

## Second Hand Car Trading in Thailand: Policies and Well-Being

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### Abstract

This paper reviews the situation of second car trading in Thailand covering on various aspects. First of all, the imports of second hand car to Thailand are limited by laws that cannot serve the commercial purpose. One importer can import only one used vehicles for the personal purpose for example for those used by himself, used in organization, or temporary uses in case the car's owners much live in Thailand for a certain period of time. This paper also extends the consumer sentiment as well as impact of second hand car market to Thailand's economic and social wellbeing. In addition, the analysis of environmental concerned of second hand cars including regulation and law imposed by the Thai government are discussed. The government regulations on the environmental issues are discussed on both the standard of emission, inspection, and current environmental controlled by the government

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### 1. Introduction

The manufactures of automotive and component industries are considered the world's largest operation with global employment of 3 to 4 millions worker directly and about another 9 to 10 millions in the manufacture parts and components. In addition, the automotive industry is also highly linkage-intensive, both forward and backward linkage, to other sectors. The automotive industry is therefore one of the central roles on world trade of both developed and developing countries and usually be one of a distinguished sectors for the concerns of trade negotiations. However, technological advance and other forces enhance the production capacity of automobile among producers and it seems, nowadays, there are approximately 700 million cars through out the world. It can be therefore imagined of the concomitant pollution representing a serious threat to the environment and to health due to an excessive volume of automobile.

Even though technological progress and stricter environmental legislation launched in industrialized countries have resulted in a significantly reduction in the emission of harmful substances per vehicle, a number of rapidly growing vehicles and, at the same time, the lack of financial resources in some developing countries to control on those substances are creating the increase of environmental problems. Another problem concerned on those environmental issues is in the considering the “age of vehicle” and the disproportionately high emission of harmful substances that those old age vehicles involve. A number of strategies are implemented in different countries on alleviating the problems associated with old vehicles. For example, the implementing rules that used for inspection and servicing, upgrading, premature scrapping, the use of alternative fuels and import restrictions are used especially for the second-hand vehicles to ensure the conditions of those cars without harming to the environment.

Comparing among the global exporters of second hand cars, Japan plays a significant role on being the number one among the global exporters followed by Germany, U.S., and Korea. Japan exports, in average, approximated 420,000 second hand vehicles and about 4 million new vehicles per year (Janischewski, Henzler, and Kahnenborn, 2003, Page 49). The major exporting market of Japanese's vehicle are however concentrated on the majority of developing countries for example those in the South East Asia, New Zealand, China, Jamaica, Peru, Sri Lanka, Cyprus, Russia, Iraq, Pakistan, and Ireland. Therefore, the starting point should lead to the objectives of this paper by trying to present and analyze the present second hand cars imported to Thailand including their domestic sales and production of brand new vehicles. The trend and effects of the automobile market in Thailand will also be determined in issues of country's social and economic impact of both the brand new cars and second hand cars. In addition, the analysis of environmental concerned of second hand cars including regulations and laws imposed by the Thai government to will be discussed.

The scope of this research paper will be therefore categorized into the following five sections. Section 2 presents the second hand cars trading situation in Thailand including some evidential data that can be possibly collected from different sources showing volumes of Thailand's imports on second hand cars from Japan compared to those imported from other countries. The evidential reviews show that the purposes of second hand car imported to Thailand are not however to serve the commercial used. Section 3 provides strategic discussions and effects on fostering the imported second hand cars to Thailand's economic and social impacts of car sellers and buyers. Section 4 explains the importance of second hand car usage in term of economic impact. Section 5 emphasizes on reviewing evidentially showing the influences of imported second hand cars to the environmental concerns such as how the environment regulations are implemented by the Thai's government on especially of exhausted gas generated from old vehicles as well as the emission controlling standards. Finally, the legal aspects related to importation of second hand car will be discussed more in Section 6 presents tariff and tax structures of vehicles' related duties. This includes the imported system and procedures of the second hand vehicles and comparing those procedures with the brand new vehicles. Section 7 concludes.

## 2. Present Second Hand Car Trading Situation

Automotive industry is considered one of Thailand's most comprehensive and protective sectors. Being among highest capacity of the vehicle assembly, Thailand receives extensive amount of foreign direct investment inflows from aboard in this sector. A number of automobile producers from Europe, Japan, U.S., and etc. decided to establish assembled factories in Thailand. The strategy toward development of this sector is therefore the FDI-led growth strategy, which cause the transferring from import substitution policy to regional export-based country of the assembled vehicles. Due to the extensive level of protection, importation of vehicles into Thailand is considerably less these days. This includes the laws restricted on imported of second hand vehicles. Therefore, it is undoubted to find out that the second hand vehicles imported to Thailand have been legally prohibited, especially for those of commercial purposes. The prohibited law against the import of second hand car, or used car, to the Kingdom of Thailand was effectively implemented and launched since 1991<sup>1</sup>, in which those must serve only personal purposes to the car's owners.

In addition, those imported used vehicles are not permitted to resell or transfer to new owners within 3 years after passing all imported and registered regulations. The second hand cars, which are prohibited by laws are presented as the following items, based on harmonized system:

- 8703.21: Automobiles w reciprocate piston engine displace not more than 1000 cc.
- 8703.229: Automobiles w reciprocating piston engine displacg > 1000 cc to 1500 cc.
- 8703.239: Automobiles w reciprocating piston engine displacg > 1500 cc to 3000 cc.
- 8703.249: Automobiles with reciprocating piston engine displacing > 3000 cc.
- 8703.319: Automobiles with diesel engine displacing not more than 1500 cc.
- 703.329: Automobiles with diesel engine displacing more than 1500 cc. to 2500 cc.
- 8703.339: Automobiles with diesel engine displacing more than 2500 cc.

Second hand car based on the above HS items imported into Thailand must also lie into at least of the following purposes:

- *Personal Usage* – Imports of second hand cars can be applied to the Thai people who ever lived in foreign countries or to foreign residents, including their spouse and children, who must relocate to permanently live in Thailand. Those cars must belong to the owners while they were living in foreign countries at least within 1 year and 6 months (1.5 years).
- *Temporary import* – Imports of second hand cars can be applied to those foreigners, or even the Thai residents, who must temporarily live in Thailand and should return back in a certain time in the future. However, the period range for the temporary import must not exceed 1 year, but can be extended for one more year depending on the convincible and acceptable reasons.<sup>2</sup>

<sup>1</sup> The law, named "Import Regulation of Second Hand Car into the Kingdom of Thailand", was announced by the Ministry of Commerce since 1991 (Article 85).

<sup>2</sup> A vehicle imported is restricted to only one person.

- *Used in organizations* – The second hand cars can be imported from the special requests to use in organizations such as the governmental sectors, state enterprises, international organizations, and private companies. Those imported cars used in organization will receive free duties of imported tariff and excise charges that would be generally implemented during the custom processes.
- *Import for re-export* – Most of the second hand cars imported to Thailand are however under this objective but do not have any effects to domestic consumption of vehicles. The automobile assemblers in Thailand can import the second hand cars and keep at the warehouses and factories in the area maintained by the Industrial Estate Authority. Those vehicles will be reconditioned by the automobile assemblers and must be re-exported within 1 year.<sup>3</sup>

Therefore, because those must be legally restricted, a number of imports of second hand cars into the Kingdom of Thailand from Japan and other countries do definitely not present huge amounts units of cars.

Due to for the personal usage, owner of the car must inform the Ministry of Commerce for his/her intention to import cars as well the valuation of the cars. However, because the valuation should commonly be based on personal justification, those second hand vehicles imported specifications, types, volumes, and total amounts of items can be miscalculated. The Table 1 below presents the total imports of second hand cars from Japan to Thailand categorized by a number of units and volumes of passenger car, commercial car, truck, and motorcycle.

Thailand imports only 2 units of second hand passenger cars, few units for second hand commercial cars and trucks, and none for motorcycles. For example in year 2002, the import of second hand car from Japan was only 2 units of passenger cars, 1 unit of commercial cars, and none of the rest. Due to small unit volumes, the imported second hand vehicles from Japan do not receive many concerns accounting only about 1-2 percent compared to those of their imports from other countries.

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<sup>3</sup> However, those imported cars for re-export after reconditioning do not serve what we concern here in this project because those second hand vehicles imports should not affect to Thailand's domestic consumption, social well-being, as well as the environment concerns. It should however indirectly causes in term of trade balance and current account changes.

**Table 1: Import of Second Hand Cars from Japan to Thailand: 2000-2003**

Car Type	2000			2001		
	Quantity	Million Bahts	Million US\$	Quantity	Million Bahts	Million US\$
Passenger Car	3	1.28	0.03	2	0.87	0.02
Commercial Car	4	7.66	0.19	1	0.64	0.02
Truck and Bus	1	0.13	0.003	-	-	-
Motorcycle	-	-	-	1	0.06	0.01
	2002			(June-Jan) 2003		
Passenger Car	2	1.70	0.04	3	1.34	0.03
Commercial Car	1	0.48	0.01	2	1.43	0.03
Truck and Bus	-	-	-	-	-	-
Motorcycle	-	-	-	-	-	-

Source: Department of Foreign Trade, Ministry of Commerce.

Besides from Japan, the second hand cars imported to Thailand range by types of vehicles, but mostly concentrated on either passenger cars or commercial cars. Regarding to source of origin, the imports of second hand vehicles for personal purposes are from the countries that importers ever resided, which are mainly from the U.S., U.K., Australia, and countries from western Europe such as France, Germany, and Italy. Most of the second hand car imports are the passenger cars in which there were 20 units in 2000, 28 units in 2001, 20 units in 2002 and 16 units as of June 2003. The second hand commercial cars also receive similar amount of imports. Therefore, compared among ASEAN countries, Thailand is among the least imports of second hand car items.

**Table 2: Import of Second Hand Cars to Thailand: 2000-2003**

Car Type	2000			2001		
	Quantity	Million Bahts	Million US\$	Quantity	Million Bahts	Million US\$
Passenger Car	20	8.53	0.21	28	12.22	0.27
Commercial Car	23	44.05	1.10	17	10.96	0.25
Truck and Bus	8	1.02	0.03	-	-	-
Motorcycle	4	0.62	0.02	6	0.38	0.01
	2002			(June-Jan) 2003		
Passenger Car	20	6.77	0.16	16	7.16	0.17
Commercial Car	8	3.85	0.09	10	7.16	0.17
Truck and Bus	-	-	-	12	4.50	0.11
Motorcycle	4	0.26	0.01	5	0.15	0.00

Source: Department of Foreign Trade, Ministry of Commerce.

Even though Thailand imported quite a small unit of second hand vehicles from Japan, many of vehicle imports are however to serve the reconditioning and re-exporting purposes. About 95 percent of total import under this category are from Japan, and then finally re-export to

mostly the ASEAN countries such as, regarding to the figures in 2002, Cambodia (61 percent), China (25.7 percent), Laos (8.3 percent), Myanmar (4.7 percent), and others (0.3 percent). The Table 3 below presents the import volume of the second hand car for reconditioning and the export volume after passing the reconditioning process.<sup>4</sup>

**Table 3: Import and Export of Second Hand Cars for Recondition: 2000-2003**

	<i>Quantity</i>	<i>Million Bahts</i>	<i>Million US\$</i>
2000			
Import	3,152	333.93	8.31
Export	2,921	370.81	9.23
2001			
Import	4,507	476.39	10.71
Export	3,203	446.08	10.03
2002			
Import	9,055	820.48	19.08
Export	6,244	757.84	17.62
(June-Jan) 2003			
Import	4,663	439.49	10.44
Export	819	93.04	2.21

Source: Department of Foreign Trade, Ministry of Commerce.

Therefore, it can be concluded that the second hand cars imported to Thailand for commercial purpose are prohibited, but do allow for those serving such personal purpose on permanent import, temporary import, or used in organizations. One importer is restricted to only one item of second car import and he must transfer or resell within 3 years after passing the registered process. Nevertheless, in rather case, a large volume of second motor vehicle imports are allocated to reconditioning and re-exporting, which should be considered not to cause to any effects to domestic consumption, domestic sales, and environmental impact of in the country. As relevant in the market, the used car sold domestically must, in general, allocate to those with previously used within border of Thailand.

For more understandings of the current situation of domestic market, the next section therefore presents the trend and situation of the brand new car sales in Thailand, including some initial information of second car sales, and situation of domestic production.

<sup>4</sup> Because the import of second hand cars for reconditioning and re-exporting are not be used in domestic, the amounts of those items are hard to measure in term of exact quantity and valued justifications.

### 3. Strategy of Fostering Automobile Industry

Starting with the history background of automotive industry in Thailand, the automotive industry is the third largest industries in Thailand, after textiles and electrical goods. The automotive industry was commenced when Thai Motor Industry Company was established in 1961 under consideration of the import substitution strategy and thus was approved an investment support act from the Office of the Board of Investment (BOI) in 1964. The automobile assembly industry was granted under this Industrial Promotion Act, especially 50 percent reductions in tariff and business taxes on completely knocked-down kits (CKD). In addition, it has been protected by high imported tariff on completely built-up (CBU) automobile unit (Thammavit, 1997, Page 3-6). During the period 1974-1977, the production of peripheral auto parts, such as starters, alternators, filters, exhaust pipes, radiators, and safety glass increased dramatically. Moreover, in 1972, to aggressively promote the automobile industry, the Thai government limited the number of assembly plants and model series and set the minimum local content at 25 percent of the assembly industry. The required percentage was raised from 25-50 percent within five years.<sup>5</sup> Consequently, the industry expanded rapidly beginning in the late 1980s as a result of strong economic growth and competition amongst producers. Thailand has been the most successful ASEAN country in attracting inward investment in the automotive sector, with a number of large investments being made by the major global producers over the past decade.

Over the past 30 years that the development of Thai automotive industry had been based on import-substitution policies, as well as after a severe downturn experienced during the Asian economic crisis 1997-98, the government agreed to abolish the local-content requirement policies active on January 1<sup>st</sup>, 2000. This includes revising automotive-tariff structure along with the CKD definition<sup>6</sup>, promoting investments, and exports, and also cooperating with international communities, such as ASEAN, APEC, and WTO. Even though, the automotive industry have faced huge impact due to crisis, it, however, could step off from economic recession from altering strategy from domestic consumption to export promotion. A number of incentive measures for automotive exports was launched for example the reimbursement on imported materials for export production, redemption on exported parts and vehicles, tax reduction on imported materials, founding of Export Promotion Zone (EPZ), encouraging the cooperation among ASEAN countries, and establishment of Free Trade Area. Therefore, until now, compared among all ASEAN member countries, Thailand is currently the largest exporters on automotive volume in which the exported volume was 180,000 vehicles in 2002, an increase of three percent compared to the 175,000 vehicles in 2001.

In the term of supply side of automotive makers, the relatively transparent legal and government policy toward supporting this industry has enhanced attitude toward foreign companies and investors. During the late 1990s, most of the world's largest automotive

<sup>5</sup> The local content requirement became fully effective in 1974. The Automobile Industry Development Committee (AIDC) assigned point values to each type of part. The sum of points for 294 parts (including assembling process) is 100 points.

<sup>6</sup> The “CKD definition” specifies the characteristics of a CKD set to determine if it is allowed to receive the special CKD tariff rate. The CKD definition is intended to replace the two obsolete regulations, namely the Local Content Requirement and the Custom Department Announcement No. 2/2542.

makers from Japan, North America, and Europe invested heavily in either on expanding or improving their existing production or in building new facilities from the ground up. Due to the heavy investment and strong competitiveness toward export capacity, the Ministry of Industry of Thailand henceforth formulated the Master Plan for Thailand's Industrial Development for automotive industry during 2002-2006 on achieving the goal that

*“Thailand automotive industry gains competitiveness in the world market and build up sustainability to the Thai economy. Import substitution and acquire foreign currency through export promotion” (Thailand Automotive Institute, 2002).*

The current situation of Thailand's automobile industry can be henceforth analyzed in term of its sales, production, and international trade volume. In the year of 2003<sup>7</sup>, referred in the above table, 425,425 units of passenger cars and commercial cars were sold, which were much higher than it was forecasted at about 304,511 units. The bulk of 2003 vehicle sales in Thailand come from mainly of 247,905 units of 1-ton pickup, which are about 58.27 percent of the total car sales. Then, the sales of passenger cars in 2003, which are 141,996 unit sales in 2003, are counted about 33.37 percent of the total car sales. The 1-ton pickups reached the highest sales volume in 1996 in which 327,663 units was sold at that year until faced the sharp drop in 1998, which were only 81,263 units sold.

Regarding to other vehicle sales for vans and buses (not over 30 seats) is 6,988 units in 2003, which are about 1.64 percent of total car sales. The sales volume for the larger size of truck 2-4 tones and more than 4 tones in 2003 are 5,168 units, counted 1.21 percent, and 8,871 units, counted 2.08 percent, of total car sales respectively. The commercial car sales, besides the one-ton pick-up, are secondly concentrated on the four-wheeled drive achieving the sales unit volume of 13,988 units or 3.28 percent of total car sales. Nevertheless, sales volumes of the four-wheeled drives are still 17-18 times below the sales volume of the one-ton pickup.<sup>8</sup> Therefore, it can be concluded that Thailand has been specialized on producing the one-ton pickups while the future trend of four-wheeled drive vehicles should be expected more in the future. Regarding to the passenger cars, Thailand focuses more on the small to medium-size engines, which would be considered the new items for both domestic used and export-oriented in the future. The Japanese automobile manufacturers have had, as usual, a strong foothold on Thailand's automotive industry, consistently having about 85-90 percent of domestic share. For the year 2003, Japanese manufacturers led with 225,032 units of 246,338 units, or about 91.35 percent of total vehicle sales, followed by those from U.S. manufacturers (5.54 percent), European manufacturers (2.37 percent), and others (0.74 percent)

Regarding to domestic production, Thailand nowadays is considered one of the global production bases for re-export market of major car manufacturers from Japan, U.S., and Europe. Thailand produces 606,113 units in the current year 2003, which consider the most units of production ever and also highest production capacity among those ASEAN countries. Production dropped to the lowest unit volume of production in 1998, which were about

<sup>7</sup> During the year 2003, the data were provided between January – October 2003.

<sup>8</sup> The sales volume in baht or US\$ are not provided. Therefore, a number of units sold are therefore presented in this case.

158,130 units. Among those production unit volumes, of cause, one-ton pickups have been constantly achieving highest production capacity with about 239,696 units in 2003 accounted about 39.54 percent of total domestic production.

By noticing in term of growth or declining rate of production for each type of passenger cars, the vehicles with positive growth of production over the periods are 1201-1500 cc. passenger car, 1501-1800 cc. passenger, 2001-2400 cc. passenger car, four-wheeled drive, and one-ton pick-up. The production of the 1201-1500 cc. passenger cars has been increased from 28,097 units in 1990 to 104,618 units in 2003 and 1501-1800 cc. passenger cars has been increasing from 16,991 units in 1990 to 62,231 units in 2003. The key production has been concentrated on the one-ton pickups, which have been increasing in its units of production from 170,059 units in 1990 to 239,696 units in 2003. Thailand, however, has been significantly boosted its production volume of the four-wheeled drives, which were started to product 2,544 units in 1996 then until 20,559 units in 2002 (7,997 units in 2003).

Types of vehicle with negative growth of production are 1800-2000 cc. passenger car and other types of pickups besides one-ton (less than one-ton, 5-10 tones, and greater than 10 tones) and van and bus. Units of production of van and bus have been decreased from 593 units in 1990 to 68 units in 2003. Productions of less than one-ton truck have been largely declined from 15,667 units in 1990 to only 1,764 units in 2003 while production units of 5-10 tones truck have declined from 10,370 units in 1990 to 3,042 units in 2003. The large truck (greater than 10 tones) has also decreased in its production from 32,032 units in 1990 to 8,427 units in 2003.

Because the demand conditions in Thailand's customers for car normally prefer small to medium size of cars than the large size of cars, the production and sales of large engine cars is therefore dropping. This includes the possible trend to produce more of the passenger car as future prospect of Thailand for being regional hubs of automobile assembly, besides one-ton pickups that Thailand is very keen on. In the global production, there were about 60 million units of the global automobile production and they were expected to increase to about 70 million units produced in 2005. The GM Group is the biggest global producer followed by Daimler Chrysler, Ford, Toyota, Renault and Nissan, Volkswagen, Honda, Daewoo, and BMW.

In addition, as regard to ASEAN Economic Cooperation, Thailand has given, and will give its support on the cooperation. As it is believed the liberalization under AFTA and AICO schemes would create a large integrated market that would enhance the competitiveness of Thailand's exports and lower production costs through improved economies of scale. Concerning the AFTA implementation, Thailand has reduced automotive tariffs to 0-5 percent and has transferred all products from the Temporary Exclusion List into the Inclusion List since January 1, 2000. As for AICO, the National Authority has approved most submitted applications. This means all products under these applications can receive, or at least have already enjoyed full AFTA treatments.

Nevertheless, there have still been concerns of factors, which may support those foreign investment, as well as accretion of production capacity such as domestic skilled labor and

technological and somewhat hi-tech machinery prepared for those expansions. Besides those obstacles, there is still the trended prediction that the Thailand's automotive industries, be the next five year, should be expanded to both domestic market and foreign market for re-exportation. A number of different new models have been assembled in the same line of machine (Derivative Model) to achieve the economies of scope in production. Normally, the model change, which is a dominant strategy among car's producers, is normally 6 years for commercial cars and 4 years for passenger cars. However, due to the fiercer competition and economies of scope, periods of model change tend to be shorter. This comes out to be, henceforth, the induction and motivation to the car assemblers on consistency of research and development of new models.

#### **4. Economic and Social Impact of Second Hand Cars**

Regarding to the social impact consideration of imported second hand car to customers' tastes and preferences, because second hand vehicles imported into Thailand are to serve just the personal used purposes, imported of second hand cars should not have any direct, but slight, effects to the overall economy. This excludes the imported second hand car for re-export purposes that may help somewhat to increasing of international trade balance. Nevertheless, the consumption patterns for brand new cars or second hand cars vary, in general, by type of customers. Regarding to the Siam Commercial Bank Research Institute (2000), those customers who would decide to buy the Japanese cars are in range of 18-30 years old, while 40 percent of them buy those as their first car. For the luxurious cars or family cars, customers are normally concentrated on being business owners, entrepreneurs, or highly-positioned government officials. For those economy cars or small engine cars with less than 1600 cc., their customers are observed to be working women than men.

Since the second hand car market in Thailand faced the troublesome from the economic turmoil during the end of 1990s, there were about 20 percent of total entrepreneurs bankrupted and got out of business especially after the termination of 56 financial institutes on December 8, 1997, so there were about of remained 500-700 entrepreneurs. After the economic recovery in Thailand, second hand car market in Thailand has been constantly improving regarding to growth of brand-new car market. The market improvement of second hand car was also due to the new entrance of entrepreneurs. Second hand car market in Thailand, considered the "Easy to Entry and Quit Business" for the small and medium enterprise, is affected from a number of factors such as old price, demand condition of both brand new and second hand car, and the depreciation of price of second hand cars. In general, the prices of Japanese second hand car drops around 10 percent each year, while those of European car generally drops more up to 30 percent each year.

In term of the their sentiments and preferences for the second hand cars in Thailand, the customer profiles for the brand new cars and second hand cars are nonetheless different among ranges of their education backgrounds, occupations, and incomes. For example, consumers who are the general business-type or who reside in upcountry would enjoy purchasing the second hand commercial car, especially those used pickups. Those consumers who are

businessmen or entrepreneurs would prefer to purchase the second hand European cars due to the luxurious looks and respected credibility.

Nevertheless, the customers' preference on purchasing of both brand new cars and second hand cars are observed less likely changed over periods. For instant, during the economic crisis, customers tend to substitute purchasing the second hand cars instead of the brand new car, but more tendencies to buy the brand new cars when economy recovers. A Price gap between those new and used cars is also a determinant. Secondly, also based on the Siam Commercial Research Institute (2000), consumers choose to buy the second hand European cars instead of the large engine (2000 cc.) Japanese cars, if those prices do not much considerably different. The reason is because customers believe in European cars on enhancing their public looks and respects. However, because of its usage on commercial works such as delivery, transportation and etc., the customers feel indifferent on purchasing between brand new commercial cars and second hand commercial cars because those of them are considerably located in the same profile. Therefore, the consumer sentiments as well as their demand on buying car should be stimulated and affected from other external factors such as sales promotion from car producers, incentives on lower loan rate from financial institutes, and the alleviation of rules and regulations for customers to own such a car. These factors help creating the stimulation of economic growth through the investment and consumption of automobile industry leading to the positive effects to other linkage industries.

At last, consumption or decision to purchase the second hand car and the positive growth of automobile industry can be used as an economic indicator to measure the real business cycle. Economic recovery usually reflects the increase of aggregate demand as well as domestic consumption, personal car or commercial car purchasing seems to be one of the necessary factors of Thai people to survive. The evidential result of increase of second hand car sales indicates consistent growth of the economy. These can be analyzed for its further linkage industries may have those effects.

The next section starts explaining impact of second hand car market in another aspect of environmental issues. The legal rules and restrictions of brand new cars and second hand cars used in Thailand with regard to environmental protection will be discussed. The automobile standard such as the emission limits of gaseous pollution required by the government should be concerned. This includes rules tailored for brand new cars and second hand cars including some suggested regulations that should be implemented in the future. At last, existing situation and characteristics of second hand cars in Thailand are somewhat reviewed.

## **5. Influence of Imported Second Hand Car to the Environment**

Environmental pollution, especially in urban area, has been remarkably concerned as a major problem in Thailand. Most of the environmental problem especially in urban area where there is traffic congestion causing air pollution. The aim of this part is therefore to explain the issues of environmental regulations and restrictions that have taken place in the country regarding to the automobile standards. The environmental aspects on the uses of automobile have been

extensively concerned all over the world. This includes the intention among major automobile producers to invent such the environmental-friendly vehicles such as save-gasoline cars, solar-powered vehicles, etc.

### 5.1. Environment regulations implemented

The regulations for control standards of air and noise pollution are based on the Enhancement and Conversation of the National Environmental Quality Act B.E. 2535 (1992) under the Thailand's Pollution Control Department.<sup>9</sup> Generally, motor vehicles largely emit hydrocarbon, nitrogen oxide, carbon monoxide, and PM. On top of this comes in the emission of lead from vehicles, which still run on leaded fuel. Spark ignition and diesel engines differ fundamentally as regards their emission profile. While spark ignition engines have comparatively higher emissions of CO, VOC, and benzene, diesel engines emit more NO<sub>x</sub> and diesel rust in the form of particles. Emission factors are therefore used to calculate the various emissions.

Based on those in Bangkok Metropolitan Area (BMA), the data of particulate matter (PM10) and carbon monoxide (CO) reported by Thailand's Pollution Control Department are shown in the Table below the current status, as of October 2003, of air quality in the Bangkok Metropolitan<sup>10</sup>.

Nevertheless, by comparing air quality among Thailand and other countries and the World Health Organization (WHO)'s standard, Thailand is still considerable having relaxation on air quality control than the WHO and other countries.

Therefore, the government has been attempting in respond to the air quality (as well as noise), in which several effective pollution controls measures were initiated.

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<sup>9</sup> The so-called *NEQA* of 1992 is probably one of Thailand's most important pieces of legislation regarding the environment. It basically established Thailand's principle public sector institutions concerning the environment and pollution control as well as the principle laws governing Thailand's environment. Nevertheless, the Act is still nowadays implemented.

<sup>10</sup>The Bangkok Metropolitan Area is used as benchmark in which it is the area where there is highest level of pollution from most traffic congestion. Daily updated information of air quality data can be browsed to website "<http://www.pcd.go.th>"

**Table 4: Air Quality Data in Bangkok Metropolitan Area: October 2003.**

Site	Location	SO <sub>2</sub>	SO <sub>2</sub> <sup>*</sup>	NO <sub>2</sub>	NO <sub>2</sub> <sup>*</sup>	CO (1hr)	CO (1hr) <sup>*</sup>	CO (8hr)	CO (8hr) <sup>*</sup>	Ozone	Ozone <sup>*</sup>	PM-10	AQI
Bang Khunthien	General	5	7.91	33.3	54.53	1.4	1.88	1.3	1.58	34.5	90.91	84.2	78
Din Daeng	Roadside	9.5	15.5	53.7	78.57	1.9	3.26	1.9	2.5	10.1	28.79	80.7	75
Huai Khwang	General	2	4.4	29.4	42.62	1.2	1.41	1.2	1.36	29	86.87	62.9	77
Intrapituk	Roadside	8	10.5	36.7	57.51	1.2	1.96	1.2	1.53	23.4	75.59	79.4	67
Lad Phrao	Roadside	6	8.97	36.1	51.55	1.3	1.82	1.3	1.5	19.6	61.55	37.5	52
National Housing Authority	General	6	7.27	34.4	79.64	0.7	1.26	0.7	0.88	26	67.51	63.8	65
Yannawa	General	-	-	-	-	1.2	1.5	-	-	31.9	75.81	60.9	66
Standard	-	300	300	170	170	30	30	9	9	100	100	120	100

Notes:

- General sites are those within 50-100 meters from the main road.
- Roadside sites are those within 2-5 meters from the main road.
- Pollutants are 1 hour averages except noted, and PM-10 is 24 hour average.
- \*Quantity of pollutant at 95th percentile not more than this value.

Remark:

- PM-10: particulate matter (dust) <10 microns (raw data)
- AQI: Air Quality Index
- SO<sub>2</sub> units ppb (1/1,000,000,000)
- NO<sub>2</sub> units ppb (1/1,000,000,000)
- CO units ppm (1/1,000,000)
- Ozone units ppb (1/1,000,000,000)
- PM-10 units ug/m<sup>3</sup>.

Source: Regional Air Quality Data, Pollution Control Department, Thailand. (<http://www.pcd.go.th>)

**Table 5: Thailand Air Quality Standard Comparing to Other Countries**

Country	2SO			2NO			CO		3O		10-PM	
	hr 1	hrs 24	Annual	rh 1	hrs 24	Annual	hr 1	hrs 8	hr 1	hrs 8	hrs 24	Annual
USA	-	0.37	-	-	-	0.1	40	10	0.2	-	0.15	0.05
Japan	0.26	0.11	-	-	0.08	-	-	22.8	0.1	-	-	-
Netherlands	0.76	0.23	-	0.2	-	-	40	6	0.1	-	-	-
Australia	0.44	0.16	-	0.3	0.12	-	34	11.4	0.2	0.1	-	-
Mexico	-	-	-	0.4	-	-	-	15	-	-	-	-
Taiwan	0.78	0.26	-	-	0.1	-	23	-	-	-	-	-
Canada	0.82	0.27	-	0.4	0.2	-	15	6	0.1	-	-	-
Germany	-	0.27	-	0.2	-	0.8	30	-	-	-	-	-
WHO	0.35	0.13	0.05	0.4	0.15	-	30	10	0.2	0.1	-	-
Thailand	0.78	0.3	0.04	0.3	-	-	34	10.3	0.2	-	0.12	0.05

Source: Pollution Control Department, Thailand. (<http://www.pcd.go.th>)

### 5.2. Trend of the regulation of exhaust gas by automobile

The government programs on improving air quality, especially in such metropolitan area have been remarkably concerned. The measures aim not only at exhaust gas emission controls but also at the improvement of fuel and vehicle specifications, implementation of in-use vehicle inspection and maintenance program, mass transit systems, and traffic management. These measures are leading toward the reducing of vehicle emission include the fuel reformation. The fuel reformation is classified into two types: *gasoline* and *diesel*. The automotive gasoline reformulation is implemented since the abandon using lead gasoline in Thailand starting on January 1, 1996. In addition, the benzene content is limited less than 3.5 percent by volume and the aromatic content is set to be lower than 30 percent by volume. The diesel reformation procedures are implemented by reducing the sulfur content used in diesel from 1.0 to 0.5 percent by weight. Moreover, the 90 percent volume distilled was reduced from 370°C to 357 °C. (Viroat and Chana, 2001, page 3-4).

Based on the Enhancement and Conversation of the National Environmental Quality Act B.E. 2535 (1992) of Air and Noise Pollution (on Part 4, section 64-68), usable vehicle shall conform to the emission standards prescribed for such vehicle pursuant. If it is found that the use of any vehicle is in violation, the competent official shall have the power to prohibit the use of such vehicle permanently or until it will have been modified or improved to meet the emission standard requirements. Those competent officials, who are currently under management of those in the Department of Land Transport, shall be assigned under the Pollution Control Committee to prescribe the vehicle's standard.<sup>11</sup> In issuing the order prohibiting to use of vehicle, the competent official shall make the sign clearly shown by the words "Use Prohibited Permanently" or "Use Prohibited Temporarily" or any other sign, known and understood by the general public to have the same meaning, on any part of such vehicle. The making or removal of the sign under the first paragraph, or the use of vehicle while the said sign is on, shall be in accordance with the rules, methods and conditions specified in the ministerial regulation. In performing their duties, the competent officials have the power to stop and inspect the vehicle, enter into the vehicle or to do any act necessary to check and test the engine and equipment of such vehicle. The owner or possessor of the point source of pollution has the duty to install or bring into operation an on-site facility for the air pollution control in order to control, dispose, reduce, or eliminate pollutants, which may affect the air quality.

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<sup>11</sup> For the purpose of pollution control under this Act, there shall be a committee called the "Pollution Control Committee" (PCC) which consists of the Permanent Secretary of the Ministry of Science, Technology and Environment as the Chairman, the Director-General of the Department of Local Administration, the Director-General of the Police Department, the Director-General of the Department of Land Transport, the Director-General of the Harbor Department, the Director-General of the Department of Public Works, the Director-General of the Department of Mineral Resources, the Director-General of the Department of Industrial Works' the Director-General of the Health Department, the Director-General of the Department of Agriculture, the Director-General of the Department of Environmental Quality Promotion, the Secretary-General of the Office of Environmental Policy and Planning, the Permanent Secretary for the Bangkok Metropolitan Administration and not more than five qualified persons appointed by the National Environmental Board as members and the Director-General of the Department of Pollution Control as member and secretary.

Currently, those pollution control officials' work under the inspection program which are basically under management of the Department of Land Transport has been decentralized by the authorized private inspection centers or garages that are also allowed to do the repairs. Nonetheless, there are questionable criticisms for how effectiveness of these authorized private inspection centers and how they are reliable to follow the repair and maintenance that should meet the legal standard. The inspection program for in-used car should therefore be evaluated regularly and improved as necessary to increase its competitiveness. The private-owned garages are required to pass the training course for car inspection arranged by the Department of Land Transport. Currently, there are about 1,900 private-owned garages locating all over the country.

To enhance the cooperation between the Pollution Control Department and the authorized private vehicle inspectors, the newly established association, called the "Association of Vehicle Inspection and Maintenance Center" was found in 2001 to improve the automobile inspection works. The association consists of around 40 private-own garages locating around the Bangkok metropolitan area to launch the "Emission Clinic" campaign for the vehicle's drivers to reduce the chances of their cars for polluting and to provide knowledge of the environmental friendly program to drivers. In addition, the association offers the discounted program of inspection and maintenance services as well as those for the spare parts up to 30 percents. The privilege card was introduced for the auto drivers to apply with 50 baht entry fee and earn the privilege to cover the overall processes of car inspection, discount, and some optional knowledge of car maintenance to the vehicle owners.<sup>12</sup>

Control of CO and NO<sub>x</sub> from gasoline vehicles is performed through the use of catalytic converters. After January 1, 1993, all cars having engine sized greater than 1600 cc. must be installed of the catalytic converters. The cars with engine sized smaller than 1600 cc are accepted to install catalytic converter after June 1, 1993. The emission standard for new vehicles and in-used vehicles (including the second-hand vehicles) in Thailand had been established since 1995 adopted from the European Union Standard. Those imported vehicles for the brand new cars and second hand cars are also required to pass the environmental control standard under this Act before to apply for the vehicle registration at the Department of Land Transport. Types of vehicles are classified based on the engine types of using the gasoline engine or diesel engine as shown in the following Tables below:

Besides the garage testing, the roadside inspection for smoky vehicles in Thailand, especially in Bangkok Metropolitan, is carried out everyday by basically four agencies: Police Department, Land Transportation Department, Department of Pollution Control, and Bangkok Metropolitan Administration. There are currently approximated 40 teams doing the roadside inspection everyday, which a number of team members do vary by locations. Basically, the roadside test will randomly select the vehicles, which are suspected on polluting exceeded degree of black smoke to test the emission standard. The vehicle's drivers who violate the emission standards for in-use vehicles will be fined and those vehicles will not be allowed to use until they have passed the repairing and inspecting reports.

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<sup>12</sup> Currently, the association locates at the Pollution Control Department. There is not still exact and formal structure of the association.

**Table 6: Emission Standard for New Vehicle in Thailand**

Type	Level	Reference Standards	Standards No	Gazette	Enforced
Gasoline Engine Vehicle	5	EC/12/94	1997-1440.TIS	90Part 114.Vol dated November 1997 ,11	1999 ,1January
	6	EC/69/96 not more than Weight .Ref-.kg 1,250 1,250Weight more than .Ref-.kg	1999-1870.TIS	-----	1999 ,1October - 2000 ,1October -
Light Duty Diesel Engine Vehicle	4	EC/12/94 For Direct Injection Engine-	1997-1435.TIS	90Part 114.Vol dated November 1997 ,11	1999 ,1January 2001 ,30September -
	5	EC/69/96 Weight not more than .Ref-.kg 1,250 1,250Weight more than .Ref-.kg For Direct Injection Engine-	1999-1875.TIS	-----	1999 ,1October - 2000 ,1October - 2001 ,30September -
Heavy Duty Diesel Engine	2	(.1EURO )EEC /(A)542/95	1995-1290.TIS	77Part 112.Vol dated September 1995 ,26	1998 ,12May
	3	(.2EURO )EEC /(A)542/95	1998-1295.TIS	77Part 112 .Vol dated September 1995 ,26	2000 ,23May

Note: 1) Preference Standards are based on the European Union Standard.  
 2) The Standards number column the Thai Industrial Standard (TIS), issued by the Ministry of Industry.  
 3) Government Gazette prescribing emission or effluent standards

Source: Pollution Control Department, Thailand (<http://www.dpc.go.th>)

Other forms of pollution control do not only from the control of vehicle emission, but also from the control of external factors such as traffic management and reduction of vehicle kilometers traveled (VKT). Those include, for example, improving the mass rapid transit systems such as an elevated sky-train system and a subway system, extending bus system, road network, and expressway, and huge traffic controlling on some areas, like major streets, that are parking restriction. Currently, the sky train system started conducting by the

Bangkok Mass Transit System (BTS) since December 1999 and the recent project of subway system will be expected to launch by the Bangkok Metro Company on this April 2004.<sup>13</sup>

**Table 7: Emission Standards for In-Use Motor Vehicles in Thailand (Gasoline Vehicle)**

Type	Pollutants	Standards	Equipment	Methods
Register before - 1993 ,1November	CO HC	%4.50 .ppm 600	-Non-Dispersive Infrared Detection	Measure while parking the car at idle and no load
Register after- 1993 ,1November All Type	CO HC	%1.50 .ppm 200		

Note: Percentage in the Standards column infers the maximum standard level in which the vehicle pollutes based on the equipment and methods.

Source: Pollution Control Department, Thailand (<http://www.dpc.go.th>)

**Table 8: Emission Standards for In-Use Motor Vehicles in Thailand (Diesel Vehicle)**

Type	Pollutants	Standards	Equipment	Methods
Diesel Vehicle	Black Smoke	%50	Filter System	Measure while parking the car at load by quick acceleration the engine .pmto maximum r
		%45	Opacity System	
		%40	Filter System	Measure while the car running of %60steady on the roller at .maximum power rpm
		%35	Opacity System	

Note: Percentage in the Standards column infers the maximum standard level in which the vehicle pollutes based on the equipment and methods.

Source: Pollution Control Department, Thailand (<http://www.dpc.go.th>)

### 5.3. Situation of usage of second hand cars

For the situation of usage of second hand cars in Thailand, it is still not clearing-cut to say about the characteristics. However, by having some brief interviews with the second hand car dealers locating around the Bangkok metropolitan area, it could say that the second hand car market in Thailand follows the market called monopolistic competition in which there are ranges in capacity among the second hand car dealers. Some dealers which are considerably large in the market may not be able to control over the market and enhance their market power. The outsourcing abilities of those second hand car dealers can be from various sources such as from the automobile producers themselves, from the intermediary agents, or even includes

<sup>13</sup> Both of the systems have objectives of helping to alleviate the chronic traffic problem in Bangkok and to provide the citizens with a fast and more efficient means of transportation within the central business district. The BTS System can carry over 1,000 passengers per train while a similar number of people would use 800 cars. The Subway system extends the BTS system with about 20 Kilometers.

those cars which maybe caused from damage or accident but already got the some initial repairs. Nevertheless, many of involved peoples in this business still somehow believe that the second hand car market play the role the “Market of Lemon”, which is still difficult to distinguish between “good” cars and “bad” cars.

Therefore, as mentioned earlier that there are not such organizations that collect those data of market status of second hand car, we henceforth have to observe some primary information from a number of second hand market dealers in Bangkok metropolitan area. Nevertheless, there is still no clear-cut answer about the exact average odometer reading of second hand cars purchased and degree of emission of exhaust gases. But we can at least answer in range that the second hand cars sold in the market are, in average, in range from 3 months (year 2003) to 10 years (1993), in which the odometer reading of second hand cars sold in the market is, in average, in ranged between 40,000-100,000 Kilometers. Those second hand cars sold by dealers has to, by law, pass the maintenance regulation on degree of emission of exhaust gases, car inspection, and other repairs needed from the inspectors.

## **6. Legal Aspects related to Importation of Second Hand Cars**

The imports of either the brand new car or second car require a number of procedures. This section therefore includes the procedures and process flow of the importation cases of second hand cars and show case of the different government agencies. Then, the timing in the ownership of a second hand car should be tackled. For example, the processes a prospective car owner should take in purchasing a second hand car and how often a car has to be brought in for maintenance as well as the disposal rules for the old cars in Thailand. At last, the mechanism of various forms of taxes such as imported tax (tariff), excise tax, and vehicle tax will be discussed during the end of this section.

### **6.1. System of importation of second hand cars**

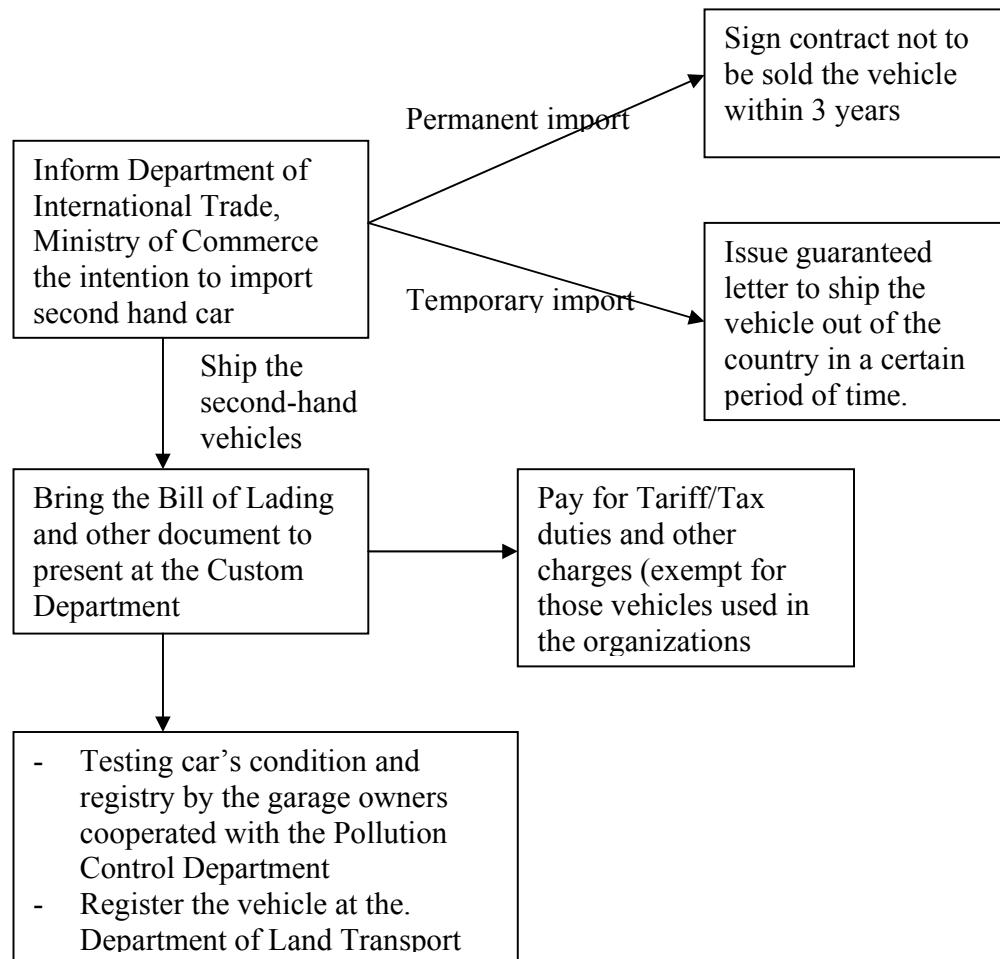
In order to import the used car to Thailand, the importers or the vehicle owners should firstly prepare the documents and indicate their intentions to import those vehicles at the Department of International Trade, Ministry of Commerce before the items are shipped. The imported items in case of permanent and personal uses must be signed with the agreement not to resell within 3 years. For those of temporary uses, the importers must indicate by the guaranteed letter to ship the vehicle out of the country within a certain period. When the vehicles are shipped out of the country, the vehicle owners must inform the Department of Foreign Trade within 45 days once the vehicles are docked.

Once the vehicle arrive to Thailand’s port, the vehicle owner or assigned person must present at the Thailand’s Custom Department along with the automobile registrations of the foreign country, driver’s license of the country from which the car was exported, original Bill of Lading (B/L), and import permit issued by the Ministry of Foreign Trade. In the case that those imported second-hand vehicles are for the foreigners who may come to reside in Thailand, the documents issued by the immigration division should be prepared. In the event that the applicant enters Thailand to work for the government or other institutions, a letter of

certification from the governmental institution must also be presented. Once those documents are presented at the Custom Department, the car's controllers have to bring the documents to facilitate the special Import Entry Form and Border Pass (Sor Bor 2). Then they shall sign the name and stating the period of entry. In case of other accompaniments or passengers or personal belongings of passengers brought in together with the cars, the customs officers must be notified. Then, after the notification, the customs officers will inspect the cars and passenger's belongings. The officer shall hand over a copy of the special Import Entry Form to the controller of the car to be presented on the way of taking the car out of the cargo. Then, during the custom works, the importers have to pay duties, which are basically, the markup of the CIF price of imported cars. Automobiles and motorcycles are not only durable items (whether new or old), but also highly protected from the Thai's government. Import duties of the automobile, disregarding the motorcycles in this case, are therefore relatively high, but be discounted to those of second hand imported vehicles<sup>14</sup> Besides the import duty automobile imported to Thailand, either brand-new or second hand used will be charged for the excise tax. The car importers have to pay the excise tax as the same procedures of their paying to tariff once they do the custom works. In additional, municipal tax and the value-added tax (VAT) must also be applied.

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<sup>14</sup> Free duty exemptions are provided to those vehicles used in governmental organization, state enterprises, and international organizations locating in Thailand. The certified letter from organization indicating the tax exemption purpose must be notified.

**Figure 1: Flow Chart of Second Hand Vehicle's Import Procedures.**

To calculate the import duty and other charges (excise tax + municipal tax + VAT) for such a brand-new car for an automobile which its cylinder capacity is not over 2,400 cc will be in total import duty is 143.11 percent of CIF value<sup>15</sup>, which are import duty of 42 percent, excise tax of 32.5 percent, municipal tax of 10 percent (of excise tax), and VAT of 10 percent. Given the CIF price of imported automobile is 100 baht, imported duties and other charges for a vehicle can be calculated as the following procedure.

- The CIF of the automobile (supposed) = 100 baht
- Import duty is 42% of CIF =  $100 \times 42\% = 42$
- Excise tax = 32.5% (of excise tax base)
 
$$\text{Excise Tax Base} = (\text{CIF value} + \text{import duty} + \text{excise tax} + \text{municipal tax})$$

$$\text{Excise tax} = (\text{CIF value} + \text{import duty} + \text{excise tax} + \text{municipal tax}) \times 32.5\%$$

<sup>15</sup> This compare total amount charged to all tariff and tax duties based on the CIF value.

$$\begin{aligned}
 &= (\text{CIF} + \text{import duty}) \times [32.5\% / [1 - (1.1 \times 32.5\%)] \\
 &= (100 + 42) \times 0.5058366 = 71.83 \text{ baht} \\
 \bullet \quad &\text{Municipal Tax} = 10\% \text{ of excise tax} = 7.183 \text{ baht} \\
 \bullet \quad &\text{VAT} = 10\% \text{ of VAT base} \\
 &\quad (\text{CIF value} + \text{import duty} + \text{excise tax} + \text{municipal tax}) \times 10\% \\
 &= (100 + 42 + 71.83 + 7.18) \times 10\% \\
 &= 22.1 \text{ baht}
 \end{aligned}$$

Therefore, the total value of car of CIF price = 100 baht after applying those duties and VAT is  

$$= 100 + 42 + 71.83 + 7.18 + 22.1 = 243.11 \text{ baht.}$$

**Table 9: Tax and Tariff Duties for Imported Cars**

Types	(%) Import Duty	(%) Excise Tax	(%) al Tax	Municipal	(%) VAT
<i>.cc 2,400Passenger Car, with engine not exceeding .1</i>					
CBU -	42	32.5	3.25	10	
CKD -	20	32.5	3.25	10	
<i>.cc and having the power not to exceed 3,000but not exceeding .cc 2,400Passenger Car, with engine &gt; .2 p.h 220</i>					
CBU -	68.5	38	3.8	10	
CKD -	20	38	3.8	10	
<i>.p.h 220or having power over .cc 3,000Passenger car, with engine &gt; .3</i>					
CBU -	68.5	45	4.5	10	
CKD -	20	45	4.5	10	
<i>road passenger vehicle-Off .4</i>					
CBU					
.cc 2,400with engine not exceeding -	42	27	2.7	10	
.cc 2,400 with engine exceeding -	68.5	27	2.7	10	
CKD -	20	27	2.7	10	
<i>Van /up -Pick .5</i>					
CBU -	60	-	-	10	
CBU of chassis with engine -	30	-	-	10	
CKD of chassis with engine -	20	-	-	10	
<i>seats 10Truck and public transport car exceeding .6</i>					
CBU -	40	-	-	10	
CKD -	20	-	-	10	
BUC -	30	-	-	10	
CKD of chassis with engine -	10	-	-	10	

Source: The Custom Department, Ministry of Finance.

The CIF value of imported price is by using the import price or price list if applicable<sup>16</sup>. Unlike the case of new car, the value of the used car is usually in the FOB price in which it

<sup>16</sup> If the CIF price for imported car is not applicable, the CIF value will be compared with the retail price of the automobiles in foreign countries by the method of the Customs Department determined.

must include freight charge which is the most recent one that the authorized dealer imported the car into Thailand. If the current freight charge is not available, the freight charge which is not earlier than 6 months can be used. The value must also include actual-paid insurance charge. If it is not available, the insurance cost will be calculated at 5% at FOB value.

**Table 10: Discount for Second Hand Vehicle**

Registered Period		Discount (percent)	Registered Period		Discount (percent)
(months)More than	(months)Less than		(months)More than	(months)Less than	
-	2	2.50	60	62	55.83
2	4	5.00	62	64	56.67
4	6	7.50	64	66	57.5
6	8	10.00	66	68	58.33
8	10	12.50	68	70	59.17
10	12	15.00	70	72	60.00
12	14	16.67	72	74	60.50
14	16	18.33	74	76	61.00
16	18	20.00	76	78	61.50
18	20	21.67	78	80	62.00
20	22	23.33	80	82	62.50
22	24	25.00	82	84	63.00
24	26	26.67	84	86	63.50
26	28	28.33	86	88	64.00
28	30	30.00	88	90	64.50
30	32	31.67	90	92	65.00
32	34	33.33	92	94	65.50
34	36	35.00	94	96	66.00
36	38	36.67	96	98	66.33
38	40	38.33	98	100	6.67
40	42	40.00	100	102	67.00
42	44	41.67	102	104	67.33
44	46	43.33	104	106	67.67
46	48	45.00	106	108	68.00
48	50	46.67	108	110	68.33
50	52	48.33	110	112	68.67
52	54	50.00	112	114	69.00
54	56	51.67	114	116	69.33
56	58	53.33	116	118	69.67
58	60	55.00	118	-	70.00

Source: Tax Policy Division, Fiscal Policy Office, Ministry of Finance.

Generally, the Custom Department of Thailand applies the identical harmonized code for both brand-new car and second hand car. The difference on custom duties is that the second hand car will receive

some discounts based on the time length that those vehicles have been registered aboard. There is also a discount off of the summation of CIF value, import duties, excise tax, and municipal tax (CIF value + import tax + excise tax + municipal tax). The older of the cars, the higher discount would be. For example, if the car has been registered for 9 years 2 months to 9 years 4 months, the discount is 69% off. Conclusively, Thailand do not have tight restriction on importing of second hand car, however imported procedures are protected as itself the protection rate of tariff and other excise tax duties collected by the Thailand's Ministry of Finance. The Table below presents the discount of second hand vehicle imports. Besides the discount measures, the automobile tax system does not have any differences between the brand-new car and the second hand car.

### **6.2. Second hand car registration, maintenance, and system for demolish of old cars**

The legal aspect covers to the second hand car registration should follow the Thailand's Vehicle Act 1979 (B.E. 2522), in which the prospective second hand car's owners must indicate the intention of registration at the Department of Land Transport. The Act requires that the cars needed to register should be the completed built-in covering all necessary parts and components. In addition, the registered cars should of cause pass the required environmental inspection.<sup>17</sup> After the registration, the car owners present the vehicle tag and symbol as required by the ministry. In this case, registered cars has been modified or changed of its contents such as color, engine, etc, owners of the car must notify the ministry by 7 working days after those changes. The vehicle tax applied for car's owners can be discounted as longer periods of vehicle used. As the vehicles have been used for six years and more, the excise tax will be discounted by 10 percent and it will be discounted for additional 10 percent each year. The vehicle tax will not be refunded even though there is no use of car or even it is adjusted on its conditions for lower tax rates.

During the usage period, it is not required to test by law for the brand new and second hand vehicles used by less than 7 years. After 7 years of usage period, the vehicle's owners have to pass the inspection and maintenance required by the Department of Land Transport, who launched the policy since 1994 on cooperating with the private-owned garages on being the inspectors. The processes of inspection would cover both of the brand new cars and second hand cars. Finally, there is not such the restriction and regulation on the disposal rules of either brand new cars or second hand cars. Nevertheless, in general, the vehicles that cannot pass the inspection process required by law and cannot fix and maintain, disagree to do so by the car's owner, are considered to be disposed.<sup>18</sup>

### **6.3. Mechanism of automobile tax**

The legal system on the brand new cars and second hand cars should also include the tax or tariff system that would be implied. Over the past 30 years, the development of Thai automotive industry has been changed from import-substitution policies to more liberalized policies to correspond with the current global trend and competitiveness. These include loosen

<sup>17</sup> Once again, the required inspection process has to be authorized by the private inspection centers or garages with under management of the Department of Land Transport. The detailed testing requirement are already explained in the Section V.

<sup>18</sup> Nevertheless, there is the not system of an old car's demolition. Cars are not allowed to use upon violating the environmental standard.

tariff barriers, abolishing local content measures, promoting investments and exports, and cooperating with international communities such as ASEAN, APEC, and WTO. The automobile tariff structure has been revised times to times in order to promote the efficient developments of local auto industries while minimizing negative effects on domestic customers. Therefore, the co-movement between tariff and excise tax exists all the time. For example, while the CKD's special tariff rate has been raised; the excise tax rates have been however lowered in the attempt to keep the cost to customer unchanged.<sup>19</sup> Nevertheless, the various forms of taxes imposed to the automobile, either for brand new cars or second hand car, generate tremendous amounts to government each year. The first of the government revenue come from the imported tariff duties that are imposed for the imports of motor vehicles. Because motor vehicle is exactly the protective industry and government have imposed high tariff duties on the automobile imports. As the result, the imported tariff revenue collected by the Custom Department have been increasing from 9,787.56 million bahts in 1997 to 12,239.82 million baht in 2002.

**Table 11: Revenue collected from the Automobile's Excise Tax**

Unit: Million Baht			
Year	Domestic	Import	Total
2000	21,627.43	5,153.81	26,781.24
2001	25,395.16	4,934.71	30,329.87
2002	35,934.28	5,625.24	41,559.52
2003	46,530.13	9,758.47	56,288.61

Source: The Excise Department of Thailand. (<http://www.excise.go.th>)

**Table 12: A Number Unit of Cars with the Excise Tax Paid**

Fiscal Year	Domestic Car	Import Car	Convertible Car	Total
1997	147,123	35,492	11,451	194,066
1998	61,911	3,562	3,229	68,702
1999	151,544	1,959	11,005	164,508
2000	242,085	4,659	13,208	259,952
2001	257,060	7,533	9,899	274,492
2002	326,019	9,549	6,821	342,389
2003	746,646	13,838	2,493	762,977

Source: The Excise Department of Thailand. (<http://www.excise.go.th>)

Regarding to the revenue collected on the excise tax and the imported tariff for the motor vehicles, the excise tax revenue collected from the imported automobile are still less concerned than those collected from the domestic production. Regarding to the Table below, the excise tax revenue

<sup>19</sup> As shown in above calculation, it can be found that, due to the calculation method, a small change in excise tax rate can offset a larger change in import tariff rate.

collected for the imported cars is, in average, about 16.56 percent of that total excise tax revenue. The excise tax revenue for imported cars have been increased from 5,153.81 million bahts in 1999 to 9,758.47 million baht in 2003. See the Tables below presenting the revenue collected on the automobile excise tax and a number unit of cars that which the excise tax paid.

Besides those imported tariff, excise tax, and the municipal tax, the car owners, either for new or old cars, have also to pay another form called the vehicle tax charged under the Motor Vehicle Act B.E. 2522 (1979) to the Department of Land Transport, the Ministry of Transport. The vehicle tax collected by the Department of Land Transport varies by types and weight of the vehicles as shown in the following Table.

**Table 13: Vehicle Tax Rates under the Motor Vehicle Act B.E. 2522.**

Unit: Baht per vehicle

Weight of Vehicles	Vehicles			
	Bus	Large truck	Small truck and Pickup	Passenger car
.kg 500Less than	300	450	300	150
.Kg 750-501	400	600	400	300
.Kg 1,000-751	500	750	500	450
.Kg 1,250-1,001	600	900	600	800
.Kg 1,500-1,251	700	1,050	700	1,000
.Kg 1,750-1,501	900	1,350	900	1,300
.Kg 2,000-1,751	1,100	1,650	1,100	1,600
.Kg 2,500-2,001	1,300	1,950	1,300	1,900
.Kg 3,000-2,501	1,500	2,250	1,500	2,200
.Kg 3,500-3,001	1,700	2,540	-	2,400
.Kg 4,000-3,501	1,900	2,850	-	2,600
.Kg 4,500-4,001	2,100	3,150	-	2,800
.Kg 5,000-4,501	2,300	3,450	-	3,000
.Kg 6,000-5,001	2,500	3,750	-	3,200
.Kg 7,000-6,001	2,700	4,050	-	3,400
.Kg 7,001More than	2,900	4,350	-	3,600

Source: Department of Land Transports.

The revenue of vehicle tax collected from the automobile's owners increased from 6,810.47 million bahts in 1997 to 8,597.05 million bahts in 2002. It is found that the majority of revenue collected was from that vehicle's owners residing within the Bangkok Metropolitan Area.

**Table 14: Revenue collected from Vehicle Tax 1997-2002: Million Baht**

Year	Total	Bangkok	Others
1997	6,810.47	3,427.09	3,383.38
1998	6,810.09	3,330.69	3,479.40
1999	7,348.51	3,446.95	3,901.56
2000	7,576.31	3,531.16	4,045.15
2001	7,974.00	3,682.02	4,291.98
2002	8,597.05	3,974.62	4,622.43

Source: Statistics Sub Division, Department of Land Transport, Ministry of Transport.

By comparing among the revenues concerning to automobile sector that government have received, the automobile excise tax (summation of both domestic cars and imported cars) have been the major receipt to the government's revenue, followed by tariff, and then the vehicle tax paid by the car's owners. The first tariff revenue has been generally received by the Custom Department while the excise tax revenue received by the Excise Department of Thailand. In term of paying vehicle tax by the car consumers, those will be the revenue of the Department of Land Transport under the Thailand's Ministry of Transport.

It could therefore be able to point out the trend of offsetting the reduction of imported tariff to higher excise tax to the import of automobile, as well as its parts and components. The regulations on tariff and tax duties should also be concerned from the government on promoting this automotive industry as well as fostering economy of the nation.

**Table 15: Revenue Collected for Import Tariff, Excise Tax, and Vehicle Tax**

Year	Tariff Revenue	Excise Tax Revenue	Vehicle Tax Revenue	Million Baht
1997	9789.56	32,294.90	6,810.47	
1998	1945.33	8,556.93	6,810.09	
1999	5759.53	13,940.86	7,348.51	
2000	12489.36	26,781.24	7,576.31	
2001	10413.08	30,329.87	7,974.00	
2002	12239.82	41,559.52	8,597.05	

Source: Custom Department (Tariff revenue), Excise Tax Department of Thailand (Excise tax revenue), and Department of Land Transport (Vehicle tax revenue).

## 7. Conclusion

This paper reviews the situation of second car trading in Thailand covering on various aspects. First of all, the imports of second hand car to Thailand are limited by laws that cannot serve the commercial purpose. One importer can import only one used vehicles for the personal purpose for example for those used by himself, used in organization, or temporary uses in case the car's owners much live in Thailand for a certain period of time. Nevertheless, the imports of second hand vehicles may lie into the condition of import for car's reconditioning and re-exporting to other traded countries.

For the sales of second hand cars, it is still impossible to measure with the exact figure, but at least can review some indicators such as transfer of vehicle's ownership, consumer and producer's sentimental index, and the direct interview with the car sellers. The results nevertheless present the strong correlation of and potential of the second hand car sales to

overall economy. This paper also extends the consumer sentiment as well as impact of second hand car market to Thailand's economic and social wellbeing.

In addition, the analysis of environmental concerned of second hand cars including regulation and law imposed by the Thai government are discussed. The government regulations on the environmental issues are discussed on both the standard of emission, inspection, and current environmental controlled by the government. Then, at the last part of the paper, a number of legal issued are discussed in term of the import procedures and process flow of the importation of second hand vehicles dealt among a number of government agencies. It includes the tackle of car ownership. For example, processes a prospective owner should take in purchasing a second hand car, implementing regulations, and disposal rule, which has not been ruled out. The mechanism of tariff, excise tax, and vehicle tax collected a number of different government agencies are also justified on its amount levied on each types of vehicles.

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