

Siriwan Jun-O 2010: A Study on Demand for and Supply of Personal Cars and their Tax Incidence and Excess Burden. Master of Economics, Major Field: Economics, Department of Economics.
Thesis Advisor: Assistant Professor Vorapoj Udomratana, M.Econ. 118 pages.

Personal cars are important to everyday life in Thailand for both personal and business use, and they are considered one of the key inputs to some businesses. The Thai government receives most of its excise tax revenue from personal cars during the period 2001-2008. However, in 2004 there was a tax restructuring which resulted in not only a reduction of excise tax revenues from personal cars but also caused changes in the proportion of tax incidence on consumers, producers and changes in the excess burden on society. Therefore, it is interesting to study the structure and rate of excise tax as well as factors which had an impact on demand for and supply of personal cars. It is also interesting to look at the excise tax incidence on consumers, producers and excess burdens on society. Multiple regression analysis was applied to study the determinants of demand for and supply of personal cars with engine displacement of up to 2000 c.c. The regressions were estimated with two-stage least squares with quarterly data during the period of 2002-2008 (28 quarters in total) to analyse the determinants of tax incidence of different kinds. The result from the analysis of factors which affect demand for and supply of personal cars were used to find partial equilibrium effects.

The study revealed that from 1992 the structure of excise tax from personal cars consisted of 2 rates contingent on engine: 32.5% displacement of up to 2400 c.c. and 38% above 2400 c.c. Then in 1994 the number of rates was increased to 3, the first rate for cars with engine displacement of up to 2400 c.c., the second rate for cars with engine displacement between 2401-3000 c.c., and a third rate for cars with engine displacement above 3000 c.c., with tax rates of 32.5%, 38% and 45%, respectively. Lastly, from 2004 onwards there have been 4 rates, contingent to engine displacement of up to 2000 c.c., 2001-2500 c.c., 2501-3000 c.c., and above 3000 c.c., with tax rates of 30%, 35%, 40% and 50%, respectively. It was determined that the factors which affect the demand for personal cars were the weighted average of gasoline prices and the weighted average of the prices of personal cars. On the other hand, the factors which affect the supply were per capita income, the number of exported personal cars and the weighted average of the price of personal cars. As for the analysis of tax incidence and excess burdens, the consumers and producers have tax incidences of 66% and 34% of total revenue from excise taxes on personal cars, respectively. The excess burden incurred is 4% of total revenue from excise taxes on personal cars.

In light of the results of this study, the government should restructure taxes on personal cars with engine displacement of up to 2000 c.c. by introducing different rates for different engine sizes to control the quantity of personal cars.

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