# THE DEMAND FOR MOTOR CAR IMPORTS IN BARBADOS

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***Presented at the Annual Review Seminar***
***Research Department***
***Central Bank of Barbados***
***July 27-30, 2009***

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## ABSTRACT

Over the past 25 years Barbados' import of motor cars increased considerably. The upsurge in the trade of motor cars has a direct impact on the size of government revenue, profits of car dealers, the size of the current account deficit, fuel consumption and the level of noise and air pollution present in the island. Moreover, the growing car industry creates jobs for many Barbadians, and is usually considered synonymous with economic advancement. In light of these issues, this paper examines the responsiveness of the aggregate demand for motor cars to changes in income and other economic variables. Employing an Ordinary Least Squares (OLS) procedure, the study finds that car imports in Barbados are influenced by real income, the price of the cars and interest rates. The results also suggest that monetary policy asserts superiority over fiscal policy in limiting the importation of cars.

***JEL Classification*:** E0; F10

***Keywords*:** Car imports; Demand; Elasticity; Barbados

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## 1. Introduction

Since 1980, the import of motor cars has increased considerably, moving from just under BDS $20 million in imports to approximately BDS $109 million in 2008. Furthermore, the highest value of imports for motor vehicles was over BDS $125 million, recorded in 2005. The trade in motor cars has a direct impact on the size of government revenue, profits of motor car dealers, the size of the current account deficit, traffic congestion, the level of air and noise pollution and it is also a major cause of the increase in Barbados' fuel consumption. Notwithstanding the not-so-favourable implications associated with rising car imports, the growing car industry serves as a source of employment for many Barbadians and can be viewed as an indicator of economic prosperity. For these reasons, the paper examines the determinants of motor car imports in Barbados using the period 1994 to 2008.

Estimating the demand for cars is of utmost importance in addressing Barbados' future energy policy as well as managing the size of foreign reserve outflows. In turn, this means that the determinants of car imports (size of their elasticities) become more important over time. The study is premised on the framework of the imperfect substitute model, with emphasis being placed on the impact of changes in income and price.

This study differs from the earlier work of Campbell and Sealy (2000) who estimate the demand for car imports in Barbados during the period 1973 to 1997 on several counts. The most substantial departures are as follows. It utilizes a larger data set by employing quarterly data as opposed to annual data. Secondly, the present study uses the quantity of cars imported rather than making the very limited assumption that the changes in the value of imported motor cars are driven mainly by movements in quantity. Thirdly, whereas Campbell and Sealy examines the effectiveness of monetary policy from the side of the supply of credit, this paper explores the cost of credit.

The remainder of the paper is structured as follows. Section two briefly chronicles the developments of the car industry in Barbados over the past four decades. The following

section outlines some of previous studies done on the demand for motor cars and other related studies. Section four reports the data sources and explains econometric approach taken in this study. Results obtained along with possible implications for government policy are given in section five, followed by a conclusion.

## 2. Barbados' Car Industry

In the two decades leading up to the start of the sample period of this study the bottom lines of car dealers were placed under severe pressure owing to strict government policies. Such policies were executed during the 1970s when the large influx of durable goods into the island raised concerns about the sustainability of Barbados' foreign reserves. Encountered with a foreign reserve crisis, the Central Bank of Barbados in 1977 from February to July implemented a series of radical restrictions consisting of tighter higher purchase terms and credit controls. This thrust to retain foreign currency did register some success as the import of durables fell to a record low by the end of the third quarter of that year. However, 1979 saw a substantial rebound in the importation of durables of which automobiles account for a significant portion.

Although 1981 and 1982 were years characterised by economic decline, the issue of rapidly climbing import demand continued to be a problem for Government. It was against this backdrop that government imposed shorter maturity periods on instalment loans and increased initial deposits for the purchase of several durables. Nevertheless, for the rest of the decade, Barbados realized consistent economic growth.

The first three years of 1990s were ones in which real economic activity receded, primarily on the account of the Persian Gulf War. In addition, one of the most significant economic occurrences in Barbados took place during the 1991\1992 period when the country was faced with its worst ever foreign reserve crisis. Years of increasing investment flows channelled toward the non-traded sectors along with the neglect of the traded sectors, caused imports to significantly outweigh foreign currency earnings. As a

result there was a drastic decline in the Net International Reserves (NIR) of the monetary authorities (see Worrell et al., 2000). The crisis was so severe that at the end of 1991 only two weeks of foreign reserves were left in the Central Bank. This led the then government to seek the help of the International Monetary Fund (IMF) who prescribed a raft of tough measures to deal with the malady that plagued the economic landscape of Barbados. As the country journeyed into 1992 it was very clear that the road to recovery was not an easy trail. This was evidenced by the fact that real Gross Domestic Product (GDP) fell by 7%, while the unemployment rate soared to 23% and the value of retained imports fell by 23.4%. In particular, the value of motor car imports contracted by 73% during the same year, indicative of the massive falloff in car sales.

During the following year, the Barbados economy recovered strongly as reflected in its 1.2% expansion. From 1993 onward, real GDP for the remainder of the 1990s continued on a steady growth path. Figures 1 and 2 show the pattern of total motor car imports on an annual basis covering 1994 to 2008. However, Figure 1 presents the data by engine size, while Figure 2 sets it out by source market. The year 1994 marks emergence of the recondition market which allowed individuals to import cars at a significantly reduced price when compared to new cars. This is reflected in the continuous rise in car imports from 1994 to 1998. As the recondition market became increasingly popular, the number of players increased, causing car imports during 1997 to be more than three times that in 1994. Moving along, the 1997 to 1998 spurt may be attributed to the encouraging economic climate that existed during 1998 and to a lesser extent, the merger of three progressive automobile companies in September of 1997. It is also interesting to note that the years of strong import expansion proceeded episodes of above average economic growth. This could have led to the substantial upturn in the number of cars imported.

After five consecutive years of increase, car imports fell during 1999 and 2000. The 1998 to 1999 decline coincides with the significant slowdown in economic activity stemming from the lacklustre performance of the tourism sector along with the tightening of monetary policy aimed at reducing the widening current account deficit. Despite the easing of monetary policy and a pick up in economic output during the following year,

car imports continued to contract. This outturn probably hinges on the fact that Barbadians generally do not change their vehicles on a frequent basis; therefore the stock of cars accumulated during the five successive years of rising car imports may have lessened the demand for cars in 2000. The restriction whereby vehicles purchased must be four years of age or under may have also adversely affected the quantity of cars imported during that year.

Subsequent to the slight upturn in imported motor vehicles in 2001, the importation of cars declined in 2002 as external forces weakened the Barbadian economy leading to a falloff in the demand for cars. However, the year 2005 is shown to be second only to 1998 in terms of the volume of imported cars. Reasonably favourable economic conditions in conjunction with record-high growth in credit to the non-financial private sector helped fuel the large importation of motor cars into the island during 2005. Also in that year, government's response to the cries of new-car dealers over the fierce competition posed by the importers of recondition cars, came in the 2005 Budget Statement when the environmental levy on used cars was increased from BDS$150 to BDS$2000 effective August 22, 2005. Government also sought to raise revenue by increasing the excise tax rate on motor vehicles over 1500cc. These policies coupled with the renewed vigour to enforce the regulation that banned the importation of vehicles over four years old may have caused the sharp decline in car imports experienced during 2006. In an effort to reduce Barbados' fuel import bill, government in 2006 decreased the rate of excise taxes on diesel vehicles since the price of diesel was considerably less than the price of gasoline.

In 2007 the recondition market received yet another blow, the environmental levy was again increased, this time from BDS$2000 to BDS$4000 whereas the levy on new cars increased by BDS$150 to BDS$300. However, with the change of government in 2008, both new-car and used-car dealers were required to pay BDS$1500 in environmental taxes. Interestingly, Figure 1 indicates that in the three last years of the period under review, the proportion of cars with bigger engine sizes to the total number of cars has increased when compared to earlier years. Over the review period it is also evident that

the majority of motor car imports come from Japan, while Other Europe and South Korea account for bulk of the remaining market share.

## 3. Literature Review

As early as the 1930s the demand for motor cars has been a subject of investigation. De Wolff (1938) examines trends in the demand for replacements as well as new cars over the period 1921-1935; the author suggests that the difference between the annual increase in the number of new cars and its trend is negatively related to the price of cars.

O'Herlihy (1965) provides evidence based on post-war and pre-war data that suggest income and prices are respectively positive and negative determinants of demand for new cars in Great Britain. Witt and Johnson (1986) also explore the demand for new cars in the UK. Using the number of new-car registrations as the measure of demand for cars, the authors show through the use of OLS econometric methods, that real per capita disposable income, the real price of new cars, hire purchase restrictions, lending rates, habit-persistence as proxied by the demand for new cars in the previous period and oil shortages are predictors of the demand for new cars. Initially, the authors included real price of motor fuel in the regression model but due to its lack of statistical significance they excluded it. The study estimates the short-run and long-run elasticities of the individual variables, and the results are as follows: the income elasticity of demand for new cars is positive and highly elastic in both the short run and long run. On the other hand, the demand for cars is negatively influenced by increases in their prices; the results indicate that a 1% increase in the price of cars translates into 0.34% and 0.57% decrease in their demand in the short run and long run, respectively. The hire-purchase restrictiveness, interest rate and oil shortages variables all have negative but inelastic impacts on the demand for new cars in both the short run and long run. However, of all the variables hire purchase restiveness has the least elastic influence on the demand for cars.

Using a three-equation econometric framework, Blomqvist and Haessel (1978) explore the demand for both new and old passenger cars in Canada. The authors separate new cars into small and large categories and show that the demand for them both is highly elastic and negatively associated with their own prices in the short-term. The findings also propose some degree of short-term substitutability. The cross-price elasticities suggest that an increase in the price of new large cars leads to a greater demand for new small cars, while a rise in the price of new small cars leads to the demand for old cars. Additionally, the demand for large cars seems to be negatively influenced by increases in gas prices, and a strong long-run income elasticity of demand is observed for all classes of cars.

Similar to Blomqvist and Haessel (1978)'s investigation of demand for cars of different sizes in Canada, Wetzel and Hoffer (1982) use quarterly data spanning the time frame 1966 - 1976 to estimate a set of three-stage least square demand models for cars in the U.S. Wetzel and Hoffer establish four classes of cars in the study: standard, intermediate, compact and imports. They then postulate a set of regression models to examine how the selected independent variables influence the demand for cars in each market. The first three classes (standard, intermediate and compact) represent the automobiles produced in the U.S, categorized by the size of the cars. On the other hand, the category 'imports' includes cars of various sizes that are purchased from foreign markets. The study shows that the quantity of new cars in each class is highly negatively influenced by the price variable employed for each class. The paper uses an index of high-income consumer sentiment derived from the University of Michigan's Index of Consumer Sentiment to obtain a subjective indicator of the favourableness of the economic climate. The coefficient on this variable suggests that if the perception of the economy among the affluent improves by 1%, the demand for cars in the standard and intermediate markets increases by 0.74% and 0.39%, respectively.

In addition, Wetzel and Hoffer (1982) suggest that real disposable personal income and market size as measured by the non-institutionalized population over 25 years old in the U.S. have a strong positive impact on the demand for imported cars. The authors suggest

that the size of the coefficients associated with these two variables is an indication of the perceived superiority of imported cars to American manufactured cars. The study also provides some interesting findings as relates to the interaction between the demand for cars and the price of gasoline. In each category, the price of gasoline in a given period is shown to have a negative impact on car purchases in the same period, while it is positively correlated with the demand for cars in the succeeding period. However, of all the markets, the price of gasoline is only significant in the standard class, whereas when lagged by one period it is shown to be significant only in the intermediate class. These results add support to the findings of Blomqvist and Haessel (1978), in that changes in fuel prices in a particular period seem only to significantly impact on the demand for larger cars in that same period.

Tishler (1982) develops an econometric framework to better understand the impact of fuel prices on the demand for new and used cars in Israel utilising the sample period 1966 to 1978. The author estimates both aggregated and disaggregated car demand models. The paper takes a somewhat more accurate approach than other studies by categorizing cars by engine size as oppose to the size of the car itself. The engine sizes are divided into three groups: less than 1000 cc, 1000-1500 cc along with 1501 cc and above. It is shown by the results of the study that the price of gasoline has a negative impact on the demand cars in both the aggregated and disaggregated models. In examining the findings, it is evident that the elasticities of demand associated with the fuel price variable increases with engine size. This is a reiteration of what is demonstrated by the work of Blomqvist and Haessel (1978) and Wetzel and Hoffer (1982). On the other hand, for the most part in all the regressions, the estimated price and income elasticities have their expected signs.

Jaumandreu and Moral (2001) estimate own and cross price elasticities of demand for 182 cars models in Spain by employing a simple discrete choice model using monthly data covering the period 1990-1996. The authors segmented the cars into six groups: small-mini, small-domestic, compact, intermediate and luxury in order to explore the price elasticities among the various classes of vehicles. The study shows that the price of

cars has a greater impact on the demand in the small and compact market than it does in the luxury and intermediate market. This finding can be justified when one considers the small and compact market as the market for the not-so-wealthy segment of society who is usually quite sensitive to price changes.

The study of demand for cars in Barbados is not common in the literature. To the best of the authors' knowledge this study is the third of such for Barbados. The two earlier studies are that of Campbell (1996) and Campbell and Sealy (2000), with the latter being the more expansive research. Campbell (1996) shows that the income elasticity of demand for cars imports between 1981 and 1993 were altered by credit control policies. Continuing in a similar vein, Campbell and Sealy (2000) using the value of imported cars as the dependent variable postulate the demand for motor cars as a function of real income, new instalment credit extended by commercial banks for motor cars, repayments on motor car loans, the price of cars relative to the price of other goods as represented by the consumer price index, consumer attitude as measured by the unemployment rate and a dummy variable to capture changes in Government policy on motor cars. Using an Error Correction Model, the authors conclude that in the long run the import of cars is positively dependent on real income and new consumer instalment credit, while at the same time it is negatively influenced by higher repayments on motor car loans, the worsening of consumer sentiment and contractionary fiscal policy.

On the other hand, in the short run, the lagged dependent variable, current and lagged real income, new credit for motor cars, repayments on car loans and relative prices explains the demand for cars. The lagged dependent variable and relative prices are shown to positively influence car demand, while real income in the previous period impacts negatively on the dependent variable. Campbell and Sealy attribute the positive sign on the coefficient of the relative price variable to the possible price insensitive nature consumers. However, it could actually be a situation where the price variable is simply responding to the value measure of the dependent. Nonetheless, all of the other variables have their same coefficient signs as in the long run. Further, the error correction term is negative and statistically significant with a coefficient of 0.85, suggesting that it takes a

little over one year for long-run equilibrium to be restored after some shock to the system.

Since cars are durables goods, Holder (1986) who builds a demand model for consumer durables in Barbados by employing data that spans the period 1960 to 1982 comes quite close to what this present study endeavours to achieve. Holder shows that real consumer expenditure on durables is a function of real gross domestic product, the ratio of durable consumption expenditure of the previous year, loans to the personal sector deflated by price of durables, hire purchase terms and the price of durables relative to the price of non-durables. The elasticities of the individual regressors suggest that the expenditure-income ratio of the previous period, relative prices and more stringent hire-purchase terms are negative determinants of the demand for durable consumer goods, while income as measured by GDP and loans to personal sector are both positive determinants.

## 4. Data and Methodology

### *4.1 Data*

This study employs a quarterly data set covering the period 1994 to 2008. The data are obtained from the Central Bank of Barbados, Barbados Customs Department and International Monetary Fund's International Financial Statistics Database.

The dependent variable of this study is the number of imported light goods vehicles irrespective of age, since it is impossible to distinguish between new and used cars from data provided by the Customs Department. On the other hand, the independent variables incorporated in the study are: real income, car prices, the price of imported non-durable goods relative to the price of cars, oil-price inflation, interest rates and tax policy.

Income is proxied by real GDP. The car price index and relative price of non-durables are derived using the Jones and Moore (2008) Import/Export unit price index for Barbados. Oil-price inflation is represented by the percentage change in the world oil price index.

Monetary policy is accounted for by the minimum deposit rate. To capture the effects of fiscal policy, import taxes are incorporated into the study and are proxied by a tax policy dummy.

### *4.2. Stationarity Tests*

First the authors investigate the stationarity properties of the variables because non-stationarity among variables creates problems of bias estimators and spurious results. To this end, the Augmented Dickey-Fuller (ADF), Phillips-Perron (PP) and the KPSS tests are employed to determine the order of integration in each series.

The ADF and PP are the two most popular of the autoregressive unit root test. The two tests differ mainly in how they treat serial correlation in the test regressions. The ADF test augments the standard Dickey-Fuller (DF) test with lagged difference terms of the dependent variable to erase serial correlation from the residuals, while the PP tests use non-parametric corrections based on estimates of the long-run variance of a change in the dependant variable. However, both tests assume non-stationarity of series, which means that there is a high probability of falsely rejecting the null hypothesis of non-stationarity when the data generation process is close to a stationary process (Blough, 1992; Harris, 1995). Therefore, we also utilise the KPSS test described in Kwiatkowski et al.(1992) where the null hypothesis is specified as a stationary process.

### *4.3. Model Specification*

Below is an Ordinary Least Square (OLS) regression model of the aggregate demand for car imports in Barbados. The model is given in logarithmic form as denoted by (ln). To effectively evaluate the determinants of car demand, the authors exploit the following framework:

$$\ln C_t = \alpha + \beta_1 \ln Y_{t-1} + \beta_2 \ln P_t + \beta_3 \pi_{t-1} + \beta_4 \ln \lambda_t + \beta_5 \ln IR_{t-3} + \beta_6 T + \beta_7 Trend + \varepsilon_t \quad (1)$$

where $C$ the number of imported cars is postulated as a function of real income in the previous period $Y_{t-1}$, the price of cars $P$, the change in the price of fuel in the preceding

period $\pi_{t-1}$, the relative price of non-durables $\lambda$, the minimum deposit rate of commercial banks *IR* lagged by three periods, import taxes *T* and a trend to control for any omitted variable bias. The error term $\varepsilon$ is assumed to be white noise.

The authors consider cars to be normal goods, as such, it is expected that income will have a positive influence on their demand, while an increase in price should have a negative impact. However, income of the previous quarter is used since it usually takes around three months for vehicles to enter Barbados after the purchase have been made, therefore the lag is justified. Following this same rationale, the oil price inflation variable is postulated with a one period lag as well. Since the price of fuel is essentially the operating cost of owning a car, the authors anticipate a negative relationship between oil price inflation and motor car demand.

The relative price of non-durables is adopted to capture any trade-off effect between cars and non-durable goods. Non-durable goods consist of food, clothing, toiletries, pharmaceuticals and the like. Given the importance of these goods to economic agents, an increase in the price of them should dampen the demand for cars.

Taxation is the dominant source of government revenue. Tax rates are manipulated to aid in the preservation of foreign reserves, to reduce the level of consumption of certain imports and promote domestic saving. The authors expect taxes to be negatively associated with the import of cars since they present an additional cost to importers.

As for monetary policy, throughout the sample period the minimum deposit rate has been one of the most widely used policy instruments of the Central Bank of Barbados. By increasing the said interest rate, upward pressure is placed on lending rates as commercial banks seek to maintain their spread. However, in Barbados this process is not instantaneous as shown by the work of Mamingi et al. (2008) who reason that it takes on average two quarters before a shock to the minimum deposit rate affect lending rates. This finding along with the average time it takes for imported cars to reach the port of entry in Barbados, supports the use of the three quarter lag length on the interest rate

variable. Since car purchases are usually financed by credit from lending institutions, the authors expect an increase in the interest rate charged on loans should have a negative impact on consumer demand, and by extension motor cars.

## 5. Results

The unit root tests results are reported in Table 1. The ADF, PP and the KPSS tests all agree that the variables: ln*C*, ln*P*, $\ln\lambda$ and $\pi$ are stationary. However, mixed results are found when testing ln*Y* and ln*IR*. As for ln*Y*, the PP and KPSS conclude the variable is stationary, while the ADF found it to be integrated of order one [I(1)]. On the other hand, ln*IR* is shown to be I(1) under the ADF and PP testing procedures, whereas the KPSS suggests that the variable is stationary. To settle the issue of conflicting results, the authors use an AR(1) fitted test which shows that both ln*Y* and ln*IR* are indeed stationary. Given the fact that all the variables are stationary, testing for cointegration is not necessary.

**Table 1: Unit Root Tests**

| Variables | ADF Test (Level) | PP Test (Level) | KPSS Test (Level) |
|---|---|---|---|
| ln*C* | -3.793*** | -3.684*** | 0.280 |
| ln*Y* | -2.07 | -5.851*** | 0.152** |
| ln*P* | -2.788* | -2.613*** | 0.213 |
| $\pi_{t-1}$ | -4.112*** | -4.112*** | 0.057 |
| $\ln\lambda$ | -5.182*** | -5.182** | 0.138 |
| ln*IR* | -2.446 | -2.488 | 0.20 |

Note: ***, ** and * indicates significance at the 1, 5 and 10 percent level of testing, respectively.

Table 2 presents the results of the regression analysis. After carrying out the relevant diagnostic tests, it is revealed that the model is correctly specified and does not suffer with heteroscedasticity, non-normal distribution of errors or autocorrelation. All the variables except $\pi_{t-1}$ have their a priori expected signs. Three variables are found to be

statistically significant in explaining car imports: $\ln Y_{t-1}$, $\ln P_{t-1}$, $\ln IR_{t-3}$ and *Trend*. The overall findings indicate that income has a strong positive impact on car imports, while the price of cars exerts a negative influence. The negative and significant coefficient on the minimum deposit rate validates the lag length on the variable and is suggestive of some degree of effectiveness of interest rate policy in correcting balance of payments problems in the small open economy.

Since the income elasticity of demand for cars is greater than unity, the study concurs with Campbell and Sealy (2000) in showing that cars are luxury goods in Barbados. Further, the demand for cars appears to be quite price elastic (e = - 1.95), implying that a 1% increase in the price of cars leads to a 1.95% decrease in car imports.

The interest rate elasticity though not close to unity, still adds support to the theory which states that a tightening of monetary policy aids significantly in curbing import demand. The present study complements the earlier research of Bourne (1989) who shows that domestic interest rates have a positive impact on Barbados' balance of payments position. On the other hand, oil price inflation is shown to be positive and statistically insignificant, possibly owing to the fact that throughout the sample period until 2008 the Government of Barbados subsidized fuel. Therefore, consumers were not feeling the full pass-through effect and hence purchasing behaviour was not altered considerably.

Unlike Campbell and Sealy (2000), in this study the fiscal policy variable does not have a significant impact on car imports. One potential explanation for this finding is offered when one considers the significance of the interest rate variable. It is reasonable to argue that when persons are financing a car purchase by credit, the additional cost caused by taxes are included in the loan, hence making the interest rates more important than import taxes to the consumer. Furthermore, the apparent tax inelasticity of car imports is probably the reason why government has been levying higher taxes on imported cars over the years.

The price of non-durable goods appears to be irrelevant in explaining the demand for cars in Barbados as indicated by the insignificance of the relative price of non-durables variable. This implies that despite the price of non-durables, persons still find it necessary to own a vehicle probably due to the convenience it provides.

**Table 2: Determinants of Demand for Car Imports**

| Regressors | Coefficient | t-Statistic |
|---|---|---|
| $\alpha$ | -1.797 | -0.315 |
| Ln$Y_{t-1}$ | 3.537 | 3.626*** |
| ln$P$ | -1.973 | -4.349*** |
| $\pi_{t-1}$ | 0.02 | 0.054 |
| $\ln\lambda$ | -0.448 | -0.986 |
| $T$ | -0.114 | -0.758 |
| ln$IR_{t-3}$ | -0.493 | -2.090** |
| *Trend* | -0.015 | -2.521** |

| | | | |
|---|---|---|---|
| $R^2$ | = 0.45 | LM - F(2, 47) | = 0.154 |
| SE | = 0.30 | HET - F(7, 49) | = 0.874 |
| JOINT- F(7, 50) | = 0.00 | RESET - F(1, 48) | = 0.675 |
| DW | = 1.59 | NORM-$\chi^2(2)$ | = 0.460 |

Notes: ***, ** and * indicates significance at the 1, 5 and 10 percent level of testing, respectively. The P-values are reported for the diagnostic tests. SE is the standard error of the regression and JOINT is a test of the joint significance of regressors. DW is the Durbin Watson statistic, LM is Breusch and Godfrey's test for autocorrelation, HET is Breusch-Pagan-Godfrey 's test for heteroscedasticity, RESET is the Ramsey test for omitted variables and NORM is the Jarque-Bera test for normality of residuals.

## 6. Conclusion

The many developments of Barbados' car industry emphasize the need for a comprehensive study of the demand for cars in Barbados. It is against this background that the present paper explores the numerous factors that may influence motor car imports. The study illustrates that in Barbados cars are luxury items with a fairly high

price elasticity of demand. In addition, it is also shown that monetary policy is a more effective tool compared to fiscal policy in reducing the demand for imported motor cars. Although fiscal policy is not sufficiently effective in curbing the import of automobiles, it can be a useful instrument in raising government revenue.

Given the importance of the car industry to employment along with its positive spill over effects that flow into other key sectors, it is imperative that policies implemented are such that would not retard the growth of the industry.

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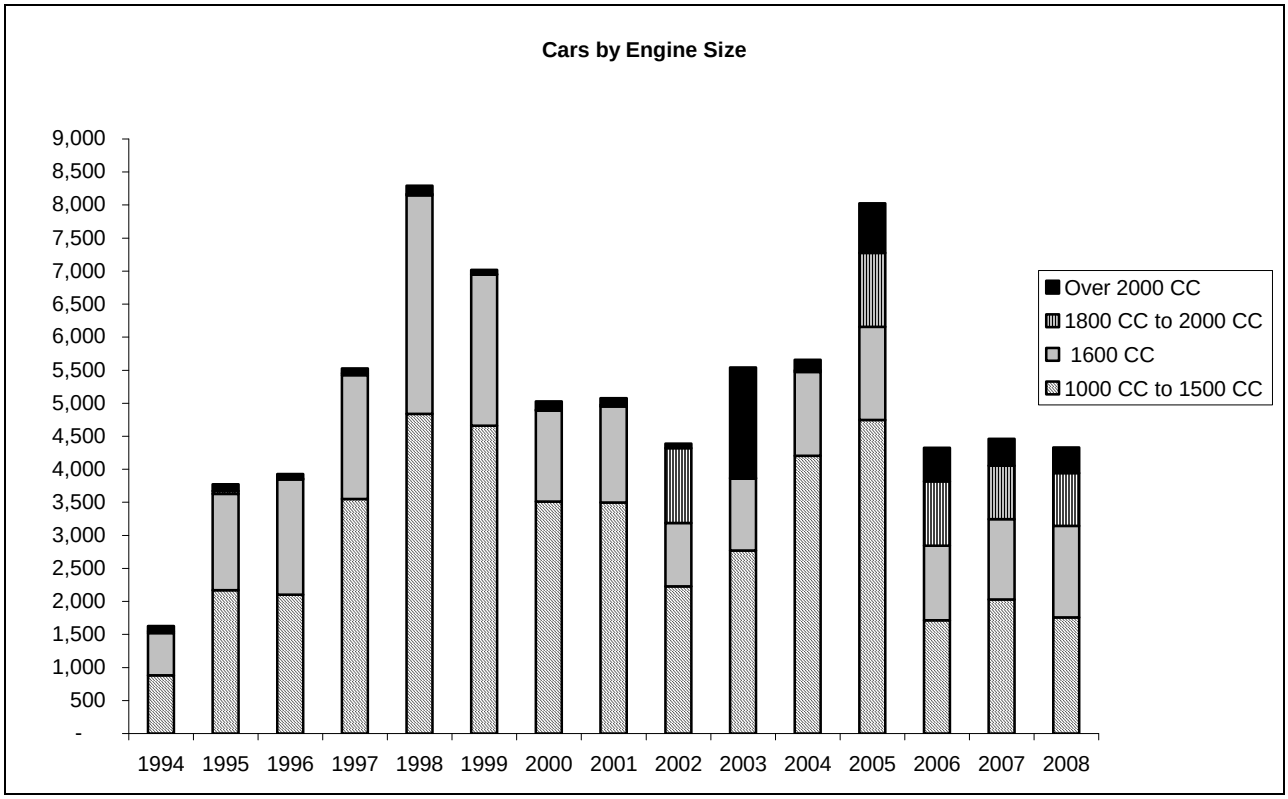
**Figure 1: Car Imports by Engine Size**



## Figure 2: Car Imports by Source Market