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IMPACTS OF THE PROTECTION POLICY FOR VIETNAM'S AUTOMOBILE INDUSTRY

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Abstract

Vietnam's government has implemented a high level protection policy on its domestic automobile industry. The paper is to provide an answer to the question whether that policy has been successful or not. Using quantitative analysis methods and data collected from various sources, we conclude that it up to now has been a failure, in terms of key policy targets and welfare surplus. The industry remains 'infant' while both consumer and government lose. The research suggests a revision of the protection process and a clarification of government's policy objectives.

Key words: protection, local content, Vietnam's automobile industry

JEL classification: F13

1. Introduction

Vietnam began its economic renovation in 1986 aimed at industrialization and modernization. Similar to many other developing countries, Vietnam's government regards the automobile industry as one of the future growth engines of the economy. In order to develop the industry from infant status, the government has implemented many protection measures. The study of the impacts of the protection has recently become an interesting topic, especially for the policy debate on Vietnam's automobile industry.

As local content (or 'localization') is one of the key targets oriented by the government, Nguyen (2007) studies localization in Vietnam's automobile industry focusing on the process of increasing the value added to automobile products under regional and international integration. She indicates that in spite of the protection provided by the government, the localization rate of the automobile industry remains below expectations. As a result, she concludes that the present policy is unsuitable and ineffective.

In another studies, Fukase and Martin (2000) refer to the automobile industry as an example of inappropriate protection in the light of Vietnam's integration into the ASEAN Free Trade Area (AFTA). They analyze the case of high tariffs on assembled car imports and conclude that protection leads to high production costs rather than high profits. In addition, their analysis demonstrates that the government's policy leads to loss on all sides: consumers, government and even producers.

In terms of the impacts of protection policy on the automobile industry, similar research has been done for Asian developing countries. For instance, Okamoto and Sjolholm (1999) inspect the dynamics of productivity growth of the automotive industries (involving automobile and

motorcycle) in Indonesia under government protection. They use establishment data which are on the entrance and exit from one industry for the Indonesian automotive industries in the period 1990-1995 and assert that governmental intervention has caused a low productivity performance in Indonesia's automotive industries. In particular, they argue that the government's interference has not been successful in lifting the industry from 'infant' status.

On the other hand, Lihui (2007) examines the development of China's automobile industry under government intervention, in comparison with China's free-entry-and-exit computer industry. He finds that the automobile industry is more concentrated and less efficient than the computer sector. As a result, he suggests that China's government should encourage international competitiveness of China's automobile firms rather than protect or enforce intervention into their operations.

Concerning similar questions, Wonnacott (1965) argues that the government protection leads to a significant increase in production costs in Canada's automobile industry. Furthermore, Bennett and Sharpe (1979) claim that a protection policy should contain requirements, such as local content or export promotion requirement, in order to obtain an effective goal. Some other research (see Fleet 1982; Shapiro 1989) support this argument from investigating Latin American automobile industries (particularly Brazil, Argentina and Mexico).

Theoretically, Feenstra (2004), Krugman and Obstfeld (2003) argue that whether a protection at early stages of an 'infant industry' has any rationale or not depends on the functioning status of other markets, such as capital markets. In terms of welfare for the case of a tariff, both Feenstra (2004), Krugman and Obstfeld (2003) assert that for a small importing country, a tariff always leads to social losses, including terms of consumer surplus loss and the increase in marginal costs of production. They argue that for a large country, whether total welfare is reduced or not also depends on the level of tariffs imposed.

Taken together, these studies indicate a possible ineffectiveness of protection policy on the automobile industry in the early stages. However, previous studies focus on only one aspect such as local content (Nguyen 2007), and do not provide much evidence (Fukase and Martin 2000), or use indirect approaches (Lihui 2007; Okamoto and Sjöholm 1999). Domestically, many papers have discussed the right or wrong of Vietnam's protection policy on the automobile industry (see, for example, Vietnam Economics Times, Vnexpress.net, Labour, Vietnamnet.net). However, most have been based on qualitative comments on the performance of Vietnam's automobile industry without an analysis of the whole impacts. The question of whether the protection policies bring benefits to all three sides: domestic automobile manufacturers, consumers and the government in terms of each side's targets has not been solved by any single paper, using quantitative analysis.

The purpose of this paper is to investigate impacts on each side including the government, consumers and producers, in terms of their targets. Using several approaches involving welfare analysis, quantitative synthesis and relevant comparisons, this paper provides evidence of the failure of the protection policy on the automobile industry in Vietnam. It also suggests that the government – the key side – should review and clarify the appropriate targets and strategies for the domestic automobile industry in order to obtain real development of the industry and maintain the balance of co-benefits among related sides.

The remainder of the paper is divided into four sections. Section 2 describes the data and methodology. Section 3 shows the results obtained from the quantitative analysis. Then, we provide some discussion including the policy implications in Section 4. Section 5 is the conclusion with suggestions for possible further research.

2. Data and Methodology

In order to examine the success of the protection policy in terms of benefits, some research uses the labour productivity growth model to investigate impacts of protection (Okamoto and Sjöholm 1999), or total factor productivity models to compare the impacts with another unprotected industry (Lihui 2007). Some papers use table comparisons to judge policy influences (Green 1992). Aiming to provide an overall picture of impacts on all three related sides, this paper is based on quantitative analysis without using an econometric model. In particular, we use market share analysis, price comparisons, time trends analysis through tables, figures, numerical and symbolical examples to support our arguments and implications.

Market share analysis is used to analyze the economic performance of Vietnam's automobile firms under protection. We use price comparison mainly in parts of indicating consumer's loss due to high price. Analysis on increasing, decreasing trends over time is used frequently in this paper through different sections, including the protection process and economic performance. Some symbolical and numerical examples are employed primarily in the welfare investigation.

Necessary data and information are collected from various sources. Tariffs, non tariff barriers and other protection instruments are synthesized from government's regulations, specifically by the Prime Minister, the Ministry of Finance and the Ministry of Industry and Trade. Data on economic performance of Vietnam's automobile industry mainly come from Reports by the Ministry of Industry and Trade and by the Vietnam Automobile Manufacturers Association (VAMA). Related data used for comparisons are from Vietnam Statistical Yearbooks and other sources, which are cited particularly. However, there are still some gaps in the collected data, especially for the price comparisons. This comes from the fact that some

car models are produced in Vietnam only and it is difficult to find a similar car in the world market in terms of the same engine size and other technical configurations.

3. Results

Results are reported with respect to the protection process and economic performance of Vietnam's automobile firms. Those are linked in a logical order to create an overall picture of the protection policy on Vietnam's automobile industry. Some implications on the impacts of the protection are discussed in Section 4.

Protection policy

Traditionally, in order to develop a domestic industry from its infant status, governments usually provide protection to that industry, through trade policy instruments: high tariffs, quotas and some other non-tariff barriers. A tariff on an imported good, or other tools, is to increase the price of that good, in order to protect domestic producers from import competition (Krugman and Obstfeld 2003). Even in developed countries, it has been shown that a temporarily rational protection on the 'infant period' is sometimes helpful for the development of the automobile industry (see, for instance, Lewchuk 1987). However, whether the policy is successful or not depends on the suitability of policy targets and instruments used along the protection process.

Targets of the policy. In Vietnam, the automobile industry is considered an important priority to develop in order to contribute effectively to industrialization, modernization and construction of national security and defense (Decision No. 177/2004/QD-TTg). As a result, the government issued policies to establish and develop an automobile industry with two main targets: satisfaction of the domestic demand and localization ratio, in which the localization ratio (or local content rate, value added locally) is the key indicator of an 'infant' or 'mature' automobile industry (see Table 1).

Table 1 **Targets by 2010 with vision of 2020 of Vietnam's automobile industry**

Cars/Trucks	Number of autos/Satisfaction of domestic demands		Localization ratio (per cent)	
	2005	2010	2005	2010
Buses (per cent)	15,000 >50	36,000 > 80	40 (15-20 for engine)	60 (50 for engine)
Trucks (per cent)	68,000 >50	127,000 80	>40	>60
Cars (4-9 seat) (per cent)	3,000 10	10,000 15	30	>50
Exports (per cent)	N.A.*	5-10 per cent of total turnover	N.A.	N.A.

* N.A.: not applicable

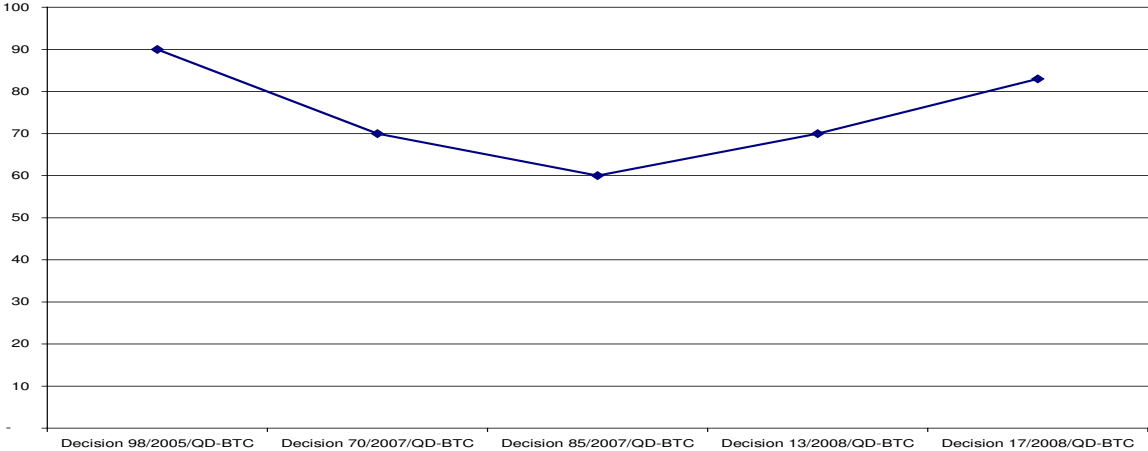
Source: Vietnam, Prime Minister, 2004. *Decision 177/2004/QĐ-TTg of October 5, 2004 approving the Strategy and Plan on development of Vietnam's automobile industry till 2010, with a vision towards 2020*, Government, Hanoi.

Protection instruments. Since the political events in Russia and Eastern Europe in 1991, Vietnam's government nearly suspended importing vehicles. According to the Prime Minister's Decision No. 46/2001/QĐ-TTg 4 April 2001 on management of exports, imports in the period 2001-2005, used parts and used under-16-seat ready-made autos were prohibited from imports; new under-16-seat ready-made autos were importable under Ministry of Trade's permission. In fact, almost all ready-made cars (except some types of trucks and specialized autos) consumed in the domestic market in the period from 1991-2005 were through transfers from diplomatic agents and staff of international organizations in Vietnam (who were permitted to import their personal vehicle to use in their working term in Vietnam). Therefore, in another words, the imports of ready-made cars were banned for a long period until 2005 (for new cars) and 2006 (for used cars).

Since then, under pressure of integration, with commitments within the ASEAN Free Trade Area (AFTA) and especially in the World Trade Organization (WTO) negotiations, the government has opened the domestic market for importation of new and used cars. As a result, a tariff is the main protection instrument replacing the barriers and quota limitations.

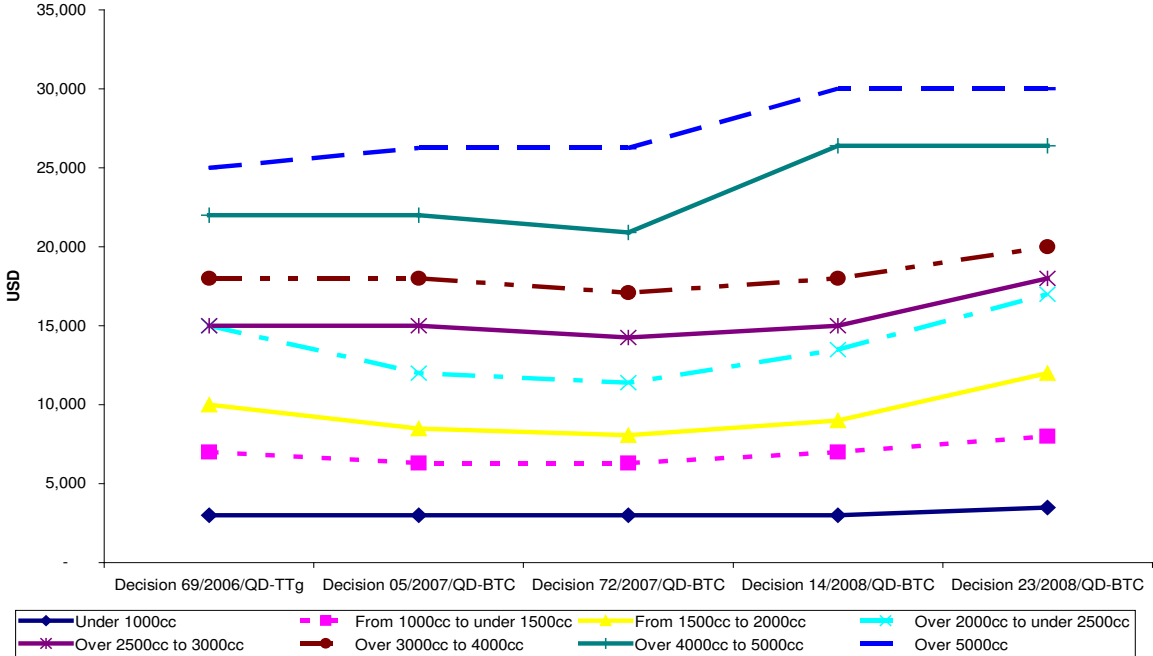
Under the WTO commitments, the average tariff on new ready-made cars must be gradually reduced to 70 per cent in 2014 from the bound rate at date of accession of 100 per cent (Ministry of Industry and Trade 2006b).

Figure 1 Import tariffs on new cars (ad valorem tariff)



Source: Vietnam, Ministry of Finance, 2008. *Decisions No. 98/2005/QD-BTC, 70/2007/QD-BTC, 85/2007/QD-BTC, 13/2008/QD-BTC, 17/2008/QD-BTC on regulation and amendments of import tariffs on new cars, Ministry of Finance, Hanoi.*

Figure 2 Import tariffs on used 5-seat cars (specific tariff, USD per car, by engine size)



Source: Vietnam, Ministry of Finance, 2008. *Decisions No. 05/2007/QD-BTC, 72/2007/QD-BTC, 14/2008/QD-BTC, 23/2008/QD-BTC on amendments of import tariffs on used cars, Minister of Finance, Hanoi.*

We can see from Figures 1 and 2 that the tariffs for both kinds of imported cars reached the lowest rate in 2007. The tariff on new cars was lower than the WTO committed rate in 2007 (60 per cent, by the Decision No. 85/2007/QD-BTC by Minister of Finance). However, in 2008 the tariffs for both imported new and used cars have increased again. This was explained by the government that it is necessary to limit the number of vehicles by taxes because of the current low situation of Vietnam transport infrastructure. Nevertheless, this seemed to reflect the short-term vision in the process of policy making in the field of automobile industry.

Unlike some other countries (Li 2000), the local content is not applied as a compulsory requirement of imports, but it is still one of the key targets of the government. The imposition of import inspection by customs is also not an instrument of protection, however, there is a restriction of special automobile import harbors (especially for used cars).

In addition to tariffs, the government used the excise tax as an instrument for protection. Domestically manufactured or assembled motor vehicles were originally not subject to excise tax until 1 January 1999, in principle. However, to support this infant sector, preferential excise tax rates were granted to automobile manufacturing enterprises when investment licenses were issued. Local car assembling enterprises had been entitled to a 95 per cent tax reduction until the end of 2003, and the reductions could be extended for an additional five years for enterprises still incurring losses. Nevertheless, as a compromise between the need to support this industry and the potential negative effects that could result from the imposition of lower excise tax rates, Vietnam had phased-out the excise tax incentive granted to domestically-produced automobiles by the end of 2006.

Table 2 Excise Tax rate for automobiles (as of 1 January 2006)

Automobiles	Per cent
a) Automobiles of 5 seats or less	50
b) Automobiles of 6 to 15 seats	30
c) Automobiles of 16 to under 24 seats	15

Source: Vietnam National Assembly, 2003. *Law on Excise Tax of 30 June 1990, with amendments of 5 July 1993, 28 October 1995, 20 May 1998, and 17 June 2003*, Hanoi.

Economic performance of the Automobile Industry in Vietnam

Market size. Vietnam's automobile industry began in 1991, when the government started the open policy, and considered the automobile industry one of the key motivations of the economy. Up to now, Vietnam's automobile industry has 29 manufacturers including automobile producers and assemblers, in which there are 12 joint-ventures (FDI) and 17 domestic ones.

Table 3 List of automobile joint-ventures in Vietnam

Company	Home country	Company type	Start
VMC (BMW, Mazda, Kia)	Philippines	License Assembler.	1991
Mekong (Fiat, Iveco, S-Young)	Korea	License Assembler.	1992
Vidamco (Daewoo)	Korea	Automaker	1995
Vinastar (Mitsubishi)	Japan	Automaker	1995
Vindaco (Daihatsu)	Japan	Automaker	1996
Mercedes-Benz	Germany	Automaker	1996
TMV (Toyota)	Japan	Automaker	1996
Ford/Mazda	USA	Automaker	1997
Hino Motors	Japan	Automaker	1997
Isuzu	Japan	Automaker	1997
Visuco (Suzuki)	Japan	Automaker	1998
Honda	Japan	Automaker	2005

Source: Vietnam Automobile Manufacturers Association, 2008. *Monthly reports and Annual reports*, VAMA, Hanoi.

The FDI firms operate with a total of about USD 1 billion of registered investment capital and total production capacity of 150,000 units per year (Vietnam Ministry of Industry and Trade reports, 2004-2008). Among domestic producers, there are many state-owned enterprises which have a large investment scale in automobile producing and assembling, such as Vietnam Engine and Agriculture Machinery Corporation (VEAM), Vietnam Motor Corporation (VMC), Saigon-Auto Mechanic Corporation (SAMCO), Vietnam Coal Corporation (Vinacoal). Recently, some domestic private companies have been set up, creating a larger scale for Vietnam automobile supply, such as Xuan Kien private enterprise

and Chu Lai – Truong Hai auto factory. Besides, there are more than 40 local chassis assembly enterprises with total assembling capacity of 250,000 units per year.

However, the supporting automobile industry which supplies auto components for assembling factories is still far from expectations, in both quantity and quality aspects. Most of the component and part auto producers have the small production scale and their products are mainly simple, lowly technological, therefore they contribute poor value in the local content ratio.

Table 4 Size of automobile market and vehicle ownership in ASEAN countries, 2003

	Per capital GDP (USD)	Motor vehicle sales (1000s of units)	Motor vehicle ownership (1000s of units)	Motor vehicles owned per (1000 people)
Vietnam	430	26	592	7.9
Thailand	2006	409	7691	122.3
Malaysia	3540	435	5452	240.9
Indonesia	710	318	5666	26.4
Philippines	1030	86	2110	27.7

Source: Nguyen, T.B., 2007. 'Industrial Policies as Determinant of Localization: The Case of Vietnamese Automobile Industry', <http://www.grips.ac.jp/vietnam/VDFTokyo/Doc/34NBThuy21Jul07Paper.pdf> (21/07/07).

Table 5 Forecast of vehicles volume in circulation to the year 2010 and 2020

	2002	2003	2005	2010	2020
Passenger car	122,307	149,260	208,831-216,032	380,000-400,000	980,000-1,000,000
(per cent)	(29.00)	(29.50)	(29-30)	(30-31)	(35-36)
Bus	75,383	92,045	133,220	240,000-258,000	530,000-560,000
(per cent)	(17.5)	(18.50)	(18.50)	(19-20)	(19-20)
Trucks	184,638	213,942	309,646	550,000-568,000	1,100,000-1,148,000
(per cent)	(42.5)	(44.00)	(43)	(43-44)	(40-41)
Others	46,835	49,754	61,200	78,000	112,000
(per cent)	(11.00)	(10.00)	(8.5)	(6.00)	(4.00)
Total	429,163	497,541	720,108	1,290,000	2,800,000

Source: Vietnam Ministry of Traffic and Transportation, 2003. *Report on development of road in Vietnam*, Hanoi.

Turnover. Before 2005, Vietnam’s automobile firms only imported complete knock down (CKD) and incomplete knock down (IKD) kits for assembling with low tariffs (under 30 per cent on average, which has remained low until now). In 2005 and 2006, in order to implement the WTO commitments, the government permitted imports of new complete build up (CBU, or ready-made) cars (in 2005) and used cars (2006).

Table 6 **Imported car turnover**

Year	2001	2002	2003	2004	2005	2006	2007
Turnover	23,875	22,665	21,635	15,339	17,031	12,619	29,605

Source: Vietnam, Ministry of Industry and Trade, 2008. *Report on the automobile industry strategy and plan*, Ministry of Industry and Trade, Hanoi.

Table 7 **Domestically produced and assembled auto turnover 2000-2007**

	2000	2001	2002	2003	2004	2005	2006	2007
FDI	13,710	16,926	24,550	41,329	41,000	43,189	31,447	50,952
Local	780	1,362	3,682	9,307	13,000	24,900	24,992	53,449
Total	14,490	18,288	28,232	50,636	54,000	68,089	56,439	104,401

Source: Vietnam, Ministry of Industry and Trade, 2008. *Report on the automobile industry strategy and plan*, Ministry of Industry and Trade, Hanoi.

By the end of December 2006, joint venture companies had sold 270,000 units of various kinds of autos, in which multi-purpose vehicle and sedan are two best-seller types (VAMA's reports). This contributed about USD 1.5 million to the State Budget and created jobs for about 50,000 people. However, compared with other countries in the region, Vietnam vehicles sales are still fairly modest (see Table 4).

Localization. Among FDI firms, only Toyota and Honda reach 20 per cent of the localization ratio, all other companies remain from 1.5 to 14 per cent. There are six domestic companies having higher localization ratio of 35 – 60 per cent mainly because their products are cheap price trucks and buses, which do not require a high technology for secondary parts, except for engines.

Table 8 Local content rate of VAMA's members

	Automobile companies	Brands	Local content rate (per cent)
1	Toyota Motor Vietnam	Toyota	20*
2	Ford Vietnam	Ford	6,45
3	Vinastar Motor	Mitsubishi	14
4	Isuzu Vietnam	Isuzu	12*
5	Vietnam Suzuki	Suzuki	10
6	Vietnam Daewoo Motor	Daewoo, GM Daewoo	8
7	Mercedes-Benz-Benz Vietnam	Mercedes-Benz-Benz	1.5
8	Honda Vietnam	Honda	20*
9	Vietnam motors corporation	BMW, Mazda, Kia	12*
10	Hino Motors Vietnam	Hino	2,06
11	Vietindo Daihatsu Automotive	Daihatsu	4
12	Mekong Auto	Fiat, Iveco, Ssangyong	4.6
13	Saigon Transportation Machinery Corp.	Samco	40
14	Truong Hai Auto Corp.	Kia, Daewoo, Foton, Thaco	40
15	Vietnam Engine Agricultural Machinery Corp	Veam	40
16	Vietnam Coal Corp.	Kamaz, Kraz	35
17	Xuan Kien Private Enterprise	Vinaxuki	60*
18	Vietnam Motor Industry	Vinamotor	40*

Note: * Nguyen, T.B., 2007. *Localization in the integrating process: the case of Vietnamese auto industry* in <http://www.grips.ac.jp>.

Source: Vietnam Ministry of Industry and Trade's Report on Vietnamese automobile industry, 2008.

Price comparison. Table 9 (Appendix) shows some price comparisons, which compare retail prices of the same models in the world market (in the USA and other Asian markets particularly) and the domestic market for same or similar models. Prices of the assembled cars are about 1.7 to 3 times higher than the world price, while prices of the imported cars are about 2.2 to 3 times higher. The average value of price ratio (domestic price/world price) is 2.31.

4. Discussion

Impacts of protection: gainers and losers

It is relevant to investigate the impacts of protection policy by examining positive and negative effects to related beneficiaries, based on their targets or roles. In this part, we try to

indicate the impacts that the protection policy has influenced the three sides: consumers, domestic manufacturers and government. In addition, other forces may be considered as related sides such as automobile importers, transporters or foreign exporters. However, in the scope of this paper, we only cover the impacts on the directly related beneficiaries.

Theoretically, a tariff leads to an increase in the price of a good in the importing country and a decline of it in the exporting country. Therefore, consumers will gain in the exporting country and lose in the importing country. In contrast, producers lose in the exporting country and gain in the importing country. Moreover, the government will gain revenue from imposing the tariff (Krugman and Obstfeld 2003). That is generally also the case of Vietnam's automobile industry with the behavior of a small importing country.

Consumers. As consumers in a small country where the infant automobile industry is protected by high tariffs, Vietnam's consumers must accept higher prices in comparison with the world price. Price contains the components: tariffs + excise tax + value added tax + other importation expenses, including commodity inspection charges, bank charges, foreign trade agency charges for port entry + other expenses incurred between the time automobiles are declared at customs and the time they are sold (Li 2000).

From Table 9 (Appendix), Vietnamese consumers must pay about 2-3 times more than the US or other Asian consumers to own the same car. This does not count for the fact that the quality standard is lower for the domestic assembled cars in comparison with the one sold in the developed market. However, the increase with a high rate of car sales (see Table 7) implies more about the relationship between the increasing rates of income, the elasticity of automobile demands on price, which is out of the scope of this paper. In addition, in the early period when imports of cars were banned (before 2005), the group-monopolistic structure of the automobile market (in terms of VAMA's members) made a higher price of assembled cars. The import competition created more choices for consumers and contributed to a decline

in car prices. However, the results indicate that the protection status with high tariffs remains almost unchanged, and car prices in Vietnam remain one of the highest in the world. Thus, ignoring the quality aspect, Vietnam's consumers are the big losers in terms of car price.

Domestic manufacturers. In general, domestic manufacturers are the biggest gainers from the protection policy. The high rate of protection allows the domestic automobile industry to make additional profits from other sectors of the domestic economy through pricing and distribution rents. However, the marginal cost of extra products is increased (Feenstra 2004).

In terms of economies of scale, Maxcy and Silberston (1959) concluded that the efficient use of the best assembly techniques calls for a volume of 60,000 units per year, which need not be all of one model. There are probably further smaller gains at higher volume but significant economies in car assembly appear to be exhausted at about a volume of 100,000 units. Tables 5 and 7 show that no Vietnam automobile company caught that level of production to have economies of scale. In 2007, Vindaco (Daihatsu) was the first automaker exiting the industry, and the small market size, or more directly, the economies of scale was one of the main reasons for this leaving.

However, the FDI automakers have continued to operate and some other companies have continued to enter the industry because they still get profits, in spite of no economies of scale. Their profits come from the high price, meaning high protection, rather than the market itself. That may be why the FDI automakers do not want to implement their localization ratio commitment. They also do not conduct technology transfers as government's expectations, because if they invest more in technology, their profits will decline in a short term, and also in a long term because the level of economies of scale is much desired. Thus, the industry remains 'infant'.

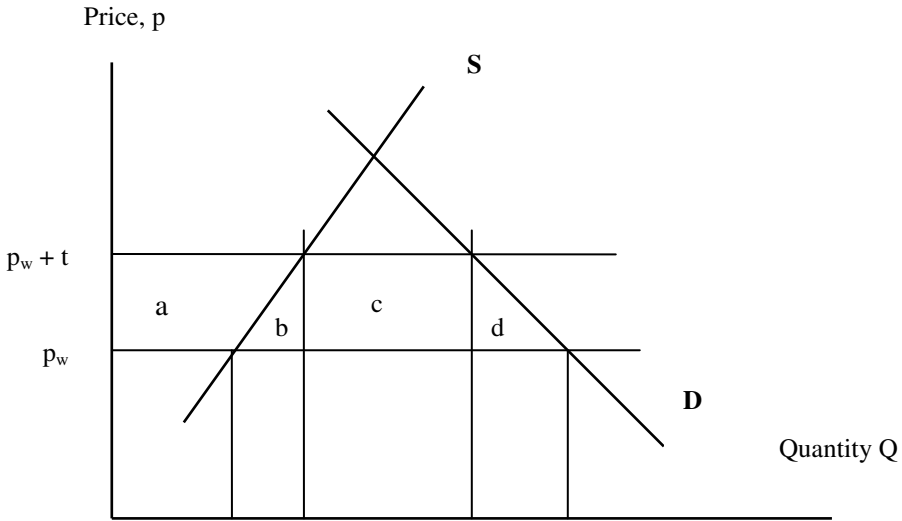
Government. Given that protection reduces competition, the original objective for protecting the automobile industry has hindered the inflow of advanced technology and slowed the

development of the domestic automobile industry. Furthermore, the shortage of economies of scales does not encourage foreign investors to use and improve technology (Li 2000).

Comparing results in Table 8 with the localization targets in Table 1, we find a failure of the key targets of the policy. The local content ratio is much lower than expectations, especially for tourist cars (from four-to-nine-seat cars). Without economies of scale, FDI automakers postpone investing more to improve the local content ratio. They would prefer basing themselves on government protection to make a profit to transferring modern technologies from home firms. On the other hand, domestic supporting enterprises have small scales to utilize high technology to become main supporting firms rather than supplying only low-value parts.

In terms of welfare, a tariff will reduce social welfare in a 'small importing country'. That is the case of the Vietnam's automobile industry. The higher the tariffs, the bigger the welfare losses. Therefore, with the protection policy, Vietnam's government has failed to achieve a positive net welfare.

Figure 3 **Welfare loss of a small (importing) country like Vietnam**



Total welfare loss = $b + d$, in which d is the consumer surplus loss and b is the increase in the marginal cost of an extra product.

Source: Krugman, P.R. and Obstfeld, M., 2003. *International Economics: theory and policy*, 6th edn, Addison Wesley, New York: 191.

Again, Vietnam's domestic market is small, which in turn, obstructs economies of scale. Moreover, the large number of models and production fragmentation lead to high costs for local component suppliers. The industry then tries to lobby for continuing protection because of the high production cost. If accepted by the government, profitability increases for a short-run, until additional entries reduce profits. When profits come down at a certain level, another cycle of lobbying starts.

Policy implications

Theoretically, there are two different schemes for different status of domestic auto industry and different aims of government (Krugman and Obstfeld 2003). First, in case domestic automobile industry is at early stage, the government would aim to develop an auto assembly industry first, by temporarily imposing higher tariffs on imported automobiles relatively than tariffs on imported parts. Second, in case there is already a mature domestic auto assembly, the government would aim to develop an auto parts production, by imposing higher tariffs on imported parts relatively than tariffs on imported autos.

Therefore, Vietnam's government should revise the protection process and clarify the most suitable strategies and targets for the domestic automobile industry. Then, the government would be able to adjust its policy and choose between import substitution and export promotion directions for the industry. That has also been the case in many countries at early stages of some industries, especially automobile industry.

5. Conclusion

Using quantitative analysis, the paper investigates the impacts of the protection policy for Vietnam's automobile industry in terms of beneficiaries' targets. Examining the protection process and results of economic performance, we conclude that Vietnam's protection policy on the automobile industry has been a failure. Consumers lose from the high prices; the government loses in achieving the main targets of the protection policy. Producers also lose

from high average costs and sub-optimal economic scale. The automobile industry remains 'infant' after a long time of earning profits under protection. Therefore, Vietnam's government needs to clarify and determine a feasible policy target under the specific conditions of the Vietnam's market.

This paper is limited in an initial analysis of impacts of the protection policy on the three mainly, directly related sides: consumers, domestic producers and government. Moreover, because of the limitations in data, this paper could not provide a detailed calculation of the effective rate of protection in Vietnam's automobile industry and an exact evaluation on the total welfare losses occurred from the policy. Therefore further research could collect a more detailed, broader data and make a clearer comparison among producer and consumer surpluses in order to support the policy debate.

Appendix

Table 9 Automobile price comparison, selected models, 2008

Brand name/models	Domestic price (1000 USD)	Price in the USA/some Asian countries (1000 USD)	Price ratio (domestic price/world price)
Fiat Doblo	20.9	9.9	2.11
Albea ELX	19.1	9.1	2.09
Albea HLX	21.5	10.1	2.12
Ford Ranger XL 4x4	28.6	14.3	2.00
Ranger XLT 4x4	31.2	16.6	1.88
Escape 2.3 4x4	39.9	22.5	1.77
Escape 2.3 4x2	35.9	21.8	1.65
Mondeo 2.0	44.4	20.7	2.14
Mondeo 2.5 Ghia	51.9	23.3	2.23
Everest 4x4 diesel	41.7	20.4	2.04
Everest 4x2 petrol	34.2	14.7	2.33
Focus 2.0 AT	36	14.2	2.54
Focus 2.0 five doors	37.6	15.2	2.48
Honda Civic 2.0	37.8	14.6	2.59
Civic 1.8 AT	33.6	13.8	2.44
Civic 1.8 MT	30	12.2	2.45
Isuzu Hi-Lander LX	29.15	13.8	2.11
Hi-Lander V-Spec	33.99	17.3	1.96
Trooper S	45.1	18.6	2.43
D-Max LS (MT)	29.7	14.9	1.99
D-Max LS (AT)	31.35	15.5	2.02
Mercedes-Benz C200K	64.9	23.5	2.76
C200K Elegance	59.9	21.5	2.78
C230 Avantgarde	69.9	26.4	2.65
C280 Avantgarde	69	26.4	2.61
E200 Avantgarde	86	30.7	2.80
E280	109	40.2	2.71
Mitsubishi Pajero XX	42.9	19.3	2.22
Pajero Supreme	52.8	22.9	2.31
Grandis	44	20.3	2.17
Toyota Innova G	30.1	12.6	2.39
Innova J	27.1	11.4	2.38
Vios 1.5G	29.2	10.7	2.74
Vios 1.5E	26.4	10.0	2.64
Corolla Altis	34.4	12.2	2.81
Camry 2.4G	51.1	18.6	2.75
Camry 3.5Q	66.6	23.3	2.86
Imported cars			
Hyundai Coupe	49.9	21.3	2.34
Hyundai Veracruz (petrol)	66.5	29.3	2.27
Hyundai Veracruz (diesel)	72.9	29.9	2.44
Hyundai Santa Fe 2.2	46.9	18.6	2.52
Hyundai Santa Fe 2.7 V6	44.9	18.3	2.46
BMW 325i	79.8	30.9	2.58
BMW 525i	126.8	43.5	2.91
BMW 550i	135.0	58.5	2.31
Average			2.31

Source: Vietnam Automobile Manufacturers Association, 2008. *Monthly reports and Annual reports*, VAMA, Hanoi; various automakers' websites.

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