An Empirical Study of the Effect of the Fuel Tax in Japan on Vehicle Selection and NOx emission

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Abstract

An increase in the proportion of diesel vehicles in Japan has worsened pollution by increasing the levels of NOx and SPM. One reason for the increase in diesel vehicles is that the fuel tax on diesel oil is less than on gasoline. In this study, we construct a passenger vehicle choice model by applying the conditional multinominal logit model to used-car market data. We show that consumer choice depends on the fuel cost, so that the current fuel tax encourages households to choose diesel vehicles. We also analyze the impact of a correction of the tax difference between gasoline and diesel oil on the choice of vehicle and on NOx reduction by using this model. This policy simulation finds that, with the sample used in this study, NOx can be reduced by 7.7% when the diesel oil tax is increased to correct the tax difference and by 2.3% when the gasoline tax is decreased.

1. Introduction

Air pollution from NOx and SPM is a serious problem in Japanese urban areas, especially in areas alongside roads. For example, 16.0% of monitoring stations located at the road in Tokyo, Yokohama and Osaka areas, the metropolitan areas in Japan, exceeds the allowable limits of NOx set by the Environment Agency in 2000, while 48% exceed the allowable limits of SPM.

The emissions from the diesel vehicle are a most contributing factor. For example, 64% of total NOx emission in 1997 in Tokyo is due to the emission from the vehicle and 70% of the emission from the vehicle results from the diesel vehicle. Moreover, the diesel vehicle causes almost all SPM emissions from the vehicle.

Although the Japanese government has often strengthened exhaust emission controls since 1972, its effect has been offset by some factors. One of the most contributing factors is an increase in the share of diesel vehicles. One explanation on the increase of the diesel vehicle is that the fuel tax on diesel oil, 32.1 yen/l (121.5yen/GAL=$1/GAL) is much less than on gasoline, 53.8yen/l (203.6yen/GAL=$1.68/GAL). Therefore, under the current fuel tax, the longer mile households (or owners of the vehicle) dirve, the more likely they have incentive to choose more polluting vehicles such as the diesel vehicle.

Although it is an important issue to examine weather the fuel tax affects the choice of the vehicle, no previous studies have analyzed the effect of the fuel tax on the vehicle choice.

The purpose of our paper is to verify whether the fuel tax distorts the choice of a vehicle by households. In this paper, we find that the fuel cost affects the vehicle selection and hence that the current fuel tax distorts the choice of a vehicle. We also analyze the impact of a correction of the tax difference between gasoline and diesel oil on the choice of vehicle and on the NOx emission.

The logit model has been used extensively in studies of the choice of vehicle. Lave and Train (1979), Cardel and Dunbar (1980), Berkovec and Rust (1985), McCarthy and Tay (1998), Goldberg (1995), and Brownstone et al. (2000), etc.) are examples. These studies have used fuel prices and the mileage per unit of fuel as variables for fuel cost per mile, but they have not used total fuel cost because they have not taken the mileage traveled of each household into account.

However, it is possible that the mileage traveled as well as the fuel price affects the choice of vehicle by households, because households with longer mileage traveled have a strong incentive to choose a fuel-efficient car. If this is true, any model that does not consider the mileage traveled of each household will produce biased parameter estimation. In order to examine a distortion due to the difference in the fuel tax, the studies on the effect of the tax difference on the choice of vehicle are required.

Some studies estimate the joint demand for vehicles and miles using an framework proposed by Dubin and McFadden(1984) : Mannering and Winston(1985), Train(1986), Goldberg(1998), Berkowitz et al(1990), Hensher et al (1992), West(2000). They estimate the model of the discrete choice of vehicle for the vehicle demand and the demand of miles traveled by households.

We construct a vehicle choice model by applying the conditional multinominal logit model, taking the mileage traveled by each household into consideration. For our study, we use data about the mileage traveled of each owner (household), which was available in the used-car information magazine. The mileage traveled of each car available in the magazine is traveled by former owners (households), who purchased brand new vehicles and sold it to the used car dealers. This data set enables us to make analysis with a large sample (the sample size is 6,604). But the data has also a limiation: information on the household characteristic is not available in the data. Therefore, we estimate the model of the discrete choice of vehicle under the assumption of the mileage traveled of each household (or owner) as given and of no effect of the household characteristics on the choice of vehicle in our study. However, due to large sample, we will be able to deal with much more types of vehicles for choice (113 models) than in the previous studies and to make detailed analysis of the fuel tax.

The purposes of our paper are to verify whether the fuel tax distorts the choice of vehicle by households, and to analyze the impact of a correction of the tax difference between gasoline and diesel oil on the choice of vehicle and on NOx emission.

The rest of the paper is organized as follows. The next section explains the model. The data and the definition of the variables used in the model are summarized in Section 3. The estimation results are examined in Section 4, and an analysis of the policy simulation is made in Section 5. Concluding remarks are given in Section 6.

2. Model of Vehicle Choice

Consider household n, which travels d^n every year, where d^n is the expected annual mileage traveled of household n, and that purchases a new vehicle from among new vehicles available in a given year. We assume that the mileage traveled by the household is independent of the fuel price and the model of the vehicle. That is, mileage is determined by the householder's taste for traveling, house location and so on.

We denote Z_{jk} as the k-th attribute of vehicle j, such as interior size, horse power, etc., C_j as the purchase cost of vehicle j in a given year, and FC^n_j as the present value of the expected fuel cost of household n that has purchased vehicle j. The indirect utility U^n_j of household n that purchases vehicle j is thus expressed as

$$U_j^n = \sum_{k=1}^{K} \theta_k Z_{jk} + \theta_C C_j + \theta_{FC} FC_j^n + \varepsilon_j^n \quad j \in A$$

where A is the choice set of new vehicles available in a given year, and ε^n_i are unobserved error terms that are assumed to be identically and independently distributed according to the Weibull distribution. The household is supposed to choose a vehicle that yields the highest utility by comparing the attributes, the price, and the expected fuel cost of each vehicle. With the above assumption on the error term, the choice probability for vehicle j by household n, $\Pr^n_j$, is expressed as

$$\Pr_j^n = \frac{\exp\left\{e^{V_j^n}\right\}}{\sum_{i \in A} \exp\left\{e^{V_i^n}\right\}} \quad j \in A \quad (1)$$

where V^n_j is a deterministic term, expressed as

$$V_j^n = \sum_{k=1}^{K} \theta_k Z_{jk} + \theta_P C_j + \theta_{FC} FC_j^n \quad (2)$$

3. Data

3.1 Definition of the Variables and Data Source

"Goo", a biweekly informational magazine for the used car market, is the primary data source for collecting a sample of used cars with a range of mileage traveled. For this study, we use two issues that were published in November 1999. We analyze the vehicle choice by households that purchased a new vehicle in 1996. These two issues of the magazine in 1999 allow us to obtain information on the mileage traveled in the first three years of the vehicle. Thus, our sample consists of cars that were sold as new cars in 1996 and that were on the used car market in 1999.

The total numbers in the sample, and of the models of used cars purchased in 1996 as new vehicles, are 9285 and 215, respectively. However, the numbers in the sample and of the models for the analysis are reduced to 6604 and 113, respectively[1] because we focus on the choice of domestic vehicle, and because some observations have missing values with regard to the vehicle attribute,.

The definitions of the variables are as follows.

(1) Vehicle Attributes (Z_{jk})

The variables for the vehicle attributes used in the model are shown in Table 1.

(2) Purchasing Cost

We define the purchase cost as the list price of a new vehicle plus the sum of the present value of the auto tax, the motor vehicle tonnage tax, and the auto acquisition tax. The owner of the vehicle has to pay the auto tax every year and the motor vehicle tonnage tax at the time of purchase and every two years after the first three years. In order to calculate the sum of the present value of the tax payment, we assume that the household expects to use the car for 11 years, after which time the householder purchases a new car, and that the discount rate is 3%. The data source for the list price of new cars in 1996 is at http://autos.yahoo.co.jp.

(3) Expected Fuel Cost

We assume that household n expects that future fuel prices will remain the same as those in 1996. Because data on the mileage traveled in the three years are available for each used car in "Goo", we can calculate the annual average mileage traveled, d^n. Therefore, when the members of household n choose vehicle j, the sum of the expected present value of the household's annual fuel cost for 11 years, FC^n_j, is expressed as

$$FC_j^n = \sum_{t=0}^{11} \frac{P_{j,t}^e d^n}{f_j (1+r)^t}$$

where r, f_j, and $P^e_{j,t}$ are the discount rate (assumed to be 3%), the fuel mileage of vehicle j, and the expected price of the fuel used for vehicle j in the t-th year, respectively. The data source for average fuel prices in 1996 is http://oil-info.ieej.or.jp/active/gus/gus_index.html and these are shown in Table 2.

We note that for f_j we use the mileage measured in 10-15 mode mileage, determined by the government, which is available in "Goo".

Table 1 Variables related to the vehicle attributes and definitions

Variable	Definition
Engine displacement	in 1,000 cc
Interior Size	Length * Width * Height (in m^3)
Diesel dummy	Equals 1 for the diesel car and 0 for the gasoline car
AT dummy	Equals 1 for the automatic transmission and 0 otherwise
HPW	Horse Power divided by Weight Unit (in ps/ton)
ABS dummy	Equals 1 for the anti-lock brake system and 0 otherwise
Manufacturer dummy	Equals 1 for a particular manufacturer and 0 otherwise

Table 2 Average fuel prices and fuel tax in 1996

	Prices Before Tax (Yen/Liter)	Fuel Tax (Yen/Liter)
Regular Gasoline	105.83	53.8
Premium Gasoline	122.00	53.8
Diesel oil	81.75	32.1

[1] See Table A.1 in the Appendix for lists of the models and the number in the sample for each model.

3.2 Basic Statistics of the Samples

The basic statistics of the sample are shown in Table 3.

Table 3 Basic statistics

	Average	Standard Deviation	Maximum Value	Minimum Value
Annual Mileage Traveled (km/year)	12,598	6,009	44,833	167
Fuel Cost per km (Yen/km)	13.05	7.38	69	0.11
Purchase Cost (10,000 yen)	335.80	109.4	999.6	140.3
Diesel Dummy	0.092	0.290	1	0
Engine Displacement (1,000cc)	2.31	0.62	4.50	1.00
Interior Size (m^3)	3.89	3.63	30.20	1.27
HPW (ps/ton)	118	30	224	58
AT dummy	0.827	0.379	1	0
ABS dummy	0.571	0.495	1	0
ISUZU dummy	0.004	0.059	1	0
SUZUKI dummy	0.023	0.15	1	0
SUBARU dummy	0.061	0.239	1	0
NISSAN dummy	0.221	0.415	1	0
HONDA dummy	0.102	0.303	1	0
MAZDA dummy	0.035	0.185	1	0
MITSUBISHI dummy	0.050	0.219	1	0

The average and standard deviation of the annual mileage traveled are 12000 km and 6000 km, respectively, and the average fuel cost per kilometer is 13 yen. The share of diesel vehicles for all observations is 9.2%[2]. However, the share of models of diesel vehicles is 20%.

The engine displacement is 2300 cc on average, 1000 cc at the minimum, and 4500 cc at the maximum. We should note that the data-set is limited to relatively larger vehicles with regard to diesel vehicles, because the minimum engine displacement in a diesel vehicle is 2000 cc.

The average of the AT dummy is 0.88, which indicates that most vehicles have automatic transmission. The manufacturers with the largest shares are Toyota, Nissan, and Honda, with shares of 53%, 22%, and 13%, respectively[3].

4. Estimation Results

[2] According to EDMC (the Energy Data and Modeling Center, The Institute of Energy Economics, Japan) (2002), the numbers of passenger gasoline-powered vehicles owned and of passenger diesel vehicles owned in Japan, for the 1996 fiscal year, were 41.9 million and 5.3 million, respectively, and the share of diesel vehicles was 11.3%.

[3] The shares of the manufacturers of sales in 1996 were 44% for Toyota, 23% for Nissan and 13% for Honda

The estimation results for the conditional logit model are presented in Table 4. All parameters except for the AT dummy coefficient are significant at the 1% level. A chi-squared statistic rejects the null hypothesis of no explanatory power at the 1% significance level.

The purchase cost and fuel cost terms are negative as expected. This means that an increase in costs reduces household utility. Because the fuel cost parameter is significant at the 1% level, we can conclude that fuel price affects vehicle choice and that the current fuel tax encourages households to choose diesel vehicles.

The parameter estimates of the vehicle attributes also have the expected sign. The positive signs on Engine Displacement, Interior Size, and HPW indicate that an increase in these variables raises the utility of the household. This reflects the belief that Engine Displacement, Interior Size, and HPW are measures of comfort. The positive signs on the AT dummy and the ABS dummy indicate that AT and ABS raise the utility of the household, while the negative sign on the Diesel dummy indicates that using a diesel vehicle is less desirable than using a gasoline one. This reflects that the AT dummy and the ABS dummy indicate convenience and safety, while the Diesel dummy indicates the lesser desirability of diesel vehicles relative to gasoline-powered ones.

Table 4 Estimation results

	Coefficient Estimate	t-stat
Fuel Cost	-0.00459	-7.5979
Purchase Cost	-0.00144	-7.4359
Diesel Dummy	-0.55826	-9.3393
Engine Displacement	0.282989	6.1936
Interior Size	0.027978	7.8940
HPW	0.011497	18.7379
AT dummy	0.066416	1.5757
ABS dummy	0.229935	7.7177
Isuzu*	-1.42302	-6.7463
Suzuki*	-0.3921	-4.5676
Subaru*	-0.54247	-8.7950
Nissan*	-0.32617	-9.7822
Honda*	-0.15823	-3.5702
Mazda*	-0.83818	-11.8824
Mitsubishi*	-0.65095	-11.0593
Number of observations = 6,604 Log likelihood = -30,329.0 Chi-squared statistic = 1771.9		

* Manufacturer dummy (relative to Toyota)

5. Policy Simulation

As fuel consumption produces an externality, one condition for an optimal environmental tax is a uniform tax per gram of NOx emission on any fuel. However, the tax per 1 g of NOx emission from gasoline is larger than that on 1 g of NOx emission from diesel oil under the current tax system. Therefore, in order to analyze the effect of this biased fuel tax on the choice of vehicle, especially the enhanced choice of diesel vehicles, and on NOx emission, we make the following simulations.

(Case 1) Raise the tax on diesel oil so that the tax per 1 g of NOx emission from diesel oil is equal to that on gasoline.

(Case 2) Reduce the tax on gasoline so that the tax per 1 g of NOx emission from gasoline is equal to that on diesel oil.

The fuel prices in each case are shown in Table 5.

Table 5 Fuel prices for the simulation

	Fuel Type	Prices Before Tax (Yen/Liter)	Fuel Tax (Yen/Liter)	Average NOx Coefficient (g/Liter)	Fuel Tax per 1 g of NOx (Yen/g)
Base Case	Regular Gasoline	105.83	53.80	1.661*	32.39
	Premium Gasoline	122.00	53.80	1.661*	32.39
	Diesel oil	81.75	32.10	4.711*	6.81
Case 1	Regular Gasoline	105.83	53.80	---	32.39
	Premium Gasoline	122.00	53.80	---	32.39
	Diesel oil	211.80	152.50	---	32.39
Case 2	Regular Gasoline	59.97	11.32	---	6.81
	Premium Gasoline	76.13	11.32	---	6.81
	Diesel oil	81.75	32.10	---	6.81

* Data on NOx emission for the emission sources (Environmental Agency)

Now we explain the calculation of the expected number of consumers choosing vehicle j and of the expected NOx emission. From eq. (1), the expected number choosing vehicle j, N_j, is expressed as

$$N_j = \sum_{n=1}^{N} \Pr_j^n \qquad (3)$$

where N is the total number in the samples. The expected NOx emission by the households that own vehicle j, TE_j, is expressed as

$$TE_j = \sum_{n=1}^{N} \left\{ \frac{\Pr_j^n \times T_j \times d^n}{f_j} \right\}$$

where T_j is the NOx coefficient; that is, the NOx emission per one liter of fuel used by vehicle j, as shown in Table 5. Therefore, the expected total NOx emission from all households is expressed as

$$TE = \sum_{j=1}^{N_A} TE_j \qquad (4)$$

where N_A is the total number of models.

From the above, the change in the fuel price due to the change in the fuel tax has an impact on eqs. (3) and (4) through eqs. (1) and (2). The results of the simulation are summarized in Tables 6 and 7. Table 6 shows the change of choices, which is classified into five categories of engine displacement in all vehicles, gasoline-powered vehicles, and diesel vehicles, respectively. Table 7 reports some examples of the change of the choice classified by the annual mileage traveled, the engine displacement, and the engine type.

Table 6 Change of the choices classified by engine displacement

Engine Displacement	All Vehicles		Gasoline-powered Vehicles		Diesel Vehicles	
	Case 1	Case 2	Case 1	Case 2	Case 1	Case 2
Less than 1500 cc	4.7%	-4.7%	4.7%	-4.7%	***	***
1501~2000 cc	2.0%	-1.8%	4.5%	-0.6%	-36.3%	-20.1%
2001~2500 cc	0.4%	2.1%	4.4%	3.9%	-47.3%	-19.6%
2501~3000 cc	-7.3%	1.0%	4.3%	6.9%	-47.4%	-19.6%
More than 3000 cc	-2.8%	7.8%	4.3%	12.3%	-45.6%	-19.7%

*Data on fuel consumption for the model of the vehicle (Ministry of Transportation)

As shown in Table 6, for Case 1, with regard to all vehicles, the choice for the categories less than 2500 cc is increased and that for the categories above 2500 cc is decreased. In Case 2, the choice for the categories of less than 2000 cc is decreased and that for the categories of more than 2000 cc is increased.

With regard to gasoline-powered vehicles, the choice for each category is increased by approximately 4.5% for Case 1. However, for Case 2, the choice for the category of less than 2000 cc is decreased, while that for the categories of more than 2000 cc is increased. With regard to the diesel vehicle, the choice for each category is decreased by 36–47% for Case 1 and by approximately 20% for Case 2.

From Table 7, we find that the larger the mileage traveled by the household is, the more incentive it has to change its choice, not only from diesel to gasoline-powered vehicles, but also from vehicles with larger to smaller engine displacement for Case 1. However, for Case 2, the larger the mileage traveled by the household is, the more incentive there is to change from a diesel vehicle to a gasoline-powered one, but, interestingly, from a vehicle with a smaller engine displacement to a vehicle with a larger displacement.

From the above results, the share of diesel vehicles is reduced from 8.9% (base case) to 5.7% for Case 1 and to 7.5% for Case 2. Then, total NOx emission is decreased by 7.7% for Case 1 and by 2.3% for Case 2.

Table 7 Change in the number of choices classified by the annual mileage traveled, the engine displacement, and the engine type

	Less than 6000 km/year		Between 18000 and 24000 km/year		More than 30000 km/year	
	Case 1	Case 2	Case 1	Case 2	Case 1	Case 2
Less than 1500 cc (Gas)	1.7%	-1.8%	7.0%	-7.0%	10.8%	-9.8%
Less than 1500 cc (Diesel)	***	***	***	***	***	***
1501~2000 cc (Gas)	1.7%	-0.4%	7.0%	-0.7%	10.7%	0.2%
1501~2000 cc (Diesel)	-14.3%	-7.5%	-51.7%	-29.4%	-70.8%	-43.4%
2001~2500 cc (Gas)	1.7%	1.2%	7.0%	6.8%	10.7%	13.4%
2001~2500 cc (Diesel)	-20.7%	-7.5%	-66.3%	-29.4%	-83.9%	-43.3%
2501~3000 cc (Gas)	1.7%	2.3%	7.0%	12.2%	10.6%	23.3%
2501~3000 cc (Diesel)	-20.9%	-7.5%	-66.4%	-29.4%	-83.8%	-43.3%
More than 3000 cc (Gas)	1.7%	4.1%	7.0%	22.3%	10.6%	42.4%
More than 3000cc (Diesel)	-19.6%	-7.5%	-64.2%	-29.4%	-82.4%	-43.3%

6. Conclusions

This paper applies the conditional logit model to the choice of vehicle in order to verify that the fuel tax in Japan distorts the choice of vehicle and results in an enhanced choice of diesel vehicles.

The estimated parameter for total fuel cost shows that the choice of vehicle depends on total fuel cost, as well as on other variables such as vehicle attributes, the price of the vehicle, etc. Therefore, we can conclude that the fuel tax in Japan encourages the choice of diesel-powered vehicles and that the current fuel tax results in increased NOx emission. In addition, because fuel cost depends on the mileage traveled, households with longer distances traveled—the households that emit more NOx—have more incentive to choose diesel vehicles under the current fuel tax regime.

Finally, the limitation of our analysis should be noted. The effect of the tax correction results in case 1 is underestimated and that in case 2 is overestimated. Due to the data availability, we assumed that the mileage traveled is given. Moreover, we did not consider the choice of not buying a vehicle.

However, if the fuel price rises due to the fuel tax, some households may decrease the mileage traveled and other households may stop buying a car. Hence, the emissions will be decreased more than our simulation result in case 1. To the contrary, in case 2, some households may increase the mileage and more households will purchase a car. Therefore, the decrease in emissions may not be as great as our results.

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Appendix

Table A.1 List of the models and the number in the samples for each model.

No.	Manufacturer	Model	Number of cars	No.	Manufacturer	Model	Number of cars
1	Toyota	Aristo	44	45	Subaru	Impreza	67
2	Toyota	Windom	145	46	Subaru	Legacy	13
3	Toyota	Carina	43	47	Subaru	Legacy	1
4	Toyota	Crown	106	48	Honda	Civic	114
5	Toyota	Crown HDT	353	49	Honda	Civic Sedan	61
6	Toyota	Cresta	103	50	Honda	Logo	79
7	Toyota	Cresta	2	51	Mazda	Capella	3
8	Toyota	Celsior	163	52	Mazda	Familia	21
9	Toyota	Century	1	53	Mitsubishi	Lancer	129
10	Toyota	ChaserHDT	177	54	Toyota	Supra	45
11	Nissan	Cima	144	55	Toyota	Celica	110
12	Nissan	Skyline	84	56	Toyota	Soarer	28
13	Nissan	Cedric	6	57	Nissan	Silvia	158
14	Nissan	Cedric HDT	135	58	Nissan	Skyline Coupe	85
15	Nissan	Cedric HDT	6	59	Honda	NSX	1
16	Nissan	President	4	60	Mazda	Roadster	12
17	Nissan	Laurel HDT	49	61	Suzuki	Cultus	65
18	Nissan	Laurel HDT	1	62	Toyota	Carib	105
19	Honda	Accord	24	63	Toyota	Caldina	153
20	Honda	Legend	57	64	Toyota	Corolla	174
21	Mitsubishi	Galant	57	65	Toyota	Corolla	7
22	Mitsubishi	Diamante	52	66	Toyota	Crown	3
23	Toyota	Camry	29	67	Toyota	Crown	18
24	Toyota	Carina	59	68	Toyota	Sprinter	3
25	Toyota	Corolla	87	69	Toyota	Mark II	21
26	Toyota	Corolla	3	70	Nissan	Wingroad	80
27	Toyota	Crown	6	71	Nissan	Gloria	3
28	Toyota	Corona	21	72	Nissan	Gloria	1
29	Toyota	Corona	3	73	Nissan	Stagea	117
30	Toyota	Sprinter	25	74	Nissan	Cedric	1
31	Toyota	Vista	2	75	Subaru	Legacy	291
32	Toyota	Vista HDT	32	76	Subaru	Legacy	30
33	Toyota	Mark II HDT	366	77	Honda	Accord	256
34	Nissan	Gloria	5	78	Mazda	Capella	42
35	Nissan	Gloria HDT	96	79	Mazda	Demio	114
36	Nissan	Sunny	35	80	Mazda	Familia	14
37	Nissan	Sunny	4	81	Mitsubishi	Diamante	3
38	Nissan	Cedric	17	82	Mitsubishi	Libero	3
39	Nissan	Cedric	1	83	Toyota	Ipsum	226
40	Nissan	Cefiro	75	84	Toyota	Estima	181
41	Nissan	Primera	65	85	Toyota	TownAceNoah	11
42	Nissan	Bluebird	43	86	Toyota	TownAceNoah	10
43	Nissan	Bluebird	7	87	Toyota	Hiace W	8
44	Nissan	March	157	88	Toyota	Hiace W	186

Table A.1 (continued) List of the models and the number in the samples for each model.

No.	Manufacturer	Model	Number of cars	No.	Manufacturer	Model	Number of cars
89	Toyota	LiteAce Noah	7	102	Toyota	RAV4	16
90	Toyota	LiteAce Noah	9	103	Toyota	Hilux W	112
91	Honda	S-MX	1	104	Toyota	Land Cruiser Wagon	28
92	Honda	Odyssey	16	105	Toyota	Land Cruiser Wagon	100
93	Honda	StepWgn	61	106	Nissan	Terrano Wagon	15
94	Mazda	MPV	7	107	Nissan	Terrano Wagon	41
95	Mazda	Friendee	1	108	Nissan	Regulus	2
96	Mazda	Friendee	20	109	Nissan	Regulus	19
97	Mitsubishi	Delica Space Gear	5	110	Honda	CR-V	5
98	Isuzu	Bighorn	4	111	Mitsubishi	RVR	1
99	Isuzu	Bighorn	19	112	Mitsubishi	RVR	31
100	Suzuki	Escudo	84	113	Mitsubishi	Pajero Wagon	51
101	Suzuki	Escudo Wagon	2				