Abstract

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1 Data

1.1 Elasticity

As the response is expected to identified about the Covid-19, the elasticity is necessary for it. Thus the calculation for elasticity is a problem for it, vast majority the elasticity is caused by "log-log" model' s parameters of β_1.

$$P = \beta_0 + \beta_1 \cdot Q + \epsilon$$

However, I find found that I could use a instrumental variable(IV) to get the elasticity more effective.

Differently with traditional formula, the iv function is more effective for it to solve endonal problem(Angrist and Krueger, 2001). The function as follow:

$$E = \frac{Cov(P, IV)}{Cov(Q, IV)}$$

In order to find out a great IV for calculating the elasticity, there are two necessary conditions that the F-calue is over 10 at OLS and the p-value is less than 0.05. Therefore the regression result is follow:

	(1)	(2)	(3)	(4)
	limp	limp	limq	limq
tea	0.019***	0.014***		
	(6.50)	(8.19)		
limp			-4.552***	-2.062***
			(-5.71)	(-8.30)
_cons	-2.717**	-1.083*	16.647***	12.312***
	(-3.13)	(-2.18)	(7.25)	(15.93)
F	42.196	67.035		
p	0.000	0.000	0.000	0.000

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Based on the result, the production of tea is a realy great IV for us to identify the elasticity about the import price with import quantity which

means the value is possible to be calculated by that. What I want to explore is whether the Covid-19 influents the elasticity in the international trade.