Assignment 7, FIN 560

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1   1

1.1   a

The change in demand:
$$\ln(8) - \ln(7.5) = 0.0645$$

Based on the estimated coefficient, we get

$$0.0645 \times -0.94 = 0.0607$$

To get percent change of predicted demand,

$$-0.0607 \times 100\% = -6.07\%$$

The 95% confidence interval (in percentages) can be found as

$$(-6.07 \pm 1.96 \times 0.21) \times 0.0645 \times 100\% = (-8.72\%, -3.41\%)$$

1.2   b

It's been given that
$$\ln() - \ln(inc_{i,1985}) \times 100\% = -0.02 \times 100\% = -2\%$$

Using the estimated coefficient in the table,

$$0.53 \times -2\% = -1.06\%$$

1.3   c

No because for this problem, IV will be examining the elasticities of price and income, which are long-term relationships. To model short-term shocks IV is not as reliable.

1.4   d

If the magnitude of the F statistic in the 1st stage were 10 times smaller, then this would mean that the regressors included in this 1st stage regression (all exogenous regressors and instruments) are jointly not different from zero, and this would include the coefficient estimate of the instrument in model 1. Therefore, this would be evidence that the instrument breaks the relevance condition and is a weak one.