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## SINGAPORE'S MOTOR VEHICLE POLICY: REVIEW OF RECENT CHANGES AND A SUGGESTED ALTERNATIVE

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**Abstract**—This paper reviews recent developments in motor vehicle policy in Singapore, viz. the motor vehicle quota and weekend car schemes as well as regulations on cars entering and leaving Singapore. The adoption of a vehicle quota system over and above tax restraints on car ownership has made the job of the planner easier but has resulted in a great deal of price uncertainty in the motor vehicle market. The attendant result of price uncertainty has been speculation or rent seeking, necessitating several adjustments to the rules for the vehicle quota scheme in an attempt to counter speculation. This paper proposes that the object of bidding should be changed from that of a right to purchase a new car to that of a car ownership right. This will eradicate the problem of speculation as well as problems faced by firms in the motor vehicle distribution industry arising from the implementation of the current quota system.

### 1. INTRODUCTION

Singapore is a densely populated city with an average population density of 5000 persons per square kilometre.<sup>1</sup> It is an island republic, which is linked to the Malaysian peninsula via a causeway. Singapore had a gross national product (GNP) per capita of U.S.\$11,160 in 1990.<sup>2</sup> Although this is one of the highest incomes in Asia, less than 40% of Singaporean households belong to the car-owning category. This is in contrast to over 60% of all households in the United Kingdom (GNP per capita of U.S.\$16,100) and nearly 90% of households in the United States (GNP per capita of U.S.\$21,790),<sup>3</sup> although the small land area of Singapore does efface this contrast to some extent. Urban traffic congestion, however, is not a serious problem in Singapore as it has been kept under control since the mid-1970s by draconian measures with regard to both car ownership and usage. Roads in Singapore are relatively congestion free, with peak hour travelling speeds in the central area averaging 30 kilometres per hour. This compares favourably with peak hour speeds ranging from 10 to 12 kilometres per hour in New York, Manila, Lagos, Calcutta and London. Traffic congestion avoidance has been accorded high priority by the Singapore government in order that the city state may continue to be an attrac-

tive destination for tourists and conventions, as well as foreign investment. Section 2 describes the salient features of Singapore's urban transport policy between 1970 and 1990 in relation to economic growth. Sections 3 and 4 focus on two recent developments in motor vehicle policy, viz. the motor vehicle quota and weekend car schemes, respectively. In addition, I have also taken the opportunity to review a related topic in Section 5—the existing regulations on cars entering and leaving Singapore. Section 6 proposes changes to the motor vehicle quota system that will eradicate speculation. The final section provides concluding observations.

### 2. TRANSPORTATION POLICIES IN SINGAPORE

Singapore attained self government from the British in 1959, joined the Federation of Malaysia in 1963, and left the Federation to become an independent city state in 1965. During the politically traumatic 1960s, issues of employment creation and adequate housing provision were of greater policy concern. The public transport system was operated (rather chaotically) by 12 private bus companies, investment in public roads was meagre and policies regarding car ownership and usage were nonexistent (Rimmer, 1986).

Singapore's efforts at attracting foreign investment for industrialization met with great success with regard to the main objectives of employment and income creation. Full employment was attained by the early 1970s and the average annual growth rate in real per capita GNP between 1965 and 1990 was an impressive 6.5%. Given Singapore's small land area (633 square kilometres), the rapid increase in income, with its attendant effect on car ownership demand, has necessitated draconian measures to curb car ownership demand and use. As part of the strategy to alleviate congestion, road taxes and regis-

<sup>1</sup>In 1990, Singapore had a population of 3 million people and a land area of 633 square kilometres.

<sup>2</sup>In 1991, the GNP per capita for Singapore was S\$22,867 or U.S.\$13,236, based on the 1991 exchange rate of S\$1.73 to U.S. \$1. There were 286,758 registered motor cars in 1990.

<sup>3</sup>The income figures are for 1990 and are obtained from the World Development Report 1992 (World Bank, 1992); the car ownership rates for the U.K. and U.S. are from Hey (1992, p. 102).

Table 1. Taxes on motor cars in Singapore, 1970 to 1990

From: To:	1968 Oct 72	Oct 72 Dec 73	Jan 74 Mar 75	Mar 75 Dec 75	Dec 75 Feb 80	Feb 80 Oct 83	Oct 83 Oct 84	Oct 84 Nov 88	Nov 88 Nov 90
Import duty (%)	30	45	45	45	45	45	45	45	45
Registration Fee (S\$)	15	15	15	15	15	1000	1000	1000	1000
Additional Registration Fee (% of market value)	15	25	55	55	100	150	175	175	175
Annual Road Tax (cents per cc)									
— up to 1000 cc	10	10	14	20	35	40	52	60	70
— 1000 to 1600 cc	10	12	15	25	40	50	65	75	90
— 1601 to 2000 cc	10	15	22	30	45	60	78	90	105
— 2001 to 3000 cc	10	20	25	40	50	70	91	105	125
— above 3000 cc	10	30	60	65	80	100	130	150	175
(as from 1975, company cars pay double these rates)									

Source: Registry of Vehicles, Singapore, *Annual Report*, various years.

tration fees for private cars were progressively increased in order to discourage car ownership. The world's first road pricing scheme was introduced in 1975, and the government allocated large sums to the improvement of public transport as well as investments in roads.

Until May 1990, car ownership measures in Singapore took the form of fiscal restraints. (It should be noted that there is no domestic motor vehicle manufacturing industry in Singapore.) Taxes on cars include an import tax of 45%, a lump sum registration fee, an additional registration fee which is calculated as a percentage of the import price of a vehicle, as well as annual road taxes which are based on vehicle capacity. As a result of the high tax rates, many car models are imported without "frills" such as antilock brakes and airbags, as the additional costs are taxable as well. "Necessities" such as air conditioners and audio systems are installed locally. The rapid increases in the additional registration fee and road tax rates in the 1970s and 1980s are shown in Table 1. In 1989, the purchaser of an average 1600 cc car paid import taxes of 45% and S\$1000 in registration fees as well as an additional registration fee, which was 175% of the open market value of the car. In addition, annual road taxes would amount to S\$1500 at 90 cents per cc.<sup>4</sup> There was a large rebate on the additional registration fee if a car of not more than ten years of age was scrapped upon registration of a new car.<sup>5</sup> In May 1990, with the introduction of a motor vehicle quota system, a purchaser of a new car also has to obtain a valid certificate of entitlement (this scheme will be discussed in Section 3).

Table 2 compares the affordability of car owner-

ship with that of housing ownership in Singapore. While public housing is subsidized in Singapore, and 87% of the population reside in public housing (Phang, 1992), car ownership is heavily taxed. The result is a situation where the prices of housing and cars differ greatly from the prices that would have prevailed had there been no government intervention in these markets. In 1991, a 99 year lease for a 4 room Housing and Development Board flat cost 2.29 years of an average Singaporean's income (the ratio is even lower if household income is used instead); a Toyota Corona (1600 cc), however, would have cost 3.65 years of income. Table 2 also shows the increased affordability of cars between 1981 and 1986 (and up to 1990 when the quota scheme was implemented, there being no change in the Additional Registration Fee over this period). With the implementation of the quota scheme in 1990, however, car ownership has again become less affordable.

In 1975, Singapore initiated a crude road pricing scheme—the Area Licensing Scheme—to reduce congestion in the central area during the morning peak hours between 7:30 am and 10:15 am (Holland and Watson, 1978). Cars (including taxis) carrying fewer than four persons entering the restricted central area were required to pay a fee. Buses, motorcycles and goods vehicles were exempted from paying any fees. The daily fee for private cars was \$3 from June to December 1975. It was raised to \$4 in January 1976 and to \$5 in March 1980. The daily fee was reduced to \$3 in 1989 when the scheme was extended to the evening peak period (4:30 to 6:30 pm); however, exemptions were removed for car pools, motorcycles and goods vehicles. The monthly fees are 20 times the daily fee and company cars pay double the rate of private cars. Since 1989, motorcyclists pay \$1 daily or \$20 for a monthly license to enter the restricted zone during its hours of operation. The government has plans to introduce an electronic road pricing scheme by 1996. In the meantime, the Communications Ministry is studying the possibility of introducing the area licensing scheme to other con-

<sup>4</sup>Company cars pay double the road tax rates given in Table 1.

<sup>5</sup>A buyer of a new car who scraps a used car that is less than or equal to ten years of age pays a preferential additional registration fee. See Phang (1992), chapter 8, for analysis of the effects of the preferential additional registration fee scheme.

Table 2. Housing and car affordability in Singapore, 1971 to 1991

Year	Per capita Indigenous GNP (1)	Prices for New		Affordability Indices (3)	
		4-Room HDB Flat (2)	Toyota Corona	Housing Price to Income Ratio	Car Price to Income Ratio
1971	2761	12,500	9900	4.53	3.59
1976	5231	17,500	21,990	3.35	4.20
1981	9869	24,300	31,222	2.46	3.16
1986	13,461	31,500	36,521	2.34	2.71
1991	20,031	45,800	73,014	2.29	3.65

Notes: Prices and income figures are in nominal Singapore dollars.

1. Indigenous GNP excludes income which accrues to foreign workers and foreign entrepreneurs who are residents of Singapore.

2. HDB flat refers to housing sold by the Housing and Development Board. In 1991, 87% of Singaporeans resided in public housing.

3. Housing price = minimum price for 4-room HDB flat in New Town location; Car price = price for new Toyota Corona, Price to income ratios = price/per capita indigenous GNP.

Sources of data: Department of Statistics, *Yearbook of Statistics, Singapore*, various years; Housing and Development Board; Automobile Association of Singapore, *The Highway*, various issues.

gested roads on the island (*The Straits Times*, 20 August 1992, Singapore Press Holdings).

A major program of public investment in roads, expressways and public transportation was implemented in the 1980s. Major arterial roads increased from 280 km in 1979 to 512 km by 1989, while expressways increased from 28 km to 102 km over the same period. The 2.4 km Central Expressway Tunnel was completed in 1991 at a cost of S\$350 million; this tunnel has reduced travel times to the central area considerably. A 15 km road tunnel circling the city and estimated to cost S\$4 billion is presently on the drawing board. Public sector investment in public transport took the form of a 66 km Mass Rapid Transit (MRT) system comprising 44 stations. The system, costing S\$5 billion, was partially in use by 1987, and was completed in 1990. The government has budgeted another S\$4.3 billion to be spent over the next five years (between April 1992 and March 1997) on road works, extensions to the MRT system and the electronic road pricing system.<sup>6</sup>

Despite exorbitant car taxes and improvements in public transportation, car ownership continued to increase. The number of motor cars registered increased from 164,500 in 1980 to 271,200 in 1989. The number of persons per private motor car decreased from 15.8 to 10.0 over the same period. Growth in motor vehicle ownership was slower during the recession in the mid-1980s. However, the rapid increase in car ownership in the late 1980s

prompted a major review of land transportation policy. A Selected Committee on Land Transportation Policy was appointed by Parliament in 1989 to review land transport policies. In January 1990, the Committee proposed a quota system for motor vehicles as well as a weekend car scheme (Select Committee on Land Transportation Policy, 1990). These two proposals were adopted (with slight modifications) by the government and will be reviewed in the next two sections.

### 3. THE MOTOR VEHICLE QUOTA SCHEME

The adoption of a motor vehicle quota scheme in May 1990 was formally announced by the Minister for Communications on 31 January 1990. Under the quota scheme, a buyer of a new vehicle must possess a certificate of entitlement (COE) which may be obtained in a public tender held by the Registry of Vehicles (ROV). The COE is valid for a period of ten years. Owners of cars older than ten years must pay the prevailing average quota premium.<sup>7</sup> Owners of vehicles older than ten years at the time of implementation of the scheme were given a grace period of two years before they were required to pay the prevailing average quota premium if they chose not to deregister the car. At the time of announcement (as an interim measure to prevent a rush to purchase cars pending actual implementation of the quota) the registration fee was increased from \$1000 to \$6000 for private cars. This interim increase was removed when the scheme came into operation in May 1990.

The scheme as it stood in May 1990 took the following form: the growth rate of motor vehicles each year would be directly determined by the government and would be based on the increase in road capacity.

<sup>6</sup>This was announced by the Prime Minister in his National Day Rally speech in August 1992. In his speech, the Prime Minister stated, "I want to meet the aspirations of car owners but there is a limit to the numbers because Singapore is such a small country. But do not be discouraged. There is scope for more cars on our roads. We will build more bypasses, underpasses, overpasses, roads, tunnels; whatever passes you need we will build for you." *The Straits Times*, 17 August 1992, p. 22 (Singapore Press Holdings).

<sup>7</sup>This is the average of quota premiums over the past twelve months.

Tenders would be held every three months for six categories of vehicles: (a) cars of 1000 cc or less; (b) cars of 1001 to 1600 cc as well as taxis; (c) cars of 1601 to 2000 cc; (d) cars of 2001 cc or more; (e) goods vehicles and private buses; and (f) motorcycles. A seventh category of licences known as "Open" licenses, could be used to purchase any kind of vehicle. Successful individual bidders would pay the lowest successful bid price in each category. Successful bidders for company cars and heavy goods vehicles would pay double the quota premium. An open category licence could be converted to a motorcycle licence for one third the quota premium. The stated rationale for adopting separate categories was that this would protect motorcyclists and small car buyers from being outbid by richer buyers of bigger cars.

To discourage speculation in car licenses, individual bidders could only submit one application in each tender exercise. Firms could make any number of bids, while authorized motor distributors were allowed 100 bids each. Each bid had to be accompanied by a cashier's cheque equal to half the bid. A temporary certificate of entitlement (TCOE) was issued to successful bidders who had to use it to register a new vehicle within six months of receiving it. The TCOEs issued to individuals and car distributors were allowed to be transferred once during the six month period of validity for a transfer fee of S\$10. Firms were not allowed to sell their temporary licenses.

Within two months of operation of the scheme, complaints from the public regarding speculation in TCOEs and profiteering by car distributors resulted in changes to the original rules. From July 1990, bids for COEs were held monthly instead of once in three months and the validity of TCOEs was shortened to three months instead of the previous six in the May tender. Motor vehicle distributors were entitled to 30 instead of 100 bids in each tender, and their TCOEs could only be sold to their own customers.

The above changes to the rules did not, however, solve the problem of speculation in TCOEs, although prices did fall during the period of the Gulf crisis (see Table 3 and Fig. 1). Between May 1990 and July 1992, more than 80%<sup>8</sup> of new vehicles were registered using TCOEs which had been purchased in the secondary market. The perception of the general public that speculative activity and the "hoarding" of TCOEs by car dealers were responsible for driving up prices after the Gulf War resulted in another change in rules. TCOEs were made nontransferable for a one year trial period beginning on 1 September 1991.<sup>9</sup> Nontransferable TCOEs would be valid for a six month period. TCOEs for goods vehicles, buses and vehicles in the Open category remain transferable and continue to be valid for three months only.

<sup>8</sup>See Government Parliamentary Committee (Communications) (1991).

<sup>9</sup>In August 1992, the government announced that the trial period would be extended pending a review of the motor vehicle quota system.

Motor distributors are not allowed to participate in the tender and all potential buyers of new cars must submit their own bids.

The above changes have not, however, dampened prices of COEs. Besides the underlying demand for car ownership, fluctuations in premiums during the past year have also originated from policy changes. Premiums during the first half of 1992 for nontransferable COEs were at an all time high (see Table 3 and Fig. 1). A number of factors other than increases in income were at work to drive up COE prices. First, the two year grace period given to owners of cars older than ten years at the time of implementation of the scheme came to an end in May 1992. In March 1992, 17,000 owners of vehicles more than 10 years old had not paid the prevailing quota premium. Faced with the choice between paying the premium to keep their vehicles and deregistering their vehicles, most chose the latter. A massive scrapping of 10,000 old vehicles took place in April. This resulted in a one time increase in demand for new cars; however the quota numbers were not raised during the first half of the year to accommodate the increased demand. The government has since promised that 10,000 extra COEs would be added to the original quota numbers by year end.

Second, a stricter emission ruling for new cars took effect on 1 July 1992, necessitating most new cars to be fitted with catalytic converters. In the months leading to July, car traders were exceedingly concerned with clearing their inventories of new cars which were not fitted with catalytic converters (and that would otherwise have had to be re-exported come 1 July). On the demand side, car buyers who did not wish to purchase a car fitted with a catalytic converter attempted to obtain COEs in order to register their cars before 1 July 1992.

Third, the certificate of entitlement to own a car, from the perspective of motor vehicle distributors, is a certificate to sell a car. Under the quota scheme, car dealers have also turned price strategists in order to ensure a market share of COEs to sell cars.<sup>10</sup> Each month, larger firms commit millions of dollars to participating in the auction. Although technically barred from participating in tenders under the non-transferability of COE rule, car distributors continue to submit bids on behalf of their customers.<sup>11</sup> Many

<sup>10</sup>The car distribution network in Singapore is dominated by four dealers for the most popular cars. These are Borneo Motors for Toyota, Tan Chong and Sons Motors for Nissan, Kah Motor Company for Honda, and Cycle and Carriage Industries for Mitsubishi, Mercedes Benz and the Proton Saga. The abovementioned cars comprised 68% of all cars in Singapore in 1988.

<sup>11</sup>A potential new car buyer might be requested by the salesperson not to enter a price on the COE form. The car distributor subsequently fills in the offer price on behalf of the customer and submits it to the Registry of Vehicles. The buyer is, instead, offered a fixed price regardless of the outcome of the bidding. A wrong price forecast by the car dealer could either mean unexpected losses (or gains) for the firm or disappointed customers who are unsuccessful in obtaining TCOEs.

Table 3. Premiums for motor vehicle certificates of entitlement (Singapore \$)  
May 1990 to September 1992

TENDER IN	CATEGORY							
	1	2	3	4	5	6	7	8
May 90	1004	3022	5001	528	1	152	3376	
Tenders held monthly instead of quarterly								
Aug 90	3080	6012	7238	4550	1018	320	7750	
Sep 90	5030	9888	11104	5602	2002	400	7400	
Oct 90	5612	7220	10400	5886	1502	80	11100	
ARF reduced from 175 percent to 160 percent								
Nov 90	3102	2004	1120	1502	530	200	5002	
Dec 90	2001	3202	4000	2002	312	180	3170	
Jan 91	2006	3224	3600	2004	300	180	3410	
ARF reduced from 160 percent to 150 percent								
Feb 91	210	2649	3001	988	102	122	2508	
Mar 91	652	909	210	1004	56	100	988	
Apr 91	1202	1804	1402	800	1	122	1630	
May 91	4510	5258	5610	3020	112	310	6062	3600
Jun 91	7002	7875	11020	10000	1820	410	9012	6263
Jul 91	7004	8002	9178	12047	1510	430	11171	6733
Aug 91	9660	9040	12558	12742	3886	610	12368	4524
Sep 91	9508	10520	13080	13000	6002	690	12488	5004
TCOEs made non-transferable								
Oct 91	6300	6528	10002	12002	6128	24	12222	1110
Nov 91	7500	9100	12002	13004	6800	24	14337	3002
Dec 91	9616	12958	14800	16788	7020	1	16738	6868
Jan 92	10100	16602	18500	19666	4300	1	18080	11457
Feb 92	9002	11000	20002	15080	4500	1	18104	13837
Mar 92	12160	10406	16100	17600	4480	1	18587	14048
Apr 92	15000	14958	19739	20037	5002	1	20288	14972
May 92	17300	20542	24798	25108	6050	1	25002	15834
Jun 92	17200	20500	30002	32898	6510	1	31888	11008
Jul 92	13690	18994	24758	24828	6320	1	23870	8302
Aug 92	13060	19510	20998	21008	6950	1	24018	11002
Sep 92	15004	20741	24118	1500	7660	1	25060	13000

Category 1: small cars (1000 cc or less)

Category 2: medium cars (1001 to 1600 cc)

Category 3: big cars (1601 to 2000 cc)

Category 4: luxury cars (2001 cc and above)

Category 5: goods vehicles & private buses

Category 6: motorcycles

Category 7: Open

Category 8: Weekend cars

Source: *The Straits Times* (various dates), Singapore Press Holdings, Singapore.

of the dealers have performed the role of stabilizing prices, despite large changes in quota premiums, by offering car buyers fixed prices or "discounts" on COE premiums as part of their pricing strategy. Car dealers also bid through proxies and then arrange for the transfer of car ownership within the first few days of registration (this is known as a "double transfer" in the trade). Nontransferability of COEs has therefore greatly reduced arbitrage efficiency. (A transfer fee of 2% of the car's value is payable when a car changes hands.) Against a backdrop of economic growth and a decrease in the additional registration fee rate<sup>12</sup> as well as other factors arising from

policy changes, the competition amongst car distributors for market share also contributed to an increase in premiums, the costs of which are borne by both car distributors and car buyers. A solution to the problem of speculation in the implementation of the motor vehicle quota scheme is proposed in Section 6.

#### 4. THE WEEKEND CAR SCHEME

On 1 May 1991, Singapore implemented a Weekend Car Scheme which restricted car usage for weekend cars; in return, purchasers enjoy tax savings. This was in order that the joys of car ownership could be extended to a larger number of households without fear of increased congestion during peak hours. A COE is required for the registration of a new weekend car, for which a separate new category

<sup>12</sup>With the implementation of the quota system, the Additional Registration Fee was reduced from 175% to 160% in November 1990 and further reduced to 150% in February 1991.

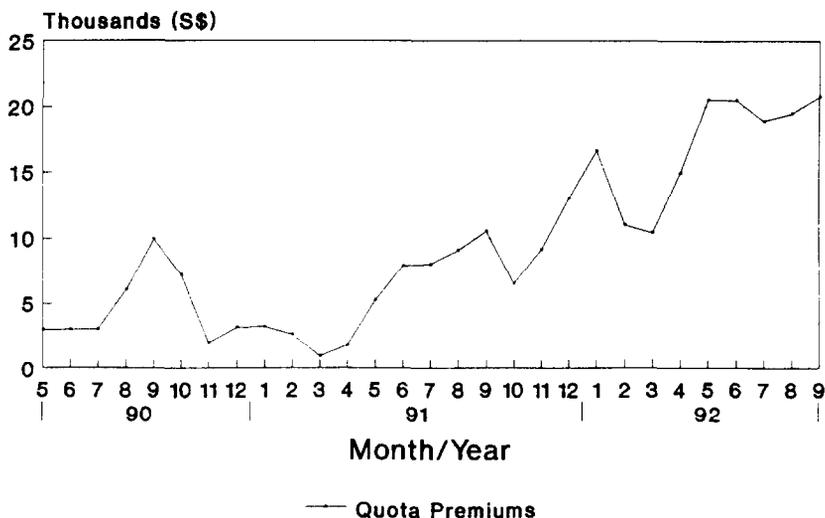


Fig. 1. Quota premiums for medium sized cars (1001 to 1600 cc).

has been added under the motor vehicle quota system (see Table 3). A weekend car is identified by a red number plate which is required to be welded onto the vehicle and sealed by an authorized inspection centre. The penalty for tampering with the number plate of a weekend car is a fine equal to twice the annual road tax for an equivalent normal car.

In 1991, the buyer of a weekend car enjoyed tax rebates on the registration fee, import duty and COE premium, up to a maximum of \$15,000. The maximum rebate will be reduced by \$3000 each year until 1996, when there is no rebate and the weekend car scheme is expected to be superseded by an electronic road pricing scheme. The owner of a weekend car also enjoys a 70% reduction in road taxes. However, weekend cars may only be used on Sundays and public holidays and during off-peak hours (between 7 pm to 7 am on weekdays, and after 3 pm on Saturdays). A day licence is required to be displayed if the car is used outside the permitted hours. Five free day licences are given for each year and additional ones cost \$20 each. The penalty for using a weekend car outside permitted hours and without a day licence is a fine equal to half the annual road tax for an equivalent normal car for a first offence. For second and subsequent offences, the fine is equal to the full annual road tax for an equivalent normal car.

Weekend cars may be converted to normal cars and vice versa. Normal cars which are converted to weekend cars pay only 5% of the road tax but do not enjoy any other rebate. Since the inception of the scheme, the quota premiums for weekend cars have always been greater than the minimum bid of \$1 (ranging from \$1110 to \$15,834), which indicates a situation of excess demand for these cars.

The weekend car scheme was intended to allow a greater number of household to own cars without contributing to congestion during peak hours. However, the scheme has also proved of great benefit to multiple car households as well as owners of cars

with engine capacity greater than 3000 cc. These large cars have a road tax rate of \$1.75 per cc (see Table 1). If the savings in taxes for a weekend car in this category is used to purchase daily coupons for use throughout the year (costing \$5940), net savings are still positive.<sup>13</sup>

#### 5. MOTOR VEHICLE BORDER CONTROLS

As part of the package of measures to discourage car usage, there exists a 50% ad valorem duty on petrol in Singapore. The absence of petrol taxes across the causeway in Malaysia has resulted in a substantial price differential between petrol purchased in Singapore and in Malaysia. In April 1989, Parliament passed the Customs (Amendment) Act, otherwise known as the Half Tank Rule, in order that petrol taxes could be more effective in reducing car usage. The Act made it an offence for any Singapore-registered vehicle to leave Singapore without at least half a tank of petrol, the objective being to discourage motorists from purchasing their petrol from across the causeway. Officials from the Customs and Excise Department carry out random visual checks on fuel gauges of Singapore registered vehicles crossing the causeway. Drivers of vehicles without the required minimum amount of petrol in their tanks are liable to be fined up to a maximum of \$500. It is an offence to either tamper with a fuel gauge or drive a vehicle with a faulty gauge.

The "Half Tank Rule" was superseded by the "Three-Quarter Tank Rule" on 4 February 1991 when an additional 15 cents per litre tax was levied

<sup>13</sup>For a Porsche 911 (3600 cc), the normal annual road tax is \$6300. The annual rebate on fees (\$3000) and road taxes (\$4410) for a weekend car add up to \$7410, which is \$1470 in excess of the costs of daily coupons for the year (\$5940). See *The Straits Times*, 1 August 1991, p. 20 (Singapore Press Holdings).

on leaded petrol in order to encourage motorists to switch to unleaded petrol.

Foreigners (in particular, Malaysians living across the causeway) who work or live in Singapore are not allowed to drive Malaysian-registered cars in Singapore. From 1 January 1992, foreign-registered cars entering Singapore were subject to restraints similar to those for weekend cars. Foreign-registered cars are allowed free entry on Sundays and public holidays, between 7 pm and midnight on weekdays and from 3 pm to midnight on Saturdays,<sup>14</sup> as well as on five random days a year. There is a fee of \$20 for each additional day in excess of the five free random days. Foreign registered vehicles which enter Singapore and remain for prolonged periods may, as an alternative, purchase monthly permits of \$340.

#### 6. A PROPOSED CHANGE TO THE MOTOR QUOTA VEHICLE SYSTEM

The present motor vehicle quota system has proven effective in controlling motor vehicle growth. The certainty of prices has, however, been greatly undermined as a result. The main advantage, that of certainty of quantity, ought therefore to be weighed against the uncertainty of prices and attendant speculative activity which affects many parties, including:

1. Those wishing to purchase a new car.
2. Car dealers of new cars who are concerned about market share and who also wish to provide some measure of certainty of prices to their customers.
3. Used car dealers who at any one time are holding an inventory of used cars.
4. Those wishing to purchase a used car.
5. Those concerned about the equity implications as well as the effect on prices arising from the actions of speculators or nongenuine car buyers.

Various solutions have been implemented to solve the latter problem of speculation. These have included holding the auctions more frequently and making the COEs nontransferable. However, these measures do not appear to have solved the problem. Other proposed solutions have included changing the lowest successful bid price auction to that of a pay-as-you-bid auction, as well as increasing the transfer fee to a higher percentage of the transacted price of a car.

An alternative solution (not hitherto considered) is proposed here. The fundamental objective of the motor vehicle quota system is to control the number of motor vehicles in Singapore. However, the manner in which it was implemented has had several undesirable effects on the motor vehicle distribution

industry. Motor vehicle dealers as well as used car dealers have become increasingly involved as price strategists and rent seekers in the quota game. A source of some problems in the quota scheme is the integrating of two markets: the market for car ownership and the market for motor vehicles. A simple yet fundamental solution would be to separate the two markets. This may be done in the following manner:

1. A motor vehicle may only be registered by a person with a valid ownership licence which is non-transferable.

2. A car owner who owns a car with a valid COE or who has paid the prevailing quota premium will be issued a nontransferable ownership licence with a remaining period of validity equal to the remaining period of validity of his COE. All other car owners will be issued with a nontransferable ownership licence with a period of validity equal to ten minus the current age of the car owned. For example, a person who owns a one-year-old car will be issued an ownership licence valid for another nine years. A person who has paid the prevailing quota premium a year ago will similarly be issued an ownership licence valid for another nine years. A person who owns a six-year-old car (which was first registered before the quota scheme was implemented) will be issued an ownership licence valid for four years. A person may possess more than one car ownership licence.

3. Only first time vehicle-owners-to-be and existing owners whose ownership licences have expired will be in the market for ownership licences. After successfully obtaining a licence (that is, submitting a sufficiently high enough bid), the car owner need not bid again for a licence until ten years later when the licence expires. During the ten year period, he may change as many cars (new or used) as he wishes to without having to bid again.

4. Bidding may take place in ownership categories, viz. cars, motorcycles, buses and lorries.

5. Those with a valid ownership licence but who do not wish to register a car due to unexpected events may obtain a partial refund from the ROV.

With the above changes, car prices will be stabilized but the costs of car ownership will fluctuate with the demand for car ownership. The advantages of this system would include: (a) an absence of speculative activity as no transfers are possible; and (b) car dealers and other nongenuine buyers need not be involved in the bidding for licences.

One disadvantage of the system would be that the ROV would need to monitor another aspect of vehicle transactions to ensure that each car (whether new or used) is registered with an owner who has a valid ownership licence.

Another problem may be that a car owner whose ownership licence has expired and is unsuccessful in bidding for a new licence will have to sell or deregister his car. This may create some unhappiness. To overcome this problem, ownership licences, once issued, may be held for perhaps a period of a year

<sup>14</sup>Following appeals from several Johor trade and business associations, the Singapore government extended the unrestricted hours of stay here for foreign-registered vehicles from midnight to 2 am as of 1 May 1992.

from the date of issue before a vehicle is required to be registered. This will enable car owners to plan at least one year ahead and bid before their ownership licences expire. Alternatively, only first time car owners need bid, while existing car owners pay the prevailing price. This will reduce the number of licences to be allocated as well as the number of people involved in the bidding. To the extent that first time car owners may be those with income or liquidity constraints, the lowest successful bid may be less than the situation when all existing car owners bid at ten year intervals.

## 7. CONCLUSION

The success of vehicle usage restraints in reducing road congestion in Singapore has been aided by measures to curb car ownership. With a limited land area, the magnitude of road prices is necessarily dependent on the underlying demand for road use which, in turn, is determined by the absolute number of vehicles. The adoption of a vehicle quota system over and above tax restraints on car ownership has provided the planner with certainty of numbers, whilst simultaneously generating a great deal of price uncertainty in the motor vehicle market. The attendant result of price uncertainty has been speculation or rent seeking, necessitating additional resource costs to monitor such behavior. The Singapore government has been exceedingly flexible in the implementation of the innovative motor vehicle quota scheme, and has been willing to resolve problems as they arise through changes in the rules of the scheme. The move to make TCOEs nontransferable, however, has not solved the problem of speculation and rent seeking but has, instead, resulted in arbitrage efficiency losses. The proposal to change the object

of bidding from that of a right to purchase a new car to that of a car ownership right will eradicate the problem of speculation, as well as problems faced by firms in the car distribution industry.

The weekend car scheme represents an innovative means by which the car ownership rate can be increased without increasing peak hour congestion. The success of Singapore's vehicle restraints is also due in no small measure to improved public transportation as well as to the country's relative inaccessibility to foreign registered vehicles (except via the causeway), which makes it easy to monitor vehicles entering and leaving Singapore. The ease of implementing and enforcing the "Three-Quarter Tank Rule" as well as the restraints on foreign registered (mainly Malaysian) vehicles serve to illustrate this latter point.

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