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Conclusion

Domestic and Imported cigarettes are substitutes

Lower Tariffs reduces the demand for domestic cigarettes

As a result of lower tariffs:

Imported cigarette consumption increased.

Demand for domestic cigarettes fell.

Overall Cigarette consumption increased.

Impact of Lower Tariff partially offset by Increased Tobacco Control Measures

Examine sales of low-tar cigarettes as a proxy for “scare” factor – consumers concerned about health risk use low-tar cigarettes

Per capita consumption in 1995 about what it was in 1987 prior to opening the market.

Some evidence that consumers view imported cigarettes as “safer” than domestic cigarettes.

Elasticity Estimates

Price elasticity -0.6 Domestic price elasticity is -0.6 ; Imported price elasticity is -1.1

Income Elasticities: Positive – Imported cigarettes have a higher income elasticity than domestic cigarettes. Imported cigarettes may be viewed as higher quality by consumers.

Cross Price elasticities: Domestic and Imported cigarettes are substitutes.

Elasticity of total cigarette demand with respect to imported market share: $+0.025$

Market share increased from 1.94 to 17.68 – which is a 811 percent increase

(0.025) times (811) = 20.3 percent increase in demand

Technical Details - Methodology

- 1) Time series data 1966-1995 (30 years)
- 2) Instrumental variables used to account for endogeneity of price (2-SLS)
- 3) Autocorrelation corrected
- 4) SURS estimation for brand equations

Basic Equation

Overall Market

$$C_t = a_0 + a_1 P_t + a_2 Y_t + a_3 H_t + a_4 X_t + \varepsilon_t$$

Brands – Domestic and Imported

$$C_{dt} = b_0 + b_1 P_{dt} + b_2 P_{it} + b_3 Y_t + b_4 H_t + b_5 X_t + \varepsilon_t$$

$$C_{dt} = c_0 + c_1 P_{dt} + c_2 P_{it} + c_3 Y_t + c_4 H_t + c_5 X_t + \varepsilon_t$$

Three exogenous variables: H, Y and X.

Endogenous explanatory variables: P_d , P_i ,

2-SLS is the estimation procedure.

Some problems with statistical significance – because of small sample

Own Price – significant

Income – Significant – positive but much higher for imports

Import Share – Significant - negative

Cross Price – not significant – but positive

Warning Label – not significant (but negative)