariff exemptions are applied with regard to inputs for processing of exported goods. All tariffs are exempted on imports of yarn and textiles used for garment exports.

The social-economic conditions of Laos limit its ability to implement successful import substitution industrialization, since the market is small and insufficient for industries to reach economies of scale. It can be argued that given the limited market, using higher tariff as a policy measure to boost local production may not achieve the policy objective as intended. [13]]

The infant industry protection policies in the form of import barriers were most successful in countries with large populations and income levels, which allowed for the consumption of locally produced products to reach economy of scale. For example, in Latin America where import substitution policies were most widely implemented, large countries such as Argentina, Brazil and Mexico had the most success, while smaller countries like Ecuador and Honduras can only apply import barriers to a limited extent.

Aside from using import barriers to stimulate the development of infant industries, they can also be used to set up tariff dispersions for the purpose of facilitating import of capital goods and inputs for domestic industry. Many countries deliberately discriminate in their tariff or import control systems in favour of imports of capital goods. There are high tariffs or severe restrictions on imports of manufactured consumer goods and low tariffs on imports of capital goods. The net result is then to lower the domestic relative prices of capital goods. However, it is not inevitable that changes in relative domestic prices will result in more capital goods purchased at the expense of consumption goods. The result depends on the demand elasticity of the protected consumer goods, and whether production-distortion effects exist.

Non-tariff barriers (NTBs) are measures that restrict imports but are not in the usual form of a tariff. Examples of common NTBs include quotas, import licensing, import prohibitions, custom valuation system, government procurement policies, etc. Some non-tariff trade barriers are expressly permitted in very limited circumstances, when they are deemed necessary to protect health, safety, or sanitation, or to protect depletable natural resources. In other forms, they are criticized as a means to evade free trade rules.

Quantitative restrictions, such as quotas or import licensing, are portrayed as an inferior policy in economics for the following reasons: (1) while they have the same policy effect as tariffs on protecting domestic industry, quantitative restrictions are more likely to create rent-seeking activities since the policy measure is less transparent and it is often less clear who gets import license in the industry; (2) import tariffs can be an important source of government income, especially in the case of Least Developed

Countries. Although theoretically speaking quotas can generate the same amount of government revenue if auctioned, such auction works under a well-functioning government and healthy domestic industry – a case hardly seen in LDC; (3) it has also been argued that quantitative restrictions will result in a higher domestic consumer price and thus a loss of social welfare.

[Box 2 – In Laos, licenses and registration are required for business engaging in import and export activities. Applicants for import/export registration have to meet certain criteria. For example, the authority judges whether the proposed importing activity of an applicant is consistent with the Socio-economic Development Plan. On the other hand, registration procedures for import/export companies are not restrictive.

Imports of weapons, right-hand-drive vehicles, animal parts, addictive drugs, certain medicines, cultural items, nominated agricultural products and dangerous goods are banned under Laos regulation. Some strategic sectors and products, such as petroleum products, construction steel, cement, rice, vehicles, electricity, minerals, tobacco, timber products are potentially subject to state control.

Quantitative controls have been applied to the importation of fuel and lubricants, steel bars for construction, all types of cement, all types of motor vehicles and motorcycles. With respect to the importation of rice, the right to apply quotas is reserved for food security purposes.

The Laos government is reviewing the measures and their consistency with the provisions under GATT 1994. Speaking from an economic perspective, except for the exceptions on national security, public health, cultural socio-economic or environmental grounds, quantitative restrictions on imports should be transformed to an equivalent tariff scheme so as to generate more policy transparency as well as public revenue for the government.]

Specific industrial policies with regard to import barriers also include exchange rate control. It remains ambiguous in economic literature whether exchange rate controls are beneficial for industrial development. Many East Asian countries have pegged their exchange rate with the dollar in the 70s and 80s to maintain stable trade conditions. The recent case involves China’s undervalued currency that allegedly accounts for its huge trade surplus with the U.S. It is well-accepted that devaluated currencies can encourage export and limit the purchases of foreign goods.

As Laos has a traditional deficit in the trade balance, exchange rate devaluation remains a plausible option. However, cautions should be drawn on the economic difficulties arising from pegged exchange rates. As the Mundell-

Fleming model[14] demonstrates, maintaining a fixed exchange rate implies losing freedom to conduct independent monetary policy, or requires that international capital flows be controlled. A long undervalued currency can also cause external imbalances and political difficulties with key trading partners.

b) Aid to Enterprises

The economic rationale for a government to provide direct assistance to enterprises stems from the existence of market distortions, such as economies of scale, positive or negative externalities, as well as information and coordination problems.

Two common examples of "market failures" that support government assistance are increasing returns to scale and externalities. A simple example of economies of scale is where firms must incur a fixed cost in order to enter an industry, but then produce with a constant marginal cost, implying declining average costs with each additional unit of output. A more dynamic factor that lowers long-run costs is learning-by-doing. As a result of the relationship between high output and lower costs, subsidies may be justifiable to increase firm competitiveness. Additionally, the presence of positive externalities in various forms supports government assistance to enterprises. For instance, a government subsidy to encourage R&D or knowledge accumulation that generates spill-overs to other firms in the industry (i.e., innovations that can be appropriated by competitors) could help stimulate productivity and growth in a socially optimal way.

[Box 3 - In the specific context of Lao PDR, government should consider providing assistance to sectors of larger economy of scale. Such sectors include infrastructure building, supply of utility services and research activities. The assistance could be carried out in the form of offering preferential interest rates, setting up public private partnership (for example Build-Operate-Transfer contracts with private companies), etc.

Infrastructure development generates great spill-over effect for the development of other industries. As Laos is a landlocked country with ports accessible only through neighbouring countries, its economic development depends largely on the ease and speed with which goods can be transported, and thus it is important to continue the construction of all-weather roads and to ensure road maintenance. More border crossings facilities should also be established and equipped with modern office technology.]

The economic effectiveness of subsidy measures remains ambiguous depending on the specific target and beneficiary of the scheme. Whereas production subsidies are typically allocated based on the output levels of firms, it may be more efficient to tie government aid to other outcomes that more closely addresses the market imperfection. For example, Baldwin (1969)[15] points out that a subsidy based on output provides no incentive *per se* for a firm to acquire more knowledge. A firm will increase output by the least costly method, not necessarily by acquiring more technology. The correct policy implied by the argument calls for a subsidy related to knowledge creation confined to the process, job or product, for example a subsidy on the particular workers who learn by doing. Aid to enterprises is thus less effective when it is linked to production targets, and should focus on more general business development.

A specific measure to address market failures is associated with the financial market imperfections, which have been used to justify broad-based credit subsidies as well as subsidized credit insurance. The entry into a new industrial activity can only be efficient if producers can borrow funds at rates that reflect social cost plus a reasonable premium. However, capital markets are among those most affected by information problems. If for some reason the private cost of capital is higher than its social cost, the argument goes that governments must subsidize credits. In many countries government agencies exist to assist domestic companies in financing the export of domestic goods and services. These agencies include the Italian SACE, the French COFACE, the US Ex-Im Bank, the Japanese NEXI and the German EULER HERMES.

[Box 4 - Many small business owners in LDCs face constraints on access to credit, restrictive credit policies, and high interest rates. It is proposed that a government-sponsored scheme to support Small and Medium Sized Enterprises (SMEs) be set up in Laos to encourage the development of entrepreneurial endeavours. Microfinance structures that offer adequate and tailored financial services to farmers and small enterprises should be implemented. Risk mitigation instruments (i.e. crop insurance) should also be available for exporting enterprises. Processing companies that add value to the products should be given special support, for example, credits to buy machines]

c) Export Promotion

Due to its relatively small population and low income, the domestic market of Laos is limited and economies of scale are difficult to realise. Therefore it is of great importance for the country to develop an export-oriented economy. The policy instruments associated with export promotion include fiscal measures such as subsidy and import duty drawback, as well as measures to address information and coordination externalities such as the provision of marketing, quality management and export financing services.

As explained earlier, the case for government interventions rests on the existence of market failures. In line with this analysis, it would make more economic sense for Laos to subsidize economic activities with economies of scale or activities that generate externalities. For LDCs where the government budget is particularly stringent, export subsidies performed directly by government transfer may not be an optimal policy instrument.

A more promising form of government intervention to promote Laotian exports involves measures addressing information or coordination problems. Information imperfections, for example, can exist between exporters in terms of the sharing of best practices. The dissemination of information to foreign consumers, as well as local and foreign investors, helps facilitate foreign sales and increased investment in these industries and firms. Coordination problems often arise in the presence of interdependent investments, and be expected to be present in Laos. There are many socially optimal opportunities related to vertical linkages and industry-level economies of scale. By creating cooperative institutions and facilitating the coordination of economic actors, the government of Laos can contribute to broad productivity increases while limiting the chances that it will be directly subsidizing or picking uncompetitive firms.

An efficient intervention is one that ensures that all interrelated investment are made. This can be achieved through pure coordination (i.e. market information, industry association, etc.), marketing of domestic industries and firms, promotion of industry associations or provision of export finance and/or insurance. These policy tools may be helpful, for instance, in the promotion of Laotian agricultural exports (see Box 5).

[Box 5 – The government of Lao PDR does not have a specific government fund for export promotion. However, a new institute for promotion of handicrafts for exports has been established and may help serve some of these functions. It is advisable that, in order to promote exports, the government should take the initiative to collect and disseminate reliable market information. The information should include prices, supply and demand trends as well as requirements for different products. Timely, cheap and accessible market information can be provided via information centres at the local level and through newspapers, radio, TV and SMS.

In addition, the government should also develop its own quality standards in line with international standards. For instance, an internationally accredited certification and quality control system should be developed (e.g. through the adoption and promotion of ISO standards). The certification and quality control systems should be established especially for high-value agricultural products in order to overcome the information barriers for customers in the international market.]

Export taxes can also be a measure to promote the upgrading of the industrial structure to sectors with higher value-added. The argument claims that countries that specialise in lower value-added sectors will be locked into a production structure that entails lower growth rates than those of countries specialised in higher value-added sectors, especially those which are more likely to result in significant dynamic spill-overs to the local economy. A typical example of the use of export taxes in this manner is when they are imposed on primary commodities. These taxes reduce the domestic price of primary products, in order to guarantee supply of intermediate inputs at below world market prices for domestic processing industries. In this way, export taxes provide an incentive for the development of domestic manufacturing or processing industries with higher value-added exports. For example, Laos currently imposes export levies on electricity at 20 percent. It may also levy an export tax on primary commodities such as timber or primary agricultural products.

Export processing zone (EPZ) are also widely used in many developing countries in hopes of reaping economic gains typically by encouraging foreign investments in export-oriented manufacturing. EPZs are geographic areas where some normal trade barriers such as tariffs and quotas are eliminated and bureaucratic requirements are lowered in hopes of attracting new business and foreign investments. Most EPZs are located in developing countries: Brazil, China, the Philippines, Malaysia, Pakistan and Mexico all have EPZ programs. In 2003, 116 countries were using EPZ employing 43 million people[16]. The direct economic gains (e.g. employment, exports, foreign exchange, etc.) may also be desirable for Laos.

EPZ can be regarded as a special type of Special Economic Zone (SEZs). A broader discussion on SEZs in general (i.e., not limited to exporting firms) will be presented below under the section “Investment Promotion”.

d) Technological Promotion

Development in the form of industrialization, at its core, is an engagement of people with technologies and embedded in larger production systems. The government has an essential role in promoting research and technology development, as it has large externalities for economic growth. However, as argued earlier, government interventions to develop technology should be technology-based instead of out-put based.

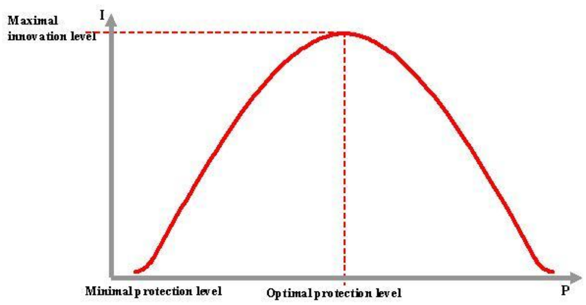
Generally speaking, the technologies used by producers in developed countries are more advanced than the ones used in LDCs. In this context, FDI will be important as a vehicle for the transfer of technology. The literature has recognized that technology may be transferred in two ways: through initial transfer to the foreign enterprise in the host economy; and through spill-over to other firms in the industry.

It should be noted that expanding and improving primary education should be a major priority for the government, as it is a precondition for agricultural and industrial development. (See Box 6).

[Box 6 - Skills development and training are considered to be among the most important issues for the successful development of a high-value industry strategy. Government and donor activities regarding research, extension and technology should focus on the needs of the industries. Research and Development assistance programmes should be focused on the needs of priority industries.

Education is a bottleneck for producing, marketing and exporting high-value goods. Illiterate farmers cannot read a contract or written instructions. Access to primary education should be provided to every citizen. A minimum understanding of the market mechanism should also be integrated in the basic education. In addition, learning foreign languages (particularly English) is also recommended as a means of enabling public servants, company staff, researchers, and workers to benefit from information technology.]

Intellectual Property Rights (IPRs) protection is another policy instrument with the objective being to maximize innovation in an economy. Economic theory states that patents are a facilitator for the diffusion of knowledge and innovation and, as such, they are an important element of economic growth.[17] However, recent studies have found that too much patenting can potentially deter research, development and innovation. It is accepted that too much protection can lead to the underdevelopment of follow-up research and can limit research and competition. As shown in the graph below, an optimal protection level exist between lax enforcement and over-protection of IPRs.



Patents as a policy measure, level of protection (P) versus innovation (I)

(Source: Swiss Federal Institute of Intellectual Property)

It also worth mentioning that the cast associated with IPRs protection is huge and often unaffordable by LDCs. To build up a patent registration system requires the expertise of intellectual property lawyers, scientists and engineers, as well as the cost of maintaining a patent database. Enforcement of IPRs also involve great amount of legislative and supervision effort. There has been ongoing discussion about the technical assistance from the developed countries to help build IPRs enforcement facilities, however such assistance is not yet implemented in place.

As reverse engineering and imitation can be starting point of innovation, lax enforcement of intellectual property rights has been regarded as a development instrument for least developed countries. The difficulty is finding the right balance between incentives for research and providing access to patented research at the same time.

[Box 7 - Currently the only intellectual property law in force in the Lao PDR at the moment is a Prime Minister's Decree on Trademarks No 06/PM (1995) and a Prime Minister's Decree on Patent, Petty Patent and Industrial Designs No 01/PM (2002)[18]. Effective protection for intellectual property is considered by Lao officials to be essential for the successful transition to a market economy. The Ministries in the Lao PDR have prepared a comprehensive program of legal reform that will enable the Lao PDR to meeting existing and future obligations under various treaties – in particular the WTO Agreement on Trade-Related Property Rights (the "TRIPS Agreement")

Besides preparation of legislation, the Government of the Lao PDR is struggling to modernize the intellectual property system, strengthen public awareness including preparing a homepage on intellectual property rights, develop further cooperation with WIPO and other intellectual property offices in the region particularly with ASEAN.

In this context, the Lao PDR urgently requires comprehensive technical assistance in the TRIPS area from the international communities. In addition, the Lao PDR as a LDC would require a transitional period to comply with the TRIPS Agreement upon its accession to the WTO]

e) Investment Promotion

A sustainable capitalization through foreign and local investments is the backbone of a country's industrial development. Governments may apply FDI policy measures such as trade performance requirements, transfer of technology, or local content requirement in order to make sure that foreign investments benefit local economy. In addition, certain sectoral restrictions and guidance may be set up to direct foreign investments into certain industries or sectors.

Preferential policies such as income tax incentives or FDI facilitation are regarded as effective ways to attract foreign direct investment. Although the use of such instruments is motivated in some cases from theoretical point of view, the strongest theoretical motive for financial subsidies to inward FDI – spill-overs of foreign technology and skills to local industry - are not an automatic consequence of foreign investment. The potential spill-over benefits are realized only if local firms have the ability and motivation to invest in absorbing foreign technologies and skills. Blomström and Kokko (2003) suggests that it is necessary to support learning and investment in local firms (such as information and coordination policies, capacity building programs, etc) at the same time of the investment measures.

The rationale for FDI policies such as local content requirement, transfer of technology or export performance requirement is not always justifiable from an economics point-of-view. For example, many developing countries introduce local content programmes for foreign firms locating in the host economy in the belief that any policy that increases the local content of a unit of output must be beneficial. However, these programmes do not always generate positive economic effects as intended. Dixit and Grossman (1982)[19] show that local content requirements raise the cost of intermediates downstream and finally to producers, thereby lowering their effective rate of protection.

Speaking about trade related-investment measures more generally, David Greenaway[20] argues that the only sound economic case which can be made for these instruments is on second best grounds. In evaluating the role of investment measures, one cannot isolate them from this wider set of policy measures.

[Box 7 - At present, the Lao PDR does not apply trade related investment measure that falls into trade-related investment measures, including those subjects to conditions related to export performance, local content or trade balancing requirements. Export of logs are banned to support the domestic conservation program, while the domestic production of this exhaustible natural resource is restricted through quotas. It is demonstrated by economic studies that investment policies related with local content requirement or trade performance are not efficient measures, and therefore, not recommended. FDI policies on technology transfer can be a positive policy tool given that relevant programmes to support learning and investment in local firms are provided at the same time.]

Another investment-related measure used to promote foreign and domestic investment is to set up Special Economic Zones (SEZs) - geographically delineated economic areas in the form of export processing zones, special industrial zones, or free trade zones. They experiment in these special economic zones with infrastructure, regulatory, and fiscal policies that are different from those implemented in the rest of the domestic economy with the aim of attracting foreign investment, creating employment opportunities, and boosting exports.

Developing countries have increasingly used SEZs as an important economic development tool. A recent survey found over 2,300 SEZs in 119 developing and transition countries around the world. Starting in the late 1970s, China used SEZs to pioneer new economic policies, provide modern infrastructure and attract investment for export-oriented industries. Experiences in other Asian countries have shown that a well-designed and implemented SEZs can produce many desired benefits for the country's general economic growth.

Yet, despite their potential to attract major international export-oriented firms with sophisticated business practices, some economic research argue that EPZs are far from the "engines of development"[21]. Typical problems include the limited supplier capabilities of small and medium-sized enterprises, as well as a lack of qualified employees at higher levels. It should be noticed that dynamic spill-overs from EPZs may be elusive in the case of Laos, where the economy has limited capacity to absorb these benefits.

Empirical studies show that important dynamic spillovers often occur within EPZs, as foreign firms with advanced capabilities share knowledge with local suppliers, or as former employees of these foreign firms mix with the local economy [22]. To give a specific example, it may be in the interest of foreign affiliates attracted to the EPZs to stimulate local firms to export by showing them how to produce, market, sell and distribute manufactured goods on the world market. Through this strategy, foreign affiliates can create a network of competitive local suppliers. To complement the use of EPZs and maximize dynamic spill-overs, governments also need to facilitate the dissemination of information and proactively address the coordination problems discussed above.

[Box - Based on Laos Investment Law and Regulations, the Government has decided to establish Special Economic Zones (SEZs) in order to constitute a main vehicle in promoting foreign and local investments in the local industry. The government recognizes that, by offering tax incentives and privileged trading terms for manufacturing-based exports, SEZs can indeed attract foreign investment, spur employment and boost the development of improved technologies and infrastructure.

The Lao Government is planning a Savan-Seno Special Economic Zone (SSEZ) in Savannakhet Province, a trade and service centre in the Greater Mekong Sub-region. The categories of business activities planned to be develop in the SSEZ include the following: 1) Export Processing Zone; 2) Free Trade Zone;

and 3) Free Service and Logistic Centre (which should include tourism, banking and other activities). One of the major policies of the government is to attract labour-intensive agro-industries and activities. Toward this purpose, the Lao Government is approaching bilateral assistance agencies and foreign government grants to assist in building vocational schools and agricultural schools in Savannakhet Province.[23]]

From the discussion above, we aim to draw up a picture of the available industrial policy instruments that mostly suits Laos economic-social conditions. While certain measures are suitable for the development of Laos, others have difficulties under both theoretical and practical examinations.

In summary, as Laos is a small economy with limited market potentials, export promotional measures are favored over import barriers. Government involvement in the areas such as marketing of domestic firms, export insurance or guarantees, export quality management and export promotion organizations are favorable policies measures to upgrade Laos industrial sector.

Government assistance to enterprises in the form of credit subsidies and regional assistance are more likely to address the market-failure than general measures such as output-based subsidies. Credit assistance to small and medium-sized enterprises, such as microfinance programs, are likely to spur entrepreneurial activities in the Laos. The Laos government may also consider developing certain industrial sectors that suits the country's economic conditions and generate most spill-over effects to the economy. Government investment in infrastructure, development of high-end agricultural and forest products is among the most promising industrial sectors.

Technological and investment promotions potentially spur local innovation and industry development. Such policies measures, however, do not automatically generate spill-over effects to the whole economy. Technological and investment promotion instruments should be accompanied by programs that facilitate technological transfer.

A subsequent legal analysis will shed light on the availability of industrial policy instruments so far discussed.

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7 Rodrik, D. 'Industrial development: Some stylized facts and policy directions,' *Industrial Development for the 21st Century: Sustainable Development Perspectives*, pp. 7–28.

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9 For a list of LDCs, please see here: http://www.unohrlls.org/en/ldc/related/62/

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14 Young, W.; Darity, W., Jr. 'IS-LM-BP: An Inquest,' *History of Political Economy* 36 (2004), pp. 127-164.

15 Baldwin, R.E. 'The case against infant industry protection', *World Development*, 19 (1969) pp. 1215-1224.

16 Sargent, J. and Matthews, L. 'China vs. Mexico in the Global EPZ Industry: Maquiladoras, FDI Quality and Plant Mortality" (PDF). University of Texas Pan America. http://ea.panam.edu/cbes/pdf/WorkingPaper1-06.pdf.

17 The mechanism goes as the following: protection of intellectual property rights guarantee monopoly rents to those who made the major investments in research and development, thus the extra profits would motivate private firms to engage in innovation

18 Source of information: ASEAN Project of the Protection of Intellectual Property Rights. http://www.ecap-project.org/how_to_enforce_your_ipr/laos.html

19 Dixit, A. K & Grossman, G. M, "Trade and Protection with Multistage Production," *Review of Economic Studies*, vol. 49 (1982) pp. 583-94.

20 Greenaway, David, 1992. "Trade Related Investment Measures and Development Strategy," Kyklos, Blackwell Publishing, vol. 45(2), pages 139-59.

21 See Warr, P. G, 'Export Processing Zones: The Economics of Enclave Manufacturing,' in World Bank Research Observer, (Oxford: Oxford University Press, 1989).

22 Johansson and Nilsson (1997) tested the catalyst effect using data from Malaysia and found significant positive effect.

23 Source of information: Lao PDR Government, Department of Domestic and Foreign Investment (DDIP).http://www.invest.laopdr.org/special%20zone.htm

II. Industrial Policy through the Lens of WTO Law

A. Introduction to Part II

Part II of the memorandum investigates the topic of IP for LDCs within the context of the WTO legal agreements.

To that end, it offers an in-depth survey of the relationship between commonly used IP tools – clustered in the same five categories identified in Part I (import barriers, export promotion, aid to enterprises, technological promotion and investment incentives) – and the relevant WTO agreements and specific provisions that may limit their use

B. Linkages between IP Tools and the WTO Agreements

This section offers a legal analysis of the main IP tools identified and commented in Part I, based on their consistency under the WTO Agreements. Since the analysis focuses on agricultural and industrial policy – which are the sectors of major interest for LDCs – constraints on policies regarding services under the GATS will not be addressed. Where relevant, the S&D provisions applicable *in casu* will be identified.

Mirroring the structure adopted in Part I, five clusters of IP tools are discussed: import barriers (1), aid to enterprises (2), export promotion (3), technological promotion (4) and investment measures and incentives (5).

1. Import barriers

The catalogue of import barriers mainly comprises the following tools: import tariffs, import quotas, import licensing and import prohibitions, local content requirements, safeguards, anti-dumping and countervailing duties and exchange rate controls.

In order to address the relationship between these measures and the WTO legal regime, four categories will be distinguished: tariffs and other duties and charges (ODCs) (a), non-tariff measures (b), contingency measures temporarily suspending a member's commitments (c) and instruments not covered by the WTO agreements (d).

a) Tariffs and ODCs

The WTO discipline on tariffs is based on the concept of tariff bindings, according to which a member commits itself not to impose tariffs for a particular line of product above an agreed ceiling. Article II.1 (a) of the GATT enshrines this concept within the WTO regime.

For present purposes, two aspects will be dealt with: tariff concessions from LDCs (i) and tariff renegotiations (ii).

i) Tariff concessions and ODCs

The WTO regime endorses the concept of non-reciprocity in tariff concessions from developing countries and particularly from LDCs. Non-reciprocity was recognized in 1964 through the adoption of GATT Part IV and incorporated in Article XXXVI.8. Such a provision specifies that 'developing countries should not be expected to make contributions which are inconsistent with their level of development in the process of trade negotiations'. Additionally, the 2002 Guidelines on the Accession of LDCs[1] stipulate that members should exercise restraint in seeking concessions and commitments from LDCs.

LDCs enjoy then a broad margin of discretion in deciding both the product coverage of their concessions, and the ceilings of their tariffs. Whereas during the UR of negotiations countries were encouraged to increase the number of their tariff commitments, developing countries were accorded the possibility to fix their ceilings at levels even considerably higher than those of their applied tariffs.[2] As a consequence of that, the tariff profiles of most developing countries, and particularly those of LDCs, present a binding overhang i.e. a sharp difference between the applied and the bound rate of tariffs. Such phenomenon is usually referred to as 'water' in tariff bindings.

By virtue of 'water', a country can unilaterally decide to increase its applied tariffs up to its, much higher, bound level without violating any WTO provision. According to the statistics provided by the WTO Secretariat, in most of the developing countries, 70 to 90 per cent of tariffs could be raised by 15 percentage points without violating WTO commitments.[3]

Similar considerations equally apply to ODCs. These binding commitments, characterizing most of LDCs' schedules of concessions,[4] present important hangovers. Statistical evidence has shown that, out of the 60 WTO members having bound ODCs, only 15 have fixed their bound below 15 per cent, whereas the average level in almost all tariff lines is above 80 per cent, with peaks of 200 per cent. It follows that, likewise with tariffs, ODCs could be considerably increased by LDCs.

Such conduct, though, risks to cause retaliation by trading partners. This possibility notwithstanding, "water" in tariff bindings and ODCs offers LDCs a WTO-consistent way of protecting domestic industries from foreign competitors and, aside from considerations of economic efficiency,[5] the costs of increasing applied tariffs or ODCs stem exclusively from the domestic institutional setting specific to a country (e.g. parliamentary procedures; lobbying costs).

ii) Renegotiation of tariff concessions and ODCs

Renegotiation of commitments is a form of flexibility that permits member states to modify in a permanent way the tariff concessions and other specific commitments previously agreed to.

This practice is submitted to a strict legal discipline concerning the timing of renegotiation, the obligation to provide compensation to 'affected members' and the possibility to withdraw concessions as a form of discriminatory retaliation against the member seeking renegotiation.[6]

For developing countries, GATT Article XVIII.7, Section A establishes a special renegotiation modality. This provision authorizes a developing country to modify or withdraw at any time its commitments 'to promote the establishment of a particular industry with a view of raising the general standard of living of its people'.

This clause, however, has never been invoked;[7] a possible explanation being that it requires developing countries to provide 'adequate compensation' to the contracting parties with which the concession was originally stipulated, and to those deemed to have a substantial interest therein. Yet, it matters to emphasize that the 'adequate' character of concessions under Article XVIII is to be assessed in the light of the non-reciprocity principle enshrined in Article XXXVI.8.[8] That may facilitate the recourse to Article XVIII. A, given that a developing country is entitled to limit its compensation in view of its developmental, financial and trade needs.

b) Non-tariff measures

This rubric investigates a selected number of non-tariff measures (NTMs) that limit imports, namely import quotas, import licensing, import prohibitions and local content requirements.

At the outset, a caveat is warranted. Within the broad range of NTMs,[9] numerous measures other than those just mentioned may change the market conditions of a certain product and thereby impact on a country's flow of imports.

That is particularly the case with export restrictions, governmental subsidies and most types of trade related investment measures (TRIMS). These measures, though, are more relevant in relation with other IP objectives: export restrictions and governmental subsides primarily serve as a tool of aid to enterprises or export promotion; whereas TRIMS will make the object of a separate sub-section. They will, therefore, be addressed in due course;[10] for the time being it suffices to stress that, along with their main objective, such tools have also an indirect distortive effect on imports.

Concerning quantitative restrictions and similar specific limitations on imports, the core WTO discipline is enshrined in two GATT provisions: Article XI on quantitative restrictions and Article III on regulative measures affecting the market relation between domestic and foreign products.

The focus of analysis will be centred on the respective exceptions to the these provisions which may be of relevance within the context of an IP (i and ii).

Next, the memorandum will offer a more in-depth discussion of GATT Article XVIII, section C, as a provision opening the way for exceptions to both Article XI and Article III (iii).

i) Quantitative restrictions: basic discipline and authorized exceptions of potential interest for an LDC's IP

GATT Article XI prohibits quantitative restrictions on both imports and exports. This provision has received a broad interpretation in GATT and WTO jurisprudential practice. To recall only its main traits, a measure inconsistent with Article XI has been found to exist in presence of:

- a quantitative restriction, regardless of any actual impediment to imports (or exports);[11]

- any governmental action potentially leading to the implementation of a quota, even lacking a specific legally binding or mandatory act;[12]

- measures other than prohibitions, potentially affecting the quantity of imports, e.g. the imposition of minimum price for imports[13] or a non-automatic licensing system.[14]

Besides the general discipline set forth by GATT Article XI, quantitative restrictions for certain types of goods are dealt with in the WTO Agreement on Agriculture (AOA) and the WTO Agreement on Textile and Clothing (ATC). This latter agreement will not been taken into account as it is not anymore in force. Regarding the AOA, its Article 4.2 establishes a prohibition to maintain or resort to, *inter alia*, quantitative restrictions which have been required to be converted into ordinary custom duties.

Such prohibitions, though, are not absolute, either in the GATT or in the AOA. Concerning specifically import restrictions, two main exceptions are contemplated by these agreements: quotas imposed on agricultural products and the exception relating to balance of payments problems.[15]

Before turning to a case-by-case analysis of these exceptions, it is important to notice that even when quantitative restrictions are permitted under the AOA and GATT, the measures must still be in accordance with the rules established, in general, by GATT Article XIII and by the Agreement on Import Licensing Procedures (AILP) with regard to restrictions made effective through non-automatic import licenses.[16] Such rules are both of a substantive and of a procedural nature. Among them, mention may be made of the obligation to follow transparency requirements and the requirement to design restrictive measures so as to guarantee a distribution of trade among contracting members as close as possible to the one that might have been expected in the absence of restrictions.[17] The respect of these provisions is then, a *conditio sine qua non* for a permitted restricted measure to be fully WTO-consistent.

Import restrictions for agricultural products

Exceptions on import restrictions for agricultural products have to be investigated first under the AOA, which is the special agreement pertinent to this subject-matter, and then under the GATT.

In the AOA, the main exemption to the tariffication requirement is contained in Annex 5. Its section A deals with products that have been designated as subject to special treatment based on concerns such as food security and environmental protection. Section B concerns primary agricultural products that are the predominant staple in the traditional diet of a developing country. Under both sections, a number of strict conditions have to be met, for instance, primary agricultural product must be subject to effective production-restrictive measures at the domestic level and imports have to be granted minimum market access.[18]

If these conditions are met, an LDC can apply quantitative restrictions on imports. This exception, however, is not conceived as a tool to afford protection. Import restrictions, in fact, are intended as a counterpart of governmental measures capable of effectively limiting domestic production. Within the scope of an IP, this exception might be of relevance if, for instance, a government wished to limit the production of certain agricultural goods in view of shifting production towards other types of goods.

Similarly in the GATT, Article XI paragraph 2 (c)[19] permits import restrictions on agricultural or fisheries products taken in conjunction with governmental measures limiting domestic production of the product(s) at stake.[20]

In previous GATT practice, this defence has never successfully been invoked, whereas no case-law exists on AOA Annex 5, sections A and B.

As a final remark, it should be noticed that since the entry into force of the AOA, the relevance of Article XI.2 (c) is very limited. The footnote to Article 4.2 AOA specifies that restrictive measures maintained on the basis of agriculture-specific provisions of the GATT are prohibited. Then, Article XI. 2 (c) only covers practices restricting imports of fish, fish products and those few agricultural products not covered by the AOA.

Import restrictions in case of BOP problems

An important exception to the prohibition on quantitative restrictions has to do with the imposition of import quotas for balance of payments purposes.

The GATT has a special provision concerning BOP measures taken by developing countries, namely Article XVIII, Section B. As noted in case-law,[21] this provision acknowledges the special macroeconomic issues facing developing countries by imposing conditions less burdensome than those reserved to developed countries.

Recourse to this exception is permitted to forestall a 'threat' of serious decline in monetary reserves or in case of inadequate monetary reserves necessary to achieve a 'reasonable rate of increase' in reserves.

Contracting parties are allowed to impose quotas on any type of goods – including agricultural products.[22] Unlike product-based discriminatory restriction, country-based discrimination is forbidden.

A core aspect of BOP-related measures is their temporary character: restrictions can last so long as the BOP situation exists or whether their removal or relaxation would thereupon produce a recurrence of the initial justifying circumstances. In the latter case, there must be a certain link of direct causation as well as a temporal sequence between the two events.[23]

These conditions notwithstanding, a proviso to paragraph 11 stipulates that developing country may not be required to remove BOP import restrictions if such removal would entail a change in their development policy.[24] As to what should be deemed to be a development policy, WTO case-law provides some guidance. In the *India-Quantitative Restrictions case*, the Appellate Body (AB) upheld the approach of the Panel, which had primarily relied on the information provided by the IMF. Starting from that premise, the AB held that a change in development policy would exist if a BOP problem could only be addressed through structural change. In this case, a state is entitled to maintain its restrictive measures. On the contrary, a BOP problem which could be addressed though macroeconomic tools alone would not provide a justification for maintaining quantitative restrictions on imports. The relevant passage reads as follows:

> [The] IMF statement that India can manage its balance-of-payments situation using macroeconomic policy instruments alone does not imply a change in India's development policy.
>
> We believe structural measures are different from macroeconomic instruments with respect to their relationship to development policy. If India were asked to implement agricultural reform or to scale back reservations on certain products for small-scale units as indispensable policy changes in order to overcome its balance-of-payments difficulties,

> such a requirement would probably have involved a change in India's development policy.[25]

Aside from the substantial aspects of Article XVIII B, BOP measures have to be notified to other members and the imposing member has to enter into consultation with the BOP Committee. In the case of an LDC, consultations are held under a simplified procedure.[26]

Since the entry into force of the WTO Agreement, developing countries have been making less use of Article XVIII B.[27]

ii) National treatment : basic discipline and authorized exception of potential interest for an LDC's IP

GATT Article III establishes the so-called national treatment (NT) obligation. Its core idea is to prevent the introduction of internal taxes or other regulatory measure discriminating against imported goods and, thereby, affording protection to the domestic production.[28]

Such an obligation is spelt out in other forms throughout the WTO agreements. For present purposes, the analysis will only focus on the GATT.

The NT obligation is not limited to those products for which tariff or other specific commitments have been made: it concerns, in fact, all the products imported by a country.

As already stressed, the obligation not to discriminate against imported goods over domestic ones exists both at the fiscal (paragraph II) and at the regulatory (paragraph 4) plane.

The core aspects of this Article can be resumed as follows:[29]

- the NT obligation concerning internal taxation comprises two parts. Under Article III.2, first sentence, there is an obligation not to impose any tax on imported products 'in excess of' those applied to 'like' domestic products. The test is strict and the existence of any difference in taxation automatically triggers a violation of the NT obligation. Whereas, Article III, second sentence enlarges the scope of product coverage – by referring to 'directly competitive or substitutable products'. At the same time, though, it establishes that a violation can be found only if the internal taxation is shown to 'afford protection' to domestic products.

- the NT obligation regarding internal laws, regulations and requirements mainly comprises two facets: a requirement of 'likeness' between regulated imported and domestic goods and the existence of a 'less favourable' treatment accorded to imports over domestic like products.

In light of these remarks, the imposition of local content requirements through either fiscal disposition or regulative ones is not allowed. Within the GATT, the exception more relevant from an IP perspective is enshrined in Article III itself.

The exception concerning government procurement

Article III.8 (a) excepts government purchases of goods from the NT obligation so long as the purchases are for governmental purposes and not made with a view to commercial resale or with a view to use in the production of goods for commercial resale.

The reference to 'governmental agencies' makes the scope of this provision quite broad. WTO case-law, in fact, qualifies as 'governmental agency' any entity which exercises powers vested on it by a 'government' for the purpose of performing 'governmental' functions e.g. regulating, restricting or supervising the conduct of private citizens , provided that entity enjoys a certain degree of discretion in the exercise of such functions.[30]

Under these exception, an LDC may enact discriminatory practices favoring local production, for instance, in the realm program of assistance providing infrastructures or services granted to final consumers with no charge.

This option is not available to WTO members who have signed the plurilateral Agreement on Government Procurement (AGP) but, so far, no LDC has done that.

iii) GATT Article XVIII, section C: an exception to the prohibition of quantitative restrictions and the NT obligation

One further exception that can be invoked by LDCs in view of imposing import barriers is enshrined in GATT Article XVIII, section C.

This provision is intended to facilitate governmental assistance in view of promoting the establishment of a particular industry.

When neither tariff renegotiation nor restrictive measures for BOP reasons, respectively under sections A and B of Article XVIII, are conducive to improvements in economic development, measures otherwise WTO-inconsistent may be put in place. A number of conditions have, though, to be satisfied.

First, recourse to this provision is reserved to countries whose economy 'can only support low standard of living'. Such an assessment, according to the note *Ad* paragraph 4 (a), has to be done with regard to the normal position of a certain economy, aside from temporary circumstances. The qualification as LDC suffices in meeting this requirement.

Second, countries imposing measures under section C must nonetheless respect certain obligations, namely Article I (MFN principle), Article II (tariff concessions) and XIII (non-discriminatory administration of quantitative restrictions). An exception to other GATT provisions would, therefore, be permitted. On the contrary, commitments under other WTO agreements, notably under the AOA, could not be derogated from.

Third, even though no compensation has to be offered to members potentially affected by the derogatory measures, consultations with other members have to be held prior to the enactment of the intended measures.

These limitations notwithstanding, several developing countries have succeeded in implementing WTO otherwise inconsistent measures on the basis of Article XVIII, section C.[31] Given that this provision purposely incorporates the infant-instrument argument, it may be a useful tool in the hands of LDCs seeking to impose import restrictive measures.

c) Contingency measures

Restrictions to imports may also be obtained through measures that temporarily suspend a member commitments, provided the existence of certain specific circumstances.

The following analysis is dedicated to three kinds of measures providing for the suspension of a member's obligations when a domestic industry is negatively affected by import competition.[32] These measures are safeguards (i), anti-dumping (ii) and countervailing duties (iii).

i) Safeguard measures: general discipline and special safeguards mechanisms

Safeguards aim at dealing with the domestic consequences of changes in market conditions, which may produce an unexpected surge in imports. Such measures may provide LDCs with a useful tool to address foreign productivity shocks e.g technological innovations reducing foreign production costs and thereby affecting domestic industry.

The legal framework for these instruments of contingency protection is provided by GATT Article XIX and the WTO Agreement on Safeguards (SGA).[33]

The general discipline on safeguards measures

At its base, the SGA is founded on three core concepts: the occurrence of unforeseen developments causing a surge in imports, the threat of serious injury for a domestic industry and, finally, the existence of a causal link between these two events. Leaving aside the details concerning these three criteria, several aspects can be stressed:

- a safeguard action can be pursued through increased tariffs or quotas or tariff-rate-quotas (TRQs). In any case, such derogatory measures have to be applied only to the extent necessary to prevent or remedy serious injury and are required to be consistent with the MFN principle. As to the time requirement SGA Article 9.2 establishes S&D treatment for developing countries, by allowing the maintenance of derogatory measures for a period up to two years beyond the maximum period accorded to other members;

- trade compensation e.g. in terms of enhanced market access for other goods must be offered by the member imposing safeguard measures. If this condition is not fulfilled or compensation is not satisfactory for trading partners, the latter may have recourse to retaliation.

Due to the strict conditions demanded, safeguard measures so far challenged before the Dispute Settlement Body (DSB) have never been found to be WTO-consistent. Of all the requirements, causation is the most thorny aspect to prove. The lack of an automatic and objective criterion of assessment and the costly administrative procedures of investigation make this tool quite burdensome for an LDC. Further, trade compensation has to be offered to trading parties and, even complying with this obligation, the risk of retaliation cannot be excluded.

Several elements, then, suggest that safeguard measures – though being a WTO-allowed option to protect domestic industries – are not likely to be available to LDCs.

The 'special safeguard' provision under the AOA and proposals on a 'special safeguard mechanism' for developing countries

As a counterpart to the tarrification of quantitative restrictions on agricultural goods, Article 5 of the AOA grants the possibility to impose safeguard measures with respect to specifically designed tariffed products listed in the Schedule of Concessions of a member.

Recourse to the special safeguard provision (SSG) can be triggered on two alternative bases: a fall in prices of imported goods or an increase in import volumes. The trigger of these two options is calculated in a different, though objective, way. In case of the price-type of SSG, action is permitted when the price of a shipment falls below a specified price, calculated from a fixed period. On the contrary, the volume-based SSG is determined on the basis of market access opportunities i.e. imports as a percentage of domestic consumption for the last three years of available data.

Under the price-based SSG, members can apply additional duties up to the difference of price, whereas the volume-based SSG allows to apply until the end of that year additional duties up to a third of normally applied duties.

Even though this mechanism might be of relevance for LDCs, so far it has not often been used by developing countries.

One possible reason of this limited use may reside in the fact that, following the UR, developing countries – and more specifically LDCs – had not undertaken many commitments as far as agricultural goods were concerned and, hence, could take little advantage from the SSG. In view of gaining a more relevant tool of protection, developing countries during the Doha negotiations have strongly been advocating for the adoption of a 'special safeguard mechanism' (SSM) reserved to them.

At present, negotiations on this issue are at a deadlock. The current draft negotiating texts replicates the structure of the SSG, establishing a price-based as well as a volume-based trigger and allowing the imposition of higher duties.[34] A number of developing countries, though, have called for the relaxation of these requirements, on the basis that they fall short of acknowledging and reflecting certain aspects of their developmental needs.[35]

At this stage it is still premature to draw a conclusion on this point. Certainly, the convergence of views on the appropriateness of a special safeguard mechanism reserved to developing countries represents an important conceptual achievement in the overall WTO regulative structure.

ii) Anti-dumping measures: core concepts

Dumping i.e. the practice of exporting goods at less than their normal price in the exporter's domestic market, is dealt with in GATT Article VI and in the WTO Agreement on Implementation of Article VI of the GATT 1994, known as the Anti-Dumping Agreement (ADA).

In recent times, developing countries have shown a tendency to apply AD measures, traditionally relied on mainly by developed countries. This trend suggests that developing countries perceive AD as an appealing tool of import protection. Rules on dumping are quite flexible and tend to meet the interests of domestic exporters – who have to initiate or agree to the governmental initiation of investigations – as well as domestic authorities seeking to protect a given industry.[36] Some of the distinctive traits of AD bear witness of such a tendency:[37]

- even though investigations should normally last one year and, at any rate, no less than six months, investigative authorities enjoy a broad margin of freedom in their conduct. For instance, in defining the existence of dumping i.e. the positive difference or margin between the price of the 'like' product in the exporting country and the export price, they can consider the export price or, if not available, a 'constructed' parameter defined as 'normal value'. Especially in this second case, the possibility of instrumentally build up an artificial parameter of reference is considerably high;

- the mere existence of 'injury' to an identified domestic industry suffices for dumping to exist. In determining injury, the ADA requires to consider both i) the volume of imports and the effect on prices in the domestic market of like products and, ii) the impact of these imports on domestic producers. If positive and objective evidence has to be supported, WTO dispute settlement instances have acknowledged injury even in presence of potentially contradictory elements;[38]

- national authorities enjoy discretion in choosing a method to distinguish the injurious effects of dumping from the one caused by other factors;[39]

- import duties can be raised up to the dumping margin against the firms of the country(ies) where the dumped exports originate. Also, AD measures can be addressed against certain trading parties only, thereby diminishing the possibility of retaliatory acts from a broad range of countries. Finally, given that dumping is conceived as an 'unfair' trade practice, no compensation has to be provided to foreign producers affected by AD measures. In these respects, AD measures have more impact and less costly than safeguards;

- AD measures can be extended with no fixed time-limit, provided sunset reviews confirm the continuing occurrence of dumping.

Taken together, these remarks show a certain degree of flexibility in substantial and procedural aspects for countries wishing to apply AD measures. The major constrain for LDCs, if compared with more advanced developing countries, relates to the administrative burdens to be afforded especially in the phase of investigation.

iii) Countervailing duties: core concepts

Countervailing duties (CVDs) are trade instruments aimed at neutralizing the distortive effects produced by a subsidies granted by a foreign government to its producers.

The WTO discipline on this subject is contained in GATT Article VI and in Part V of the WTO Agreement on Subsidies and Countervailing Measures (SCM).

The adoption of CVDs presupposes the existence of a subsidy and, in terms of relief, consists in the imposition of increased duties on the subsidized imports.

Subsidies will be discussed later in this memorandum, whereas the rules on injury, causation and remedy in the case of CVDs closely resembles those applicable for AD measures. For present purposes, then, only one additional specific feature of SCM will be recalled, namely its 'double track' remedy.

The SCM offers the possibility to offset the allegedly injurious effects of a subsidy through a multilateral or a unilateral procedure. The unilateral option consists in the imposition of CVDs, whereas the multilateral procedure permits a member state to challenge the legality of the subsidy before the DSB, by maintaining that it is prohibited or that it is causing adverse effects on domestic producers. In case of success, the subsidizing country has to remove its subsidy. Both tracks can be pursued in parallel, provided that relief is finally sought under only one of them.

Under this broad the scope of action, a country seeking protection from subsidized imports in more likely to prefer the unilateral track, given that it provides a faster way of relief. The multilateral track remains, though, an important tool for political pressure.

d) Instruments not expressly disciplined by the WTO agreements

The discussion on import barriers made in Part I has identified exchange rate controls as a further tool of import protection.

At the outset, no WTO agreement explicitly deals with exchange rates. There is, though, one GATT provision that may be of relevance for present purposes, namely GATT Article XV, concerning exchange arrangements and, more generally, the relationship between the WTO and the IMF.

Paragraph 4 stipulates that WTO members 'shall not, by exchange action, frustrate the intent of the provisions of this Agreement'. Both the expression 'exchange action' and 'frustrate the intent' are quite elusive.[40]

The term 'exchange action' may be taken as referring to 'convertibility' i.e. 'exchange policies' and 'exchange measure', mentioned in the IMF Articles, and not to 'exchange rate policy'. According to this interpretation, exchange rate policies would fall outside of the scope of Article XV:4.[41] If exchange rate policies are considered, a number of interpretative hurdles remains with regard to the notion of 'frustration of the intent' of a GATT disposition.

First of all, the GATT does not contain any specific provision requiring bi- or multilateral trade balance: trade imbalances caused by exchange rates has no direct no ramifications under GATT. Further, it is not clear whether 'frustration' of the intent of a GATT provision has to be purposely sought by the member taking exchange control measures.

For these reasons and for the lack of case-law so far emerged in this respect, WTO practice on the matter is really scant and ample space is available for countries to implement their exchange rate policies.

Developments on this issue, though, are not to be excluded, due to the increased interest raised by the monetary policies of certain

WTO members.[42] An action taken in accordance with the IMF Articles would always be permitted, as expressly provided under paragraph 9 (a).

2. Aid to enterprises

The catalogue of aid to enterprises collects different forms of governmental disbursements in favor of firms, such as domestic content, production and export subsidies and credit allocation to priority sectors/firms. Also fiscal policies e.g. tax holidays or exemptions and infrastructure upgrading are used to pursue that objective.

This subsection aims at providing an overall analysis of the WTO regime governing aid to enterprises. Subsections (3) and (4) will be broaching two more specific issues of governmental support to enterprises, namely export promotion and technological promotion.

The pertinent legal discipline for these policy tools hinges on the notion of subsidy. Attention will then be focused on the two WTO agreements dealing with subsidies for goods, namely the SCM (a) and the AOA (b). Export subsidies, though, will be addressed in the ambit of export promotion.

a) Subsidies in the SCM

The scope of the SCM is conjointly determined by its Articles 1 and 2. Article 1 states that a subsidy exists whenever a financial contribution or income or price support is provided by the government or a governmental authority. That includes, *inter alia*, revenue foregone as a result of tax exemption, transfer of funds or liabilities or the provision of goods and services other than infrastructure. Along with such action, proof is required that the receiving enterprise(s)/industry(ies) has/have been conferred a benefit[43] and that the target meets either of the criteria on specificity.

Specificity is a key concept of the SCM. According to Article 2, that condition is triggered when the governmental action of support is granted either *de iure* or *de facto* to an enterprise or industry or a group of enterprises or industries. Also, specificity is deemed to exist when a subsidy is granted exclusively to certain enterprises located within a designated geographical region.

The governmental interventions mentioned above as aid to enterprises are all potentially covered by the SCM. Direct payments or fiscal exemptions granted by the government falls within the material scope of Article 1. Closer attention will be focused on domestic content and production subsidies.

i) Local content subsidies

SCM Article 3.1 (b) prohibits subsidies 'contingent [...] upon the use of domestic over imported goods'. Contingency has been interpreted by relying on the criteria set for paragraph 1 (a) of Article 3, dealing with contingency upon export performance. In that context, a 'but for test' is applied, according to which contingency exists whenever a certain subsidy would not have been granted 'but for' the anticipation of future exports.[44] *Mutatis mutandis*, that test also defines contingency on domestic products. Further, both *de facto* and *de iure* contingency are deemed to be covered by Article 3.1 (b).[45]

In the case of LDCs, though, this general prohibition is affected by the S&D treatment enshrined in SCM Article 27.3. LDCs have been accorded an eight-year transition period of exemption from the prohibition on subsidies contingent on the use of domestic over imported goods. This period terminated on 31 December 2002. Thereafter, domestic content subsidies have become prohibited and subject to the discipline on remedies described in SCM Article 4, whereby a prohibited subsidy can *ipso facto* be challenged, without having to prove injury suffered by the importer's domestic industry.

If this discipline applies to all members of the WTO, LDCs negotiating accession are entitled, according to the Guidelines for LDCs Accession, to claim the full enjoyment of the transitional periods provided by the S&D clause of the SCM. In that case, by virtue of SCM Article 27.7, the domestic content subsidy would only be actionable i.e. proof of injury would be required to challenge it.[46]

ii) Production subsidies

Local content subsidies are only one of the possible forms of direct payments granted by governments. Production subsidies, in fact, e.g. on inputs do not necessarily incorporate such a requirement. In this case, the subsidy could be either specific – and therefore actionable – or non-specific – and therefore not covered by the SCM discipline.

When designing a subsidy, specificity is then the core issue to be taken into account in order to avoid challenges by trading partners. WTO case-law has shown that specificity, especially *de facto*, is not readily assessable. Mainly, judicial instances have relied on a case-by-case approach. Attention has been devoted, *inter alia*, to the scope of beneficiaries deducible from the eligibility criteria of a subsidy or to the number of industries effectively enjoying a subsidy formally designed to have more recipients.

Further, the possibility to challenge a subsidy which is found to meet the specificity requirement would be limited by the S&D treatment incorporated in SCM Article 27.9. According to it, a developing country's actionable subsidy cannot be subject to claim concerning serious prejudice, unless those subside met the requirement of Article 6.1. Given that this provision has lapsed in 1999, it may be concluded that a serious prejudice claim could not altogether be brought against a developing country.

b) Domestic support in the AOA

The AOA establishes a specific discipline concerning governmental action of support in favour of those agricultural products covered by the list of Annex I.

i) The core discipline on domestic support

The AOA discipline on domestic support is centred on two core ideas: the quantification in monetary terms of the domestic support provided for the agricultural sector and the ranking of governmental policies according to their degree of trade distortiveness. This approach allows to cover the broad range of policies aimed at sustaining agriculture and provides the basis for the reduction commitments contracted according to AOA Article 6.

Domestic support is quantified through the so-called 'Aggregate Measurement of Support' (AMS). This indicator includes product-specific types of support provided in favor of the producers of agricultural products and non-product specific support granted in favor of agricultural producers in general. Annex III spells out the criteria for calculation, which has to be done for every product. The sum of all the AMS – plus all non-product-specific aggregate measure of support and all equivalent measurement of support for agricultural products – constitutes the 'Total AMS'.

Different types of AMS appears in the Schedule of Concessions of a member. First, the Base Total AMS, representing the Total AMS for the base period (1986-1988), next the Final Bound Commitments – indicating the effect of the reduction commitments undertaken – and finally the Annual Bound AMS, corresponding to the AMS commitment for each year of implementation of the reduction period. The AOA requires that the Current Total AMS of a member, calculated on a yearly basis, should not be higher than the Annual Bound AMS.

Not any action of domestic support is considered in determining the value of a member's Current Total AMS. The AOA distinguishes the degree of trade distortiveness of different policies according to the so called 'traffic-light' approach. Along with that, AOA Article 6 enumerates a number of policies which do not have to figure in the Current Total AMS. Schematically, the classification of tools is the following:

1. Exempt from reduction

 The **Green Box**: supports to agriculture which are deemed to be non-, or minimally, trade distorting. They do not need to be reduced under the Round, and the so-called Peace Clause (Article 13) is designed to limit the scope for other WTO members to take action against them (such as the imposition of countervailing duties). Such supports include:

– publicly financed R&D;

– early retirement schemes for farmers;

– payments for long-term land retirement.

 The **Special and Differential Box** exempts from reduction: investment subsidies generally available to agriculture in developing countries; agricultural input

subsidies generally available to low-income or resource-poor developing country producers; and anti-narcotic diversification incentives.
 The ***de minimis* provisions** of Article 6:4 exempt from reduction supports below a minimum threshold in any year. The cut-off point for developing countries (at 10% of production value) is double that applying to developed countries.
– The **Blue Box**: direct payments under 'production limiting' programs need not be cut but may be actionable by other WTO members.
2. To be reduced
 The **Amber Box** is a residual category of supports not covered by the three
previous boxes (mainly product-specific supports and non-exempt subsidies) which must be reduced unless covered by the *de minimis* provisions.

ii) Rules applicable to LDCs under the AOA

The core provisions applicable to domestic support granted by LDCs are AOA Articles 3.2, 6 and 15.

On the basis of Article 3.2, a member commits itself not to provide domestic support in excess of the level specified in its Schedule. As stipulated by Article 3.2 itself, such commitments are identified 'subject to' the conditions set forth in Article 6. The latter provision establishes the criteria recalled above concerning the calculation of Current Total AMS for the purposes of implementing reduction commitments.

With regard to LDCs specifically, by virtue of Article 15, no reduction commitment has to be undertaken. It follows, then, that the only obligation flowing from Article 3.2 is not to increase domestic support policies above the Base Total AMS. Stated differently, their Total Current AMS cannot be higher than their original base AMS.

It matter to notice, though, that most developing countries failed to submit substantial base AMSs in the UR and, hence, their Current Total AMS is anchored to a constraining threshold of reference. Yet, the conclusion that such a scheme has entailed a limitation in policy making space is not warranted.

First of all, according to the provision of Article 6:4, developing countries are accorded a quite high *de minimis* threshold of 10% of production: any form of 'amber box' support below this ceiling does not have to be countered within the Current Total AMS. Next, the S&D treatment contained in Article 6.2 excludes a certain number of programs of interest for LDCs. Further, it should be recalled that the calculation of the current AMS is made on the basis of a notification to the WTO Committee on Agriculture. According to the recent data,[47] since 2005 LDCs have not submitted any notification altogether; those few countries which have submitted notifications have in fact notified to provide no support to the agricultural sector. Enlarging the temporal scope of analysis to the last year for which notification is available, data show that 'green box' support accounted for 67 percent of the total support notified by the average developing country; developmental S&D under Article 6.2

accounted for 16 percent and *de minimis* for 10 percent. No notification of 'amber box' support is available for LDCs.

It seems, then, that there is no conclusive evidence proving that the AOA considerably affects the development space of LDCs wishing to support domestic agricultural production.

3. Export promotion

A broad range of policy instruments has been put forward in Part I under the catalogue of export promotion (EP). These include: export subsidies, import duty drawback, schemes of export finance/insurance/guarantee, export restrictions. Also, mention has been made of a number of governmental actions aimed at abating transaction costs due to information and coordination externalities. These are: export quality management, export promotion and marketing of domestic firms as well as the provision of export financing services.

At the outset, it has to be noticed that the tools of export assistance listed under this latter category are not touched by the WTO agreements. LDCs are not then constrained in having recourse to them. Further, a government's capacity to successfully pursue such techniques of export promotion and assistance is one of those domain where participation in the WTO may be particularly beneficial. From the one hand, exchange of best practices with other WTO members may provide useful guidance in enhancing the quality of on-shore activities of information and assistance provided to domestic exporters. From another hand, the WTO represents a favourable platform for conducing off-shore promotional activities addressed to a broad range of potential importers.

Regarding the other instruments of EP listed above, two main items can be identified: export subsidies (a) and export restrictions (b).

a) Export subsidies

The WTO discipline of export subsidies on goods is determined by two Agreements: the SCM, having general application (i) and the AOA, regarding agricultural products (ii).

i) Export subsidies for LDCs under the SCM

The range of governmental actions covered by the SCM has already been discussed under the subsection of 'aid to enterprises'.

Within this framework, export subsidies are defined by Article 3 as those subsidies 'contingent, in law or in fact, whether solely or as one of several conditions, upon export performance'. They are considered to be specific as such.

Contingency, as already recalled, as been interpreted on the basis of a 'but-for': if a certain subsidy would not have been granted 'but for' the anticipation of future exports,[48] then contingency exists.

Selected tools of export promotion under the SCM

Along the lines of the general discussion held above, Annex I to the SCM provides an illustrative list of export subsidies. Among other forms of governmental action, Annex I makes express reference to some of the tools cited earlier, namely, indirect tax rebate, duty drawback schemes, export credits, export guarantees and insurance.

- *Indirect tax rebates* (Annex I, items (g) and (h) of Annex I and Annex II for procedural aspects) are intended as the remission or the exemption of indirect taxes with respect to the production or distribution of exported products (g) or indirect taxes on goods or services used in the production of exported goods (h).

They do not amount to an export subsidy as long as the exemption or remission does not exceed the taxes levied in respect of the like products sold for domestic consumption. VAT exemption/remission on products that are exported may be mentioned as an example of such tools.

- *Duty drawback schemes* (Annex I, item (i) and Annex III for procedural questions) consist in the repayment of duties paid on imported goods which are used in the production of exports. Annex I only deals with drawback scheme related to imported inputs consumed in the production of exported goods.

Such policies are not considered as export subsidies provided they do not result in rebates in excess of what was actually levied on inputs consumed in the production of the exported product. Differently, drawback schemes on capital goods rather than inputs always constitute export subsidies if conditional on exportation.

- *Export credits* (Annex I, item (k)): exist when a buyer or a supplier of exported goods can defer payment for a certain period of time.

This category qualifies as export subsidies a number of policy tools, such as grants by governments below certain interest rates, governmental payment of at least part of the costs incurred by exporters and facilitations in obtaining credits used to secure a material advantage concerning export credit terms.

- *Export guarantees and insurances* (Annex I, item (j)) most commonly take the form of preshipment export finance guarantee schemes or foreign currency revolving funds.

These forms of financing are deemed export subsidy if they are granted at premium rates insufficient to cover long-term operating costs and losses. According to existing case-law, a premium rate is adequate when it can change according to the evolution of circumstances and thereby cover the costs and losses of the program.[49]

Overall, Annex I adopt a similar approach for all the policy tools listed therein: they are qualified as export subsidies only in presence of certain circumstances.

If the triggering threshold for a subsidy is not met, two main consequences follow. First, the governmental action at stake is not an export subsidy and, therefore, the criterion of specificity is not *ipso facto* satisfied. Second, if specificity cannot positively be proved *in casu*, the SCM is altogether not applicable.

Rules applicable to EP tools LDCs adopting (under the SCM)

According to SMC Article 3.1 (a), export subsidies are normally prohibited. As such, they can be challenged either through the multilateral i.e. litigation before the DSB or the unilateral i.e. imposition of CVDs track (Article 4 SCM). In neither of these cases there is need to prove the injurious effects provoked by the impugned subsidy.

The legal discipline applied to LDCs is considerably different. By virtue of the S&D treatment provided by SCM Article 27. 2 (a), read with Annex VII (a), export subsidies granted by LDCs are not prohibited. A twofold caveat has, though, to be added to that.

First, on the basis of Article 27.5, second sentence, whether an LDC 'has reached export competiveness in one or more products' the non-prohibited export subsidies accorded to that/those product(s) must by phased-out over a period of eight years. *In specie*, export competiveness is deemed to exist if exports of a certain product have reached a share of 'at least 3.5 per cent in world trade'.

Second, non-prohibited export subsidies granted by LDCs can nevertheless be challenged according to the conditions set forth by SCM Article 7, dealing with actionable subsidies. In such a case, injury had to be proved by a WTO member wishing to challenge the export at stake.

Drawing from the insights gathered so far, two are the possible scenarios facing an LDCs wishing to engage in governmental action of support towards exports:

a. It could introduce or maintain any kind of support contingent upon exports, knowing that these actions might be challenged by other trading parties. In case of legal proceedings, a certain protection may still arise from the admissibility requirements established by Article 11.9 SCM.[50]

   Under this scenario, the implementing government could have recourse to all the specific policy tools contained in Annex I as it wished.

   Further, it could put in place other forms of support not contained in the illustrative list of Annex I but still qualifying as export subsidies. That might apply, for instance, to schemes of foregoing or not collecting certain government revenue contingent upon export performance.[51]

b. Alternatively, a government using any of the tools mentioned in Annex I could tailor its intervention so as to remain below the threshold triggering the existence of a subsidy.
   In that case, the granted subsidy would come under the scope of the SCM only if specificity according to the criteria of SCM Article 2 could be proved *in casu*. Hence, a subsidy still contingent upon export would not be covered by the SCM if it were not reserved to a specific enterprise(s) or industry(ies).

ii) Export subsidies for LDCs under the AOA

Export subsidies to the products contained in Annex I to the AOA are part of the legal discipline designed by this agreement.

Generally, export subsidies are defined in Article 1 (e) as those subsidies 'contingent upon export performance, including the export subsidies listed in Article 9 of this Agreement'.

The AOA does not offer a definition of either the term 'subsidy' or 'contingent upon export performance'. WTO judicial instances have consistently adopted the same criteria contained in the SCM.[52]

A similar approach has been hinted at also with regard to the tools of export promotion contained in SCM Annex I, which are not expressly dealt with in the AOA. More precisely, a Panel having to determine whether a certain type of export credit amounted to an export subsidy under the AOA, deemed it appropriate to draw 'contextual guidance' from the SCM and Annex I thereto.[53]

At this point, one question may arise: were the test under Annex I not be met, could the subsidy at stake still be considered an export subsidy under the AOA? If one were to take the analysis under the SCM as conclusive, the answer would be negative. On the contrary, had the AOA to be interpreted as leaving space for further investigation, no certain conclusion could, at present, be reached.

Due to this uncertain answer, certain developing countries have put forward proposals for reforms during the Doha negotiation. Particularly, it has been suggested that tools available to developing countries and LDCs by virtue of SCM Article 27, read with Annex VII, should be deeded admissible under the AOA as well. Negotiations on this point have not yet produced any outcome.

Rules applicable to agricultural subsidies granted by LDCs

The legal discipline concerning export subsidies under the AOA is based on two main pillars. First, the provisions defining the obligations of each WTO member concerning the grant of export subsidies; these are mainly Articles 3, 9.1, 8 and 10 of the AOA. Second, the Articles defining WTO members' obligations with regard to reduction commitments. In that respect, the rules applicable to LDCs are provided by Articles 9.2 – defining 'reduction commitments' and 15, designing the S&D treatment accorded to developing countries.

At the outset, Article 8 stipulates that any WTO member shall 'not provide export subsidies otherwise than in conformity with this Agreement and with the commitments in a specific Member's Schedule'. Such formulation unfolds two dimensions to be analyzed: first, what is intended with commitments for the purposes of the AOA and, second, under which circumstances the conduct of a WTO may not be in conformity with the AOA as far as export subsidies are concerned.

In the AB case-law, a distinction has been made between general 'export subsidy commitments' and 'reduction commitments' made under the AOA.[54]

'Export subsidies commitments' concern the obligations made under Article 3.3 with reference to both scheduled and non scheduled goods. With regard to scheduled agricultural products, member states have agreed not to provide export subsidies of the kind listed in Article 9.1 in excess of the level specified in their Schedules. On the contrary, the commitment concerning non schedules goods consists in avoiding altogether any kind of subsidy listed in Article 9.1.

Article 10, however, stipulates a further obligation incumbent on all WTO members in connection with subsidies not contained in Article 9.1 which might anyway have a trade distortive effect. It states that 'export subsidies not listed under Article 9.1 shall not be applied in a manner which result in or threatens to lead to circumvention of export subsidy commitments'. In this case, the WTO consistency of the subsidy at stake depends on the specific circumstances of each case.

From the discussion held so far, it follows that the conduct of a WTO member would not be in conformity with the AOA:

a. By providing Article 9.1-type of subsidies to non scheduled goods and/or by granting Article 9.1-type subsidy to scheduled goods above the bound level;

b. By providing a non Article 9.1-type subsidy to either scheduled or non scheduled goods so as to circumvent the 'export subsidies commitments' contracted by the subsidizing WTO member.

In the light of these remarks, it is not correct to hold that non-scheduled goods cannot receive any subsidy altogether, nor it is complete to maintain that scheduled goods can only receive those subsidies listed in a member's Schedule. As already stressed, the WTO-consistency of a non-Article 9.1-type subsidy depends on the way of tailoring and implementing it. That has been shown in a *U.S. – FSC* case, where a certain scheme of tax exemption has been deemed to violate the commitments on non scheduled goods because the exemption provided was automatic and unlimited.

These and similarly distortive characteristics can, though, be avoided. For instance, tools of export promotion contained in SCM Annex I can be implemented in their respective non-distortive version i.e. below their *de minimis* triggering thresholds.

The discipline canvassed so far applies to all WTO members. For certain type of commitments, the so-called 'reduction commitments', LDCs enjoy of a special treatment.

According to AOA Article 9.2., WTO members are generally required to progressively reduce Article 9.1-type of export subsidies. LDCs, though, are dispensed from undertaking any reduction commitment, as a result of Article 15.2, second sentence.

Although these rules are quite favorable to LDCs, it matters to notice that for those of them which are original WTO members the benefits of the S&D treatment of Article 15 may be of little relevance. During the UR, in fact, only a few LDCs had made undertakings in the agricultural sector and, at any rate, commitments had been entered into only for a limited number of agricultural products. On the contrary, the exemption from reducing Article 9.1.type of commitment might play a role for LDCs intending to join or in the process of negotiation. Given the advantageous framework provided by the *Guidelines for LDCs accession*, they might have incentives in making export subsidy commitments for agricultural products.

b) Export restrictions

Export restriction can be obtained through different means: export taxes, export prohibitions and restrictions, including forms of voluntary export restrains (VERs). From a conceptual standpoint, two categories of instruments can be distinguished: fiscal schemes (i) and quantitative restrictions (ii).

i) Export taxes and duties

As such, export taxes are not regulated by the WTO agreements. GATT Article XI simply recognizes that – unlike with quantitative restrictions – WTO members are entailed to maintain taxes and duties.

Constrains specific to a country may arise if they have been contracted and included in the Schedule of Concessions or if they are due to participation in regional trade agreements *et similia*.

Eventually, certain kinds of export taxes may indirectly conflict with other WTO obligations. For instance, the imposition of a prohibitive tax may result to be tantamount to a quantitative restriction according to the terms of GATT Article XI. In a discriminatory export tax imposed on foreign firms only, for instance in connection with restrictive business practices (RBPs),[55] would clearly violate GATT Article III as well as the WTO Agreement on Trade Related Investment Measures (TRIMS).

These scenarios excluded, export taxes and duties do not raise other considerable problems under WTO law.

ii) Quantitative export restrictions

Quantitative restrictions of exports can be enacted through bans, quotas or licensing requirements. The legal discipline of such actions is primarily established by the GATT, whereas the AOA makes reference to export restrictions of foodstuffs by relying and expounding on a GATT provision.[56]

As previously recalled, GATT Article XI prohibition covers both imports and exports' restrictions. That holds true either if export restrictions are imposed on local firms or/and on foreign investors, as a TRIM.[57] The GATT, though, allows certain kind of restrictions on exports.

To start with, GATT Article XI.2 (a) permits to introduce otherwise forbidden quantitative restrictions to exports 'to prevent or relieve critical shortages of foodstuffs or other products essential to the exporting contracting party'. Measures introduced according to this clause can only be temporary.

Echoing this provision, Article 12 of the AOA deals with export restrictions or prohibitions on foodstuffs. It requires that a country establishing restrictions should give 'due consideration' to the food security concerns of importing countries. An LDC would be exempted even from that weak requirement, provided it is not a regular food exporter.

Also GATT Article XX could be considered in the realm of export restrictions. Depending on the goods at stake, export restrictions could fit under more than one item of Article XX. For instance, those on raw materials such as timber or logs may be covered by paragraph (g), provided that measures similarly restricting consumption or distribution exist at the domestic level.

Also pertinent to export restrictions in the context of an IP could be paragraph (i) of Article XX. It treats, in fact, restrictions of domestic materials necessary to a domestic processing industry when such price is held below world price as part of a governmental stabilization plan. A proviso contained in the second part of the paragraph specifies, thought, that such restrictions should not operate to increase the exports of the domestic processing industry at stake.

Finally, it may be worthwhile recalling that GATT Article XVIII, section C discusses above could also provide a basis for derogatory measures of export restrictions.

4. Technological promotion

Technological promotion has been pursued through a lax enforcement of intellectual property rights, facilitating reverse engineering and imitation, imposing technology-related requirements on domestic firms, providing assistance to R&D e.g. through subsidies and by promoting human capital development.

From the WTO legal perspective, central to the discussion of this subsection is the WTO Agreement on Trade-Related Intellectual Propriety Rights (TRIPS) (a). The SCM too is of relevance, so far as R&D subsidies are concerned (b).

a) Technological promotion and the TRIPS Agreement

The adoption of the TRIPS Agreement during the UR has brought about a considerable change in the relationship between WTO members, by setting a common core of relatively well-established intellectual propriety rights (IPRs). For the purposes of a IP, the rules on patents merit particular attention. Patents, in fact, bestow on their detainees exclusive rights over inventions. Thus, the patent regime adopted by a country entails important consequences relating to the circulation, diffusion, and development of technologies throughout its economy.

The focus of analysis will, therefore, be centred on the legal discipline established in Part II, Section 5 of the agreement, dealing with patents (i). The memorandum will then dwell on the potential impact of these rules on the freedom of action enjoyed by LDCs (ii).

i) The TRIPS discipline on patents

The regulation of patents is specifically addressed in Part II, section 5 of the TRIPS, to be read in conjunction with the general obligations set in Part I.

Part I aims at erecting the overall architecture of the TRIPS Agreement by pursuing a twofold track. On the one hand, it imposes the respect of the main international conventions on IPRs protection in view of creating a common set of minimum obligations;[58] on the other hand, it extends the NT and MFN obligations to the domain of IPRs. Further, it seeks to prevent an abusive use of IPRs, by recognizing the possibility to take measures against practices unreasonably restraining trade or adversely affecting the international transfer of technology.

Against this background, Part II, section 5 canvasses the specific discipline on patents, by incorporating many of the standards contained in the Paris Convention for the Protection of Industrial Propriety.

The regime designed imposes patents for both products and processes and contemplates a limited – though quite broad in scope – number of exceptions for subject matter considered public goods, biologically occurring products and processes of plants or animals, and any methods for treatment of human or animals. For all the patentable products and processes a uniform twenty-year term is fixed, during which the patentees have extensive control over the access and use of patented information. Further, governmental interventions limiting the exclusive enjoyment of patent rights is submitted to a general obligation of necessity.

ii) LDCs and the constrains imposed by the TRIPS discipline on patent

In principle, the TRIPS Agreement provides an extensive and relatively detailed regulation of IPRs protection; in practice, though, the impact of its provisions is likely to vary from country to country, according to the legislative standards and administrative practices chosen by each country in view of giving implementation to its obligations.

The discipline on patents offers numerous examples of the flexibility left to WTO members. Two aspects will be reviewed: the looseness of the provisions defying the scope of protection to be afforded and the benefits entailed by certain rules favouring the process of ‘learning around’.

The margin of discretion left in defying the scope of patentable protection

The international IPRs regime is still affected by a lack of consensus on the definition of many of its relevant notions. The TRIPS regime on patents reflects this state of things.

To start with, whereas article 27.1 envisages inventions of both products and processes as patentable, the standards adopted in order to identify what constitutes an ‘invention’ lack an agreed-upon definition at the international plane. Further, article 27 has a number of built-in exceptions which may be of interest, especially for agricultural-oriented LDCs.

As to the first aspect, it is of note that at least two of the tree standards adopted, namely novelty and non-obviousness, are affected by considerable interpretative uncertainties.[59] Relying on that, an LDC may shape its patent regime so as to accommodate its strategic needs. For instance, it may wish to adopt a restrictive standard of ‘non-obviousness’, so as to maintain a weak protection for routine-discoveries. However, choosing to set a quite high threshold for protection might also provoke disincentive effects for local innovators, subject to the same discipline applied to foreigners by virtue of the TRIPS NT obligation. The appropriateness of either of these alternatives depends on the situation of technological development specific to a country. Aside from these contingencies, it matters to stress that WTO law does not pose major constrains on a country wishing to revise the definition of novelty and non-obviousness adopted in its patent regime so as to adapt it to the evolutions in the country's process of knowledge upgrading. Due to the lax definition of novelty and non-obviousness a country can meet its TRIPS obligations by choosing among a number of substantially different alternatives.

Passing on to the issue of the built-in exceptions to Article 27, paragraph 3 is of particular relevance for an IP pursued by an LDC. This clause, in fact, establishes certain categories of products which may be excluded from patentability, notably plants and animals 'other than microorganism' as well as their 'essentially biological processes of production'. For countries heavily relying on agriculture this exception allows to avoid the restrictions patents may pose on the use of seeds by farmers and researchers. Whereas, concerning the obligation to grant patents to 'microorganism' and their related processes of production, it is worthwhile stressing that the Agreement does not impose a specific criteria to decide what constitutes a microorganism. Therefore, a country may opt for either a restrictive or a more extensive interpretation of the term according to its developmental strategy. More precisely, a country wishing to engage in biotechnology may prefer to provide a broader definition of the expression 'microorganism' in order to protect certain types of research in the sector; on the contrary, a country not interested in or not capable of following this developmental path may opt for a more restrictive interpretation of the expression and thereby keep a broader basket of products not requiring patent protection.

The potentials for 'learning around' and fostering local inventions under the TRIPS

Free-riding imitation is not anymore an available option for LDCs under the TRIPS Agreement. It is therefore important to investigate whether LDCs have nonetheless access to alternative ways capable of leading to technological upgrading. This issue may be regarded at least from three angles. First, by focusing on the TRIPS provisions facilitating forms of 'learning around' patented inventions. Second, by considering the building of *sui generis* system of protection aimed at fostering local inventions at the sub-patentable level. Third, by assessing the option for international technology transfer (ITT) enshrined in TRIPS Articles 66.2 and 67. These aspects will be analyzed in turn.

a. Several provisions of Section 5 of the TRIPS Agreement may be implemented so as to foster forms of 'learning around' patented inventions. First, whereas patents grant exclusive rights on a certain invention, international patent law requires an obligation to give full disclosure of inventions, including the best mode to operate them. If strictly implemented, this requirement –

incorporated in TRIPS Article 29 – can favour the process of 'inventing around' a patented invention or facilitate its adaptation to local conditions. In both cases, the costs of affording protection to patented inventions are reduced.

In addition to that, it may be worthwhile recalling also Article 30, which allows to provide exceptions to the exclusive rights conferred by a patent, if that 'do not unreasonably prejudice the legitimate interest of the patent owner'. By interpreting the threshold of 'unreasonable prejudice' in light of other international similar provisions,[60] a developing country may decide, for instance, to limit the exclusive rights of the patentees for experimental purposes. Also in this case, the WTO regime does not foreclose the opportunity to 'invent around' a patented product or process.

b. In the field of patents, the TRIPS Agreement imposes to design *sui generis* schemes of protection for plant varietals (Article 27.3 (b)). The adoption of similar regimes of protection has been advocated by certain authors also in relation with sub-patentable products and processes i.e. inventions not meeting the threshold of 'novelty and non-obviousness' and, therefore, not requiring protection under the TRIPS Agreement. Such flexible schemes, the argument goes, foster local routinely innovation, otherwise prone to free-riding and therefore likely to lack of the incentives necessary to progressively scale-up the technological path.[61]

In this respect, one of the major stake is how should a *sui generis* regime of protection be conceived in order to foster local development. TRIPS Article 27.3 makes reference generally to an 'effective *sui generis* system' of protection for plant varietals. One possible option is to adopt the standards established by the Union for the Protection of New Varieties of Plants (UPOV). It should be noticed, though, that the newly amended scheme of UPOV is strongly favourable to multinational firms over local breeders and, hence, LDCs should rather have recourse to other systems of *ad-hoc* protection. More generally, also for non-patentable products and processes not regulated by the TRIPS Agreement systems of protection emulating the logic of patent are neither the best nor the only option available to LDCs.

For instance, an alternative to regimes based on the concession of exclusive rights may be the system of limited liability. Under this scheme the innovator enjoys of a short period to recover the expenses afforded during which second-comers would not be allowed to commercialize products similar to the new one, later any barrier to entry is removed and the innovation can freely and fully be used by others.

The problem is that this system, as well as other hybrid regimes more similar to patents, are costly and need considerable administrative resources. So far, developing countries have found major difficulties in setting up this kind of more flexible systems of protection. Even though WTO law leaves to each member the possibility to choose the preferred scheme of protection, LDCs face major political and institutional constrains in effectively taking full advantage of this margin of flexibility. In this respect, ITT may play a major role in the near future.

c. ITT is another aspect of the WTO discipline on IPRs potentially entailing a positive gain for LDCs. The TRIPS Agreement makes several general references to the transfer of technology from developed to developing countries, while specific obligations are stipulated by Articles 66.2 and 67. The first of these provisions refers to 'incentives' aimed at promoting and encouraging ITT to LDCs; however no standard is identified in order to assess the fulfilment of this obligation. The same holds true for the provision of Article 67, specifically framing ITT as functional to the establishment of workable systems of IP protection. So far the TRIPS Council has limited itself to set up an essentially monitoring mechanism in which developed countries submit reports detailing what measures have been put in place in view of accomplishing the obligations posed by these articles.[62] Overall, the reports submitted by WTO developed members, such as the EC or the US, have improved since the implementation of the 2003 TRIPS Council's decision. It remains, though, that the lack of common standards curbs the possibility to measure the effective implementation of the ITT-related TRIPS provisions.

Overall, this non exhaustive review of the WTO legal framework on IPRs protection suggests that the WTO regime is still doing little in strengthening the LDCs' capacities necessary to meet the TRIPS obligations. This aspect cannot be neglected as it probably represents the major hurdle facing LDCs. That has been recognized by the Council for TRIPS, which has accorded to LDCs an extension until 1 July 2013 to fully implement the agreement.[63]

b) R&D Subsidies

R&D or technology-performance related subsidies are addressed both in the SCM and in the AOA.

As already notice, the AOA classifies research and development subsidies as 'green box' measures of domestic support. Hence, they are neither actionable nor included in the calculation of a member Current Total AMS. WTO members are simply required to notify any new R&D measure granted in favour of the agricultural sector.

The SCM originally contemplated a box of 'non-actionable subsidies', comprising R&D subsidies. This window, incorporated in Article 8, existed until December 31 1999 and was not extended. Though strongly advocating for the re-establishment of the 'green box' category, developing countries have failed to reach any result on this point during the Doha Round of negotiations. At present, R&D subsidies, if specific, are actionable.

5. Investment measures and incentives

The catalogue of investment measures mainly comprises: FDI policies e.g. trade performance requirements. transfer of technology, local content, the setting up of Special Economic Zones (SEZs).

Under the WTO regime, trade-related investment measures are specifically dealt with in the TRIMS Agreement (a), whereas Special Economic Zones (SEZs) are not specifically mentioned, but can nevertheless be looked at under the prism of WTO law (b).

a) FDI and TRIMS

The different types of measures undertaken by governments in relation with foreign investment may entail trade-distortive effects.

Starting from this premise, the TRIMS Agreement aims at identifying the most trade-distortive of these measures, by applying the core principles of the GATT to the realm of investment. Attention will then be focused first on the scope of the agreement (i); next on the specific rules applicable to LDCs (ii).

i) The scope of the TRIMS Agreement

Taking up GATT Article XI obligation on the elimination of quantitative restrictions and GATT Article III obligation of NT, the Annex to the agreement provides a list of forbidden TRIMS.

Basically, five types of TRIMS are prohibited by the Annex. These are:

1. TRIMS prohibited on the ground of favoring domestic product over imports (violation of NT obligation) are those requiring:

- to purchase or use by an enterprise of products of domestic origin or from any domestic source (local content requirements), or

- that an enterprise's purchase or use of imported products should be limited to an amount related to the volume or value of the local products it exports (trade-balancing requirements).

2. TRIMS considered inconsistent with the provisions of GATT Article XI are those:

- Restrict imports to an amount related to the quantity or value of the product exported (i.e. trade-balancing requirements constituting restrictions on imports);

- Restrict access to foreign exchange to an amount of foreign exchange attributable to the enterprise (i.e. exchange restrictions resulting in restrictions on imports);

- Specify exports in terms of the volume or value of local production (i.e. domestic sales requirements involving restrictions on exports).

This list leaves out a number of other measures often resorted to by governments in relation with FDI. For instance, countries are not prevented from imposing export performance requirements as a condition for investment. They are not prohibited from requiring that a certain percentage of equity should be held by local investors or that a foreign investor must bring in the most up-to-date technology or must conduct a specific level or type of R&D locally.

If the TRIMS does not impose obligations on these measures, it matters to notice that other WTO agreements may be pertinent. For instance, were an export performance requirement coupled with the granting of a fiscal benefit or a direct governmental payment, the domestic measure at stake would be covered *both* by the TRIMS Agreement *and* the SCM.[64] In the example made, the measure would then be consistent with the TRIMS, but still an export subsidy under the SCM and, hence, actionable if granted by an LDC.

ii) Rules applicable to LDCs under the TRIMS Agreement

Any forbidden TRIMS has to be phased out. In order to comply with such obligation, LDCs have been accorded seven years of the date of entry into force to phase out notified TRIMS.

The position of LDCs with regard to the TRIMS Agreement has been considerably affected by the Hong Kong Ministerial Conference of 2005. In that venue it was, in fact, agreed that LDCs shall be allowed to maintain existing forbidden TRIMS until the end of a new transition period of seven years. At its termination, the Council for Trade in Goods (CTG) may grant a new period of extension. Further, LDCs are allowed to introduce new measures deviating from the obligations under the TRIMS agreement. Newly introduced TRIMS, notified to the CTG, shall not be maintained more than five years and shall be extended only once. Finally, the Declaration establishes that all TRIMS maintained by LDCs shall be phased out by 2020.[65]

b) An overview on SEZs from the WTO perspective

Special Economic Zones are not the object of a precise discipline under the WTO Agreements. A footnote to GATT Article XVI and to SCM makes a reference to SEZs, excluding from the definition of 'subsidy' one of the fiscal facilitation provided by SEZs, namely an exemption from import duties and taxes on goods exported from SEZs.

At the outset, it is important to note that SEZs, tough presenting similar characteristics, differ considerably as to the facilitations provided. In addition to that, certain SEZs are run by private and, hence, are not covered by any WTO rules, unless a governmental implication can be proved.

The incentives granted within SEZs fall within the scope of the Agreements previously analyzed. First of all the SCM, next the TRIMS and finally the GATT provisions on NT and quantitative restrictions. The legal discipline established by these agreements has thoroughly been analyzed in previous sections. For present purposes, it will then suffice to recall certain policies often found in SEZs and identify their consistency or inconsistency with the pertinent rules.

Many SEZs provide forms of fiscal exemptions, such as exemption from import duties or indirect taxes, similarly exemptions from duties and indirect taxes are applied to goods used in the production process when the end products are exported. By virtue of the footnote to GATT Article XVI and to the SCM these forms of exemption are not considered as subsidies.

Along with that, a certain number of measures fall within the scope of the SCM, particularly and exemption from direct or indirect taxes, the provision of more favorable transport and freight charges and so forth. As we have seen, in the case of contingency upon export for LDCs, the subsidy granted is not prohibited, but still actionable.

Other measures may just impose requirements for investors and hence fall solely within the scope of TRIMS. These are for instance measures requirements to purchase or use domestic products, or limits to use imported products to an amount related to the volume or value of the local product exported and so forth. In this case, the action are non consistent with TRIMS, but LDCs may still have recourse to them.

The list of measures recalled is not exhaustive. As already said, the WTO consistency of a certain regime maintained in a SEZs much depend on the contingency of the case.

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1 The Guidelines are contained in the Document WT/L/508. For a broader discussion on the issue of accession, see Section C of the present memorandum.

2 See GATT Document MTN.GNG/MA/W/13 as to the guidelines on tariff ceilings endorsed during the UR.

3 See *World Trade Report 2009*, p. 107.

4 For a survey on ODCs see WTO, ITC, UN, *The World Tariff Profiles 2008*, p. 207.

5 A recent stand of literature has concentrated on the costs of "water" by attempting to estimate the welfare costs of raising applied tariffs up to the bound rate, see particularly Antoine Bouet and David Laborde, 'The cost of a non-Doha,' IFPRI Briefing Note, November 2008, available at http://www.ifpri.org; see also Pascal Achard, et al., 'The Costs of Water in Manufacturing Tariffs: a 30 Products, 33 Billion Dollars Story,' *Groupe d'Economie Mondiale (GEM) Working Paper*, 2008.

6 Renegotiation of commitments is treated in GATT Article XXVIII. For an in-depth analysis on this topic, see particularly Anwarul Hoda, *Tariff Negotiations and Renegotiation under the GATT and the WTO: Procedures and Practices.* (Cambridge: Cambridge University Press, 2001).

7 Prior to that, Article XVIII Section A had been invoked only nine times by five occasions: Sri Lanka twice in 1955, 1956, 1957, Suriname in 1958, Korea in 1958 and Greece in 1956 and 1965. See World Trade Organization Analytical Index: Guide to GATT Law and Practice, vol. 1, 1995, p. 501.

[8] See text of Ad Article XXXVI paragraph 8, second sentence.

[9] For a comprehensive review of the literature on NTMs, see WTO Secretariat, *Non-tariff measures on products of export interest to the Least developed countries*. WT/COMTD/LDC/W/39, 2006, pp. 2-7.

[10] On export restrictions see subsections 3 (export promotion). On subsidies see subsection 2. and 3.

[11] See Report of the Panel (adopted), *EEC-Oilseeds*, BISD, 37th Supp. 86 (1990) para. 130.

[12] See Report of the Panel (adopted), *Japan – Trade in Semi-Conductors*, BISD, 35th Supp. 116 (1988) paras. 104-109. The Panel précised that two criteria must be satisfied for a governmental action to produce a violation of Article XI. First, there must be reasonable grounds to believe that sufficient incentives or disincentives exist for observing non-mandatory measures; second, government action is required to restrict imports or exports once certain triggering events take place.

[13] See, for instance, Report of the Panel (adopted), *EEC – Programme on Minimum Import Prices, Licenses and Surety Deposits for Certain Processed Fruits and Vegetables*, BISD, 25th Supp. 68 (1978); see also Report of the Appellate Body, *India – Measures Affecting the Automotive Sector*, WT/DS146/AB/R (2002).

[14] Unlike automatic system of import licensing, according to GATT jurisprudential practice non-automatic licensing system constitute a quantitative restriction within the meaning of Article XI. See particularly, Report of the Panel, *EEC – Minimum Import Prices*, para. 4.1.

[15] The GATT and AOA provide also for an exception concerning quotas set under a safeguard action. For a discussion on this exception, see rubric c) dedicated to contingency measures. Finally, the GATT foresees also an exception for quantitative restrictions maintained under the ATC. The memorandum does not address this issue given the exception is deprived of its object since the expiration of the ATC.

[16] See particularly, Article 3 of the AILP. In general terms, it stipulates in paragraph 2 that import-licensing should not have trade-distortive effects additional to those caused by the imposition of the restriction. Also, a S&D treatment is envisaged for developing countries in paragraph 5 (a) (iv) of Article 3. establishing that developing countries would not be expected to take additional administrative of financial burden in providing, upon request of any member, all relevant information concerning the products subject to licensing.

[17] For a more detailed discussion on this point, see WTO, *WTO Analytical Index. Guide to WTO Law ad Practice*, 2nd Edition, Vol. 1 (Cambridge: Cambridge University Press, 2007) pp. 217- 223.

[18] The other conditions set forth by Annex 5 are the following ones: imports of the designated product must have comprised less than three percent of domestic consumption during the base period (1986-88) and no export subsidies must have been provided with respect to the product since 1986.

[19] Article XI:2 sets forth a set of three exceptions. The first two deals with issues falling outside the scope of ‘import barriers’ within the context of IP. Paragraph 2 (a) permits ‘export prohibitions or restrictions temporarily applied to prevent or relieve critical shortages of foodstuffs or other products essential to the exporting contracting party’ whereas paragraph 2 (b) permits ‘import and export restrictions necessary to the application of standards or regulations for the classification, grading or marketing of commodities in international trade’.

[20] Article XI. 2 (c) refers to measures operating: (i) to restrict the quantities marked or produced of a like or directly substitutable domestic product, (ii) to remove a temporary surplus of the like or directly substitutable domestic product by making it available to domestic consumers either free or at below market price or (iii) to restrict the quantities of any animal product the production of which is directly dependent on the imported commodity, if the domestic production of that commodity is relatively negligible.

[21] See Report of the Panel, *India – Quantitative Restrictions* on *Imports of Agricultural, Textile and Industrial Products*, WT/DS90/R (1999), para. 5.155.

[22] See the text of the footnote to Article 4.2 of the AOA.

[23] See Appellate Body Report, *India – Quantitative Restrictions on Imports of Agricultural, Textile and Industrial Products,* WT/DS90/AB/R (1999), paras. 114-115.

[24] As stressed by the AB, paragraph 11 of Article XVIII B 'places an obligation on members not to require a developing country member imposing balance-of-payments restrictions to change its development policy'. See Appellate Body Report, *India-Quantitative Restrictions*, para.134.

[25] See Appellate Body Report, *India-Quantitative Restrictions,* paras. 126-128.

[26] As to the simplified procedure, see BISD 20S/47-49, more generally see also the 1994 *Understanding on the BOP Provisions.*

[27] As to the decreasing trend in the adoption of Article XVIII: B see WTO Secretariat, *Implementation of Special and Differential Treatment Provisions in WTO Agreements and Decisions*, WT/COMTD/W/77 (2000), pp. 10-12. The document recalls that by 2000 only two developing countries were adopting BOP restrictive measures. The only LDC having recourse to such measures, Bangladesh, has removed all its remaining restrictions by 31st December 2008. See *Report of the Committee on Balance-of-Payments Restrictions,* WT/BOP/R/88 (2007).

[28] The overall goal of Article III has been dealt with by the Appellate Body in its seminal pronouncement in *Japan – Alcoholic Beverages*, see Appellate Body Report, *Japan – Taxes on Alcoholic Beverages*, WT/DS8/AB/R WT/DS10/AB/R WT/DS11/AB/R, (1996) p. 16.

[29] For a detailed survey of the case law and discipline on Article III, see particularly *WTO Analytical Index*, pp. 137- 182.

[30] See Report of the Appellate Body, *Canada - Measures Affecting the Importation of Milk and the Exportation of Dairy Products,* WT/DS103/AB/RW2 WT/DS113/AB/RW2 (2002), paras 97, 100.

[31] That is the case of Cuba, Haiti, India and Sri Lanka. See *WTO Analytical Index,* p. 508.

[32] It matters to stress that also some of the tools discussed under the rubric of quantitative restriction have a temporary character. These are notably the exceptions under GATT Article XVIII and Annex 5 AOA.

[33] In Korea – Dairy, the AB has made clear that both GATT Article XIX and the SGA are applicable in case of safeguard action, see Report of the Appellate Body, *Korea – Definitive Safeguard Measure on Imports of Certain Dairy Products*, WT/DS98/AB/R (1999), para. 78.

[34] See WTO, *Revised Draft Modalities for Agriculture Special Safeguard Mechanism*, TN/AG/W/4/Rev.4 and TN/AG/W/7, December 2008.

[35] See, for instance South Centre, The Proposed Special Safeguard Mechanism (SSM) in the WTO: Is it still 'Special'?', *Draft Policy Paper* (2008).

[36] Within the ADA, the notion of 'domestic industry' refers to i) domestic producers as a whole of the like products; or ii) those whose collective outputs of the products constitute a major proportion of the local domestic production. Unlike in the case of safeguards, producers of directly competitive products are not included in such definition.

[37] For an in-depth analysis of the legal discipline see WTO, *WTO Analytical Index*, pp. 517-686.

[38] See particularly in the *EEC – Tube or Pipe Fittings,* where the AB has found injury to exist even lacking a significant increase in dumped imports either in absolute or relative terms to production or consumption in the importing member. In the same case, the Panel had previously found that the fact that certain sales has occurred at 'non-underselling prices' was not conclusive in discarding the conclusion that sales in the market had been done at 'under-selling prices'. See Report of the Panel, *EEC – Anti-Dumping Duties on Malleable Cast Iron Tube or Pipe Fittings from Brazil* WT/DS219/R (2003), para. 7.277; Report of the Appellate Body, *EEC – Anti-Dumping Duties on Malleable Cast Iron Tube or Pipe Fittings from Brazil* WT/DS219/AB/R (2003), footnote 114. As to the use of 'cumulative dumping' the panel in *EEC- Tube or Pipe Fittings* has maintained that investigating authorities enjoy a 'certain degree of discretion' in determining whether the use of cumulation is appropriate or not. See, Report of the Panel, *EEC – Tube or Pipe Fittings,* para. 7.243.

[39] *Ibid.*, Appellate Body Report, para. 189.

[40] For a detailed account on GATT Article XV, see GATT, GATT Analytical Index: Guide to GATT Law and Practice, vol. 1 (1995), pp. 428-442.

[41] See E. Denters, 'Manipulation of Exchange Rates in International Law: The Chinese Yuan', *ASIL Insights*, November 2003.

[42] See discussion on the phenomenon of 'currency manipulation' engaged in, notably, by China. On this aspect, see, among others, C. Koops, "Manipulating the WTO? The Possibilities for Challenging Undervalued Currencies under WTO Rules", *Amsterdam Center for International Law Research Paper Series (*2010); S. Robert W and A. O Sykes "Currency Manipulation' and World Trade", *Stanford Law and Economics Olin Working Paper* (2008), 363.

[43] A benefit is conferred when the recipient is better off than would otherwise have been the case in the absence of a contribution. In general terms, a benefit will exist when the action considered provides more favorable conditions than would have been available on the market place.

[44] See Report of the Panel, *Australia – Subsidies Provided to Producers and Exporters of Automotive Leather*, WT/DS126/R (1999), para, 951.

[45] See Report of the Appellate Body, *Canada – Certain Measures Affecting the Automotive Industry*, WT/DS139/AB/R, WT/DS142/AB/R **(**2000), paras. 139-143.

[46] See Report of the Panel, *Indonesia – Certain Measures Affecting the Automobile Industry* WT/DS54/R, WT/DS55/R, WT/DS59/R, WT/DS64/R, (1998) paras. 14.37-14.55.

[47] See particularly M. Jales, 'Domestic support to agriculture in developing countries,' in (eds) J. Morrison and A. Sarris, *WTO rules for agriculture compatible with development*, (FAO: Rome, 2007), pp. 263-289, particularly 265.

[48] See Report of the Panel, *Canada – Measures Affecting the Export of Civilian Aircraft*, WT/DS70/R (1999), para. 9.3339.

[49] See Report of the Panel, US-Subsidy on Upland Cotton, WT/DS267/R 8 (2004), paras**.** 7.836-7.841.

[50] Article 11. 9 SCM provides that an application should be rejected if: (i) the evidence of either subsidy or injury to domestic industry is not sufficient; (ii) the amount of subsidy is *de minimis* or (iii) the volume of subsidized imports, actual or potential, or the injury is negligible.

[51] Examples of such policies may be the following: foregoing, in part or totally, the customs duties payable on imports of capital goods used for the production of existing or new export products; adoption of special deduction for certain activities possibly promoting exports, such as foreign advertising activities, or for attending trade fairs in exporting countries.

[52] See Appellate Body Report, *US – Tax Treatment of "Foreign Sale Corporations",* WT/DS108/AB/R (1999) para. 141.

[53] See Report of the Panel, *US-Cotton*, para.7.763.

[54] See Appellate Body Report, *US – FSC*, paras. 150-152.

[55] See for instance S. Picciotto, *International Business Taxation: A Study in the Internationalisation of Business Regulations* (London: Weidenfiled and Nicolson, 1992).

[56] The AILP will not be considered here as it establishes rules concerning the administration of licensing.

[57] See particularly, Annex I, providing a non-exhaustive list of forbidden TRIMS. For a more detailed discussion on TRIMS, see *infra*, rubric 5.

[58] The tree international conventions incorporated in the TRIPS Agreement are: the Berne Convention for the Protection of Literary and Artistic Works and Rome Convention for the Protection of Performers, Producers of Phonograms.

[59] See for instance Wegner A., *Patent Harmonization* (London: Sweet and Maxwell, 1993).

[60] See for instance Article 27 of the Community Patent Convention, allowing also that individual engage in private, non-commercial use of the patented item, though for limited purposes. See, Convention for the European Patent for the Common Market and 1989 Luxembourg Agreement relating thereto.

[61] See for instance J. H. Reicheman, ‘ From Free-Riders to Fair Followers: Global Competion under the TRIPS Agreement’, *New York University Journal of International Law and Politics*, 29 (1997), pp. 11-94.

[62] See Council for Trade-Related Aspects of Intellectual Propriety, Decision of the Council of 19 February 2003 for the Implementation of Article 66.2 of the TRIPS Agreement., IP/C/28 (20 February 2003)

[63] See Council for TRIPS *Extension of the Transition Period under Article 66.1 for Least Developed Countries Members*, Decision of the Council for TRIPS of 29 November 2005, IP/C/40.

[64] See Report of the Panel, Indonesia – Certain Measures Affecting the Automobile Industry, WT/DS54/R, WT/DS55/R, WT/DS59/R WT/DS64/R (1998), para. 14.50-14.52.

[65] See *Ministerial Conference, Doha Work Programme*, Ministerial Declaration of 18 December 2005, WT/MIN(05)/DEC.

III. Industrial Policy at the Interfacing of Law and Economics

A. INTRODUCTION

Part III of the memorandum brings together the findings made, respectively, in the economical and the legal spheres. To that end, it provides a table classifying each IP tool according to its economic soundness and legal consistency with the WTO regime. (Section B).

Next, it discusses some policy options tailored to the Lao situation (Section C).

B. IP TOOLS FROM THE ECONOMIC AND LEGAL PERSPECTIVES

The table collects all the IP tools reviewed in the two previous Parts. A general caveat is warranted: the entries 'economically sound/unsound' and 'WTO consistent/inconsistent' have to be considered in light of the analysis made so far regarding each tool. As it has been seen, the economic soundness as well as the legal consistency of these policy instruments much depend on the specific circumstances in which they are adopted or on the modalities through which they are implemented. Hence, economic soundness and legal consistency/inconsistency are not intended as absolute indicators, but rather as reflective of the most widespread evidence. Specific circumstances, though, may affect the classification provided in the table.

SUMMARY TABLE	**Economically Sound**	**Economically Unsound**	**Grey Area [depending]**
WTO Consistent	Governmental procurement Export finance/insurance/ guarantee Export quality management Export promotion organizations Assistance to R&D Human capital development Regional assistance	Export subsidy Production subsidies (e.g. inputs, if local content prohibited)	Tariff Barriers Exchange Rate Control Export Tax Technology-related requirements on domestic firms FDI policy on technology transfer Investment regulation (incl. sectoral restriction and guidance)
WTO Inconsistent		Import licensing Import quotas Import and export prohibitions Industry targeting via administrative measures FDI policy (i.e. trade performance requirements, local content programs)	
Depending	Facilitating reverse engineering and imitation Credit subsidy		Anti-dumping regime Safeguard regime Countervailing duty regime Lax enforcement of intellectual property rights Setting up Special Economic Zones (SEZ) Tax subsidies (holidays, exemptions)

Looking overall at the table, two main observations can be made. First, there is a strong tendency towards convergence between the economic and the legal rankings of IP tools. That is shown by the fact that most of the IP tools find place under the corresponding boxes (1).

Second, the economic and the legal rankings differ with regard to policies comprised in the respective 'grey areas': some policies are WTO-consistent only in certain circumstances but still economically sound; conversely a number of tools are of dubious economic usefulness, but can still be pursued under WTO law (2).

1. Full Convergence between the Economic and the Legal Ranking

The table shows a strong convergence between the legal and the economic ranking, with regard to what might be called 'red-light' (a) and 'green light' (b) boxes of IP tools.

a) The 'red light box'

The common 'red light' box comprises a number of practices which have often been resorted to by developing countries seeking fast-track industrialization, notably during the seventies. Quantitative restrictions and certain types of requirements imposed on local or foreign firms figure among the tools of this box.

Economic analysis has highlighted the mainly negative effects entailed by the use of these tools as the permanent tools of a country's IP. That finding is mirrored in the WTO legal regime, built around the core prohibition of quantitative restrictions and the NT principle. These provisions only contemplate a few numbers of exceptions, designed with two specific purposes: avoiding protection and having a temporary character. In those few cases – mainly GATT Article XVIII – were a deviation from these principles is recognized, the conduct of the derogatory country is submitted to the control of the other contracting parties.

The extension of GATT obligations to the field of trade-related investment measures confirms the importance of these principles. In this regard, it has been claimed (Morrissey and Rai, 1995) that the WTO TRIMS Agreement fails to address the main cause leading LDCs to the adoption of forbidden TRIMS, namely business restrictive practice (BRPs) engaged in by foreign investors e.g. price shifting. The idea behind such a stance is that TRIMS are a second best-option, resorted to in order to respond to intra-firm business practices curbing the attended benefits by shifting them to the parent of the multi-national corporation (MNC) operating in the LDC. Under this hypothesis, TRIMS are not seen as a welfare enhancing policy; rather they are intended as a distortive response to distortive business practices.

Admittedly, the WTO discipline on competition – which would be the best option to overturn the restrictive practice of MNCs' affiliates – is at present quite lacking and still under discussion for future reform.[1] Yet, the salient question is whether forbidden TRIMS could effectively meet their objective, even considering them as a second-best option. Most probably the answer thereto is negative. First of all, if the benefits impaired by the alleged BRP were to be related to the encouragement of technology transfer and the creation of local spill-over, that same results could be achieved through available TRIMS (see above) on R&D local activity and so forth. In that case, though, the price systems would be less affected by distortions. Additionally, local content or quantitative restrictive TRIMS if incorporated in legislation would apply horizontally, i.e. to all foreign firms operating in a given sector. That would runs afoul of sibling a specific firm's restrictive practice, while having broader distortive effects on other investors.

Thus, the logic behind forbidden TRIMS, if not capable of fully resolving the problem of BRPs, seems at least pertinent in selecting and imposing the elimination of the more distortive kinds of TRIMS.

b) The 'green light box'

Legal and economic ranking concurs also regarding the 'green box' of tools. Measures aiming at developing human capital or promoting R&D or forms of finance trade e.g. guarantees, credits are all WTO consistent, at least as far as an LDC is concerned. The analysis on export subsidies and aid to enterprises has shown that the WTO grants wide space to governments seeking to address the negative externalities due to information lacunas in the markets.

In that respect, it may be worthwhile noting that while WTO adopts a broad definition of export subsidies, including the just cited forms of trade finance, economic theory hints at a distinction between subsidies made effective through direct governmental payments and forms of governmental financing through guarantees and other incentives. The rationale behind such distinction is that export subsidies in the form of outlays are deemed prone to governmental failures in identifying truly existing market externalities and tend to endanger the creation of rent-seeking positions. Differently, trade financing can more closely linked to monitorable performance standards, thereby reducing governments failures.

Taken together, these remarks stand out in sharp contrast with the claims made by those scholars currently advocating for a decisive return to industrial policy. These authors generally lament the shrinking of the options available to developing countries in view of pursuing successful IPs. Surprisingly enough, the kind of industrial policy they propone is, in fact, in line with the incentives for certain practices provided by the WTO. Particularly, the developmental path suggested by Dani Rodrik on the basis of 'self-discovery' seems to be reconcilable with the WTO ranking of IP tools (Rodrik, 2001, 2004). According to the author, a country should progressively 'discover' the domains where it may have a competitive advantage. This process of discovery cannot simply rely on market forces, but needs the intervention of the government, capable of offering a guarantee in case of failures, likely to supervene when non-conventional sectors are explored.

WTO rules do not discourage LDCs policy makers from adopting this approach. As noted in doctrine (Amsden, 2000) 'there is nothing in WTO that prevents other countries from promoting their nascent industries and subjecting them to performance standards'. Further, it should be noticed that the WTO discipline on subsidies not only allows export subsidies in general, but does not altogether come into play if a given governmental action does not meet any of the criteria for identifying specificity.

2. Partial convergence between Economic and Legal Ranking

A partial convergence exists concerning two 'semi-grey areas'. The first, regards instruments that are WTO consistent but not often not economically sound. In this case, the hypothesis may be advanced that LDCs have incentives to engage in a behavior not conducive to welfare enhancement (a). The second 'semi grey area' contains tools whose legality depends on circumstances, while they would still seem to be economically sound. This might raise the opposite hypothesis, namely that these tools may be under-used due to the menaces of being challenged under WTO law (b).

a) The first semi-grey area: WTO consistent but economically uncertain

The tools comprised in this box receive a regulation specific to each of them: according to the looseness of such a discipline, the legal ranking gets closer to the economic one, indicating the dubious soundness of these instruments. For instance, tariff barriers and renegotiation are considered a quite burdensome option under WTO law, given the quantity of efforts to be applied in multilateral negotiations. That is why these option are not relied much relied on within the purview of an IP. At the opposite pole, export taxes, an instrument only marginally subject to WTO rules is often used by LDCs. That runs somewhat counter economic evidence, highlighting that export taxes are most probably inappropriate in addressing an infant industry problem. No guarantees exist, in fact, that the revenue of such a tax will 'pass through' to the subject allegedly needing protection.

As to technology transfer TRIMS, the previous discussion on TRIMS in general holds true for present purposes too. As it has been shown, TRIMS are at any rate a second-best option; there is, though, a sound ground in WTO law for distinguishing local content and technology transfer TRIMS.

In sum, there are not areas in which the divergence between the economic and legal ranking under this category result in the lack of a common thread.

b) The second 'semi-grey area': WTO uncertain but economically sound

This box comprises tools of a multifaceted character and of a complex legal discipline.

Concerning reverse engineering, it has been seen that the TRIPS discipline poses a number of conditions under which such practice may be undertaken. It has rightly been noticed in doctrine that the developmental path followed notably by East-Asian late industrializers could not be imitated nowadays (Shadlen, 2005). That does not mean, however, that the same economic objective may successfully be pursued through others means. The discussion on 'learning around' bears witness to that and permit to reconcile, at least to a certain extent, the economic and legal ranking concerning this type of technological transfer.

Finally, again the question of SEZs escape from an overall evaluation. Although the rationale behind the establishment of these trading areas may remain unchanged from an economic standpoint, it still makes sense to have a legal grey area, given that these policies entail so many regulative aspects that a unique set of provisions would probably not meet the goal sought.

In the end, also this 'semi-grey area' does not reveal a considerable gap between the legal and the economic rationales.

C. IP POLICY OPTIONS OF POTENTIAL INTEREST FOR LAOS

Drawing from the insights gathered so far, this section provides an illustrative set of policy alternatives which might be of interest for Laos in view of developing an effective and WTO consistent IP. It matters to stress that no consideration has been given to the services sector, which is not comprised by the working definition of IP uphold in the present study. Accordingly, attention is devoted first to agriculture (1) and next to industry (2).

1. Policy options for the agricultural sector

Agriculture still represents the backbone of Laos' economy: around 77% of the Lao population lives in rural regions and around

80% of the labor force is employed in the agricultural sector.[2] Agricultural production has been increasing by an average of 3.9% annually since 2005/2006, but the share of agriculture in Laos' GDP has declined to an estimated 30.1% in 2007/2008.[3]

Laos' agricultural production mainly relies on small-scale and family farming, with a few number of agricultural food processing industries. Productivity varies considerably among provinces, registering higher rates in those areas where contract farming is more diffused and access to roads and cross-border markets is easier.[4] A further factor impacting on productivity is the type of farming system considered. Five main systems can be distinguished:

1. *Lowland rain fed system*: mainly rain-fed rice during the wet season, grazing is used as a further source of income support;

2. *Lowland irrigated farming*: irrigated rice during the wet season, rice and other crops during the dry season. Fertilizers are widely used, even though wet season yields are routinely quite low;

3. *Upland farming system:* rice is the main product, though farmers often meet considerable shortages in supply; livestock are an alternative source of income;

4. *Plateau farming system*: mainly coffee, but also tea and cardamom; fruits and vegetables sold to buy rice from low-lands;

5. *High-land farming system*: variety of crops and cattle. The practice of slash-and-burn is widespread and farmers suffer of income insufficiency.

Concerning Lao trade policy in agriculture, the most exported products are coffee, livestock and non-timber forest products (NTFPs), whereas most of the imports are food preparations, milled rice and beverages. On both the import and the export side, Thailand, Vietnam and China figure as Lao main trade partners.

In this respect, it is worthwhile recalling that import tariffs with these countries are affected by Lao's participation in the AFTA and the ASEAN-China AFTA. According to the Common Effective Preferential Tariff, (CEPT), Laos has consented to reduce its import tariffs on all tradable goods with a minimum 40% of ASEAN content to 0-5% by 2008, with the exclusion of those goods included in the 'Sensitive List' and in the 'General Exclusion List'. For the agricultural goods contained in the 'Sensitive List' tariffs will have to be brought to the 0-5% level by 2015, whereas no reduction is required for goods in the 'General Exclusion List'.

Whereas, in the context of the ASEAN-China Free Trade Area,[5] Laos will have to cut its tariffs to 0% for 'normal track' goods by 2018 and to brings tariff on sensitive goods between 5% and 0% by 2020. Additionally, by virtue of the Early Harvest Agreement between ASEAN countries and China, tariffs on a number of agricultural goods have already been reduced to 0% during the period 2004-2010.[6]

a) *Policy options for a number of selected products*

In Part I it has been claimed that Laos may have a comparative advantage in fostering high-value agricultural production, an option which entail addressing niche markets, such the organic one or that of fair trade.

Drawing on the above sketched profile in Lao agricultural trade, this subsection offers a number of WTO consistent policy tools which might foster this goal. Four goods will be taken into account: rice (i), coffee (ii), fruit and vegetables (iii) and silk (iv).

i) Rice

Rice is Laos's staple food product. Though being widely cultivated, recurrent shortages affect the population of the highland and upland regions. Often, that is due to the lack of means for buying rice out of the earnings gathered from the selling of locally cultivated products. In view of addressing this situation, the Lao government has established a national rice bank for securing local consumption in case of shortages. At present, rice appears on the 'Sensitive List' under CEPT.

Due to the forthcoming tariffs' reduction under the AFTA (by 2015) and the ASEAN-China FTA (maximum up to 50%, 'Highly Sensitive List', by 2018), a rise in imports can be expected in the near future. In the medium and long term, the construction of a national railway system – financed through a Lao-Chinese joint venture –[7] will foster this trend by facilitating transport from ASEAN countries.

In light of these elements, Laos may consider two alternative options:

1. It could aim at protecting local production: In this case, 'water' in tariff bindings at the WTO would most probably be a rather ineffective option, given that most of the new imports would come from regional flows, anchored to the legal discipline of the cited agreements. An available option would be to impose safeguard measures according to AOA Article 5, provided the strict conditions described in Part II (rice indicated as a 'SSG' product in Laos's Schedule of Concessions, volume or price based surge in imports, etc.) were met. Still, safeguards measure could only be temporary and they could not be imposed on imports from ASEAN countries (China only from 2018). The protectionist option is, therefore, neither economically advisable nor legally easily to implement.

2. It could progressively open to imports:

Under this option, if the domestic price of rice would drop, unemployment would augment especially in the upland regions, where productivity rates are lower and, henceforth, prices are less competitive. In order to offset this outcome, Laos might consider subsidizing the conversion towards other agricultural products, especially fruit and vegetables and paper mulberry. The first are suitable for growing in mountainous regions, whereas the second are already domesticated by planting them in upland rice fields or in combination with fruit or coffee plantations.[8]

Leaving aside the specificities of the final Schedule of Concessions that will be contracted by Laos, two aspects merit to be underlined. First, forms of domestic support such as the 'green box' interventions or subsidies under the 10% of production value or investment subsidies available to agriculture would be available no matter the level of Total AMS for rice finally applicable. Second, if rice production would be converted to exportable products, the tools of policy interventions listed under SCM Annex I could be used without incurring in any WTO constrains, provided they were kept below the respective triggering thresholds. For instance, a system of indirect tax rebates or export credit could be provided to farmers willing to establish new productions instead of rice.

ii) Fruit and vegetables

The cultivation of fruit and vegetables is practiced in most Lao regions and it covers a broad range of products (bananas, watermelons, oranges, mangos, pineapples, cabbages etc.). In recent years, fruits and vegetables have acquired an important place in Laos' share of exports (around 18% in 2006), a trend which reflects the growing demand for these products both from other ASEAN countries and from the developed world. These elements suggest that Laos may have a comparative advantage in producing high quality fresh vegetables and fruits, eventually targeting high-end markets such as the organic and 'fair trade' markets.

If that option would be uphold, a WTO consistent export strategy may be focused on the following points:

- In order to facilitate access to high quality inputs e.g. high-quality seeds, organic fertilizers etc. Laos may adopt 'S&D' input subsidies under the AOA. In addition to that, it might implement a scheme of import duty drawbacks. If such a scheme remain below the triggering threshold under SCM Annex I, the governmental action would not qualify as an export subsidy. In that case, specificity would have to be proved to challenge the subsidy. Even though specificity is assessed *in casu*, duty drawbacks accorded to a broad range of producers in the sector would hardly satisfy this qualification.

  Differently, were drawbacks to be higher than levied duties, en export subsidies would exist and the pertinent SCM rules reviews in Part II would be applicable. In that case, the room for action would change according to the commitments undertaken under the final Schedule of Concessions.

- In order to address income volatility due to volatile prices in the international market, Laos may use export subsidies in the form of export guarantees and insurance for producers. That would allow avoiding financial burdens to producers and would assure stable earnings. According to the type of credit rate fixed *in casu*, this action may not qualify as an export subsidy under the AOA.

- If Laos were to target the organic niche market, it might be advisable to create incentives for pesticide-free agricultural products, whose imports have recently been increasing due to the CEPT. To that goal, Laos may provide tax exemptions to producers of pesticides-free fruit and vegetables.

- Implementing the option may result in high enforcement costs; in particular, a nation certification system may be established. To overcome this impediment, Laos might consider enhancing the Laos Certification Body established under the Clean Agricultural Development Centre in 2008.

- In order to foster competiveness of Laos' production in the international market, it might consider developing a scheme for Geographical Indication, in accordance with the TRIPS Agreement.

- In order to promote knowledge acquiring on high-quality, off-season production or organic fertilizers, advanced agricultural technologies should be utilized. Laos may adopt permitted TRIMS on foreign investors in the processing industry requiring participation in the financing of R&D activities carried out by universities or private entities.

- Adopting permitted TRIMS in view of promoting quality standards for foreign investors in the processing industry.

iii) Coffee

Coffee accounts nearly for 80% of Lao formal agricultural exports;[9] most of it is cultivated in the Boloven plateau region. However, because of insufficient quality, Lao coffee is sold at a price lower than the world average one.[10] In addition to that, world coffee market is characterized by an over-supply and decreasing prices.

These remarks suggest that Laos may enhance its export competiveness in coffee production by targeting niche markets, which are less affected by the drop in demand and prices. For Laos to meet that objective, coffee's quality needs to be improved. Product selection and filtering should be improved to guarantee high quality products in the international market.

In addition to other policies measures, Laos may consider the following WTO consistent options to foster its export strategy in high-quality coffee:

- Adopting a branding in accordance with the TRIPS discipline on trademarks. Laos is advised to develop high-end coffee products featuring a special trademark. Geographic Indications are recommended to target a special position in the niche market.

- Adopting performance-based subsidies, for instance in the form of tax rebates proportional to the quality stage reached in production. Export credits could be used for incentivizing quality improvements too. In particular, that might be done by providing more favorable rates to producers wishing to invest in more efficient way of production.

  In both cases, the WTO discipline on subsidies would be triggered provided such schemes exceeded the minimum threshold level. Regarding export credits, certain flexibility would still exist in determining what constitute an 'adequate rate' for the specific case at stake (see Part II for a discussion on this point).

iv) Silk

At present, Lao raw silk production is quite limited, whereas there is a flourishing industry of silk handicrafts. The producers in the latter sector import silk mainly from neighboring countries.[11]

Developing a high-level domestic silk production may provide a comparative advantage to the Lao silk handicraft. In addition, if silk product exports aim to target niche markets, quality controls on imported silk might be difficult to implement; the use of imported silk may also cause problems concerning rules of origin standards adopted by importing countries. Thus fostering local silk production is key to Laos' silk industry.

In view of fostering silk local production, Laos may consider the following WTO consistent options:

- Enacting input subsidies to producers under the S&D AOA treatment on domestic support

- Adopting forbidden TRIMS on local content requirements for foreign firms operating in the processing sector (eventually to be phased out by 2020)

- Developing infrastructures to abate internal costs of transportation (do not enter in the Current AMS Calculation)
- Providing forms of credit available to silk producers.

b) Cross-cutting issues

Along with product specific measures, it may also be advisable for Laos to address a number of cross-cutting issues relevant for the overall objective of establishing an high-level agricultural production.

A first issue concerns the scarcity of processing industries related to all the above mentioned products. Improving this aspect may produce several benefits: first, exported products would acquire an higher value; second, new job opportunities would be created – thereby contributing to regional development throughout the country – and finally spillover effects on other industries e.g. packaging would arise.

In tackling this constrain, Laos may provide support to processing industries in the form of credits to buy machines or duty drawbacks on imported capital goods. In the latter case, it matters to remind that drawback schemes on capital goods are not covered by SCM Annex I, which means that they are *ipso facto* an export subsidy, actionable under the SCM.

Another aspect worth considering is that of contract farming. Such a formula provides a flexible system of supply chain governance, aimed at creating linkages between farmers and processing and/or marketing firms for the production and supply of agricultural products under forward agreement. Agreements can take different forms, ranging from merely oral and informal understandings to full-fledged formal contracts. Normally, farmers are committed to provide a specific quantity and quality, whereas purchaser undertake to support the production and to purchase the commodity.

This practice seems promising in meeting several constrains faced by Lao agricultural producers, for instance by allowing access to foreign/domestic markets for upland and highland producers, or by guaranteeing the availability of inputs. A number of shortcomings, though, have been registered in past experiences, mainly concerning free-riding behaviors by both parties i.e. producers selling to other purchasers if higher prices are offered, processing/marketing firms denying to pay or not collecting the merchandise. Overall, Laos may consider some WTO-consistent incentives to favor a more effective enforcement of contracting farming agreements.

- Providing better information to farmers, allowing them to choose among different contract options and purchasers.

- Designing a model formal contract envisaging mechanisms of dispute settlement. Incentives for its adoption may be provided to farmers – for instance the payment of a ‘guarantee’ price in case of purchaser’s failure to pay – and to purchasers e.g. import duty drawbacks on inputs furnished by purchasers under a contract farming agreement.

- Adopting permitted TRIMS requiring foreign buyers to support local R&D or quality enhancement activities.

Another cross-cutting issue deserving attention relates to all those activities identified in Part I under the rubric of ‘export marketing’. Particularly, Laos might promote its agricultural exports by aiding producers in packaging or labeling as well as incentivizing participation in foreign exhibitions. Further, it could favor the establishment of export industry associations, collecting and spreading information among small and medium scale producers (an example is already provided by the Lao Coffee Association).

Finally, policy tools not affected by WTO rules could be used to foster literacy – with a particular focus on the improvement of English knowledge – and to provide IT facilities.

2. Policy options for the manufacturing sector

The manufacturing sector has progressively been gaining importance in Laos and it currently accounts for around 20% of its GDP.[12] Production is traditionally been concentrated mainly in garments and wood products.

Several arguments, though, speak for the exploration of other sectors. Concerning the garment and textile industry, raising competition from neighboring countries and the phasing out of quantitative restrictions on textiles put Lao production under mounting pressure. Moving to the wood and wood product sector, reliance on timber for paper production may expose Laos to severe risks of over-exploitation and depletion of its forestry patrimony.

These observations suggest that Laos may consider shifting its manufacturing production towards other sectors. First, the rise in tourism has triggered the blossoming of handicraft production; second, the growing demand of paper products – especially from the Chinese and Indian markets – could be addressed by producing paper from paper mulberry, which is already cultivated in upland regions, grow fast and multiply quickly.

If these sectors may offer good opportunities for growth, support to them may be provided through a gamut of IP WTO consistent tools. Here is an illustrative, non exhaustive list of some of them.

1. For the handicraft sector

The handicraft industry is mainly informal, based on micro-enterprises at village level. In terms of production coverage, it ranges from hand-woven textiles, silk handicrafts, paper mills, organic foods and jewelry. As already mentioned, the potential for this sector is related in part to the increase in tourism and in part to the export towards foreign niche markets. In both cases, the main challenge faced by local producers is to have information and access to the relevant markets both domestic and foreigners. In order to meet this goal, the Lao government might consider to:

- Use forms of export marketing by providing information to domestic producers and build linkages with the Fair Trade Organization in North America and Japan. These interventions would not raise any concern under the WTO regime

- Provide export subsidies in the form of tax exemptions for the adoption of high-quality inputs. That might be of particular important for silk handicraft, which would have to be developed by creating backward linkages with domestic farmers producing raw silk.

- Develop infrastructures, especially transports and IT facilities for engaging in e-commerce.

2. For the wood and wood products sector

The Lao government has already put in place several measures, notably an export tax on timber products, aiming at preventing the over-exploitation of forests. That does not mean abandoning the gains possibly reaped from the flourishing paper market. An alternative strategy may, in fact, rely on paper mulberry to target paper markets, eventually reaching niche markets i.e. organic and fair trade markets. To that end, Laos might consider to:

- Keep its export taxes on timber products

- Foster forms of contract faming between paper mulberry producers and processing industries

- Provide export credit for the purchasing of machines

- Provide export guarantees to exports of paper products obtained from paper mulberry

- Adopt forms of export marketing, especially within the ASEAN and the ASEAN-China TFA.

- Fostering education and high-level training through forms of human capital development.

If Laos wished at any rate to foster its position in the wood and woods products sector, it would be advisable to develop processing industries and avoid the exportation of raw materials. In that case, the first best option would be to develop a processing industry targeting the paper market. A system of export taxes on raw materials, coupled with the granting of export incentives similar to those discussed above, may represent a profitable and WTO consistency strategy to pursue that objective.

3. Overall considerations concerning the mining sector

Mining development in Laos began around 2003/2004. Since then, it has considerably contributed to the growth of Lao GDP, especially by increasing the level of FDIs.[13] Although Laos has a variegated and rich resource profile, development of the mining sector would not have to be the priority of Lao IP. Certainly, mining activities yield beneficial effects, for instance by enhancing governmental revenue through royalties or by reducing the government budget deficit. At the same time, though, mining production provides a source of revenue exposed to world price volatility, particularly high for commodities. Next, it does not represent a high-value adding activity if primary resources are exported in their unprocessed form. Further, exportation of other goods would become less competitive, due to the currency appreciation (so called 'Dutch Disease).

At present, scarce backward and forward linkages exist between the mining and other sectors of Lao economy, with the important exception of infrastructure. For these reasons, mining does not seem to be the pivot of the structural change potentially leading to industrial upgrading in the forthcoming future.

At any rate, the new legal framework provided by the 2009 new law on investments sets a number of far-reaching and favorable provisions for concession business. No further incentives are needed in connection with FDIs in the field of mining.

Concluding Remarks

The research question of the present memorandum stemmed from the presumption that crucial to assess the impact of the WTO regime on IP space was the *freedom* for government to have recourse to a gamut of IP instruments. The fact that certain of these tools are not consistent with the obligations posed by the WTO has been taken as showing the shrinking of a country's developmental space. This line of argument, however, does not take into full account several aspect of the matter.

First, as a forum of multilateral action, the WTO is apt at providing technical assistance by the Secretariat as well as the member states; along with that, it represents a knowledge-sharing platform, useful to gather information on best-practices adopted by other countries in pursuing industrial up-grading.

Second, concerning the regulative framework of the WTO, much flexibility is left either because of important S&D exceptions available to LDCs or because a certain policy instrument is not touched by any of the agreements.

Third, in those areas, such as subsidies or IPRs, extensively regulated by the WTO, economic theory yields little evidence of the usefulness of the WTO-inconsistent tools. If a certain IP tools is both WTO inconsistent and not economically performing, the conclusion that developmental space has been limited by WTO law would be of little practical import, not to say altogether misleading. At any rate, there is broad margin to adopt alternative tools which, though furthering the same developmental objective, are also WTO-consistent.

In the light of these observations, the conclusion reached is that the 'development space' of LDCs is not impaired by the very existence of the WTO regime. The legal provisions of the WTO do not foreclose the recourse to instruments which would be effective either as a matter of purely economic efficiency or on grounds of political economy.

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1 See for instance, Report of the Working Group on the Interaction between Trade and Competition Policy to the General Council, WT/WGTCP/7 2003.

2 See Ministry of Planning and Investment, *Achievements, challenges and future direction within the implementation of the National strategies and policies*, Background document, Round Table Implementing Meeting, 24 Nov. 2008, Vientiane.

3 See ADB, *Key Indicators for Asia and the Pacific 2009*, Lao PDR p.1.

4 See World Bank, Lao PDR: rural and agriculture sector issues paper: EARD (Rural Development and Natural Resources Sector Unit, East Asia and Pacific Region), World Bank (2006), p. 8.

5 The ASEAN-China Free Trade Area has entered into force on January, 1st 2010.

6 Agricultural goods which have been liberalized under the EHP are those covered by Chapters 1-8 of the Harmonized System. See, *Framework Agreement on Comprehensive Economic*

Cooperation Between The Association of South East Asian Nations and the People's Republic of China, Jakarta: ASEAN Secretariat, 2002.

[7] The Lao-Chinese joint venture has been established trough an Agreement the 7th April 2010, see Vientiane Times, 30th April 2010.

[8] See National Agricultural and Forestry Research Centre/ National University of Laos/ Netherlands Development Organization, *Non-timber forest products in Laos: a manual of 100 commercial and traditional products,* Vientiane: NAFRI, 2007, p. 293, 295.

[9] See World Bank, *Lao PDR and the agriculture sector,* p. 154.

[10] See Group de Travail Cafè, *Participative analysis of coffee supplì chain on Lao PDR*, 2007.

[11] Only 10-50% of the raw silk needed for silk handicrafts is produced domestically. Most of the imported silk come from Thailand and China; see Somphong S. "Environmental impacts of trade liberalization in the silk handicraft sector, Lao PDR: Rapid Trade and Environment Assessment (Background Research Paper), 2007, p. 4.

[12] See World Bank Study (2006), p. 139.

[13] See Kyophilvong P., 'Mining Sector in Laos', *Major Industries and Business Chance in CLMV Countries,* Institute of developing Economies Japan External Trade Organization (2009), pp.69-71.

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