

# Handout for Thesis Defense (Example)

Thesis: *Demand for gasoline is more price-inelastic than commonly thought*  
by Firstname Lastname

**(1) Importance.** *Explain in simple terms your topic's importance.*

The price elasticity of gasoline demand is important for at least two reasons:

- Fiscal policy: a key parameter for computing the optimal gasoline tax.
- Environmental policy: if the elasticity is low, it is difficult to decrease the emissions of greenhouse gasses by increasing gasoline taxes.

**(2) Problem formulation.** *Clearly formulate your hypotheses. Please be brief.*

There are many estimates of the elasticity, but they differ a lot. To make sense of them I do a meta-analysis.

- Two previous meta-analyses on the topic provide a simple average. For example, Brons et al. (2008) estimate the elasticity of  $-0.3$  for short run and  $-0.8$  for long run. These numbers are heavily used for policy analyses.
- But positive estimates of the price elasticity are difficult to publish (few believe that gasoline is a Giffen good).
- My hypothesis is that the averages reported by Brons et al. (2008) are biased downwards because of publication bias. Due to the laws of chance we should see some positive estimates in the literature.

**(3) Methodology & Data.** *Describe simply the method used and explain why it is the best approach. Please be brief.*

Meta-analysis can synthesize information from different papers estimating the same effect.

- I collect 202 estimates from 41 journal articles, extending the dataset of previous meta-analyses. I perform mixed-effects multi-level regression (which takes into account between-study heterogeneity) to:
  - test for the presence of publication bias (funnel asymmetry test),
  - estimate the true elasticity beyond publication bias employing the Heckman correction for meta-regression.

**(4) Contribution.** *Stress your original contribution. This is the most important part!*

- The thesis improves on the previously published meta-analyses of the price elasticity of gasoline demand (Brons et al., 2008; Espey, 1998): enlarges their dataset and corrects the estimated elasticity for publication bias using modern meta-regression methods.
- Policy implications: publication bias exaggerates the estimates of the price elasticity of gasoline demand twofold: the corrected short-run elasticity is  $-0.1$ , the corrected long-run elasticity is  $-0.3$ . Taxing gasoline increases budget revenues nicely, but does not address climate change.

**(5) Response to Comments from Reviewers.** *Prepare careful answers to all comments raised in the reports. This may take quite a lot of time at the defense.*

- TBD when reports are available.